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AME Featured Interview 4A001

# MEET THE PROFESSOR: KEY OPINION LEADERS IN THORACIC SURGERY

HONORARY EDITORS: JIANXING HE, CHANGQING PAN, SHUGENG GAO,  
LUNXU LIU, ALAN D. L. SIHOE

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May M. Li, Xinghua Cheng, Jie Dai, Yaxing Shen

## **MEET THE PROFESSOR: KEY OPINION LEADERS IN THORACIC SURGERY**

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## Preface to AME Featured Interview

This series of books features a series of interviews with medical experts, hospital administrators, and medical devices company executives. The following selection represents the most interesting and innovative interviews, and are worthy of further discussions amongst readers. These articles embodies the experience and knowledge of the interviewees.

As the Editor, I am grateful to all the interviewees and authors for this immense effort. To put together such a collection has not been without its challenges, but for the enthusiasm of all the contributors this compilation has been made possible.

Throughout my life, I have always been keenly interested in the journeys and life stories of others, as I believe learning the lessons of others is one of the best ways to advance one's self. It was in college that I decided to interview other professors, so as to share their stories to inspire more people. This idea was met with ridicule by numerous lecturers, many of whom decried the audacity of a mere college student in conducting such an important task. However, all it took was a single lecturer to believe in the idea, who later assisted in contacting experts and arranging interviews.

In bringing this series of AME interviews to fruition, I cannot help but recalling my experiences as a student journalist. It goes to show that all it takes is one mentor, one person who believes, one person who is willing to cultivate the minds of the next generation. I hope this inspires you to find that person who will enable a positive change in your life.

In this series of books, we hope you find inspiration in the experiences and life stories of our interviewees.

**Stephen D. Wang**

*Chief Executive Officer AME Publishing Company*

## Preface I

Thoracic surgery is a practical discipline. For young thoracic surgeons, it is more difficult, though more important, to become proficient in surgical procedures, than learn basic theories. Training under famous instructors is conducive to personal progress.

As the discipline is developing rapidly, it behooves young thoracic surgeons to keep learning the most up-to-date knowledge and skills.

AME Publishing Company has compiled a series of interviews with nearly 100 leading thoracic experts at home and abroad. With its rich content, this book is tailored for young thoracic surgeons. The experts' experience and insights will be inspiring and beneficial for all readers.

**Hao Wang**

*Department of Thoracic Surgery, Zhongshan Hospital, Fudan University*

## Preface II

Medical research is one of the fastest developing sciences. Doctors have to keep learning up-to-date developments and technologies so as to provide high-quality medical services to the public. For doctors, particularly surgeons, self-improvement is a vital aspect of professional development. Some recommend learning from renowned experts, but not every doctor is lucky enough to get such opportunities; some propose reading classic works and applying knowledge learnt from them into practices, but not every reader can learn the essence of classic works; others emphasize learning from practices, but a doctor is unable to encounter all cases of illness due to various limitations. *Interviews with Thoracic Experts* records the personal views of each interviewee rather than progress in medical science, technical details, and clinical cases, thus providing an alternative avenue for surgeons' self-improvement.

The book is divided into three parts - "Dialogue with Masters", "Medical Ethics", and "International Views" - which presents opinions from dozens of foreign and domestic thoracic experts on different issues. Transcripts of the interviews in the book and attached video information are true to the opinions of each expert. The interviews cover a wide range of topics, including progression of disease, surgical techniques, personal experience, database building, clinical studies, and future development. With its richness, the book is conducive to medical students, thoracic researchers, and even renowned thoracic experts.

AME Publishing Company has played an important role in the planning and publication of this book. We hope all of our readers can benefit from the book.

**Jinbo Zhao**

*Department of Cardiothoracic Surgery, Tangdu Hospital,  
the Fourth Military Medical University*

## Preface III

We are living in a world of information integration, economic globalization, and cultural fusion. With increasing involvement in the international community, China is enjoying greater global influence. Foreign and domestic experts and scholars are looking for proper platforms of exchanges to promote knowledge dissemination and enhance mutual understanding.

AME Publishing Company brings prestigious experts together to discuss about insights on life and share academic views. *Interviewees in Interviews with Thoracic Experts* are from nearly 100 renowned medical centers in 14 countries, discussing the latest academic developments, unique understanding of scientific research, valuable clinical experience, and personal experiences and thoughts.

The book presents cutting-edge academic information and personal opinions through the simple and efficient new form of interview instead of academic papers. The interviews also include the experts' views on latest technological innovation in thoracic surgery, guide update, and research progress. Leading experts of thoracic surgery use everyday language and illustrative metaphors, enabling readers to quickly grasp problems, opportunities and challenges confronting thoracic surgery.

The book invites renowned foreign and domestic experts to give their understanding of medical science, surgery, humanity and academic progress. This enables readers to share viewpoints and advanced experience from thoracic experts from around the world, so as to promote academic development and benefit patients. I hope that AME can continue to help expand and deepen global academic exchanges to further the development of medical science, and become an industry leader via innovation.

**Jianfei Shen**

*Department of Thoracic Surgery, Taizhou Hospital*

## Preface IV

There is a famous saying in English: “You should never meet your heroes.” The reasoning behind this is that you idolize and idealize your heroes for their achievements, but when you meet them in person they can turn out to be pretty terrible people. The trauma of having your dreams shattered is too horrible to imagine.

I have been extremely fortunate throughout my career. I have met all of my heroes in cardiothoracic surgery, and gotten to know many of them as close friends today. I cannot even begin to describe what a wonderful feeling it is when the great surgeon who wrote those legendary papers and books you read – no, worshipped – as a trainee is now your partner in a clinical study, your partner in a committee, your co-author on a paper... or your friend to have a drink with. And you know what? I have never been disappointed to meet my heroes. The old saying is disproved because great thoracic surgeons also happen to be great people too – a happy coincidence.

This book obviously gives you a chance to share a little of how it feels to meet your heroes. Through intimate interviews in a casual, relaxed environment, the top experts in thoracic surgery today share their time and thoughts with you. It is as close as you can get to having a coffee or a beer with any of them. Through these interviews, you are not reading their formal, rigid writings in official journal articles, but hearing their actual words in their actual voices speaking directly to you.

But this begs the question: if you do meet your heroes, what do you actually want to talk about? It would be a waste of time to just talk about what they have achieved: you can just read about that in their papers and books. For me, it is more interesting to explore those issues that even the experts cannot get published. International journals do not publish fanciful speculations, and respected textbooks do not print opinionated ramblings. And yet the gurus of surgery are humans after all, and they do have such views that they want to share if given the right opportunity. The interviews in this book provide that opportunity – free from the constraints of having to write a ‘scientific’ article. Their views may surprise you in their honesty, or open your eyes to how the experts really think. Each interview allows you to really know the person behind the ‘hero’ label. For me, that is what this is all about.

In one of the interviews in this book, I was asked to talk about ‘glasses-free 3D’. I don’t use this ultra-advanced technology myself, and I am certainly no expert in 3D. However, I surprised even myself with the depth of discussion that the interviewed led to, exploring how technology fits into modern thoracic surgical practice from my

standpoint as an experienced VATS surgeon. In the process, I learned a little about myself. For me, that is exactly a perfect example of why this book ‘works’. When you get experienced surgeons talking beyond where their writings normally stop, the conversation illuminates new ways of looking at things and opens new perspectives on surgery.

I hope that this book of interviews brings you an experience that is as rewarding for you as meeting my heroes was for me. Sit back with your favourite drink as you enjoy each conversation, and get to know the thoracic surgery masters up close and personal. This should do fine for now, until the day you actually do meet your heroes in person!

**Alan D. L. Sihoe**

*MBBChir, MA(Cantab), FRCSEd(CTh), FCSHK, FHKAM, FCCP  
Clinical Associate Professor, Department of Surgery, The University of Hong Kong  
Chief of Thoracic Surgery, The University of Hong Kong Shenzhen Hospital  
Guest Professor, Tongji University Shanghai Pulmonary Hospital*

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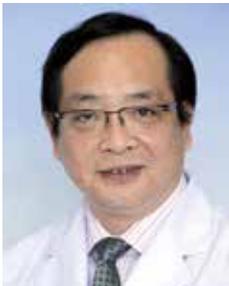
# **Chapter I**

**Expert Discussion: Sparking off new insights**

## Video Interview

# Xingming Zhou, Qixun Chen: Being Benevolent, Diligent and Professional is the Very Way to be an Outstanding Surgeon

**Editor's Note:** Zhejiang Province thoracic and abdominal tumor multidisciplinary comprehensive treatment forum and Zhejiang Provincial Oncology Academic Conference was held in Hangzhou 5th December, 2015. This meeting was about the diagnosis and treatment of thoracic and abdominal malignant tumor. Numerous national and international experts were invited to have academic speeches on the new progress and technology during the meeting. It's our great honor to invite Drs. Xingming Zhou and Qixun Chen to have an interview with us.



As a chief physician, Prof. Xingming Zhou is also the technical consultant and director of thoracic surgery in Zhejiang Provincial Cancer Hospital. He is currently a member of the Chinese Association of Anti-Cancer Association of Esophageal Cancer, member of Zhejiang Anti-Cancer Association, and vice president of Zhejiang Provincial Association of Thoracic Surgery.

At the meeting, Prof. Zhou shared his experience in the treatment of locally advanced esophageal squamous cell carcinoma treatment with the multi-disciplinary (MDT) team of Zhejiang Tumor Hospital. In Prof. Zhou's opinion, the biggest challenge for MDT is the cooperation between different departments since colleagues of each subject have their own ways of thinking. What's more, in the Zhejiang Provincial Tumor Hospital, MDT discussion on existing cases is held every week. Also Prof. Chen shared with us the skills in esophageal cancer abdominal lymph node dissection, and he especially pointed out that it's more difficult for chemotherapy to work in the abdomen, so abdominal lymph node dissection was



Prof. Qixun Chen, chief physician, director of thoracic surgery in Zhejiang Provincial Cancer Hospital. At present, he served as a member of Zhejiang Medical Association Cardiothoracic Surgery Branch, Zhejiang Province, anti-cancer association esophageal cancer professional committee, Zhejiang Province anti-cancer association lung cancer professional committee, Chinese Medical Association of thoracic surgery branch of Zhejiang Province, deputy director and secretary of the work.

particularly important.

As for research direction in the following days, Professor Zhou mentioned that the efficacy of open surgery and minimally invasive surgery in the thoracic tumor surgery was promising, and it was worthy to keep further studying. Anyway, when talked about the future direction of esophageal cancer, Professor Chen considered that on one hand we should focus on how to improve the surgical results, reduce complications and improve quality of life; on the other hand, we should also strengthen the cooperation with other departments to find out the best combination of treatment.

Regarding how to be a qualified surgeon, Prof. Zhou and Prof. Chen both agreed that a good surgeon should be benevolent to patients, and passionate to his own career. Moreover, the diligence and determination to keep improving his ability in both independent learning and scientific research are also needed. At last, skill matters, as the fact that the most significant difference between surgeon and physician is surgery. Consequently, improving his own surgical skills and learning the basis of internal medicine are the ways for the very talent.

### Interview Questions

1. Would you like to share with us the biggest challenge when your team carried out esophageal cancer multidisciplinary comprehensive treatment? How do you carry out MDT cooperation in your hospital now?
2. Professor Chen, are there any differences or controversy in the skills of esophageal cancer abdominal lymph node dissection currently?
3. What is the focus of next study in your team?
4. How to be a qualified surgeon?



(Interview Editor: Xueting Chen, AME Publishing Company)

## Video Interview

# Eugenio Pompeo, Jun Liu: The Application and Advances of the Tubeless VATS

**Editor's Note:** On the First International Course on Tubeless and Advanced VATS Lobectomy Techniques held in Guangzhou China from December 7<sup>th</sup> to December 11<sup>st</sup> in 2015, we were honored to have an interview with Prof. Eugenio Pompeo from Università Tor Vergata and Prof. Jun Liu from the First Affiliated Hospital of Guangzhou Medical University. In the interview, they have shared the application and recent advances of the Tubeless VATS. They both agreed the teamwork plays the most importance role to perform a good surgery.



Eugenio Pompeo, MD. Sezione di patologia polmonare medica e chirurgica, Dipartimento di Biomedicina e Prevenzione, Università Tor Vergata, Rome, Italy.



Jun Liu, MD. Department of Thoracic Surgery, The First Affiliated Hospital of Guangzhou Medical University, Guangzhou, Guangdong, China.

Hope this interview will provoke more thoughts among audiences, and bring inspiration to further researches.

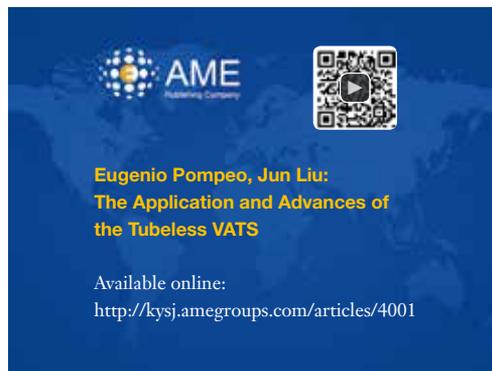
## Interview Questions

### *Eugenio Pompeo:*

1. What is minimally-invasive anaesthesia thoracic surgery?
2. How has it advanced historically in your country?
3. You talked about non-intubated and awake minor procedures. What are the main procedures?
4. What are the benefits of performing non-intubated and awake minor procedures? For example, what is the average length of the hospital stay following this procedure?
5. What is the indication?
6. What's the contraindication?
7. What is the secret for successful awake thoracic surgery?
8. What makes you become and love to be a surgeon?

### *Jun Liu:*

1. Compared to other minimally-invasive thoracic surgery, what the advantages of the 3D VATS?
2. What is the indication?
3. What kind of unexpected emergency may happen from time to time? How do you usually prevent and deal with them?
4. What is the current clinical application of Tubeless VATS? Do you have further suggestion for wider promotion?
5. Why do you choose to be a thoracic surgeon and what do you love for this job?



(Interview Editor: Helen Seliman, AME Publishing Company)

## Video Interview

# Cesar Bonome, Qinglong Dong: Cooperation Between Anesthesiologists and Surgeons is Important during Tubeless VATS

**Editor's Note:** The first international training course on tubeless VATS was held in The First Affiliate Hospital of Guangzhou Medical University, China on December 7<sup>th</sup>, 2015. Many researchers and surgeons on thoracic surgery from Europe and China gathered together to share with each other the latest progress in tubeless VATS. After the course, two anesthesiologists, Dr. Cesar Bonome from San Rafael Hospital, Spain and Dr. Qinglong Dong from The First Affiliate Hospital of Guangzhou Medical University, China accepted an interview by AME Publishing Company. With different background in different continents, they have their own opinions on anesthesiology.



Dr. Cesar Bonome, Department of Anesthesiology, San Rafael Hospital, Spain. Dr. Bonome is experienced in anesthesiology, critical care medicine and postoperative chronic pain treatment. He has performed anesthesia during tubeless thoracic surgery for over three years.

Anesthesiologists play an important role in a successful tubeless VATS. Dr. Bonome has performed anesthesia during tubeless VATS for over three years. He believed that the occurrence of this surgery is an evolution. As an anesthesiologist, he thought that the close cooperation between anesthesiologists and surgeons was vital for a successful tubeless VATS. From the perspective of another interviewee, Dr. Qinglong Dong, who has practiced and performed anesthesiology during tubeless VATS since 2011, not only introduced to us the development and current status of anesthesiology during tubeless VATS, but also shared some personal experience.

During this training course, Dr. Bonome had a chance to watch a live tubeless VATS performed by The First Affiliate Hospital of Guangzhou Medical University. He was very impressed and inspired. He was confident that tubeless VATS would have a bright future. As for the thoracic paravertebral block, a technique of anesthesia, Dr. Bonome and Dr. Dong have had a discussion on it in the interview.



Qinglong Dong, Chief Physician, Department of Anesthesiology, First Affiliated Hospital, Guangzhou Medical University. He is a member of the Chinese Medical Association organ transplant anesthesiology group, a member of the Chinese Medical Association Guangdong Anesthesiology Society Standing Committee, general thoracic anesthesiology group leader, Guangdong anesthesia medical quality control center expert group member, and Chinese Medical Association Guangzhou anesthesia society vice chairman.

## Interview Questions

### *Cesar Bonome:*

1. What is the anesthetic management for patients undergoing tubeless VATS?
2. What anesthetists will do during the tubeless VATS?
3. Do you have any suggestions for anesthetics to communicate better with surgeons?
4. When did you become interested in tubeless VATS?
5. What impresses you most during the study course?

### *Qinglong Dong:*

1. Please make a brief introduction of your speech today.
2. What is the status quo of China's Tubeless thoracic anesthesia?
3. What is your opinion about the "paraspinal block" that Spanish experts referred to?
4. According to your experience, what should we learn from foreign experts?
5. What difficulties did you overcome in anesthesia?



**Cesar Bonome, Qinglong Dong:  
Cooperation Between Anesthesiologists and  
Surgeons is Important during Tubeless VATS**

Available online:  
<http://kysj.amegroups.com/articles/4005>

(Interview Editor: Cecilia Jiang, Sue Yuan, AME Publishing Company)

## Video Interview

# Diego Gonzalez-Rivas & Alan Sihoe: What do we need to think about uniportal video-assisted thoracoscopic surgery?

**Editor's Note:** Uniportal video-assisted thoracic surgery (VATS) is being more and more popular as a procedure of thoracic surgery. On March 16–18, 2016, the 3<sup>rd</sup> international uniportal VATS course—Live Surgery & Wetlab was held in Berlin. It was a 3-day-masterclass symposium jointly organized by the University Hospital Charité in Berlin, Germany, the University Hospital in Coruña, Spain and the Shanghai Pulmonary Hospital, Tongji University Shanghai, China. This symposium addressed the technique and advances of uniportal VATS by lectures, discussions and video sessions on the first day and Live Surgery and Live Broadcasting from Shanghai Pulmonary Hospital of major pulmonary resections via uniportal VATS on day 2. The third day of this symposium is a Hands-on class.



Diego Gonzalez-Rivas, M.D, FECTS (Uniportal VATS), Department of Thoracic Surgery, Coruña University Hospital, Coruña, Spain.

During the course, we are honored to interview Dr. Diego Gonzalez-Rivas & Dr. Alan Sihoe, who shared about their reflection on uniportal VATS.

Like any other walks of life, in the thoracic surgeons' community, blossoms of friendship were witnessed for their commonly shared passion and outlook. Diego and Alan are such very good friends to each other well known in the thoracic surgery arena. They banteringly called themselves as “uniportal guy” as pioneer and successor of uniportal technique in thoracic surgery. Based on their communication and experience in Europe and China even Asia, Diego and Alan can take a look at the development of uniportal VATS in these two continents.

### Interview Questions

1. What do you love about uniportal VATS surgery?
2. How popular is uniportal VATS in Europe and Asia?
3. When did you first perform uniportal VATS?



Alan Dart Loon Sihoe (Thoracic Surgery), MBB Chir, MA (Cantab), FRCSEd (CTh) , FCSHK , FHKAM (Surgery), FCCP, Department of Surgery, The University of Hong Kong, Queen Mary Hospital, Hong Kong, China.

4. Is experience with conventional VATS needed before performing uniportal VATS?
5. What is the challenge in promoting uniportal VATS further?
6. What do you think is the future development of uniportal VATS? What about uniportal non-intubated surgery?
7. What would be your suggestions for the young thoracic surgeons?



**Prof. Diego Gonzalez-Rivas & Prof. Alan Sihoe:**  
**What do we need to think about uniportal video-assisted thoracoscopic surgery?**

Available online:  
<http://kysj.amegroups.com/articles/4305>

(Interview Editor: Grace S. Li, AME Publishing Company)

## Video Interview

# Gaetano Rocco, Hecheng Li: The Difference in Uniportal VATS Between Europe and China

**Editor's Note:** The 3<sup>rd</sup> International Uniportal VATS Course – Live Surgery and Wetlab was held in Berlin between March 16-18, 2016. The success of the course marked the expansion of ‘uniportal community’. Surgeons in the uniportal community call themselves ‘uniportal guy’. As a rising star in uniportal VATS, Dr. Hecheng Li is an admirer of Dr. Gaetano Rocco and they finally met each other during the course. With a view to deliver the spirit of the course and to continue the story of uniportal VATS, we were honored to invite Dr. Rocco and Dr. Li as representative of Europe and China to share their perspective and experience in uniportal VATS.



Gaetano Rocco, MD, FRCS (Ed), FETCS, FCCP. Department of Thoracic Surgery and Oncology, National Cancer Institute, Pascale Foundation, Naples, Italy.

### Interview Questions

1. Hi Dr. Rocco, as you are the pioneer in uniportal VATS, would you like to share with us when did you first brought up the concept of uniportal VATS?
2. Could Dr. Li please introduce your experience with uniportal VATS in Ruijin hospital?
4. Theoretically, all thoracic surgery can be done by uniportal VATS, right?
5. In terms of indications and techniques, any difference between uniportal VATS in China and Europe?
6. We were honored to have Dr. Rocco as the judge of the uniportal VATS video contest in 2015 and Dr. Li was one of the winners of the contest. This year, the contest is upgraded to international one focusing on both uniportal VATS and traditional VATS surgery. What would you expect to see in the videos?



Hecheng Li, professor, doctor, the director of the Department of Thoracic Surgery in Ruijin Hospital Affiliated to Shanghai Jiao Tong University.

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**Gaetano Rocco, Hecheng Li:**  
**The Difference in Uniportal VATS**  
**Between Europe and China**

Available online:  
<http://kysj.amegroups.com/articles/4286>

(Interview Editor: Grace S. Li, AME Publishing Company)

## Video Interview

# Marcin Zielinski, Deping Zhao: Exploring Different Approaches in Uniportal VATS

**Editor's Note:** The 3<sup>rd</sup> International Uniportal VATS course jointly organized by the University Hospital Charité in Berlin, Germany, the University Hospital in Coruña, Spain and the Shanghai Pulmonary Hospital, Tongji University Shanghai, China, was held successfully in Campus Charité Mitte, Berlin, Germany from March 16<sup>th</sup> to 18<sup>th</sup>, 2016. During the course, Dr. Marcin Zielinski, from Pulmonary Hospital, Poland, and Dr. Deping Zhao, from Shanghai Pulmonary Hospital, China, respectively gave an impressive presentation on the trans-cervical approach and subxipoid approach in uniportal VATS, earning quite a lot applause. With this special opportunity, the Editorial Office of *Journal of Visualized Surgery (JOVS)* had the great honor to have an interview together with Dr. Zielinski and Dr. Zhao.



Dr. Marcin Zielinski, MD, PhD is the surgeon of Department of Thoracic Surgery, Pulmonary Hospital, Zakopane, Poland. Since 2004, He's also Director of the Pulmonary Hospital in Zakopane. He is the author of almost 70 original articles in indexed journals. His clinical interests are Esophageal Surgery, Surgery of the Mediastinum, Myasthenia gravis and Broncho-angio-plastic procedures.

In the interview, given their own experience, Dr. Zielinski and Dr. Zhao shared with us their perspectives on the advantages and challenges of both the trans-cervical and subxiphoid approach in uniportal VATS. When asking about the usual approach in practice, Dr. Zielinski told us it should be flexible based on the different cases and patients' condition.

At the end of the interview, to Dr. Zhao's question about the early inspirational experience, Dr. Zielinski gave out an earnest and precious conclusion—not being satisfied to the present condition and learns to be pushed forward by failure!



Dr. Deping Zhao, MD, PhD, is Vice-Chief surgeon, associate professor in the department of Thoracic surgery, Shanghai Pulmonary Hospital, Shanghai, China.

As project leader chaired several projects including the National Science Foundation of China and so on, Dr. Zhao has published over 20 papers and involved in the preparation of 3 monographs with his highest SCI impact factor being 15.387.

### Interview Questions

1. Dr. Zielinski, Yesterday, you have shared with us a presentation on trans-cervical approach. Here would you like to share with us the challenges and advantages of trans-cervical approach in Uniportal VATS?
2. Dr. Zhao, would you like share with us the advantages and limitations of subxiphoid approach in Uniportal VATS?
3. Dr. Zielinski, what would be your perspective on the subxiphoid approach of Uniportal VATS shared by Dr. Zhao?
4. Dr. Zhao, what's your perspective on the trans-cervical approach of Uniportal VATS shared by Dr. Zielinski?
5. Dr. Zielinski, what is the usual approach in Uniportal VATS in your hospital/ country?
6. Dr. Zhao, what would be the usual approach in Uniportal VATS in your hospital?
7. Dr. Zielinski, would you like to share some inspirational experiences in your early experience as a surgeon?
8. Dr. Zielinski, what will be your suggestion to our young thoracic surgeons?



(Interview Editor: Fengping Gao, AME Publishing Company)

## Video Interview

# Ke-Neng Chen, Jian-Xing He and Robert J. Cerfolio: Opinions on the Disadvantages of Robotic Surgery

**Editor's Note:** AATS Focus on Thoracic Surgery: Lung and Esophageal Cancer 2016 has been successfully held in Shanghai during March 19–20, 2016. A large number of thoracic surgeons converged, presenting quite substantial contents. Prof. Ke-neng Chen, Beijing Cancer Hospital, China, Prof. Jian-xing He, The First Affiliated Hospital of Guangzhou Medical University, China, and Prof. Robert J. Cerfolio, University of Alabama at Birmingham, USA were interviewed together by AME Publishing Company, discussing the disadvantages of robotic surgery.



Prof. Keneng Chen, MD, PhD, is a Professor, Chief Surgeon, and Supervisor of Doctorial Candidates and Chair of thoracic surgery, Cancer Hospital, School of Oncology, Peking University. Prof. Chen serves as Secretary General of CMDA thoracic surgery branch.

Robotic thoracic surgery is more and more popular, with more and more surgeons using this technique. In various occasions and diverse articles, the advantages, smaller incision, faster recovery and fewer operative complications etc, have been discussed heatedly. When it comes to the question “what’s the disadvantage of robotic thoracic surgery, compared to thoracoscopic surgery”, “Robotic Surgeon” Prof. Cerfolio, and two China’s renowned thoracic surgeons, Prof. Chen and Prof. He shared their opinions with pleasure. They all thought cost will not be the key concern in the future.



Prof. He is the Director and Professor of the Thoracic Surgery Department, First Affiliated Hospital of Guangzhou Medical University, Guangzhou Institute of Respiratory Diseases (GIRD), as well as the President of the First Affiliated Hospital of Guangzhou Medical University, China. Prof. He is Fellow of the American College of Surgeons (FACS), Fellow of the Royal Colleges of Surgeons (FRCS), and member of American Association for Thoracic Surgery (AATS) and European Society of Thoracic Surgery (ESTS), Chief Advisor of National Ministry of Health Clinical Invasive Pathway Technique Advisory Board.



Prof. Robert James Cerfolio is currently Professor of Surgery and Chief of the Section of Thoracic Surgery at the University of Alabama at Birmingham. He has been labeled one of the busiest thoracic surgeons in the world and has performed over 18,000 operations. His technique is used for pulmonary resections, esophagectomy and mediastinal tumor resections and has been adopted all over the world.

### Interview Question

Disadvantages of robotic thoracic surgery, compared to thoracoscopic surgery.



**Ke-Neng Chen, Jian-Xing He and  
Robert J. Cerfolio:  
Opinions on the Disadvantages of  
Robotic Surgery**

Available online:  
<http://kysj.amegroups.com/articles/4308>

(Interview Editor: Molly J. Wang, AME Publishing Company)

## Video Interview

# Stephen Cassivi, Lunxu Liu: SBRT Versus Surgery in Early-stage NSCLC

**Editor's Note:** The AATS Focus on Thoracic Surgery: Lung and Esophageal Cancer 2016 ended in Shanghai successfully on March 20 after a 2-day scientific and compact agenda in Shanghai.



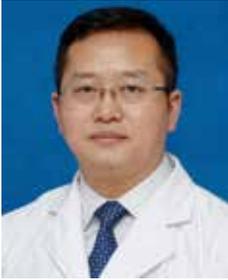
Stephen Cassivi, Division of General Thoracic Surgery, Mayo Clinic, Rochester, Minnesota, USA. Dr. Cassivi served as Surgical Director of the Lung Transplantation Program at Mayo Clinic from 2004–2012. In 2013, Dr. Cassivi was appointed as Vice Chair of the Department of Surgery with responsibilities and oversight of the clinical practice.

International meetings are always good chances for editorial office to catch up with old and new friends. This time, with the nice view and weather in Shanghai, we had a great time talking with Prof. Stephen D. Cassivi from the Mayo Clinic and Prof. Liu Lunxu, from the West China Hospital of Sichuan University, who was considered as a pioneer in performing complete video-assisted thoracic surgery (VATS) for lung cancer in Mainland China. As the distinguished speakers, they gave excellent presentations during the meeting, and actively interacted with the audience. Prof. Cassivi also friendly extended his sincere hope for further and closer academic communication and collaboration with Chinese experts.

After their presentations, we were honored to conduct a brief interview to them. Via the interview, they shared their perspectives on several current controversial topics, such as Stereotactic Body Radiation Therapy (SBRT) *vs.* Surgery in treating early-stage NSCLC.

## Interview Questions

1. Surgery Versus SBRT? The treatment of early stage lung cancer has been a controversial topic. What is your opinion?



Lunxu Liu, MD. Director of Department of Thoracic Surgery, West China Hospital, Sichuan University, Chengdu, China. Professor Lunxu Liu received his MD degree and PhD degree at West China University of Medical Sciences. He is considered a pioneer in performing complete video-assisted thoracic surgery (VATS) for lung cancer in Mainland China. He raised the concept of “single-direction VATS lobectomy”, which made VATS lobectomy more concise and easier to learn and was widely used by most Chinese thoracic surgeons. He developed the novel method of “suction-compressing angiorrhaphy technique (SCAT)” for troubleshooting vascular injury during anatomic thoracoscopic pulmonary resection without conversion to thoracotomy. He also completed the first series of thoracoscopic bronchovascular double-sleeve lobectomy in the world. As project leader, professor Liu received the first prize of Sichuan Province Science and Technology Progress Award and Chinese Medical Science and Technology Award, respectively, for his great efforts and achievements in minimally invasive thoracic surgery.

2. There was a lung symposium discussing the differences of education of young thoracic surgeons between North America, China and Europe. How do you see the differences? How do you think to better educate them?
3. You may have heard that recently the computer AlphaGo won in a Go-chess showdown against the world's top player. Some people say artificial intelligence may replace many roles of human in the future, including surgeons. How do you think?



**Stephen Cassivi, Lunxu Liu:**  
**SBRT Versus Surgery in Early-stage NSCLC**

Available online:  
<http://kysj.amegroups.com/articles/4319>

(Interview Editor: Jessie Zhong, AME Publishing Company)

## Video Interview

# Expert Debates in the 4th Asian Single Port VATS Symposium

**Editor's Note:** The 4<sup>th</sup> Asian Single Port VATS Symposium was held in April 9–10, 2016 in the Taipei. The first day of the symposium centered around Single Port VATS in Asia and the second day featured live surgery from National Taiwan University Hospital.



Chia-Chuan Liu, MD, Division of Thoracic Surgery, Department of Surgery, Sun Yat-Sen Cancer Center, Taiwan.



Gaetano Rocco, MD, FRCS (Ed), FETCS, FCCP. Department of Thoracic Surgery and Oncology, National Cancer Institute, Pascale Foundation, Naples, Italy.



Eric Lim, Imperial College and the Academic Division of Thoracic Surgery, Royal Brompton Hospital, Sydney Street, London SW3 6NP, UK.



Diego Gonzalez-Rivas, MD, FECS. Department of Thoracic Surgery, Coruña University Hospital, Coruña, Spain.



Professor of Surgery Chief, Department of Thoracic Surgery, National Taiwan University Hospital, Taiwan.



Alan Dart Loon Sihoe, MBBChir, MA (Cantab), FRCSEd (CTh), FCSHK, FHKAM (Surgery), FCCP. Department of Surgery, The University of Hong Kong, Queen Mary Hospital, Hong Kong, China.

With a compact agenda, the discussion on a single topic will never be enough. The 4<sup>th</sup> Asian Single Port VATS Symposium featured on 4 Debate Sessions as follows:

- Training for single-port VATS started from one or multi- port port/thoracotomy
- Segmentectomy for a 1.2 cm peripheral GGO lesions RUL posterior segment, multi-port *vs.* single port VATS
- Conversion, enlarge the wound or add on more ports?
- Does single port thoracoscopic surgery reduce postoperative pain comparing to multi-ports thoracoscopic surgery?

Let's take a look at the comments from Drs. Chia-Chuan Liu, Gaetano Rocco, Alan Sihoe, Eric Lim, Diego Gonzalez-Rivas and Zhangming Li on these controversial topics.

## Interview Questions

1. Could Dr. Gonzalez-Rivas and Dr. Li please introduce your live surgery today?
2. Congratulations to you all on the successful meeting. Could Dr. Liu share with us your impression on this conference as the president of the symposium?
3. Regarding segmentectomy for a 1.2 cm peripheral GGO lesions RUL posterior segment, what would you recommend: multi-ports or single port VATS?
4. In case of conversion during surgery, would you prefer enlarging the wound or adding on more ports?
5. Does single port thoracoscopic surgery reduce postoperative pain comparing to multi-ports thoracoscopic surgery?



(Interview Editor: Grace S. Li, AME Publishing Company  
Text Editor: Grace Li, AME Publishing Company)

## Video Interview

# Gunda Leschber, Paul De Leyn: E-Bus, Mediastinotomy or VALAM?

**Editor's Note:** On 6–10 April 2016, the 24<sup>th</sup> Asian Society for Cardiovascular and Thoracic Surgery (ASCVTS) conference and the 4<sup>th</sup> Asian Single Port VATS Symposium (ASPVS) were held in Taipei International Convention Center. During the conference, Dr. Shi Yan, as the AME's academic journalist and the physician of Peking University Cancer Hospital, have an interview with Professor Gunda Leschber, Former President of ESTS, President of German Society of Thoracic Surgery and Professor Paul De Leyn, a member of Council of Regent, IASLC to share their ideas of E-Bus, mediastinotomy and VALAM.



Gunda Leschber, M.D. 2005, Member of Board of the German Association for Thoracic Surgery (DGT); 2006, Spokesperson for 'FiT' section (Women in Thoracic Surgery) of the DGT; 2007, Member of the Board of the European Society of Thoracic Surgeons, ESTS; Member of the Board of the Professional Association of German Surgeons (BDC); Leader of the lung carcinoma project group at Berlin Tumour Centre; Deputy Chair of the Tumour Centre, Berlin-Buch; 2010/2011, President of the ESTS; Vice-President German Society of Thoracic Surgery (2014); Research interest: Video-Mediastinoscopy/VAMLA, NOTES, Metastasectomy, Lasersurgery, Minimal-invasive Surgery (VATS).

## Interview Questions

1. As is known, the procedure of E-Bus, EUS or mediastinoscopy is time-consuming. For a patient clinically confirmed as in N1 stage, whose PET/CT scan shows no FDG uptake in the mediastinal lymph nodes, could the patient skip E-Bus and mediastinoscopy in further examination?
2. For the concern of the accuracy rate of identifying lymph node metastasis by using E-Bus and mediastinoscopy, would there be any controversy about the unnecessary medical cost if E-Bus and mediastinoscopy were found negative?



Paul De Leyn, M.D., Ph.D. Thoracic Surgeon, Regent for Europe, University Hospitals, Leuven, Belgium; Professor (part-time) Faculty of Medicine; Head of Surgery Teaching Methodology and Practicals; Member (as senior academic staff) of the Council of the Faculty of Medicine; Member of the Council of the Department of Clinical and Experimental Medicine; Member in an advisory capacity of the Board of the Department of Clinical and Experimental Medicine; Member of Council of Regent, International Association for the Study of Lung Cancer (IASLC).

3. Prof. Leschber has introduced about VAMLA in her talk. Would it be hard to make complete dissection of mediastinal lymph nodes given the limited space of VAMLA procedure?
4. For pathologically N2 patients, what is the indication for conventional mediastinoscopy and VAMLA? Will the radical resection of lymph node provide survival benefit for patients?
5. It is recommended by European Society of Thoracic Surgeons (ESTS) to sample at least three different stations of mediastinal nodes. Considering the potential risk of needle aspiration, can we perform a selective biopsy based on the location of tumor? For a patient with tumor located at the upper lobe, does he need biopsy in the 9th station of mediastinal lymph node?



**Gunda Leschber, Paul De Leyn:  
E-Bus, Mediastinotomy or VALAM?**

Available online:  
<http://kysj.amegroups.com/articles/4388>

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(Interview Editor: Shi Yan, Department of Thoracic Surgery,  
Peking University Cancer Hospital.)

## Video Interview

# Calvin Sze Hang Ng, Lanjun Zhang: Experience in Identification of Peripheral Solitary Pulmonary Nodule

**Editor's Note:** During the 24<sup>th</sup> Annual Meeting of Asian Society for Cardiovascular and Thoracic Surgery (ASCVTS) in conjunction with 9<sup>th</sup> AATS/ASCVTS Postgraduate Course held in Taipei, Taiwan in 2016, Prof. Calvin Sze Hang Ng from the Prince of Wales Hospital, the Chinese University of Hong Kong, had an impressive presentation on the topic “Is there a role for the uniportal approach”, and Prof. Zhang gave an excellent presentation on the topic “Localization of peripheral pulmonary lesions to aid surgical resection: a novel approach of electromagnetic navigation bronchoscopic dye marking”.



Prof. Calvin Sze Hang Ng is an Associate Professor in Cardiothoracic Surgery at Prince of Wales Hospital, The Chinese University of Hong Kong. He is a pioneer in Single Port (Uniportal) VATS in the Asia-Pacific region with numerous publications on the subject in JTCVS, EJCTS, ICVTS, CHEST and Thorax, amongst other journals. He is the Founder of the Asian Single Port VATS Symposium series, with its 4<sup>th</sup> meeting recently completed in Taiwan.

After their presentations, we are honored to have an interview with them concerning solitary pulmonary nodule (SPN). In some observational studies, SPN can be detected in 10–15% screening cases. What would be their strategies to deal with them? Since VATS has become one of the most popular approaches for sublobar resection. It can bring many benefits to the patients, while there are some unpleasant experiences for surgeons. Specifically, it is difficult for palpation during the operation. What's their experience with the identification of peripheral SPN? Let's enjoy the interview.



Prof. Lanjun Zhang from Department of Thoracic Surgery in Sun Yat-Sen University Cancer Center (SYSUCC), focuses his study either on clinical or basic research, including lung cancer, esophageal cancer, tumor biomarkers investigation, Prognostic factors and treatment stratification, and target therapy. He is also an experienced expert in the reconstruction with artificial bio-materials organs. The patent of his artificial esophagus was awarded in 2001. He is also involved in numerous review committees of journals, funds and diverse expertise in China and internationally.

### Interview Questions

1. After NLST study, LDCT screening is more and more frequently applied in Asian countries. In some observational studies, SPN can be detected in 10–15% screening cases. Could you share with us your strategies to deal with them?
2. VATS has become one of the most popular approaches for sublobar resection. It can bring many benefits to the patients, while there are some unpleasant experiences for surgeons. Specifically, it is difficult for palpation during the operation. Would you please share some tips about the identification of peripheral SPN?



**Calvin Sze Hang Ng, Lanjun Zhang:**  
**Experience in Identification of**  
**Peripheral Solitary Pulmonary Nodule**

Available online:  
<http://kysj.amegroups.com/articles/4406>

(Interview Editor: Jessie Zhong, AME Publishing Company)



## **Chapter II**

**Sincerity Brings Greatness: Healing Hands arisen  
from Benevolent Heart**

## Text Interview

# Zhentao Yu: The Characteristics of Lymph Node Metastases in Esophageal Cancer

**Editor's Note:** “The Chinese Medical Association of Thoracic Surgeons 2015 Annual Meeting and the 6<sup>th</sup> National Thoracic Academic Conference” was held from 13<sup>th</sup> to 14<sup>th</sup> June 2015 in Hangzhou. At the meeting, Professor Zhentao Yu, the Department Head of Esophageal Oncology at Tianjin Medical University Cancer Institute and Hospital, gave an interview with AME and shared his profound and unique insights into lymph node metastasis in esophageal cancer, chemotherapy on intraoperative lymph node, neoadjuvant treatment of esophageal cancer, basic research and precision medicine.



Zhentao Yu, is a professor, PhD supervisor, Department Head of Esophageal Oncology at Tianjin Medical University Cancer Institute and Hospital, the Acting Chairman of the Chinese Society of Esophageal Cancer of the Chinese Anti-Cancer Association, Vice-chairman of the Clinical and Prevention Group of China Preventive Medical Association, standing committee member of the Chinese Society for Oncological Nutrition and Supportive Care, council member of Tianjian Anti-Cancer Association, member of the ESTS, and member of the editorial board and reviewers of journals including *Chinese Journal of Cancer*, *Chinese Medical Journal*, *Chinese Journal of Thoracic and Cardiovascular Surgery*, *Chinese Journal of Clinical Nutrition* and *Chinese Journal of Clinical Oncology* (English edition).

### Lymph node metastasis in esophageal cancer is not as we imagine

At the Chinese Medical Association of Thoracic Surgeons 2015 Annual Meeting and the 6<sup>th</sup> National Thoracic Academic Conference, Professor Zhentao Yu presented his report on “Clinical study of early lymph node metastasis in esophageal cancer”, describing the characteristics of lymph node metastasis in esophageal cancer: Unlike what we imagine, it does not spread from one node to an adjacent one. Instead, it may spread by skipping an intervening node or in some cases spread to a more



Tianjin Medical University Cancer Institute and Hospital is a large-scale upper first-class specialist hospital that offers medical treatment, education, research and prevention. The Department of Esophageal Cancer at the hospital is reputed for the diagnosis and treatment of thoracic cancer. It performs conventional esophageal cancer resection, radical surgery of esophageal cancer, lobectomy, pneumonectomy, mediastinal tumor resection and dozens of challenging new surgeries.

distant node. The results of this report address a series of controversial issues regarding esophageal surgery.

Professor Yu indicated that early lymph node metastasis can be regarded as pN1 stage metastasis. pN1 stage refers to the stage that one or two lymph node metastases occur and that lymph nodes may not enlarge significantly. pN1, in contrast to pN0, differs in its nature due to the emergence of lymph node metastases. As patients who do not have lymph node metastasis have better prognosis than patients who do, patients with pN1 has better survival advantages than pN2. Professor Yu's report on "Clinical study of early lymph node metastasis in esophageal cancer" aims to identify the metastatic pattern. For instance, lymph node metastasis occurs early in primary esophageal cancer, but where does it spread? For lung cancer, lymph node metastasis usually spreads to the nodes in lungs, hilum, then mediastinum, and further to the nodes in clavicle or distant nodes. However, this is not applicable to esophageal cancer. Based on esophagus anatomy, lymph node metastasis in esophageal cancer does not spread from one node to an adjacent node, and rather can skip nodes. Therefore, all upper, middle or lower esophageal lymph nodes, as well as mediastinal lymph nodes, are common sites where lymph node metastases occur. This explains why esophageal cancer may require larger-scale lymph node dissection. The commonly asked questions, including whether esophageal cancer treatment requires only dissecting the tumor, whether and when three-field lymph node dissection is needed, whether it can be replaced with two-field dissection, and whether selective three-field dissection is feasible, are all based on this point of view. In other words, even early lymph node metastasis is prone to the risk of distant spread, which may carry even higher risk than that of local spread. This emerges as a critical issue of esophageal cancer.

### **Clinical study of lymphatic chemotherapy in esophageal cancer**

"In my opinion, intraoperative lymphatic chemotherapy is not a good approach," admitted by Professor Yu, when he was asked about the study of lymphatic chemotherapy in esophageal cancer, "if it was, it must have been promoted. 5-FU is

adopted as the chemotherapeutic agent in some studies. However, it is not effective when it is injected locally and will only take effect after the liver metabolism. Secondly, some studies combine 5-FU with activated carbon or nanomaterials, which are macromolecules with gap, for the purpose of adsorbing the chemotherapeutic drugs. However, it is not artificially controllable whether these drugs are released as imagined in the human body and how their activities go after they are released. Other associated factors such as humoral microenvironment, pH level and even body temperature make the case even more complicated. Thirdly, due to the fact of lymph node metastases lymphatic vessels are frequently blocked by tumor thrombus, drugs used during intraoperative lymphatic chemotherapy may end up entering normal lymph nodes rather than the metastatic nodes, resulting in limited chemotherapeutic effects”.

### **Esophageal neoadjuvant therapy: widened indications, interim results proved effective**

Professor Yu pointed out that the indications for esophageal neoadjuvant therapy have widened. In the past, preoperative treatment was performed only for patients with difficulties in tumor resection. Nowadays even patients who are able to undergo tumor resection receive preoperative treatment. Therefore, since the year of 2000, nearly all surgical centers have begun to provide preoperative treatment for patients, almost all of whom are required to receive such treatment.

At this meeting, Dr. Wanpu Yan’s report on “CT evaluation on preoperative induction chemotherapy for advanced stage of esophageal squamous-cell carcinoma and the enhancement of long-term survival” mentioned the study of CROSS, which validates the effectiveness of preoperative treatment. Under the leadership of Dean Fu Jianhua, more than a dozen different parties collaboratively conducted a study, with results pending. The interim results show that patients receiving neoadjuvant radiotherapy and chemotherapy have better outcomes and higher remission rates than patients receiving only surgery.

### **Best basic research is to be able to resolve clinical problems through basic experiments**

Professor Zhentao Yu received further education in the School of Medicine in the University of Southern Denmark and engaged in basic research of stem cells. After returning to China, he carried out a series of basic research projects on lung cancer and esophageal cancer, including the studies of specimens, gene damage and gene therapy of esophageal cancer, as well as the studies of gene isolation, isolation of differentially expressed genes, biological functions, and the analysis of genetic susceptibility in lung and esophageal cancers.

Professor Yu indicated that they have never ceased undertaking basic research

on esophageal cancer, including the latest project of National Natural Science Foundation he took part in. He explained, “it is a must to conduct basic research. However, it seems to become a blind end for researchers who enter laboratory to carry out experiments and research on genes, pathway, transmission and apoptosis... yet after completion of the research, they discard everything without contributing to clinical use. To me, the best basic research would be one that helps resolve clinical problems through basic experiments. As what Doctor Yan mentioned today, it is hoped that we will be able to determine if neoadjuvant therapy is suitable for certain patients prior to receiving the therapy. It perhaps has to be dealt with using molecular biology, but so far there is no good indicator identifying patients suitable for neoadjuvant therapy. A good scientific research, such as the study of neoadjuvant treatment of esophageal cancer, has to be able to tackle practical problems so as to improve clinical practice. It is not very realistic to set a definite indicator to prove something is good, but contrarily setting an indicator to prove something is not good is an enormous enough contribution. For instance, if an indicator can be set to explain how surgery instead of neoadjuvant therapy is suitable for certain patients, it is an immense resolution.”

### **Precision treatment: it's just a hype!**

Speaking of the recent hot issue “precision medicine”, Professor Yu explained, “it’s just a hype! We all like winning over audience or applause. The so-called “precision medicine” is catching so much attention probably because it was proposed by President Barack Obama. In fact, “precision medicine” is just a summary of what we have been stressing as “more standardized and individualized treatment”, on which we have been working for many years. For instance, we have been carrying out research and practice over different areas of lung cancer, such as management of GGO, treatment of small tumors in different sections, whether segmentectomy or wedge resections and how much resection should be performed, whether lymph node should be dissected by sampling or systematically, and the different targeted therapies used based on different states of tumor’s genetic mutation.”

(Interview Editor: Chao-Xiu(Melanie) He, AME Publishing Company)

AME Correspondence E-mail: kysj@amegroups.com

Interviewed Expert’s E-mail: yuzhtao@hotmail.com

Department Secretariat Tel No: 022-23340123

Department Address and Postal Code: Huanhu West Road, Ti-Huan-Bei,

He Xi District, Tianjin, 30006

## Text Interview

# Shumin Wang: From Sci-Fi to Reality – a Journey to Robotic Surgery

**Editor's Note:** Do you still remember in the movie *Alien* the leading actress used a medical robot to perform Caesarean section in order to give birth to baby? This is no longer exclusive to movies. As early as the 1990s, robotic surgery has walked out of these sci-fi blockbusters and has been adopted for clinical uses with great success. The journey ahead is endless and faraway, but we will continue to search with our unbending will. There is no limit to the imagination of mankind. The same goes for medical innovation. This time, we conducted an interview with Professor Shumin Wang, who won the trophy of “Asian Da Vinci Robotic Thoracic Surgery Leader”, granted by the International Federation of Robotics, and is currently the Department Head of Thoracic Surgery at General Hospital of Shenyang Military Region, to discuss a journey about robotic surgery.



Shumin Wang, professor, chief physician, teacher of master graduates, is currently the Department Head of Thoracic Surgery at General Hospital of Shenyang Military Region (Thoracoscopic Minimally Invasive Surgery Center of Shenyang Military Region).

Like many other breakthroughs, the development of medical robot experienced many twists and turns. In 1994, Aesop was developed, the first medical robot used for minimally invasive surgery. This early edition of medical robot has simple robot-assisted mirror functions. In 1995, Zeus was developed to perform meticulous surgical actions remotely. In 1997, U.S. Intuitive Surgical Inc. launched the Da Vinci Surgical System, which was approved by the U.S. Food and Drug Administration (FDA) in 2000 for use in the human body. In 2006, People's Liberation Army Hospital introduced the first Da Vinci robot in China, with the first case of robotic



General Hospital of Shenyang Military Region, located at 83 Cultural Road, Shenhe District, Shenyang City, was founded in November 1948. It is a modern “upper first-class” hospital assembling together medical treatment, health care, scientific research and education. The Department of Thoracic Surgery was created in 1987 and was approved by the Joint Office of Shenyang Military Region as “Thoracoscopic Minimally Invasive Surgery Center of Shenyang Military Region”, which has now become a trinity of medical treatment, education and scientific research.

cardiac surgery performed in 2007 by Professor Changqing Gao and his team. In 2011, the earliest surgical robot in Northeast China was brought into the General Hospital of Shenyang Military Region, which was adopted on a trial basis in departments including General Surgery, Thoracic Surgery, Cardiac Surgery, Hepatobiliary Surgery and Urology. According to Professor Wang, robotic surgery has the following advantages:

### **Higher Safety**

Da Vinci Surgical System allows three-dimensional (3D) visualization which can be magnified 10–15 times. It has the advantage of 3D virtual panoramic views of a true 16:9 ratio that video-assisted thoracoscopic surgery does not have. More importantly, it helps improve surgical safety and ensure the fast recovery of patients.

### **Meticulous Operation**

The robotic arm of the Da Vinci Surgical System has flexible surgical instruments. Each instrument can perform specific surgical tasks such as turning, clamping, dissecting and stitching. The robotic arm, with 7 degrees of freedom, imitates the surgeon’s hand and wristed movements. It is even more flexible and convenient than the human hand, which is limited to only 5 degrees of freedom. The system is able to eliminate hand tremors and calibrate movements, therefore stabilizing the robotic arm to perform accurate operation even in small surgical field. For instance, the use of robotic system in lung cancer or esophageal cancer surgery can thoroughly clean lymph nodes, increasing long-term survival rates of patients.

## Minimal Invasion

Da Vinci Surgical System has a 12 mm trocar (camera) and an 8 mm trocar. It significantly reduces surgical trauma and the compressive trauma of the intercostal nerve. With the help of surgical robot, surgical incision is reduced, resulting in less bleeding and pain after surgery, meanwhile, enhancing recovery.

## Reduction in Surgeon Fatigue

During robotic surgery, the surgeon can sit while manipulating the robot, which can significantly reduce the burden on his/her neck, shoulders and waist. Patients can benefit from it as a result.

Even though the robotic surgery system has its deficiencies, such as the lack of force feedback (the surgeon is unable to feel actions such as blood vessels pulling and tissues clamping), high costs, and high total expenses to patients, Professor Wang remains optimistic about its prospects. At present, there are nearly 3,000 Da Vinci robots in the U.S., compared to only 57 in China. Professor Wang believes that with the liberalization of related policies and support in the country, there will be more medical institutions employing the robotic surgery system. Nevertheless, we should bear in mind that there are certain requirements on the scale of the medical institutions and the number of patients to set up such system. The medical institutions must have possessed mature thoracoscopic technology and professionals who went through rigorous training. Professor Wang recalled the scene when he carried out his first robotic surgery on 4 March 2011 after he finished his training in Hong Kong – performing a real mediastinal tumor resection, which was completely different from what he did on animals during the training. The only thought he had in his mind at that time was “cautious, cautious, and cautious”!

So far, Professor Wang has performed approximately 750 cases of robotic surgery with 100% success rate, and is one of the Asia’s most experienced operators. The English medical monograph *Robotic Thoracic Surgery*, of which he is the Editor-in-Chief, was officially published by AME Publishing Company this year. This book’s editorial team brought together 39 of the world’s top experts on robotic surgery. The opening chapter “*Evolving thoracic surgery: from open surgery to single port thoracoscopic surgery and future robotic*” was written by Professor Diego Gonzalez-Rivas, the pioneer of single port thoracoscopic surgery and the key leader of this approach in Spain. The book contains information about the anesthesia, surgery costs, pulmonary resection and mediastinal resection in robotic surgery, which is informative and comprehensible with illustrations. Professor Wang is very proud of this book, explaining “*in recent years, our country has made significant strides in robotic surgery and has received recognition from the world’s leading experts. This is why this book was born. Robotic surgery is in a phase of rapid development. Being the Editor-in-*

*Chief of this book, I gave my experience accumulated all these years, the technical problems encountered and how they were tackled. I am also open to critiques and rectification so together we can make progress.”*

(Interview Editor: Li Mei, AME Publishing Company)

AME Correspondence E-mail: [kysj@amegroups.com](mailto:kysj@amegroups.com)

Interviewed Expert's E-mail: [sureman2003congo@163.com](mailto:sureman2003congo@163.com)

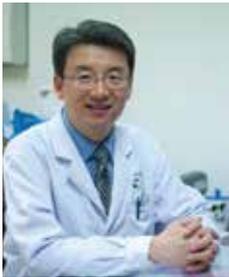
Department Secretariat Tel No: 024-28897540

Department Address and Postal Code: 16<sup>th</sup> Floor, Block 7, 83 Cultural Road, Shenhe District,  
Shenyang City, Liaoning, China

## Video Interview

# Jiyong Wang: A Brief Talk about Spontaneous Pneumothorax

**Editor's Note:** The 2<sup>nd</sup> Guangdong Provincial Medical Industry Association of thoracic surgery branch of the annual meeting and grass-roots hospital thoracic surgery industry development forum was successfully held by Guangdong Provincial Medical Industry Association of thoracic surgery management in Guangzhou Oriental Hotel in December 26, 2015. More than 30 domestic and foreign experts were invited to wonderfully report on the common diseases in thoracic surgery and experience in disciplinary construction.



Dr. Jiyong Wang, MD, Master tutor, chief physician, associate professor. He is the director of Cardiovascular Surgery in the First Affiliated Hospital of Guangzhou University of Traditional Chinese Medicine.

It's our honor to invite Prof. Jiyong Wang, who is from Cardiovascular Surgery department, the First Affiliated Hospital of Guangzhou Traditional Chinese Medicine University to have an interview with us. Professor Wang shared with us the current status of spontaneous pneumothorax and briefly summarized the primary spontaneous pneumothorax and secondary spontaneous pneumothorax. When talked about the precautions during the treatment of spontaneous pneumothorax, Professor Wang believed that the most important thing is to analyze the specific problems in a specific situation, and follow-up after treatment had to be carried on regularly. Finally, Professor Wang also prospected a better look on the development of minimally invasive surgery in cardiac surgery.

### Interview Questions

1. What is current diagnosis and treatment of spontaneous pneumothorax?
2. What are the precautions in the course of treatment?
3. What is the status and influencing factors of recurrence after thoracoscope surgery?

4. How is the follow-up after treatment?
5. What are the future prospects of minimally invasive surgery for cardiothoracic surgery?



(Interview Editor: Xueting Chen, AME Publishing Company)

AME Correspondence E-mail: [kysj@amegroups.com](mailto:kysj@amegroups.com)

Interviewed Expert's E-mail: [13802447736@139.com](mailto:13802447736@139.com)

Department Secretariat Tel No: 020-36591136

Department Address and Postal Code: Department of Cardiovascular and Thoracic Surgery, the First Affiliated Hospital of Guangzhou University of Traditional Chinese Medicine, No. 16, Airport Road, Guangzhou, Guangdong, China, 510410

## Video Interview

### Qun Wang: Something About Clinical Study

**Editor's Note:** “The 4<sup>th</sup> International Chest Cancer Society Forum (National Continuing Education Program) and Chest Micro-Innovative Technology, Rapid Rehabilitation-Airway Management Course” was held from November 11 to 15, 2015, at The Crowne Plaza, Hangzhou. During the meeting, Professor Qun Wang from Department of Thoracic Surgery, Zhongshan Hospital Affiliated to Fudan University, was interviewed by AME to share his story in the field of thoracic surgery.



Qun Wang, MD, PhD. Professor and Director, Division of Thoracic Surgery, Zhongshan Hospital; Committee Member, Chinese Society for Thoracic and Cardiovascular Surgery; Committee Member, Division of VATS, Chinese Society for Thoracic and Cardiovascular Surgery; Committee Member, Division of Esophageal Disease, Chinese Society for Thoracic and Cardiovascular Surgery; Council Member, International Chinese Society of Thoracic Surgery; Committee Member, Shanghai Society for Thoracic and Cardiovascular Surgery; Committee Member, Division of Thoracic Surgery, Chinese Medical Doctor Association; Member, Division of Thoracic Surgery, Professional and Technical Evaluation Center of Endoscopy in Ministry of Health P.R. China; Committee Member, China Anti-Cancer Association of Esophageal Cancer.

#### Interview Questions

1. What are the surgical techniques for thoracoscopic complex lungs?
2. For the study of the semi-prone position single-hole thoracoscopic lobectomy, which was published in June 2015. How did you think of the study of this procedure for future lobectomy? Will you give priority to this method in the future?
3. What is your most satisfying study so far?
4. What is the original intention of becoming a thoracic surgeon?



Zhongshan Hospital, formerly known as Zhongshan Hospital affiliated to Shanghai First Medical College and Zhongshan hospital affiliated to Shanghai Medical University, is a major teaching hospital affiliated to the Ministry of Health of China. It was founded in 1936 in commemoration of Dr. Sun Yat-sen, the great pioneer in the Chinese democratic revolution. Affiliated to the State Medical College of Shanghai, it was then the first large hospital run by Chinese people. Department of Thoracic Surgery in Zhongshan Hospital has been designated as the National Clinical Key Disciplines, Shanghai Key Disciplines, The Shanghai Quality Control Center for Clinical Cardiothoracic Diseases and National Clinical Pharmacologic Center for Thoracic Diseases.

5. What suggestion would you like to say to those young doctors who are struggling?

The image shows a promotional graphic for AME Publishing Company. It features the AME logo (a globe with dots) and the text 'AME Publishing Company'. To the right is a QR code with a play button icon in the center. Below the logo and QR code, the text reads: 'Qun Wang: Something About Clinical Study'. At the bottom, it says 'Available online: http://kysj.amegroups.com/articles/3900'. The background is a dark blue map of the world.

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**Qun Wang:**  
**Something About Clinical Study**

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(Interview Editor: Mi Wang, AME Publishing Company)

AME Correspondence E-mail: [kysj@amegroups.com](mailto:kysj@amegroups.com)

Interviewed Expert's E-mail: [lung2792@163.com](mailto:lung2792@163.com)

Department Secretariat Tel No: 021-64041990-2018

Department Address and Postal Code: Department of Thoracic Surgery, Zhongshan Hospital,  
Fudan University, No. 180, Fenglin Road, Xuhui District, Shanghai, China, 200032

## Text Interview

### Xiuyi Zhi:

## To Benefit the Patients: Always Telling the Truth

**Editor's Note:** The 10<sup>th</sup> Head of Thoracic Surgery Lung Cancer Summit Forum in China and the 4th China Lung Cancer Cooperative Group (CLCCG) Summit Forum was successfully held in Guangzhou on 24<sup>th</sup> May 2015. Professor Xiuyi Zhi, the President of the General Assembly and the Head of Lung Cancer Treatment Center at Capital Medical University, was interviewed by AME Editor. He reviewed the establishment and development of China Thoracic Surgery Lung Cancer Cooperative Group and China Head of Thoracic Surgery Lung Cancer Summit Forum. He also shared distinctive opinions on “Precision Medicine” and an article published by Professor Joe Chang.



Professor Xiuyi Zhi is the Head of Lung Cancer Treatment Center at Capital Medical University. He is also the Group Leader of China Thoracic Lung Cancer Cooperative Group, Committee Director of Beijing Medical Association, the Group Leader of Lung Cancer Curriculum Section, and the Head of Lung Cancer Treatment Center at Capital Medical University.

Looking back to the establishment of China Thoracic Lung Cancer Cooperative Group, Professor Zhi said, ‘before the very beginning stage of the CLCCG establishment, the China Thoracic Director Lung Cancer Summit Forum had been held for five times already.’ This summit forum is initiated by Professor Zhi, who is the Group Leader of Lung Cancer Group under Chinese Medical Association of Thoracic Surgery Branch and Lung Cancer Group under Beijing Medical Association of Thoracic Surgery Society. Both the organizations have also co-sponsored the forum. Having received massive support from the Chinese Cancer Foundation, the forum is hosted by the Lung Cancer Treatment Center of Capital University.

In the successive ‘China Thoracic Surgery Lung Cancer Summit Forum’, all



The Department of Thoracic Surgery of Xuanwu at Hospital Capital Medical University was established in 1980. In recent years, lung cancer and esophageal cancer surgery, and multi-integrated clinical research was actively carried out by the team of the Thoracic Surgery of Xuanwu Hospital to treat patients of 70 years and above. The Department conducted clinical research on surgical treatment of thymoma and video-assisted thoracoscopic treatment of spontaneous pneumothorax. Furthermore, the Department supported the development of thoracic and minimally invasive surgical treatment on bullous bullae in lungs and malignant pleural effusion. The surgical management of thoracic injuries and chest wounds of the Department has maintained leading position at the domestic level.

the participants are able to share the platform for exchanging ideas of lung cancer diagnosis and treatment in China, regardless of their ages and origins, with the aim of promoting new ideas on lung cancer management. Whenever there is a thoracic academic meeting, no matter which group is organizing it, there are only a few features on lung cancer because of the factors of time and schedule arrangement. Lung cancer has ravaged China. Its incidence and mortality is unfortunately ranked number one in the world. If it is only discussed during thoracic or integrated cancer meetings, it is difficult to spend more time to focus on lung cancer. In light of the situation, our opinion leaders are hoping to establish a learning platform as the “China Thoracic Lung Cancer Cooperative Group”, as to exchange ideas as among researchers. The 5th Head of Thoracic Surgery Lung Cancer Summit Forum in China is supported by “China Thoracic Lung Cancer Cooperative Group” (CLCCG), including Professor Zhi, who discussed with others thoracic specialists to expand the group. Professor Zhi has not only successfully gained the support from Mr. Peng Yu, Vice Minister of the Health Department and Director of China Cancer Foundation, but has also gained from the leaders of the Health Department and the Chinese Medical Association. Subsequently, CLCCG was established during “the 6th Head of Thoracic Surgery Lung Cancer Summit Forum” on 11st May 2013 in Beijing, with other branches developing in different counties and cities. This connection builds up a national cooperative network on lung cancer treatment throughout the entire country. In addition, more young thoracic surgeons can focus on new technologies in lung cancer diagnosis, treatment and clinical research under the creation of the Chinese Thoracic Surgery Masterclass Training Program and the CLCCG Youth Expert Working Committee. Looking back to the previous

sessions of the China Head of Thoracic Surgery Lung Cancer Summit Forums, the discussion focused more on clinical research of lung cancer and multidisciplinary treatment integration. Furthermore, every summit forum has a specific theme to ensure all discussions can achieve consensus among the specialists and thus to solve a specific problem during the meeting. The content that is being discussed would be shared online by Chinese Association of Thoracic and Cardiovascular Surgery, China Cancer Foundation, public media and professional media website, so that more specialists in the related fields can participate and join the discussion. For this current Head of Thoracic Surgery Lung Cancer Summit Forum, a newly advocating program is devised base on the “Chinese Primary Lung Cancer Diagnosis and Treatment Norms (2015 Version)”. Professor Zhi added that he will set an example, promoting updated information on thoracic surgery. It is to be said that the program could be properly organized at the national level. During this session, a special meeting will be organized with the ten leaders of CLCCG, all the committee members of Chinese Association of Thoracic and Cardiovascular Surgery and expert committee members from “Chinese Primary Lung Cancer Diagnosis and Treatment Norms” to discuss a national tour plan. This will ultimately benefit more patients through introducing the latest version of “Chinese Primary Lung Cancer Diagnosis and Treatment Norms” to thoracic surgeons and regulating clinical treatment behavior at the same time.

Speaking of the theme this year, “Precision Medical Care”, Professor Zhi hopes to cooperate with Shenzhen University through a three- to five-year plan to build China’s thoracic surgery lung cancer genomic library. This library will connect major basic medicine, genomics field research results and high-end technology to the application of lung cancer preclinical diagnosis and precision treatment. “Thoracic surgeons must be involved in lung cancer screening and preclinical diagnosis, including CT chest screening, to target high-risk lung cancer patients. If terminal lung cancer patients are diagnosed through presence of symptoms alone, then the thoracic surgery will lose its effectiveness.” Processor Zhi emphasized that precision medicine in lung cancer is an application in prevention and screening and still has room left for development. However, it requires cooperation among experts in the field of public health, basic medicine scientists, family doctors, respiratory physicians, and surgeons. Thus, the work of genetic testing technology can be applied to lung cancer screening and “liquid examination” work. Precision medical treatment is an application in the field of lung cancer. It is applied to minimally invasive surgery on early diagnosis of lung cancer and early stage of lung cancer. The application of precision medical care in thoracic surgery, especially in early stage of lung cancer, has a high academic value and clinical value. During the interview, Professor Zhi stressed that not all of the small nodules are considered as lung cancer. It is essential that lung cancer screening, which finds sub-centimeter lung lesions to be given high priority, and to be combined with liquid biopsy that help to identify high risk lung cancer cases for surgical intervention. For example, an 85-year-old advanced lung

sub-centric lung shade patient would be at risk of misdiagnosis if “liquid biopsy” is not available. If the “liquid biopsy” gene detection technology determines that there is no lung cancer, then it is unnecessary to undertake the risk of surgical treatment. Therefore, it is suggested that doctors should observe the patient’s condition. On the other hand, to determine whether there is a possibility of lung cancer given that there are sub-centimeters lung lesions, and genetic testing, the use of existing chest CT small nodule treatment systems and software, magnetic navigation on lung biopsy techniques and related imaging technologies are also contributing to confirm whether the lesions are considered as lung cancer. This technology has not only helped to enhance patients and their families’ compliances, but also helped the thoracic surgeons to determine whether there is a need for surgical resection as to avoid the risk of surgical treatment. It has been proven that this technology helps to strengthen the mutual cooperation between the doctors and patients. Professor Zhi believes that if thoracic surgeons apply chest CT screening and liquid biopsy technology to pulmonary nodules analysis, the use of magnetic navigation biopsy technology can validate any small nodules in the lungs through accurate pathologic and molecular pathologic diagnosis before and after surgery. Under the guidance of precision medical care, elderly patients would not only be seen an increase in their overall survival, but also be seen in a better quality of life.

Not long ago, Professor Joe Chang published an article on the major result of an early lung cancer treatment in the prestigious “Lancet” journal in America. Stereotactic Radiotherapy Ablation (SBRT) treatment on early stage of lung cancer surgical resection is more effective than surgical treatment. Professor Zhi held a different point of view. He deemed that this research, which was merely based on two terminated clinical trials with a small number of patients, was an irresponsible act. At present, whether we are referring to lung cancer clinical diagnosis and treatment guidelines (2015 edition) of National Comprehensive Cancer Network (NCCN) in America, or referring to the “Chinese Primary Lung Cancer Diagnosis and Treatment Norms (2015 Version)” under China National Satellite Health Organization, surgical treatment is preferred when it comes to primary stage of lung cancer treatment principles. Prof. Zhi suggested that both radiotherapist and thoracic surgeon should follow the guideline of providing surgical treatment for primary stage of lung cancer patients before the final clinical result comes out. Professor Zhi does not agree with the public and professional media on the promotion of early termination of the test data. He is worried that this article by Dr. Zhang might mislead the way that primary stage lung cancer patients choose treatment. In China, many doctors worship medical journals and published articles. Thus, he strongly believed that a medical journal that is highly respected should only publish such articles with utmost care. At present, Chinese experts in radiotherapy are carrying out a similar multi-center clinical study. As China has a lot of lung cancer patients, the sample size is rather large, many experts are eagerly anticipating the results. Professor Zhi stressed that lung cancer clinical studies require the

close collaboration of radiology oncologists and thoracic surgeons. If the research project only focuses on radiotherapy results without the participation of surgeons, the research results would be less robust. Since the aim of the multi-center clinical study is to advance evidence-based medicine and enrich the global understanding of lung cancer management, it is in the interest of experts from public health, thoracic surgery, oncology, radiotherapy and pathology to join and participate in this study. Given a different view on the published article and conclusion made by Dr. Chang, Professor Zhi stated that a clear pathological diagnosis should be made before selecting treatment options for clinically suspected lung nodules. Moreover, Chinese thoracic surgeons and oncologists should voice their attitudes and perspectives. Regardless of the new mindsets and advances in technologies, we should always apply scientific data while performing a clinical study. These efforts are leading to significant advances in medicine and lung cancer treatment.

(Interview Editor: Chujun Huang, AME Publishing Company)

AME Correspondence E-mail: [kysj@amegroups.com](mailto:kysj@amegroups.com)

Interviewed Expert's E-mail: [xiuyizhi2015@163.com](mailto:xiuyizhi2015@163.com)

Department Secretariat Tel No: Wang Fang, 15910968826

Department Address and Postal Code: Xuanwu Hospital, Capital Medical University, No.45 Changchun Street, Xicheng District, Beijing, China, 100053.

## Text Interview

# Wentao Fang: Is Removing Less Lung Tissue Really Conducive to the Quality of Life?

**Editor's Note:** At the 2015 European Society of Thoracic Surgeons (ESTS) annual meeting, Professor Wentao Fang of the Shanghai Chest Hospital Affiliated to Shanghai Jiaotong University made a wonderful report on “Comparison of pulmonary function after VATS lobectomy and limited resections for early stage lung cancer”, which was received with warm applause. After the meeting, Professor Fang accepted an exclusive interview by AME to share his unique insights into lung resection.



Prof. Wentao Fang is the Deputy Chief of Department of Thoracic Surgery in Shanghai Chest Hospital, the Chief of Division of Mediastinal Surgery, in Shanghai Chest Hospital, and Chief Director, Clinical Center for Esophageal Diseases in Jiaotong University. Prof. Fang is capable of full range of thoracic procedures and has exclusive experience in minimally invasive (including Robotic) thoracic surgery, pulmonary resection for benign and malignant diseases, systemic lymph node dissection for esophageal cancer, anti-reflux procedures for GERD and thymectomy for thymoma and myasthenia gravis. Prof. Fang also took an active role in Editorial Board of some journals, including *Journal of Thoracic Disease*, *Annals of Thoracic Surgery* and others. Prof. Fang holds the membership in some societies and organizations as Secretary and Steering Committee member of International Thymic Malignancy Interest Group (ITMIG), Member of International Association of Study for Lung Cancers (IASLC), Member of International Society for Diseases of the Esophagus (ISDE), Program Committee member of European Society of Thoracic Surgeons (ESTS), Faculty member of Asian Thoracoscopic Surgery Club (ATSC), Chairman of Mediastinal Tumor Committee, Chinese Society of Clinical Oncology (CSCO), etc.



Shanghai Chest Hospital was established in 1957 by several well-known senior thoracic surgery experts, including Professor Jiasi Huang and Professor Kaishi Gu. It is the oldest chest disease-based specialist hospital in the country. For the past 40 years, the Department of Thoracic Surgery conducted a series of research in fields such as lung diseases, tracheal surgery, benign and malignant esophageal diseases, and mediastinal tumors. The achievements made in recent years in the comprehensive treatments of lung cancer, multidisciplinary treatments of esophageal cancer, clinical research on the pathology of thymic epithelial tumor, and the clinical and scientific research on lung and tracheal transplantations further secure the leading position of Thoracic Surgery in China.

With the increase in early stage lung cancer patients and the deepening understanding about lung cancer, more doctors, when performing sublobar resection, wish to explore if removing less lung tissue is conducive to patient's pulmonary function and the quality of life while ensuring the effectiveness of the treatment. Professor Fang's team, however, found that removing less lung tissue may not necessarily be better in retaining pulmonary function due to a wide range of factors. The purpose of their study was to understand the degree of retention of pulmonary function under VATS lobectomy, segmental resection and wedge resection, so as to provide better guidance for doctors to select the most appropriate surgical approach.

Concerns about patient's quality of life and the impact on pulmonary function have been the focus of thoracic surgeons' work. Professor Fang explained they are now putting focus also on the differences between open surgery and endoscopic surgery. To him, all surgical approaches are similar. No matter which approach to take, the prerequisite is to make sure the principles of surgery and oncology are unaffected to achieve good therapeutic effect, while concurrently taking into account

the impact of surgical trauma on patient's future life. These are the two indispensable aspects to which doctors must always pay attention.

What is shown in this report are some preliminary results, which compares only part of the patients who underwent VATS lobectomy, segmental resection and wedge resection. Professor Fang hopes more cases can be accumulated in order to generate more detailed research and analyses in the future. He expected that a control group of no thoracoscopic lung resection would be formed to more accurately evaluate the effect of lung resection on pulmonary function and to show us more interesting and meaningful results in the future.

Speaking of the indications for segmental resection used in the hospital, Professor Fang indicated that the original purpose of segmental resection is to lower the risk of surgery by performing limited resection on patients with poor pulmonary function and at relatively higher surgical risk. In fact, numerous clinical studies have proved the possibility of less postoperative complications after segmental resection. Yet there is still not any definite conclusion regarding its impact on the quality of life and long-term pulmonary function. Professor Fang indicated that what was seen in their hospital is the same – in the past, segmental resection was mainly used for high-risk patients who have poorer pulmonary function and more complications. With the prevalence of the use of CT examinations in recent years, they found for very small lesions, such as those of around 1 cm or 1.5 cm in diameter, or those with relatively lower malignancy, sublobar resection may have been able to achieve the long-term survival results of standard lobectomy. Therefore, the segmental resections generally chosen by their hospital currently aim at treating lesions of less than 2 cm in diameter and CT-detected lesions with ground glass opacities, which have become their new indications for segmental resection.

With regard to lymph node dissection, Professor Fang stated that, based on the existing literature and his own experience, no lymph node metastases have been found among patients with AAH or MIA, who would then have no need to undergo any systematic lymph node dissection. Nevertheless, it is rather difficult to diagnose AAH or MIA using frozen section examination during the surgery, leaving surgeons no choice but to rely mainly on the identification using the preoperative CT images. Accordingly, they rarely execute systematic lymph node dissection for CT-detected lesions with mainly ground glass opacities. In his opinion, however, sampling of lymph nodes is still necessary to gather precise evidence and sufficient data to prove that these patients are assuredly free from lymph node metastases and with no need to undergo lymph node dissection.

Finally, Professor Fang concluded by sharing his feelings of attending this year's ESTS annual meeting. He felt proud of the growing number of Chinese participants, regardless of participants or speakers, at such a high-level international conference, which is observable by many foreign peers as well. In comparison with AATS of the United States, ESTS is a new rising star, having more and more attendants from North America and other parts of the world. In terms of content and

academic ambience, ESTS may conform more to the trend of academic development and is gradually stands out as the most influential academic conference of thoracic surgery in the world. He suggested local scholars be engaged more in international exchanges and follows the trend of professional development, while working more closely with better developed countries, international units or individuals. By using this platform to carry out collaborative research with fellows in Asia, Europe and America, the country's academic standards and impacts can both be raised. This is what Professor Fang wishes to see in the coming years.

The good news is – a consensus has been made between the Chinese Medical Doctor Association and the ESTS that a 2-hour Sino-European special session will be held at the 2016 ESTS annual meeting in Lisbon aimed at propelling Sino-European academic exchange and co-operation regarding thoracic surgery. Local fellows are expected to be actively involved.

(Interview Editor: Grace S. Li, Shanshan Zhong, AME Publishing Company)

AME Correspondence E-mail: [kysj@amegroups.com](mailto:kysj@amegroups.com)

Interviewed Expert's E-mail: [vwtfang@hotmail.com](mailto:vwtfang@hotmail.com)

Department Secretariat Tel No: Zhitao Gu, 18017321357

Department Address and Postal Code: Shanghai Chest Hospital, 241 Huaihai West Road, Shanghai, 200030

## Video Interview

# Wentao Fang: Soul-stirring Master Cup, Historical First Victory

**Editor's Note:** At 8:30 am (GMT+1), 31 May 2015, local time in Portugal, the PostGraduate Course (also named the Master Cup) of the 23rd Annual Meeting of European Society of Thoracic Surgeons (ESTS), began in Lisbon Congress Center. With the high standard level and the fantastic content, it could be proclaimed as the world cup among the international community of thoracic surgery. Right after the competition, the WeChat moments were full of the victory news of the Asian team, the champion this year. This is the first time in the history of the Master Cup of ESTS annual meeting. The crowd went wild, the Chinese doctors staring at Wechat also went wild. Many Asian doctors had waited and strived for this moment for many years. After the announcement of the result, AME had a special invitation to Prof. Wentao Fang, one of the mentors of the Master Cup Asian team this year, to share this soul-stirring competition with us.



You may refer to the previous article for the biography for Prof. Wentao Fang.

### Interview Questions

1. As a senior member of the Asian team in ESTS Postgraduate Master Cup this year, can you share the Asian team lineup and the situation in Master Cup with us?
2. Regarding the Master Cup, what do you advise to the cultivation of doctors in China?



**Wentao Fang:**  
**Soul-stirring Master Cup, Historical  
First Victory**

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<http://kysj.amegroups.com/articles/3006>

(Interview Editor: Grace Li, AME Publishing Company)

AME Correspondence E-mail: [kysj@amegroups.com](mailto:kysj@amegroups.com)

Interviewed Expert's E-mail: [vwfang@hotmail.com](mailto:vwfang@hotmail.com)

Department Secretariat Tel No: Zhitao Gu, 18017321357

Department Address and Postal Code: Shanghai Chest Hospital, No. 241, Huaihai West Road,  
Shanghai, China, 200030

## Video Interview

# Wentao Fang: Thymoma Research, an Up-and-coming Star

**Editor's Note:** “The 6<sup>th</sup> annual meeting of International Thymic Malignancy Interest Group (ITMIG 2015)” was successfully held in Regal International East Asia on 23–25 October 2015, it was the first time of holding an annual meeting of TIMIG in China. It was said that the annual meeting this year had the most participants, the largest scale, and the highest reputation, it was also a stage for Chinese experts to show their work. Chinese Alliance for Research in Thymoma (ChART) was a rising star in this conference. The influence of China on International Thymoma research had been recognised by the presentation of a retrospective analysis of the research results. It was worth celebrating that Professor Changlu Wang, a member of ChART and the physician of Shanghai Chest Hospital, was awarded Barbara Neibauer Prize by ITMIG. This was the second time of ChART members receiving this honor. After the conference, Professor Wentao Fang, the President of the conference this year, accepted an interview by AME and introduced the highlights of the conference and the national development of thymoma research.



You may refer to the previous article for the biography for Prof. Wentao Fang.

### Interview Questions

1. What are highlights this year in comparison to last year?
2. As the President of TIMIG annual meeting this year, what impressed you most during the preparation of the meeting?
3. What is your opinion of the national development of thymoma research in recent years?
4. What are the worth-the-wait points of the coming thymoma research and the ITMIG annual meeting in 2016?



(Interview Editor: Grace Li, AME Publishing Company)

AME Correspondence E-mail: [kysj@amegroups.com](mailto:kysj@amegroups.com)

Interviewed Expert's E-mail: [vwfang@hotmail.com](mailto:vwfang@hotmail.com)

Department Secretariat Tel No: Zhitao Gu, 18017321357

Department Address and Postal Code: Shanghai Chest Hospital, No. 241, Huaihai West Road, Shanghai, China, 200030

## Video Interview

**Yi Shen:**

### **The Application of DaVinci Robot is a Tendency in the Thoracic Surgery**

**Editor's Note:** The 2<sup>nd</sup> SMU Cardiothoracic Surgery Forum hosted by the Thoracic Surgery branch of Guangdong Medical Association and organized by the Southern Hospital and Zhujiang Hospital, was held successfully on April 23rd, 2016. In the forum, Prof. Yi Shen, from Nanjin General Hospital, brought an excellent speech about the application of DaVinci robot in the thoracic surgery. Seizing this great opportunity, we invited Prof. Shen for an interview, sharing with us his perspective on the DaVinci robot.



Prof. Yi Shen, MD, Chief Physician, Doctoral tutor, Deputy Director of Cardiothoracic Department of Nanjin General Hospital, Senior visiting scholar to Davis Medical Center of University of California, Deputy committee director of the Nanjin Society of Thoracic and Cardiovascular Surgery, Young committee of Chinese Society for Thoracic and Cardiovascular Surgery, Committee member of Chinese College of Surgeons, Member of Jiangsu Anti-Tumor Committee, Committee member of Jiangsu Collage of Cardiovascular Surgery.

During the interview, Prof. Shen objectively described the advantages and disadvantages of DaVinci Robot and its status quo in China as well as its future development, which Prof. Shen showed his positive attitude.

Moreover, Prof. Shen also shared with us his experience when first tried the DaVinci Robotic Surgery, which deepened his understanding of this technology. The positive outcome of DaVinci Robot is also what prompts Prof. Shen to keep moving forward in this field.

As for skill that a surgeon should possess for the DaVinci Robotic Surgery, Prof. Shen thought the mind that taking patients as the first priority is the most important and the secondary part is the experience accumulated by daily practice.

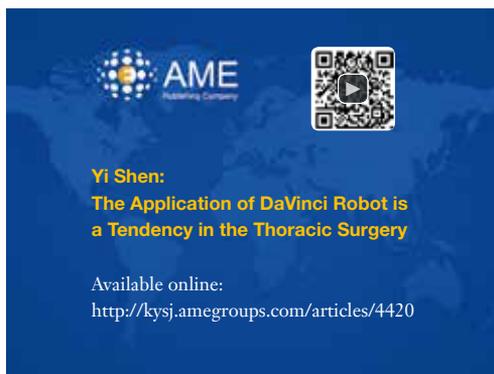
At the end of the interview, Prof. Shen told us his experience when last time he paid the visit to the Davis Medical Center in the University of California.



The Cardiothoracic Department of Nanjin General Hospital was established in 1948 with the first department director being Prof. Gongliang Wu, one of founders of China's first generation in Cardiothoracic Field. The Cardiothoracic Department of Nanjin General Hospital is included in the key disciplines of "135 Project" in Jiangsu province, which is also a base for training students for Post-doctor, Doctor and Master degree. The department enjoys a lot appraise in the following fields: severe heart valve replacement, coronary artery bypass surgery, treatment for vascular disease, treatment for complex congenital heart disease, thoracic surgery (esophageal, lung, mediastinum, etc), robotic and thoracoscopic surgery, cure for critically ill patients.

### Interview Questions

1. Would you first share with us the advantage of DaVinci Robot? In which condition will it achieve the best outcome for our patients?
2. Except the advantages, are there any disadvantages of DaVinci Robot? In which condition will it not be the ideal choice?
3. What's the current status and popularity of DaVinci Robot in China? What's your expectation to its future development?
4. Based on your experience, what kind of knowledge or skill a surgeon should possess in order to perform a successful DaVinci Robotic Surgery?
5. Would you like to share with us the experience when you first performed the DaVinci Robotic Surgery? What keeps you always moving forward in this field?
6. We know that you had previously stayed in the Davis Medical Center as a visiting scholar. Would you like to tell us what impressed you most at that time?



(Interview Editor: Skylar Gao, AME Publishing Company)

AME Correspondence E-mail: [kysj@amegroups.com](mailto:kysj@amegroups.com)

Interviewed Expert's E-mail: [dr.yishen@163.com](mailto:dr.yishen@163.com)

Department Secretariat Tel No: 02580860012

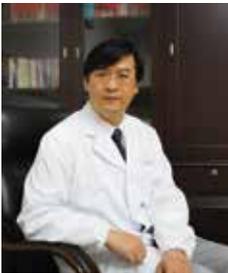
Department Address and Postal Code: No. 305, Zhongshan East Road,  
Nanjing, Jiangsu, China, 210000

## Video Interview

### Yuming Zhu:

## A Brave Heart is the First Step to Perform VATS

**Editor's Note:** The First National VATS Forum and the 8<sup>th</sup> Minimally Invasive Treatment for Lung Cancer Forum was held during May 16–17, 2016 in Guangzhou, China. We were honored to have an interview with Professor Yuming Zhu from Department of Thoracic Surgery, Shanghai Pulmonary Hospital, who has performed a 3D video-assisted thoracic surgery (VATS) and the surgery was broadcast live during the forum. Please follow up this interview to know more his experience and insights towards VATS.



Yuming Zhu, Department of Thoracic Surgery, Shanghai Pulmonary Hospital, Tongji University School of Medicine, Shanghai, China.

### Interview Questions

1. Could you please kindly introduce the VATS you just performed?
2. What are challenges of the clinical application of VATS?
3. What is the difficulty for the young surgeon to master this kind of complicated VATS?
4. How do you view the future of the 3D non-glass VATS?



(Interview Editor: Helen Seliman, AME Publishing Company)

AME Correspondence E-mail: [kysj@amegroups.com](mailto:kysj@amegroups.com)

Interviewed Expert's E-mail: [ymzhu2005@aliyun.com](mailto:ymzhu2005@aliyun.com)

Department Secretariat Tel No: 021-65115006-2074

Department Address and Postal Code: Department of Thoracic Surgery, Shanghai Pulmonary Hospital, Tongji University, No. 507, Zhengmin Road, Yangpu District, Shanghai, China, 200433

## Text Interview

# Kun Qiao: The Concept of Rapid Rehabilitation Promotes the Integration of Departments of Thoracic Surgery and Pneumology

**Editor's Note:** On 22–23 August, 2015, sponsored by Shenzhen Third People's Hospital and with the joint support by AME, the 3<sup>rd</sup> Shenzhen Thoracic Surgery International Forum and the promotion of “Chinese Primary Lung Cancer Diagnosis Standard” 2015 tour analysis version brought a curtain down in Shenzhen Third People's Hospital.



Kun Qiao, vice-chief physician, department head of thoracic surgery, Shenzhen Third People's Hospital. Well-experienced in a variety of lung, oesophageal and mediastinal surgeries, including the forming of the bronchial sleeve and pulmonary artery sleeve, lung volume reduction surgery, oesophageal cancer treatment.

During the conference, Prof. Kun Qiao, the executive chairman of the conference as well as one of the important speakers, accepted an exclusive interview with AME. Professor Qiao, as the academic leader in the Department of Thoracic Surgery, Shenzhen Third People's Hospital, is responsible for the tasks of academic development, scientific researches, clinical cases and teaching classes. The newly-formed thoracic surgery team of Shenzhen Third People's Hospital has started the single-hole/needlescope video-assisted thoracoscopic surgery, fast-track surgery, non-tracheal intubation in thoracoscopic surgery and other internationally-advanced technologies in China. The team is currently organizing the first chest minimally invasive center in Shenzhen, thoracic surgery palliative care ward, daytime thoracic surgery ward and the establishment of multi-disciplinary diagnosis and treatment of lung cancer center. The conference adopted a way of the online operation room, broadcasting the non-intubation single-hole of left lower lobectomy by Professor Qiao. The live section was hosted by Professor Shaolin Lin, Zhangming Li (Taiwan) and Zheng Wang to have a real-time dialogue for solving problems and to have



The department of thoracic surgery is one of the most well-developed departments in Shenzhen Third People's Hospital. With the clinical support by the thoracic department, research center and the scientific research ability etc., it adheres to the principle of "standardized, easier and wider", carrying out the standardized treatment of thoracic diseases such as lung cancer, esophageal cancer and mediastinal tumor. Aiming at curing cancer, greatly prolonging survival and improving the quality of life; through the optimization of perioperative management, to improve anesthesia methods for choosing the individual minimally invasive surgery and to make patients have a better recovery. It is necessary to work hard on the technology consistently and keep improving the minimally invasive technology. The minimally invasive surgical indications can then be more widespread to benefit more and more patients.

interactions with the doctors. The attentive atmosphere was surrounded in the room like the real operation was processing. Professor Qiao has an introduction of that surgery in this interview.

*AME: Can you briefly introduce the basic background of the case?*

**Professor Qiao:** The patient is a 32-year-old male, who was found the pulmonary tumor in the lower left lung for two months after body check. It had been diagnosed with pulmonary tuberculosis in chest medicine, anti-tuberculosis treatment was given for two months. No change in CT mass review, the diagnosis of a left lower lung mass to our hospital: sclerosing hemangioma? No hypertension, diabetes or other complications.

*AME: What were the major difficulties in that surgery?*

**Professor Qiao:** The lump was located the between the dorsal (apical) segment of the lower lung and the basal segment, closely adjacent to the dorsal pulmonary artery and bronchial proximal. Therefore, avoiding damaging the dorsal pulmonary artery was a must during the separation process. Because of the exposure, it was even more difficult to have non-intubation single-hole thoracoscopic resection than the tongue

segment resection under the dorsal segment. During the surgery, the first step was to free the dorsal section of pulmonary artery. However, it was noticed that the lump was close to basal segment of bronchus, which could not have dorsal resection. Due to the initial plan before surgery, we decided to have a lower pulmonary lobectomy. At the beginning, the left lower pulmonary artery was cut off to free the diaphragm, the bottom of lung adhesion (difficult to free under spontaneous breathing status) and mediastinal pleura. Finally, the lower pulmonary vein and bronchus were cut off and the diseased lung could be obtained from the specimen bag. There were three precautions regarding the non-intubation uniportal thoracoscopic lobe/lung resection: firstly, gentle operation, accompanied by deep breathing rhythm to free blood vessels and other tissues. Followed by the optimization of non-intubation uniportal thoracic vascular treatment: selecting the single-hole thoracoscopic endoscopic forceps with curved end and fine rod, it could save the incision space and contribute to the observed free process. Moreover, it could avoid the vascular injury. Using the suction device to gently press the adjacent tissue when necessary to relieve the fluctuation of blood vessels. In order to avoid too much equipment from entering the thoracic cavity, I usually hold the suction device with the left hand and hold the electric hook with the right hand. One assistant holds the thoracoscope next to me, another assistant stands at the opposite side to help when necessary. Finally, selecting the appropriate straight-line cutting suture. Not only the endoscopic instruments need to have a certain angle under single-hole condition but also the stapler. The advanced stapler had a certain angle at the tip for by-passing the front tissues, which helps smoothly complete the surgery through the blood vessels. The whole operation was successful and there was about 30 ml of bleeding.

*AME: How about the recovery of the patient after the operation?*

**Professor Qiao:** The patient resumed eating and moved around 2 hours and 4 hours later after going back to ward respectively. The chest tube was removed on the first day. The infusion was stopped and the patient went home to rest in the morning on the 3<sup>rd</sup> day. Currently, the patient reports the recovery situation via WeChat and his physical activity is gradually increasing.

*AME: You made a fabulous report in this meeting, would you mind sharing some main points with us?*

**Professor Qiao:** Under the guidance of Academician Jieshou Li and Prof. Ning from Li General Surgery Institute, Nanjing General Hospital of Nanjing Military Command, I started the application of the fast-track surgery (FTS) in thoracic surgery since 2007, according to the characteristics of thoracic surgery, there are preliminarily formed esophageal, thoracic and mediastinum cancer and other 3 kinds of rehabilitation surgical procedures. The procedure of the lung cancer rehabilitation

includes four aspects: preoperative propaganda, effective analgesia, early ambulation and early extubation. The minimally invasive surgery is the foundation of rapid rehabilitation surgery. I have finished a few hundred cases of uniportal thoracoscopic surgery since August 2010. Under the optimized conditions of the perioperative process and minimally invasive surgery, we have developed a team of fast-track surgery with anesthesiologists, nurses and surgical ward nurses. In the same year, we started to carry out non-intubation thoracoscopic surgery. There are 73 cases of non-inserting hole/needlescope thoracoscopy. We are the only hospital in the world with intravenous anesthesia combined with intercostal/thoracic nerve and vagus nerve blockage non-intubation thoracoscopic surgery. We urge the qualified departments to carry out the cooperation with a united surgery concept such as building the rapid rehabilitation team, creating the perioperative rapid surgical procedures for selected patients undergoing selective thoracoscopic surgery and promoting single-hole/needlescope video-assisted thoracoscopic surgery and nonsurgery anesthesia intubation with spontaneous breathing. This united thoracic rapid rehabilitation concept can avoid excessive technical worship (technolary). To be considered for the patients instead of blindly chasing or putting too much emphasis on minimally invasive surgery techniques. It can fully reduce the surgery and anesthesia trauma for rapid recovery of patients, enhancing the living quality after the thoracic surgery.

*AME: In the meeting, Dean Zhao Boping awarded you and charge nurse Xiaoyan Wang, he also witnessed the establishment of the Chest Minimally Invasive Center and the Lung Cancer Diagnosis and Treatment Center. Can you tell us the intention and the process of setting up these centers?*

**Professor Qiao:** The application and promotion of a new technology may need the valuable brainchildren from people. During the process of launching rapid rehabilitation surgery and non-intubation single hole/needlescope video-assisted thoracoscopic technologies, I felt like I was in the rough water. Thus, having a good platform and a team will shed the light on the development of new technology. The leaders in Shenzhen Third People's Hospital put many resources on the advancement and development of thoracic surgery, supporting us to launch these two international hot topics, motivating and coordinating with the related departments to establish these two centers.

*AME: What are the prospects of these two centers or pulmonary surgery?*

**Professor Qiao:** We may concentrate on fast-track surgery (FTS) and nonintubation single hole/needlescope video-assisted thoracoscopy techniques for clinical research, team building, process optimization and industry cooperation on the platform of Chest Minimally Invasive Center. With the popularization and application of these two technologies, there will be an academic integration between thoracic

surgery and anesthesiology in perioperative period. There will be conversations of multi-mode analgesic, outline of fast-track surgery and fast-track anesthesia in different operations. In addition, with the advancement of nonintubated video-assisted thoracic surgery (VATS) application and the progress of uniportal VATS apparatus, not only the adaptability of VATS and quality of minimally invasive surgery will be improved but also the promotion of the thoracoscopic interventional surgery development of bronchoscope and medical thoracoscopy and the academic integration of Thoracic surgery and Pneumology departments. In the near future, there would be more and more thoracic doctors (both surgeon and physician). On the other hand, the treatment of cancer, including the treatment of lung cancer requires a multi-disciplinary diagnosis. In order to have a detection of early lung cancer and the promotion of standardized treatment of lung cancer, the hospital established the Lung Cancer Treatment Centre. The center would start the projects like the early screening of lung cancer, multi-disciplinary treatment and integrated consultations. We would have minimally invasive surgery and standardized lung cancer diagnosis and treatment work under the advice of five consultants: Xiuyi Zhi, Gening Jiang, Zhangming Li (Taiwan), Sanghoon Jheon (South Korea) and Alan Sihoe (Hong Kong). We hope that we can show you new progress in the 4th session of the Shenzhen International thoracic surgery Forum in August 2016. Special thanks to “AME Research Time” for supporting the Shenzhen International Thoracic Surgery Forum!

(Interview Editor: Jessie Zhong, AME Publishing Company)

AME Correspondence E-mail: [kysj@amegroups.com](mailto:kysj@amegroups.com)

Interviewed Expert's E-mail: [szqiaokun@163.com](mailto:szqiaokun@163.com)

Department Secretariat Tel No: 0755-61222333-2549

Department Address and Postal Code: Shenzhen Third People's Hospital, 29 Bu Lan Road, Longgang District, Shenzhen, 518112

## Text Interview

# Guibin Qiao: Surgeon's "Brain" is More Important than "Hands"

**Editor's Note:** The publication of "China's Guideline on Primary Lung Cancer Diagnosis and Treatment (2015)", written by the committee of the National Health and Family Planning Commission of the People's Republic of China (NHFPC), raised attention to lung cancer experts. In fact, back in 2014 Dec, the Inaugural Meeting of the Thoracic Surgery Management Association of the Guangdong Medical Industry Association and The 2<sup>nd</sup> Guangdong Thoracic Laparoscopic Academic Conference were held at General Hospital of Guangzhou Military Command of PLA. Prof. Qiao, as the chairman of the meeting, was interviewed by AME. He expressed his views on the broad discussion of surgery of the "China's Guideline on Primary Lung Cancer Diagnosis and Treatment (2015)". How will this new guideline impact the field of surgery? As the World Health Organization (WHO) would be publishing a guideline for thoracic cancer as well, Prof. Qiao gave us an in-depth discussion.



Guibin Qiao is a mentor of research students at the Southern Medical University, the director of Thoracic Surgery Department of the General Hospital of Guangzhou Military Command of PLA and the director of Clinical Center of the Guangdong Lung Cancer Institute.

*AME: As a surgeon, what is your view on the changes to "China's Guideline on Primary Lung Cancer Diagnosis and Treatment (2015)"?*

**Prof. Qiao:** After the publication of the guideline, surgeons are required to follow the rules strictly when performing clinical work. There are three main points.

First, it re-emphasizes the purpose of minimally invasive surgery. Starting from 2006, video-assisted thoracoscopic surgery (VATS) has been increasingly recognized in treating lung cancer. After 2010, it is agreed unanimously that VATS can be



Thoracic Surgery Center of the General Hospital of Guangzhou Military Command of PLA was established in 1954. It had one of the few available thoracic surgery units at the time. After half-century, this unit has completed over 20,000 surgeries involving lung cancer, esophageal cancer, mediastinal tumor and cardiovascular diseases, and is China's leading unit in this field. There has also been collaboration between the unit and other famous medical institutes, mostly from Germany, USA and Hong Kong.

used to treat early-stage lung cancer. After a few years of development, there are now sufficient data and statistics to support that VATS is not worse than, or even better than, open thoracotomy. Thus, the new guideline highlights the importance of VATS in surgery. Surgical removal procedures do not necessarily need to follow traditional steps, in the order of pulmonary vein, pulmonary artery and bronchi, and can be changed flexibly depending on the patient's situation. Also, as the technology is getting more mature than before, the guideline does not restrain VATS only to early-stage lung cancer patients.

Second, as mentioned by Prof. Yue Yang at the conference, most surgeons are pursuing to improve their minimally invasive techniques, but maybe we should step back and acknowledge what is happening around us. There are statistics that support stereotactic body radiation therapy (SBRT) having better effects on treating early-stage lung cancer patients. Some researches even consider SBRT to have the same efficacy as surgery. The new guideline is written collaboratively by experts from different specialties, including thoracic surgeons, radiotherapists and oncologists. Some radiotherapists demanded the claim in the guideline that SBRT is a cure to lung cancer. However, there is not enough evidence, or only weak evidence, so the guideline is not amended, and surgery remains the suggested treatment for early-stage lung cancer. Patients with poor lung function and high risks of complications, for instance, cannot undergo surgery unfortunately. For them, SBRT is the best option. In short, the guideline proposes surgery as the best treatment, followed by SBRT, mainly for inoperable patients.

As a matter of fact, there is a lack of scientific comparison of efficacy between surgery and SBRT. There are researchers who have initiated such studies, but it is

difficult to do and some even say it is impossible. The reason is that if an informed patient's physical condition is fit for surgery, the patient will generally not join the SBRT group. This gives a hard time for researchers to obtain results in the short run. There was a survey targeting on lung cancer experts, asking them the question "if your relatives are diagnosed with early-stage lung cancer, would you suggest surgery or SBRT?". More than 60% of the respondents chose surgery. This indicates that from data or from experienced experts, surgery is undoubtedly the way to go. The guideline reminds surgeons not to be blind sighted on operations and be aware of the development of radiotherapy and chemotherapy and other related disciplines.

Third, the consideration of other issues related to the surgery is one of the major concerns. Surgical incision is seldom the only thing to worry about in surgery. There are other issues like lymph node dissection, area of operation and so forth to be considered. Standardization of lymphadenectomy is of great importance and should be emphasized more. Throughout removal of lymph node is essential in lymphadenectomy. Another factor is the precise determination of patient's cancer stage. Surgical failure may lead to poor prognosis. Another question to ask is that "do all patients need lymphadenectomy?". Take early-stage adenocarcinoma in situ as an example, the chance of metastasis in patients is minimal. If lymphadenectomy is to be performed, there will be more harm than benefits, as lymphadenectomy may lead to other complications. As a result, there are new alternative ideas such as selective lymphadenectomy, lobe-specific lymph node dissection, and lymph node biopsy. How to practically implement would need more clinical research results to answer the question.

The guideline also addresses sublobar resection, a well-noted new technique. Enormous amount of data supports the claim that there are similar effects on early-stage lung cancer patients when sublobar resection or lobectomy is performed. However, practically there is a lack of comprehensive prospective studies on this issue. Thus, the effectiveness of sublobar resection is to be determined. The guideline also requires a pathological examination on intraoperative lymph nodes before performing sublobar resection. Also, if there is lymph node metastasis, sublobar resection is not applicable. The guideline also emphasizes that sublobar resection is only applicable to patients who cannot tolerate lobectomy and those with slow progressing early-stage lung cancer.

*AME: As the Guest Editor of the Journal of Thoracic Disease (JTD), you initiated a focused issue "New Lung Adenocarcinoma Classification" in Oct 2014. In 2015, WHO will release a new guideline on the classification of lung cancer. Could you predict how this new WHO classification would be different and its impact to this field?*

**Prof. Qiao:** The new classification guideline will be released by the most authoritative health organization, WHO. In early 2011, The International

Association for the Study of Lung Cancer (IASLC), European Respiratory Society (ERS), and American Thoracic Society (ATS) collaboratively released a classification on adenocarcinoma, on which WHO would verify and elaborate. There has been adequate research evidence to verify that the classification in 2011 is reasonable, thus, it would make sense to release the classification through WHO, the most authoritative health organization of all.

The most important changes in classification would be in two aspects. The most important one concerns adenocarcinoma, as it has the highest incidence rate out of all lung cancers in the world. Over the past few decades, there have been tremendous research progress regarding adenocarcinoma, including its surgery, chemotherapy and basic research. Therefore, it is expected to have more changes. Details have already been mentioned in my publication. This new classification has huge impact on areas like genetic testing, radiology, internal medicine and surgery. As the concept of bronchioloalveolar carcinoma (BAC) is discarded, non-invasive adenocarcinoma can only be classified as adenocarcinoma in situ (AIS) or minimally invasive adenocarcinoma (MIA). Other adenocarcinomas are invasive adenocarcinomas. This new classification aims to promote individualized therapy. As for the impacts on surgeons, like the sublobar resection I mentioned just now, many data have supported that segmentectomy or wedge resection has the same effect as lobectomy on AIS or MIA patients with GGO in imaging. This further protects patients' lung functionality and revolutionizes the idea of how to cure lung cancer. Of course, it impacts on internal medicine and targeted therapy as well.

Another crucial change in classification would be related to pulmonary neuroendocrine tumors (NET). NET means that a lung tumor resembles the structure or even the functionality of the neuroendocrine system. It is not a single type of cancer, but a collection of multiple cancers instead. The main contributors include small-cell lung cancer (SCLC), large-cell neuroendocrine carcinoma (LCNEC), typical carcinoid, atypical carcinoid, and precancerosis. This set of cancers has similar pathology and structural basis, some even behave similarly, for example LCNEC is clinically similar to SCLC to an extent that some may even consider them to be the same. Adenocarcinomas may sometimes also express neuroendocrine functions. These findings are becoming increasingly important, even if there is insufficient research evidence, and will be the major aspect for future researches. I am currently organizing a book on this topic, which I expect to publish in 2015.

*AME: You have introduced the idea of “low-price thoracoscopic operation”, allowing operations on palmar hyperhidrosis, pectus carinatum, pulmonary bulla, pneumothorax, and early-stage lung cancer lobectomy to be performed at a lower cost. Could you briefly introduce the idea?*

**Prof. Qiao:** This is an important concept and many younger surgeons may not

understand its significance. Our hospital has been exploring minimally invasive surgery in lung cancer for almost 20 years. When we implemented thoracoscopic techniques, there used to be lots of doubts and difficulties. At that time, our hospital prohibited us to utilize high-value equipment like surgical staplers. Without the help of high-tech machines and equipment, we chose to do it manually, which is the so-called “low-price thoracoscopic operation”. In 2005, we completed the first “low-price thoracoscopic operation”, which, at the time, cost only about 20,000 RMB. The problem was that the operation time was 1 hour longer than normal and a very skillful surgeon was required. We had to sew and stitch every single blood vessel and lung branch.

After 2008, with the improvement in policies, we could use surgical equipment to aid the process, making it safer and faster. The average operation time was within two hours. To patients who cannot afford VATS, “low-price thoracoscopic operation” is their best bet. This journey has been tough, but it is rewarding. Currently, uniportal VATS is the main focus. The main struggle of uniportal VATS is that there is only one entrance, so that surgical instruments would interfere each other. However, we easily adapted it because of our previous exploration with the manual “low-price thoracoscopic operation”. We call VATS a “renaissance” because after all these years, we are back to the original principle again.

*AME: The aim of Thoracic Surgery Management Branch of the Guangdong Medical Industry Association includes standardization and balanced development of thoracic surgery. Regarding balanced development, you mentioned helping other hospitals to establish their thoracic surgery departments. Could you share some experience on this matter?*

**Prof. Qiao:** As I am a doctor of a military hospital, one of my duties is to facilitate the development of new hospitals. Specialty in thoracic surgery in Guangdong area is not that favorable because hospitals disapprove it and there is imbalance in technical skills. Therefore, one of Thoracic Surgery Management Branch’s aims is to facilitate and coordinate a balanced development in this specialty, hoping that all hospitals above county level can perform basic thoracic surgery on their own. In fact, the lack of technology and talents hinder the balanced development. The most important question is how to train capable hands in a short period of time. Even though hospitals would assign doctors to attend courses to learn about thoracic surgery, it is difficult for doctors to have hands-on experiences. Lung is one of the most structurally complicated organ in the body, which means higher risks for surgeries. Without proper guidance, it is tough to practice.

For the past few years, we have been to several county and city hospitals to address this issue. Our focus is on technique and management development. Regarding techniques, we mainly teach doctors and assign experts to these hospitals and lead them through practices. The training not only targets doctors, but also the

whole medical team, including nurses. In this way, the whole team could be well-prepared for pre-, peri-, and post-operative situations. So far we have successfully helped five hospitals, which can now perform surgeries on their own, dealing with more than 100 cases per year and matching the standards of other hospitals.

In reality, there is still a huge demand for thoracic surgery units at small-scale hospitals. We would have to expand this platform through the establishment of the management association, so that more grass-roots could be benefited. The most important thing is that people do not have to travel to Guangzhou for surgery, they could visit their nearest hospital for a similar treatment. Not to mention that the price would be lower as well.

*AME: As one of the mentors for the 2015 Asian Elite Case Debater Trials which is preparing for the Collaborative Symposium on General Thoracic Surgery of the European Society of Thoracic Surgery(ESTS), what do you think of its impact on doctors?*

**Prof. Qiao:** The debate goes like this: selecting specific clinical cases, allowing debaters to voice out their own opinions and lastly free debate. I believe these activities are beneficial to the development of young doctors and I value it very much. I encouraged lots of doctors to participate in this event. My advice to young doctors is “intelligence trumps techniques”. This event solidifies my statement because it is a competition of “brain power”. I reckon 99% of surgeons would have similar level of technical skills if they have a chance to brush it up. However, everyone thinks differently and it is in events like debates where thoughts and ideas fight against one another that we could train our critical thinking skills to another level. If a surgeon only focuses on practical techniques and abandons objective analysis and evaluation skills, he will not be an outstanding surgeon. This debate event not only improved the quality of young doctors, but also provided a platform to broaden their horizon to an international level.

*AME: “Bronchioloalveolar Carcinoma” is the first book in the world that focuses only on one single subtype of lung cancer. This book can be of reference to respiratory therapists, oncologists and thoracic surgeons as it has in-depth descriptions of the cancer, including its epidemiology, imaging, diagnosis and treatment. As the Editor in Chief, were there any difficulties when writing and editing this book?*

**Prof. Qiao:** When I finished this book in 2009, I posted reflections on my blog. That reflection realistically expressed my situation at that moment. There was an enormous amount of books being published in the medical field, but 80% of them were very similar because the mainstream ideas were similar. I told myself to write something special, something new, something innovative. So I did.

“Bronchioloalveolar Carcinoma” has never been written before, not in this style or on this topic. It was an arduous job because there was no one to rely on. I was all alone. After reading more than 1,400 articles, I systematically categorized them by etiology, epidemiology, radiology, internal medicine, surgical therapy, radiotherapy and so forth, and summarized what I read. At the end, I spent one and a half year to finish and finalize the book, it was not easy. In the postface of the book, I used the word “nurture” to describe the process. It was such a bittersweet memory.

### **Post-script**

This is not the first time I meet Prof. Qiao. He always grins on his face. His affability and hospitality give me warmth every time. His calm tone and meaningful words always amuse me. Being a doctor is not easy. Despite his busy routine, he still manages to find time to help other hospitals, to write, to edit and to publish, hoping to spread his knowledge and techniques to those in need.

(Interview Editor: Chao-Xiu(Melanie) He, AME Publishing Company)

AME Correspondence E-mail: [kysj@amegroups.com](mailto:kysj@amegroups.com)

Interviewed Expert's E-mail: [guibinqiao@126.com](mailto:guibinqiao@126.com)

Department Secretariat Tel No: 020-88653544

Department Address and Postal Code: Department of Thoracic Surgery, 11/F, Building No.1,  
General Hospital of Guangzhou Military Command of PLA, 111 Liuhua Road, Guangzhou, China,  
510010

## Video Interview

# Guibin Qiao: The Thoracic Surgery is Thirsty for Talents

**Editor's Note:** The 2<sup>nd</sup> Guangdong Provincial Medical Industry Association of thoracic surgery branch of the annual meeting and grass-roots hospital thoracic surgery industry development forum was successfully held by Guangdong Provincial Medical Industry Association of thoracic surgery management in Guangzhou Oriental Hotel on 26th December, 2015. More than 30 domestic and foreign experts were invited to wonderfully report on the common diseases in thoracic surgery and experience in disciplinary construction. It's our honor to invite Dr. Guibin Qiao, director of thoracic surgery department from Guangzhou General Military Hospital, as well as the director of thoracic surgery management branch of Guangdong province medical industry association and director of chair of the conference, to have an interview with us.



You may refer to the previous article for the biography for Prof. Guibin Qiao.

### Interview Questions

1. What is current status of the thoracic surgery in China?
2. How to change the situation?
3. What is the biggest highlight of this meeting?
4. Are there any new ideas or improvement for the meeting next year?

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**Guibin Qiao:**  
**The Thoracic Surgery is Thirsty for Talents**

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(Interview Editor: Xueting Chen, AME Publishing Company)

AME Correspondence E-mail: kysj@amegroups.com

Interviewed Expert's E-mail: guibinqiao@126.com

Department Secretariat Tel No: 020-88653544

Department Address and Postal Code: Department of Thoracic Surgery, General Hospital of  
Guangzhou Military Command of PLA, No. 111, Liuhua Road, Guangzhou, Guangdong, China,  
510010

## Video Interview

### Hongxu Liu: Skating on Thin Ice; Walking on the Brink

**Editor's Note:** “The third Shenzhen International Forum on thoracic surgery” was held from August 23–24, 2015. Prof. Hongxu Liu gave a speech on “The causes of bleeding in thoracoscopic surgery and the strategies to deal with this complication” during which he shared his clinical experience and knowledge with specific and vivid pictures and videos. Professor Liu expressed his prudent, rigorous and precise attitude as a thoracic surgeon who dealt with life issues – it is like “skating on thin ice; walking on the brink”, which was highly approved and praised by the chairs of that section. The editor from AME Publishing Company was honored to conduct the interview with Prof. Liu.



Hongxu Liu, Professor, Chief Physician, Doctor of Medicine, Doctoral Tutor. Prof. Liu worked in the Department of Thoracic, the First Hospital of China Medical University. Now he works in Liaoning Cancer Hospital. Professor Liu is a member of the International Association for the Study of Lung Cancer (IASLC). Prof. Liu once studied minimally invasive surgery and lung transplantation in the United States. He specializes in thoracoscopy, mediastinoscopy and minimally invasive catapultic surgery (the Nuss procedure). He has published many papers in some renowned international journals and received fund by the National Natural Science Foundation and a variety of other incentives.

#### Interview Questions

1. What are the strategies and countermeasures to deal with complication of bleeding during thoracoscopic surgery?
2. What are the risk factors causing the complication of bleeding that the surgeons should pay special attention to?
3. How to prevent the complications as much as possible?



Liaoning Cancer Hospital. The Department of Thoracic Surgery in Liaoning Cancer Hospital is leading the way in the discipline of thoracic surgery in Liaoning Province, with its comprehensive strength of a high level in China. It is composed of Division 1 of Thoracic Surgery, Division 2 of Thoracic Surgery, lung cancer screening and smoking cessation clinic, key laboratory of esophageal cancer research in Liaoning, and Roche diagnostic research laboratory for lung cancer molecular detection. The department is currently a focus specialty of Liaoning Province, the pilot clinical department for esophageal cancer and lung cancer research, designated by the Ministry of Public Health. The department also commits to supervising and instructing the early screening, diagnosis and treatment of esophageal cancer and lung cancer in Liaoning Province, which is also a pilot project led by the Ministry of Public Health. It is the largest center for the surgical treatment of thoracic oncology in Liaoning, which integrates both scientific and clinical research.



**Hongxu Liu:**  
**Skating on Thin Ice; Walking on the Brink**

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(Interview Editor: Anne Lu, AME Publishing Company)

AME Correspondence E-mail: [kysj@amegroups.com](mailto:kysj@amegroups.com)

Interviewed Expert's E-mail: [hongxuliu@qq.com](mailto:hongxuliu@qq.com)

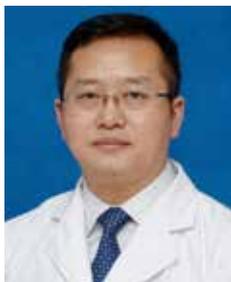
Department Secretariat Tel No: 024-31916283

Department Address and Postal Code: Department of Thoracic Surgery, Liaoning Cancer Hospital, No.44, Xiaohe Road, Dadong District, Shenyang, Liaoning, China, 110042

## Video Interview

# Lunxu Liu: Video-Assisted Thoracoscopic Surgery (VATS) Develops at a Fast Speed

**Editor's Note:** The 7<sup>th</sup> West China Forum on Minimally Invasive Thoracic Surgery was successfully held at West China Hospital of Sichuan University from September 18 to September 19, 2015. With this great chance, we had an interview for Professor Lunxu Liu, who was the Executive Chairman of the Forum, Director of Department of Thoracic Surgery in West China Hospital.



Professor Lunxu Liu is the Director of Department of Thoracic Surgery, West China Hospital of Sichuan University. He is endowed as the Outstanding Young-and Middle-aged Contributor by National Health and Family Planning Commission of the PRC.

In the interview, Professor Liu introduced four major progresses of thoracoscopic lung surgery, including the handling of some tough and accidental situations in VATS, such as, the management of difficult hilum during lung cancer resection, the use of “Suction-Compressing Angiorrhaphy Technique (SCAT)” to handle vascular injury under thoracoscopic surgery. When introducing “complete lymph node dissection with the non-grasping technique”, Professor Liu made an vivid metaphor of martial art to explain the technique. At last, Professor Liu gave valuable suggestions to the new generation of surgeons on how to face the emerging surgical techniques in thoracic surgery.

### Interview Questions

1. In general, what are the major progresses on thoracoscopic lung surgery in recent years? What opportunities and challenges will these progresses bring to next generation of surgeons?
2. For most of surgeons, it is difficult to do the “complete lymph node dissection with non-grasping technique”. Could you kindly share your experience in this special

technique? And what should be paid attention to when doing the “complete lymph node dissection with the non-grasping technique”?



(Interview Editor: Chao-Xiu(Melanie) He, AME Publishing Company)

AME Correspondence E-mail: [kysj@amegroups.com](mailto:kysj@amegroups.com)

Interviewed Expert's E-mail: [lunxu-liu@aliyun.com](mailto:lunxu-liu@aliyun.com)

Department Secretariat Tel No: 028-85422494

Department Address and Postal Code: Department of thoracic surgery, huaxi hospital, Sichuan university, Chengdu, China, 610041

## Text Interview

### Yanguo Liu:

## The Study on Palmar Hyperhidrosis – Making Progress with Exploration

**Editor's Note:** The 2015 Annual Meeting of the Chinese Medical Doctor Association (CMDA) Thoracic Surgeons Subcommittee and the Sixth National Academic Conference of Thoracic Surgery were held in Hangzhou on 13th and 14th of June 2015. Prof. Yanguo Liu from the Department of Thoracic Surgery in Peking University People's Hospital delivered a speech on "The effect of R4 sympathetic surgery for palmar hyperhidrosis (PH): a single-center study with 500 clinical cases at Stage IV". As three consensus guidelines on the treatment of PH were published in the same year, from China, America and Spain respectively, we asked Prof. Liu to share his opinions on them during the interview.



Yanguo Liu, MD, Chief Physician, Professor, Department of Thoracic Surgery, Peking University People's Hospital. Doctor of Medicine, Chief Physician, Associate Professor of Minimally Invasive Thoracic Surgery Center of the department of thoracic surgery, Peking University People's Hospital; the vice director of the PH experts subcommittee in the Thoracic Surgeons Committee of CMDA; the vice team leader of Chinese Minimally Invasive Treatment Center, assessor of the medical personnel in National health and family planning Commission; and the committee member of the National Medical Examinations Center.

**AME:** *Firstly, could you please let us know what the morbidity of PH in China is?*

**Prof. Liu:** PH affects a significant proportion of the general population. According to Prof. Yuanrong Tu's epidemiological investigation, the morbidity of PH in China is about 2%. The typical symptom of excessive sweating in the palms may be a huge inconvenience to patients suffering from this disorder. Traditionally, a definitive treatment method did not exist. Nowadays, however, doctors can apply sympathetic surgery to help their patients. By making a small incision on the axillary line and clipping the sympathetic nerve with the aid of thoracoscope, a safer, more effective and minimally invasive approach is available for treating PH, with success rates that

may go up to 95% or higher.

**AME:** *Why did you initially choose this field of study?*

**Prof. Liu:** In 2000, when I was working on my Master's degree, I started the study on PH with my supervisor, renowned thoracic surgeon, Prof. Jun Wang. Later in 2003, when I was doing my doctoral degree in the Department of Medicine in Peking University, my research topic was also related to PH. In fact, I am the first doctor in China in clinical medicine that focuses on the study of PH, and I persisted for more than a decade in this research area.

I was mainly working on specifically two issues related to PH during my postgraduate years. At that time, neither the anatomical relation between ganglions and thoracic ribs nor the pathway of the rami communicantes was well-understood. With these questions in mind, my first goal was to find out the anatomical features related to sympathetic surgery. Teamed with the Anatomy Teaching and Research Office of Peking University People's Hospital, we performed over 30 dissection experiments. The study results were published in *China Journal of Thoracic and Cardiovascular Surgery* and turned out to have a high citation rate. We also launched a multi-center prospective study on sympathetic surgery at different levels (R3 and R4). Some researchers might refer to them as T3 and T4 sympathicotomy in their articles. Sympathicotomy is an effective treatment to PH, but the traditional surgery brought out adverse side effects. Some patients stopped having excessive sweat in their palms but instead developed compensatory sweating (CS) occurring in other parts of their body. Some patients suffered greatly from these effects, and even regretted having undergone the surgery. In later years, sympathectomy techniques continued to improve, and R3 and R4 sympathicotomy become the mainstream approaches after 2004. R3 sympathicotomy can significantly reduce various side effects except for CS, which may be severe in a small number of patients. R4 sympathicotomy is a new approach, which can further reduce CS, however the effectiveness of the treatment in comparison to R3 sympathicotomy remains unknown. Between the years 2006 and 2009, our research group published our academic works in *Chinese Medical Journal* (both Chinese and English versions) and *European Journal of Cardiothoracic Surgery*. It was the first prospective randomized study on R3 and R4 sympathicotomy in the world. Thanks to the research work on sympathetic nerves at the early stage, we clinched third in the Chinese Medical Science and Technology Progress Award.

**AME:** *What are the similarities and differences among the consensus guidelines on the treatment for PH published by China, America and Spain in 2011?*

**Prof. Liu:** In 2009, initiated by Prof. Jun Wang and led by Prof. Yuanrong Tu, Prof. Jie Yang and I organized a committee of Minimally Invasive Treatment for PH.

Based on our research, we drafted the Chinese consensus guidelines on the treatment for PH. After two years of revision, it was published in the *China Journal of Thoracic and Cardiovascular Surgery* in 2011. In the same year, The Society of Thoracic Surgeons (STS) also published the American consensus guidelines on the treatment for PH in *Annals of Thoracic Surgery (ATS)*. Experts in Spain published the European consensus guidelines on the treatment for PH as well. We gladly found out that the Chinese guidelines were cited as a key reference in the other two. In fact, Chinese experts are leading the world in the study of PH. In the 2015 CMDA Annual Meeting, we established a PH expert subcommittee in the Thoracic Surgeons Committee of CMDA. We are planning to offer an English version of the Chinese consensus guidelines on the treatment for PH to share with our international peers based on our studies over the past few years.

All the three guidelines emphasize that PH disorder can severely influence people's lives and call for its effective treatment, even if it is not a major disorder and you cannot find much information about it in traditional medical textbooks or other medicine books. Another similarity is that all guidelines indicate that sympathetic surgery is so far, the only definitive treatment to this disorder that has steady and continuous effects. Other treatment methods such as pharmacotherapy and localized corrosion are less effective. The third common ground is that endoscopic thoracic sympathetic surgery (ETS) using video-assisted thoracoscope is the optimal approach. The common method is to make a small incision in the armpit to put the thoroscope through. The wound is small and hidden so as to meet cosmetic needs. In recent years, some medical professionals have tried different channels to perform the surgery, for instance through the oral cavity or the navel. The wound will be of the similar size, but there are drawbacks in quality and safety; they are not practical options in the long run. The fourth common ground is the relationship between the different operative procedures and their postoperative effect, as well as their side effects. The traditional R2~R4 sympathectomy can lead to severe side effects and CS. Therefore, the technique has been modified since 1992, changing from resection to transection and clipping, and remodified, where the transection that was done from two levels i.e. R3 and R4 changed into only one. I was the first doctor in China to have suggested a single level sympathectomy and it was proven to be effective.

Among the abovementioned common grounds, there has been debate as to which level is better to perform sympathetic surgeries. In recent years, there have been many randomized comparative studies on R3 and R4 sympathectomy, and R4 is regarded as a better option with the least side effects. In fact, since the beginning of our comparative study, while we acknowledged the positive effects of R4 sympathectomy, some patients still experience a bit of sweating in the palms after the surgery, but it may be regarded as a good thing, because over dryness can be uncomfortable too. However, some other patients have reported more sweat than they had before the surgery, some even develop late recurrence after the surgery. Therefore, in recent years, I have focused on R4 sympathectomy, especially its long-term effect on PH patients.

**AME: How is the study on the R4 sympatricotomy going at this stage?**

**Prof. Liu:** We will announce some essential findings of our study this year. Even though international comparative studies on PH from 2007 to 2014 all show that R4 sympatricotomy is effective, we cannot ignore the side effects such as sweaty hands and recurrence. In fact, many other PH experts have been questioning it as well. The American consensus guidelines on the treatment for PH also mentioned that some patients are not suitable to undergo R4 sympatricotomy. Our research team has paid great attention to the details of R4 sympatricotomy and our announced findings are based on a study that was initiated in 2004. It is a single center study with more than 500 R4 sympatricotomy cases, and is the largest scale of this kind of study in the world. It is a clinical study on Stage IV after the comparative randomized study on the III stage. We have to work with the details and look into the long term, to consider whether or not the impact of the adverse side effects are serious, what are some relevant factors that have caused some people to be unable to benefit from the procedures, and the level of satisfaction of patients. These are some findings we believe are worth sharing in this year's Annual Meeting.

**AME: Regarding to the study on PH, what aspects do you think are worth to continue to work on?**

**Prof. Liu:** PH is a less popular disorder with relatively little attention from the medical world. Although many institutes have performed sympathetic surgery, not many have launched comprehensive studies on this disorder. It is a situation both at home and abroad. Furthermore, some outdated operative procedures are still performed in some institutes, not only in China, but also in some famous institutes in America and Europe. As China is currently playing a leading role in this subject area, it is our responsibility to enhance international communication and promote the advancements globally. PH is a hereditary benign disorder with many aspects of its physiological mechanism still unknown. With the development in techniques and the growing number of clinical cases available, we can further our studies with these resources, such as the mechanisms of CS.

(Interview Editor: Xueting Chen, AME Publishing Company)

AME Correspondence E-mail: kysj@amegroups.com

Interviewed Expert's E-mail: liuyanguo@pkuph.edu.cn

Department Secretariat Tel No: 010-88324078

Department Address and Postal Code: Department of Thoracic Surgery, Pecking University People's Hospital, No. 11 Xizhimen South Street, Xicheng District, Beijing, China, 100044

## Text Interview

# Chia-Chuan Liu: Single-port Thoracoscopic Surgery: The More Minimally Invasive, the More Effective it is?

**Editor's Note:** In recent years, single-port thoracoscopic surgery has rather widely known. However, the discussion on whether single-port surgery is superior to double-port or triple-port surgery has not yet been resolved. AME invited Prof. Chia-Chuan Liu, the Director of the 4<sup>th</sup> Asian Single-port Thoracoscopic Surgery Seminar (ASPVS 2017), to share his prospects of single-port thoracoscopy.



Prof. Chia-Chuan Liu, MD, graduated from China Medical University in 1992, is currently the head of the thoracic surgery division in Sun Yat-Sen Cancer Center. His clinical interest is multimodality and minimally invasive surgery for lung and esophageal cancer, gastric cardia cancer, mediastinal cavity cancer and metastatic lung cancer.

## The Development of Single-port Lymph Node Dissection and the Advantage of subxiphoid single-port Approach

For single-port lymph node dissection, the designation of thoracoscopic devices has followed the idea of reducing the number of ports as the distance and the shape of wounds changes. Therefore, the outlook of the devices has turned from having a triple-port to a double-port, and from a double-port to a single-port. Otherwise, the design of only a single-port lymph node dissection is limited as it will not be able to be cleaned easily. Although this is a challenging obstacle, there are solutions that we can try before giving up on the approach. There are some ways of enhancing the level of cleanliness when we sweep a thoracoscopic device to dissect lymph nodes. We have already uploaded the considered methods onto YouTube and published articles that are related to the lymph nodes dissection on “Annals of Surgery”. I believe that as long as we continue to study more on the curves, we will find that a

single-port lymph node dissection can be like traditional double-port and triple-port thoroscopic surgery in cleaning up lymph node dissection entirely.

Furthermore, on the issue of subxiphoid thoroscopic surgery approach, comparative studies were done relatively early. We found that using a single-port or a double-port thoroscopic device has no significant difference on the index of pain. For the index of pain, we are not talking about the difference between a single-port or a double-holed thoracoscopy. It is because even when we managed to make the size of the wound or a chest tube smaller, the index of pain is not statistically significant. This would imply that the level of pain cannot be reduced if we are still attached blindly to the traditional method via ribs during thoroscopic surgery. Thus, we developed the sub-xiphoid lobectomy method soon after.

The surgical process of sub-xiphoid lobectomy and the traditional method via ribs on lobectomy are non-synonymous. The traditional approach is from the chest wall down to hit the hilum, and the subxiphoid approach is parallel from the mediastinum crossing the horn to hit the hilum. Owing to the different approaches, we must set up an essential correction mode. We are now able to do lobectomy and lung resection surgeries, but it is still difficult to clear lymph nodes completely. Even though the sampling can be rather easy, it is unlikely to result in completely clear lymph nodes. The only way is to select the surgical indications and patients carefully. In the future, we may rely more on robots or more advanced subxiphoid single-port devices to help us address this issue.

### **The Major Difficulty of Cleaning Epigastric Lymph Nodes**

It is difficult to completely clear the lymph nodes as we have to stretch into the angle of the mediastinum. If you want to clear the lymph nodes below the mediastinum, you must rely on devices that could be able to make a turn when operating; that would rule out traditional operating equipment. Therefore, we are now in the process of finding some suitable equipment and hoping that this problem can be solved in the future.

### **Single-port Endoscopic Incision Problem**

Regarding single-port endoscopic incision, a number of professors choose to adopt the 5<sup>th</sup> intercostal incision of the axillary line and some adopt the 6<sup>th</sup> intercostal incision of the axillary line. In fact, the 4<sup>th</sup>, 5<sup>th</sup>, 6<sup>th</sup> and 7<sup>th</sup> intercostal incision can also be applied to the surgery. It can even be done via the sub-xiphoid incision approach. Single-port thoroscopic devices can be managed properly with sophisticated surgical skill. It only depends on how you are going to arrange your equipment in order to achieve your goal.

The simplest method of single-port endoscopic incision is to start from the

patient's wound to the anatomical area in which there is only one straight line, implying that only one part of the thoracoscopic device is of alignment with the device. Usually, this important step is left for the right hand of the surgeons to finish. For example, to practice with a medical diverting gun, other related devices have to be diverted during operation. Some surgeons tend to adapt the 4<sup>th</sup>, 5<sup>th</sup>, 6<sup>th</sup> and 7<sup>th</sup> intercostal incision, just as we adapt the subxiphoid incision approach, which can also be done. It only depends on whether which kinds of specific technique and the thoracoscopic devices are used.

For instance, the reason why some surgeons prefer adapting the 4<sup>th</sup> intercostal incision on upper lobectomy incision is that they have considered the issue of blood vessels. On the other hand, we adapt the 6<sup>th</sup> intercostal incision because it is relatively challenging to practice; the reason behind is that the current gun's diverting radius and the cornering angles are limited. Therefore, it is not a technical problem, although, these problems can be solved technically in the first place. If those devices are going to become more advanced in the future, then we would not be limited to these problems during the execution process.

### **The Dependence of the subxiphoid single-port VATS**

It is affirmative that we must have at least a 30° mirror, then we need a diverting medical gun as well as a medical device that is relatively longer than others.

### **The most important factor to complete Single-Port Endoscopic Surgery**

Surgery is a teamwork-oriented profession. Therefore, an operation is definitely not only done by a single surgeon. It is of significant importance that a surgeon is assisted by a useful medical device, known as the "medical robotic arm device". This device functions by aligning with the anatomical area of interest without blocking the surgeons' right hand during operation, as mentioned previously in section 3. It acts as a vital "spotter" that the surgeon's right hand freed to mobilize during surgery. Therefore, under the circumstances that the surgeons are not disturbed through use of the medical robotic arm device - the device could be used to maximize the effectiveness of a surgeon in theatre. Thus, the demand of single-port operation via sub-xiphoid surgery with use of the device will be higher.

### **The Problem of "Collision" Between Instruments When Operating Single-port Thoracoscopic Surgery**

In terms of equipment, we can adapt a 2 cm, 3 cm and 4 cm single-port thoracoscopic devices. For example, if we adapt a 3 cm of single-port thoracoscopic device to do

a lung resection, or the lower right hand side of the 8th lung segment, its limitation depends on how you utilize the device. The main port is large, yet it contains flexibility if a surgical sleeve wound protector is applied to the device. In addition, the diameter of the device is equivalent to its tube wall. The smaller it is, the easier the surgery will be accomplished. There are some new types of single-port thoracoscopic devices such as “endo-relief” in Japan; it’s extremely durable and strong but its smallest part only contains 3 µm.

Due to the difficulties that we encountered, we developed innovative solutions to overcome these obstacles. In fact, the main focus is not on the diameter of the device, but the safety of the surgery. Thus, whether the size of the wound is big or small is not the concerning problem.

### **Pros and Cons of a Surgical Sleeve Wound Protector**

There are two advantages of a surgical sleeve wound protector; one is to clean the wounds and protect the intercostal nerve, and prevent the mirror from getting contaminated. Otherwise, wound contamination and tumour cultivation are likely to be brought out. Thus, this is the most prominent advantage.

On the other hand, the surgical sleeve wound protector can cause harm to the adjacent tissues during operation. Diego preferred not to use a sleeve wound case, but it is acceptable by me. As long as you keep the mirror clean, whether you use the protector or not is not a concern. After all, not everyone’s preferences are the same.

### **The Future of Single-port Thoracoscopic Surgery**

I believe that it is not essential to adopt the single-port thoracoscopic device. Personally, I think the world is a beautiful place simply because we are all different people, who like approaching problems in different ways. This applies to the discussion on whether to use single-port, double-port or triple-port thoracoscopy. There is no such thing as a single-port thoracoscopic device that is superior to a double-port thoracoscopic device, or a double-port thoracoscopic device that is superior to a triple-port thoracoscopic device.

I think it is unnecessary to limit development on these devices. Every kind of surgery has its indispensability. In fact, our ultimate goal is safety of patients and achieving the curative outcome. As long as the method can meet the final goal, it is considered as a practical approach.

It depends on personal effort of the surgeon and patients’ condition with regards to whether the single-port surgery will result in a better outcome, or a move back towards double-port or triple-port approach. With relation to future clinical practice, only time will tell. But for me, I think the more minimal the approach, the better the result.

### **Sharing on Single-port Surgery Techniques in Taiwan**

Taiwan has seen widespread development in thoracoscopic surgery, including robotic surgery, intubation surgery and subxiphoid surgery. I am very happy, not because of any achievements made of Single-port VATS in Taiwan, but because we have the diversity in this regard in Taiwan and everyone is trying to solve any problems occur, everyone is trying to solve a technical problem as that's entirely unrelated to our little achievement in the technology of single-port thoracoscopic surgery. It is undoubtedly true that the world has become a better place because of diversity.

(Interview Editor: Xiaohong You, AME Publishing Company)

AME Correspondence E-mail: [kysj@amegroups.com](mailto:kysj@amegroups.com)

Department Secretariat Tel No: (02)2897-0011 or (02)6603-0011

Department Address and Postal Code: Medical Foundation and Public Health Center Hospital, No. 125, Lide Road, Beitou District, Taipei City

## Text Interview

### Deruo Liu:

## Don't Forget Your Teenage Dream, Don't Fear of the Hurdles in Doctoral Career

**Editor's Note:** Before meeting Professor Liu, CEO Stephen described him as a humorous and reasonable person. It was my honor to meet Professor Liu this time, therefore, I grabbed the chance of interview to have conversations with him about his work and daily life. I could not expect that the first answer I got from Professor Liu was so astonishing. “Actually, many of my closed friends have said that I am not suitable to be a thoracic surgeon, I feel the same. If I was a painter or a poet, I would probably do much even better”, said by Professor Liu. The following is the extract. You may refer to the video interview for the details.



Deruo Liu, M.D, doctoral supervisor, head of the department of major surgery and thoracic surgery, and the lung cancer center of China-Japan Friendship Hospital. At present , he takes the chairman of thoracic surgical department and the head of its minimal invasive group in Beijing Medical Association branch, Standing Committee of Thoracic Surgeons Section of Chinese Medical Association, chairman of the department of thoracic surgery branch of China Medical Association and so on.

During his career, Professor Liu always put his patients first with a benevolent heart. “A surgeon uses needles and sutures to maintain the safety of patients.”, Professor Liu said that before. The power of morality is the solution to the temptations. The morality needs self-control. Being a doctor, morality and clinical skills are equally important. You should cure the disease at any risk if it is possible to cure; you should not do any surgery if it is not necessary; you should not use any extra dosage of medicine and you should not do any unnecessary checking.

Being asked for the words to young surgeons, Professor Liu smiled and said “don't forget your teenage dream, don't fear of the hurdles in doctoral career”. In the 30-year doctoral career, Professor Liu keeps an attitude of universal love. No matter being



China-Japan Friendship Hospital provides the “twenty-four seven” medical services, it is one of the A-class appointed healthcare facilities in Peking. Department of Thoracic Surgery, China-Japan Friendship Hospital is the national first-class department. The Honorary Professors in the Department of Thoracic Surgery are American, English and Japanese well-known experts. The department is full of talented professionals and first-class apparatus. There are many professional and thoracic experts with strong scientific research ability, most of them are equipped with MD and master degree.

a mentor, working on academic theories or clinical techniques, he can be named as a “master”. Therefore, a teacher is one who transmits knowledge, provides for the study and dispels confusion, as the Chinese saying goes.

### Interview Questions

1. Why do you start your work in thoracic surgery?
2. What is the advantage of choosing thoracic surgery for young surgeons?
3. What is the most memorable experience in one of your thoracic surgery?
4. One day, if you were not a thoracic surgeon, what would you do?
5. How do you balance your busy work and hobbies?
6. What do you think the experience transmission of surgery skills?



(Interview Editor: Grace Li, AME Publishing Company)

AME Correspondence E-mail: [kysj@amegroups.com](mailto:kysj@amegroups.com)

Interviewed Expert's E-mail: [deruoliu@vip.sina.com](mailto:deruoliu@vip.sina.com)

Department Secretariat Tel No: 010-84206186

Department Address and Postal Code: Department of Thoracic Surgery, China-Japan Friendship Hospital, No.2, Yinghua East Road, Chaoyang district, Beijing, China, 100029

## Text Interview

# Xiaofei Li: Setting up Database on Lung Cancer in China is Imperative

**Editor's Note:** The 10<sup>th</sup> Lung Cancer Summit among Directors of Thoracic Surgery in China and the 4<sup>th</sup> China Thoracic Surgery Lung Cancer Collaboration Group (CLCCG) were held on May 24<sup>th</sup>, 2015 in Guangzhou. In this meeting, directors of thoracic surgery departments from different hospitals in China gathered and discussed “Precision Medicine” as one of the themes of the summit. AME is honored to invite Prof. Xiaofei Li, who is the Head of the Division of Thoracic Surgery at the Tangdu Hospital of the Fourth Military Medical University, to share his latest study on adjuvant therapy and the set-up of lung cancer database in China.



Prof. Xiaofei Li is a renowned thoracic surgeon in China, head of the Cardiothoracic Surgery Department of Tangdu Hospital as the key national discipline. He is also an academic leader of thoracic surgery in all Military hospitals and hospitals in Shaanxi province. He has been working as a doctoral tutor for 30 years, taking on responsibilities in surgical clinical teaching and scientific research. Over the past five years, he has invented five new surgical techniques and taken the lead nationally in operating other 10 different advanced approaches and surgeries working with his team.

In this meeting, Professor Li introduced a blood test and histological examination based on adjuvant therapy research. The reason he devised this study was to clarify whether there is a significant difference between the combination of chemotherapy and targeted therapy and the role of adjuvant treatment. In this study, the blood research is also included because Professor Li completed a medical examination on blood tests at an earlier point when he was entitled to the research on thoracic surgery. For example, the blood test is only being carried out one day before surgery if a lung cancer tissue EGFR is already validated to be positive. This can help to find out if the EGFR of the patient's blood test is also found to be positive.

Does the blood test mutate if the patient's tissue is already being mutated?



Led by Professor Li, the Department of Thoracic Surgery at Tangdu Hospital has a rise in the number of in-patient beds from 100 to 393 beds. The growth rate and scale of beds is now 300%, and is currently the largest thoracic surgery center in China. The department accommodated 2,000 patients in 2008, which increased to 14,000 patients in 2015. The number of patients admitted to the national thoracic surgery industry ranked top three in the country.

Professor Li answered that his team carries the patient's blood out of the blood test before the surgery. If the surgery result is confirmed to be negative, then the team will continue on examining the patient's blood to see if it is positive. He emphasized that this is the main work of this study. A total of 128 cases were examined. We found that in patient whose postoperative blood tests were positive, implying the earlier the stages, the less test level of positivity. It was also found that diagnosis of Stage IIa lung cancer has contained less than 10% of sensitivity. However, from Stage IIb to IIIa lung cancer, it increased to 30% of sensitivity. This implies that about 30% of patients' blood being is mutated and that Cell-Free DNA (cfDNA) can also be detected.

If this study result is found to be conclusive with the support of significant data, it is assured that the numerous questions regarding the study will be answered properly. We found that 12 out of 36 cases of Stage IIIa lung cancer patients were examined to be double-positive. After comparing patients with double-positive tissue and blood to patients with single-positive test results, patients who were diagnosed as double-positive had a relatively high mortality rate. On the contrary, only one patient out of 28 patients who were diagnosed as single-positive died. Therefore, it is an area of importance and urge for future study.

Regarding the setup of the China Lung Cancer Database going into the future, Professor Li stressed that there is a big gap between the study results from China and other countries. One of the reason is that the database is not well developed and not uniformed, leading to an imperfect outcome. Thus, it is imperative to set

up a China Lung Cancer Database. On the other hand, it is essential to conduct research on lung cancer treatment under the conditions where the data is proved to be accurate after setting up the database, which is an important part of medical precision.

Professor Li believes that the most important part of precision medicine is to ensure that the data is accurate as a way to get concrete and scientific conclusions. Without the setting-up of the database, the conclusion is likely to be biased. Thus, the database is the basis of research and Chinese scholars must attach great importance to the set-up of the database. However, the preliminary stage of the database set-up is very difficult, because it involves a significant amount of work related to various clinical studies. Professor Li added on his last words by saying that medical precision has been the goal of practitioners from the era of traditional medicine to modern medicine; we will continue striving to achieve this goal.

(Interview Editor: Chujun Huang, AME Publishing Company)

AME Correspondence E-mail: [kysj@amegroups.com](mailto:kysj@amegroups.com)

Interviewed Expert's E-mail: [lyfchest@fmmu.edu.cn](mailto:lyfchest@fmmu.edu.cn)

Department Secretariat Tel No: 029-84717367

Department Address and Postal Code: Department of Thoracic Surgery, Tangdu Hospital, 569 Xinsi Road, Baqiao District, Xi'an City, Shaanxi, China 710032.

## Text Interview

**Yin Li:**

### The Forthcoming Challenges for Esophageal Cancer Surgery

**Editor's Note:** The 2015 annual meeting of the department of thoracic surgery, Chinese Medical Doctor Association and the 6<sup>th</sup> national academic conference of thoracic surgery took place in Hangzhou on 14 June 2015. The one-and-a-half day conference provided a professional forum for discussions of thoracic surgery techniques and clinical performance. There were also discussions of medical-related themes, such as social, humanities, legal problems and academic development. During the conference, Prof. Yin Li, vice president of Henan Tumor Hospital, was interviewed by AME to share his clinical experience of esophageal cancer.



Yin Li, professor, chief physician, PhD supervisor, vice president of Henan Tumor Hospital.

#### The forthcoming challenges for esophageal cancer surgery

Global data shows there is a strong disparity for esophageal cancer surgery in China: on the one hand, the incidence and death rate of esophageal cancer are high in China, and it is responsible for half of the total number of esophageal cancer cases in the world. On the other hand, China has the largest physician team. However, at the same time, there are several problems with academic contribution and research innovations in China. These problems originate from many aspects, not only technical and academic differences but also economic issues and regional differences. This is the reason why Chinese thoracic surgery is different from that of developed countries, such as the United States and Japan. The common methods of thoracic surgery are mainly derived from the western literature. This is an embarrassing situation for Chinese thoracic surgeons, and represents an aspect that we need to improve, Professor Li states. However, there are a lot of objective factors for the medical conditions and research innovations in China compared to western countries. Because of this, Chinese



The Tumor Hospital of Henan province is affiliated with the University of Zhengzhou, and is also the national and country-level hospital instructing standardization of the tumor treatment, rated by the Ministry of Health. The hospital, founded in 1979, is National Key Clinical Specialist, Henan Key Clinical Academy, the training base of Greater China Thoracoscopic Advisory Board (GCTAB), National Esophageal Cancer Clinical Research Sub-center, Esophageal Cancer Treatment Center in Henan, the department of thoracic tumor minimally invasive surgery center in Henan.

thoracic surgeons have carried out many projects, for example, re-organizing the workings of national esophageal surgery. The most surprising to Professor Li is that based on the preliminary search on MEDLINE, the number of Chinese esophageal cancer patients represents over 50% of the total patients over the world. However, there are only 10% of published papers and clinical research from Chinese physicians. Regarding this imbalance, Professor Li thinks that they need to tackle the technical and academic problems. The economic and social problems are also under consideration. The technical problems are long-standing issues. For example, esophageal reflux and protection of neural function are the problems that have remained unsolved for western countries. Additionally, the option of the surgical method, such as the contrast of the left and right open chest surgery, is also under debate. Left open chest surgery is no longer adopted in the western countries but they are still developing transthiatal surgery. This is due to the difference in the disease spectrum, including the differences in pathological properties and tumor location. Western patients mainly suffers from adenocarcinoma or cancers from the lower part of the body. Asian patients mainly suffer from cancer of the middle part of the body. Therefore, this factor may influence the surgical approach. According to the existing data, there is a trend showing the removal of esophageal cancer R0 via the right chest. Professor Li also mentioned that the problem we are facing is the complicated recovery management due to the development of complications. Some physicians would avoid conducting the unnecessary and complicated thoracic surgeries, such as complete lymphadenectomy. Moreover, the introduction of the new therapeutic methods, such as chemotherapy, radiotherapy and combined therapy, are well-accepted. Currently, there are no reasons for thoracic surgeons to give up the pursuit of high-quality and high-standard surgery. Thoracic surgery need to be performed up to high standard. Surgeons should try their best to conquer the technical difficulties.

## The Li's anastomosis

Esophageal carcinoma complications mainly refer to thoracic and abdominal complications, which is mainly caused by anastomotic leak. This is also a frustrating problem for thoracic experts. Professor Li states that the Chinese thoracic experts have faced some twists and turns. By summarizing the practical experience of different anastomosis methods, we found that the methods we used in the past had benefits and drawbacks. There are complications of the anastomotic leak even though experienced surgeons are in charge. This suggests that the problem is not related to technical skills but related to the methods of surgery. As Professor Li states, if the method is not correct, the anastomotic leak would happen, regardless of the experience of the surgeon. Due to this reason, Professor Li keeps improving and refining the anastomosis methods. He finally designed the unique anastomosis method - the Li's anastomosis.

The Li's anastomosis mainly focuses on the two most important factors responsible for the anastomotic leak of esophagus and stomach. The first is tension. There should be no tension in the anastomotic stoma. Another point is to ensure the anastomotic stoma has sufficient blood supply. The existing anastomosis can be divided into two groups, single layer anastomosis, and layered anastomosis. They each have their own advantages. Single layer anastomosis is relatively easy to manipulate with high resistance. It is firm since all the layer will be closed. It is noteworthy that since single layer anastomosis is connected from inside to outside, if there is any problem from the sewing needle, the anastomotic leak would probably happen. Stapled anastomosis compress several layers with different thicknesses that may easily lead to local hemorrhage or even necrosis. Another approach is the layered anastomosis, by separating mucosa layer and epimysium and connecting mucosa layer alone. This is a kind of double layer anastomosis, protecting each other. The anastomosis does not occur in a single layer, and if there was a problem on one layer, another layer provides protection. The disadvantage is the tension resistance will be lowered when the two layers are against the tension. Coughing or asymmetrical power distribution of the sewing needle may lead to a laceration. Professor Li's method is to combined single layer and sub-layer, hence, the sub-layer can have a buffer, and the anastomosis stoma can relax without tension.

Under the leadership of Prof. Yin Li, Henan province tumor hospital thoracic surgery team pioneered the development of enhanced recovery after esophageal cancer surgery. The team purposed "no tubes, no fasting", a model of enhanced recovery of esophageal surgery. The patient can also mobilise without thoracic tubes. This new treatment mode reduces hospital stay, increases the quality of life, lowers the risk of complications, and lowers the cost of staying in a hospital. This original technical innovation is a milestone in esophageal surgery, gaining support and recognition from international and national experts. This method has been demonstrated in Beijing, Shanghai, and Guangzhou, as well as in 10 other well-known hospitals in China and at international and national academic conferences.

Moreover, the team has held national high-class training courses (professional titles, 3A hospital) on more than 20 occasions, with students from more than 20 province and regions.

### **Inheriting the past, from strength to strength**

At closure of the annual meeting of the department of thoracic surgery, Chinese Medical Doctor Association, there was a ceremony delivering the meeting flag to the organizers of the subsequent 2016 annual meeting, to be held in Zhengzhou. The meeting would be organized by the thoracic surgery department of Henan province tumor hospital. As the executive committee of the next meeting, Prof. Yin Li received the flag from principal Zhangxun.

Looking back to the annual meeting this year, Professor Li happily concluded that the conference was relatively successful, This is the first time there were over 1000 attendants, and is likely to rise in the future.

“I believe that there will be more and more experts next year and we will do better, we keep gaining experience. The annual meeting will be held in Henan province; we might feel pressured since Henan province is economically backward. Holding the conference in Henan can be an beneficial to us. Henan is located at Central Plains, and is easily accessible to the participants. From now on, I hope we can brainstorm more ideas for preparing the annual meeting next year and adding color to the meeting. At the earlier stage, we used the featured and experienced European Society of Thoracic Surgeons (ESTS) and American Association of Thoracic Surgery (AATS) for reference. We would like to learn from ESTS, demonstrating the regional features of Chinese thoracic surgery. With more and more conversation between the east and the west, we hope this meeting can strengthen the international cooperation. At the same time, the Chinese medical association can gradually bring into experts from Hong Kong, Taiwan, and Macau, which can strength the professional team. Just like it when an Asian team wins a sporting championship, we hope we can draw the attention of the western countries and the related profession.” Professor Li said with confidence.

(Interview Editor: Grace S. Li, AME Publishing Company)

AME Correspondence E-mail: kysj@amegroups.com

Interviewed Expert's E-mail: liyin825@aliyun.com

Department Secretariat Tel No: 037165588147

Department Address and Postal Code: 9th Floor, Block 10, 127 Dongming Road, Jinshui District, Zhengzhou

## Video Interview

# Zhangming Li: Robot Assisted Surgery Has Two Sides

**Editor's Note:** The 3<sup>rd</sup> Shenzhen International Forum for Thoracic Surgery & National Speaking Tour for *Diagnosis and Treatment of Primary Lung Cancer in China* (Shenzhen Station) was held successfully on Aug. 22nd, 2015 in Shenzhen Second People's Hospital. In the forum, we have the great honor to invited Prof. Zhangming Li, from the National Taiwan University Hospital, to have an interview with us, sharing with us his research of Robot assisted Surgery and perspective on the academic activity and clinical work for surgeons.



Prof. Zhangming Li, MD, PhD. Department of Surgery, National Taiwan University Hospital, Taipei, Taiwan. Graduated from Medical School, and acquiring his PhD degree in the Medical Research Institute in National Taiwan University, Prof. Li is now the chief and professor of surgery in the Thoracic Surgical Division of Surgical Department in National Taiwan University Hospital. He is one of the important pioneers in the development of minimal invasive surgery in thoracic space in Asia. He possesses comprehensive understanding of both surgery development and medical environment of Taiwan. He is deeply devoted in development and education of minimally invasive thoracic surgery especially in the complex procedures including minimally invasive esophagectomy, robotic surgery or peroral endoscopic myotomy (POEM). He also actively participates in the editorial or review board in many distinguished international medical journals and has published more than 100 scientific papers. Elected as secretary in general of the thoracic society in 2013, he voices for the society to the government sector, policy makers, the patients and other healthcare stakeholders and led the education of study for surgery in Taiwan. Due to his achievement in surgical spaces and thoracic education, he is now frequently invited for the lectures to share and to shape the future the thoracic surgical field.

## Interview Questions

1. As a thoracic surgeon, would you tell us how should a surgeon apply the knowledge from manual book into the practice?
2. Your speech today is about the application of Robot assisted surgeon. Here would you tell us what're the advantages and disadvantages of this surgery?
3. We know that except the clinical work, you're also active in the academic activity. Here would you tell us how to balance the clinical work and academic activity as a surgeon?



National Taiwan University Hospital (NTUH) was founded in 1895. Over the last hundred plus years since its founding, NTUH has nurtured countless professionals in medicine, including medical students, specialists, pharmacists, nurses and technicians. They have served all over the world, and have gained much prominence with their outstanding performance. With respect to medical service, the quality of NTUH's clinical practice is well known and highly trusted by the people of Taiwan. NTUH's diagnosis and treatment of hepatitis and cancer, organ transplantation, and its pioneering research accomplishments in biophotonics and clinical trial have also gained international recognition. As a national teaching hospital, NTUH is shouldered with three major tasks: teaching, research and service. In terms of teaching, the hospital continues to collaborate with the university's curriculum to nurture talent in medicine and various specialties. In terms of research, resources are being integrated to establish core laboratories, which provide colleagues with the best research facilities and environment. In terms of service, all services are oriented towards and centered on patient safety; personalized care is emphasized, with a focus on medical quality and patient safety management in order to provide high quality and refined medical services. NTUH is also committed to promoting international cooperation, thereby gaining the experience and knowledge from the medical development of advanced countries, and thus enhancing the development of our country's own medical care.



(Interview Editor: Skylar Gao, AME Publishing Company)

AME Correspondence E-mail: [kysj@amegroups.com](mailto:kysj@amegroups.com)

Interviewed Expert's E-mail: [jangming@ntuh.gov.tw](mailto:jangming@ntuh.gov.tw)

Department Secretariat Tel No: 8 86-2-23123456, extension: 65123

Department Address and Postal Code: Department of Thoracic Surgery, No. 7 Zhongnan South Road, Zhongzheng district, Taipei, Taiwan, 100

## Video Interview

# Zhangming Li: We Are Family! It Will Be Better!

**Editor's Note:** “The Fourth West-lake Forum of International Breast Tumor (National Continuing Education Program) and The New Minimally Invasive Technique in Breast Diseases, Rapid Rehabilitation—Airway Management Classes” were held from November 11<sup>th</sup> to 15<sup>th</sup>, 2015 in Hangzhou CROWNE PLAZA HOTELS&RESORTS. November coincides with the international lung cancer concern month, many international and domestic well-known thoracic experts participated in the academic discussion on minimally invasive technology, airway management and new concept of rapid rehabilitation. AME editor interviewed Prof. Zhangming Li, director of thoracic surgery at the Affiliated Hospital of Taiwan University School of Medicine, who gave a speech on “Robot-assisted thoracic surgery in treating thoracic malignancy”. The interview also involved topic on the meeting of two parties’ leader. Professor Li said, the cross-strait people with the same ancestors, the same culture, should be more contact and more exchanges to enhance the feelings of each other. He also said: “brothers and sisters do not communicate will be strangers,” and “cross-strait exchanges can also be expanded, improved”, “we can create a better future”.



You may refer to the previous article for the biography for Prof. Zhangming Li.

### Interview Questions

1. Dr. Li, you made a speech on the topic of “Robot-assisted thoracic surgery in treating thoracic malignancy”, can you briefly introduce the application and development prospects of robots in medicine or clinical sorts?
2. What’s the most proudly achievement in your study, or one of the most memorable one?
3. Why did you choose to be a thoracic surgeon, are there any stories?
4. Recently the highly concerned meeting of two parties’ leaders will surely bring some co-operations and opportunities at many aspects. What’s your expectations to the developments of thoracic oncology or even the whole clinic medicine in Mainland and Taiwan?



(Interview Editor: Hestia S. He, AME Publishing Company)

AME Correspondence E-mail: [kysj@amegroups.com](mailto:kysj@amegroups.com)

Interviewed Expert's E-mail: [jangming@ntuh.gov.tw](mailto:jangming@ntuh.gov.tw)

Department Secretariat Tel No: 886-2-23123456, extension 65123

Department Address and Postal Code: Department of Thoracic Surgery, No. 7, Zhongshan South Road, Zhongzheng District, Taipei, Taiwan, 100

## Text Interview

**Hui Li:**

### **My views on Precise Medical Care in surgical treatment of lung cancer**

**Editor's Note:** The 10<sup>th</sup> Lung Cancer Summit Forum for Chinese Directors of Thoracic Surgery and the 4<sup>th</sup> Summit Forum for Chinese Lung Cancer Collaborative Group (CLCCG) were held in Guangzhou on May 24, 2015. During the meeting, Professor Li, who is the Director of Department of Thoracic Surgery at Beijing Chaoyang Hospital, Capital Medical University, was interviewed by AME Publishing Company. He shared his views on the theme of “Precision Medical Care”, commented on the treatment of lung cancer and gave advices to young doctors.



Prof. Hui Li, M.D., Chief Physician, Doctoral Supervisor, Director of Department of Thoracic Surgery, Beijing Chao-yang Hospital, Capital Medical University. Prof. Li graduated from the Capital Medical University in 1984, and completed residency training at Beijing Chao-yang Hospital. He then received M.D. Degree from Dept. Surgery, Trinity College, University of Dublin, and then pursued further training on video-assisted thoracoscopic surgery at Prince of Wales Hospital, the Chinese University of Hong Kong. Prof. Li served as the chief of Division Thoracic Surgery, the General Hospital of the PLA Navy, and professor of the Second and the Third Military Medical Universities of PLA, and is currently the chair of the Department of Thoracic Surgery, Beijing Chao-yang Hospital, Capital Medical University. Prof. Li is an international member of STS, member of IASLC, senior fellow of Chinese Medical Association of Cardiovascular and Thoracic Surgery. He is vice chairman of Beijing Association of Thoracic Surgery. Prof. Li now serves on the editorial board of several medical journals including the Chinese Journal of Cardiovascular and Thoracic Surgery, and the China Journal of Lung Cancer. Recent 5 years, he has published more than 40 papers in both Chinese and international medical Journals.



Beijing Chao-yang Hospital, Capital Medical University was founded on the 24<sup>th</sup> of February 1958. It is directly under the administration of Beijing Municipal Health Bureau Hospital. It serves as an A Grade Level Three hospital providing the services of medical treatment, teaching and scientific research. This is not only the third hospital to be built under the authority of Capital Medical University, but also is a Beijing Medical Insurance Class A fixed-point medical institution. The Department of Thoracic Surgery at the hospital is a subsidiary of the Beijing Institute of Respiratory Diseases. Having a number of famous experts in the field of thoracic surgery, the hospital's surgeons are believed to have a sophisticated set of surgical skills. The hospital has currently equipped with different kinds of advanced medical devices including thoracoscopy, mediastinoscopy, electronic trachea, Endobronchial Ultrasound (EBUS), fluorescent bronchoscopy, invasive and non-invasive ventilator, multi-function monitor, vibration expansive machine and lower limb drive pump.

### **How Does a Surgeon Assist in Performing Precision Medical Care?**

According to the definition of the US National Cancer Center, "Precision Medical Care" refers to the use of genetic information to guide on various means of medical treatment. During the treatment process of the patients, I believe that precision medical care should cover all aspects. In fact, from the early stage of medical diagnosis to the later stage of following-up study, every procedure is involved in the concept of precision medical care.

We should adapt the concept of precision medical care to guide different aspects and phrases of our work. To use the most advanced scientific and technological methods such as digital imaging is the way to attain the goal of diagnostic accuracy as well as to apply the concept of precision medical care. In fact, I think that different levels of staff cooperation are required to apply the concept, including the staff of the National Health Commission, the Municipal Government, the Hospital as well as doctors from any medical fields in order to improve the medical system.

Surgeons can assist in the implementation of precision medical care from the following two perspectives: one is to provide the necessary assistance for precise

diagnosis. for example, surgeons are able to provide a precise diagnosis and treatment for the patients after obtaining biopsy; another is to practice the concept of precision medical care through a surgical process. We could understand this concept as performing an accurate surgery as it is to enhance the quality of a more refined surgery. This implies converting some of the imaging data through utilizing medical techniques and imposing them onto the patient's real condition, so as to truly reflect the real condition of the patient and guide the surgeons precisely during the surgical procedure.

### **Criticisms on New Means of Treatment**

Performing surgery is a major means of treatment, regardless of the different stages of lung cancer or timing. Recently, there were many means of treatment developed for the earlier stages of lung cancer, such as the recently proposed stereotactic radiotherapy that has led drawn attention and discussion. On one hand, it is clear we have to practice different means of treatment and gather data to support our points of view. On the other hand, we should not only be confined to the perspective of being a thoracic surgeon, but we should think and judge a case from the perspective of being an oncologist or a general medical practitioner. It is certain that performing stereotactic radiotherapy on elderly patients can reduce the surgical pain, and is effective. Pertaining to whether surgery is superior to radiotherapy or vice versa, we still need to carry out a large number of scientifically-randomized studies.

### **Make sure to Equip with Basic Medical Knowledge: Strictly Pre-Operative Preparation, Precisely Performing Surgery and Initially Follow-up on Post-operative Care**

For the older generation of surgeons, many might have gone through the experience of performing two-dimensional abdominal incisions to performing three-dimensional laparoscopy. They might need a longer adapting process to manage new medical devices. However, the medical technology is gradually improved. For example, with the emergence of naked eye three-dimensional technology, to a large extent young surgeons are advantaged with shortened learning curves and a simplified process of surgical operation. Despite this privileged circumstance, young surgeons are reminded that they need to be equipped with basic medical knowledge in the first place.

On the other hand, we emphasize practicing the concept of a peri-operative management. If a surgery is completed and yet is not satisfactory, this would imply that surgery has likely not been done properly. This could be due to the surgeon do not meet the surgical indications prior to operation. Once we have done an operation that is not supposed to have been done, we are now responsible for the serious consequences and post-operative complications. Although performing surgery is

an important means in the way of curative treatment, we should not only focus on performing surgery until we have focused on the work for pre-operative preparation and post-operative care. We should be strict about pre-operative preparations. During the surgical process, we should perform surgery precisely and follow-up actively on post-operative care. Before the surgery starts, surgeons are reminded that they should strictly select patients based on the surgical indications. During the surgical process, surgeons should perform the surgery accurately and precisely. After the surgery, surgeons should closely observe the patients to avoid or reduce the post-operative symptoms. Young surgeons need to pay attention that a perfectly executed surgery does not mean a successful surgery; a successful surgery does not mean a surgery that is able to extend a patient's life. It depends on whether a surgeon is able to balance a comprehensive and macroscopic perspective.

(Interview Editor: Siliva L. Zhou, AME Publishing Company)

AME Correspondence E-mail: [kysj@amegroups.com](mailto:kysj@amegroups.com)

Interviewed Expert's E-mail: [huili@vip.sina.com](mailto:huili@vip.sina.com)

Department Secretariat Tel No: 010-85231044

Department Address and Postal Code: Beijing Institute of Respiratory Diseases, Beijing Respiratory and Pulmonary Circulation Disease Laboratory, Thoracic Surgery of Beijing Chaoyang Hospital, Capital Medical University, 100020

## Text Interview

### De-Min Li:

## What we expect from da Vinci robotic surgery

**Editor's Note:** The Department of Cardiothoracic Surgery of Nanjing General Hospital of Nanjing Military Command has a distinguished reputation among Chinese patients for decades. In recent years, the introduction of the “da Vinci” robot in the hospital has allowed the Department of Cardiothoracic Surgery to carry out newer and more sophisticated surgeries and research projects. Under the leadership of its director Prof. De-Min Li and the tireless efforts of all the staff members, the Department of Cardiothoracic Surgery has gained many academic achievements, benefiting many patients and their families. Recently, the *JTD* interviewed Prof. De-Min Li and invited him to share his insights on the application of the “da Vinci” robot in cardiothoracic surgeries and some other related issues.



Prof. De-Min Li, Chief Physician, Professor, and director of the Department of Cardiothoracic Surgery, deputy Director of the lung cancer center of Nanjing General Hospital. In 2002, Prof. Li was trained on cardiovascular surgery at the heart unit at Monash Medical Centre in Melbourne, Australia for one year. Currently he is the director of the Department of Cardiothoracic Surgery of Nanjing General Hospital of Nanjing Military Command and professor and master's/doctoral supervisor of the School of Medicine of the Second Military Medical University, Nanjing University and Southern Medical University. He is also the Deputy Director of Lung Cancer Center of Nanjing General Hospital of Nanjing Military Command. He performs various coronary artery bypass surgeries, major vascular surgeries and interventional treatment, and has rich experiences in the peri-operative management of elderly patients with severe coronary artery disease. He is skillful in the surgical treatment of severe valvular diseases and complex congenital heart diseases. He also performs surgeries including tracheal surgery, surgeries for esophageal cancer invading the descending aorta and/or left main bronchus, bronchial sleeve resection/reconstruction, bronchial and pulmonary arterial sleeve resection, and resection and reconstruction of carina. He has accumulated rich experiences in the intensive care and treatment after cardiothoracic surgery.



Nanjing General Hospital of Nanjing Military Command, abbreviated as “Nanjing General Hospital”, is a large-scale comprehensive hospital combining medical treatment, education and research. The Department of Cardiothoracic Surgery at the hospital was founded in 1948. Its first director, Professor Wu Gongliang, who previously stayed in the United States, is one of the pioneers of the earliest stage of cardiothoracic surgery in our country.

**JTD:** *As we know, you were trained in coronary surgery at Monash Medical Centre in Melbourne, Victoria, Australia from 2002 to 2003. What was the domestic level of cardiac surgery at that time? What’s your feeling about staying abroad then?*

**Prof. Li:** Generally speaking, the performance of cardiovascular surgery was quite good at that time in China. While the cardiovascular surgeries were well performed in some large general hospitals (e.g., third-grade class-A hospitals), they were not so successful in many other hospitals. In 2002, I began to receive training in the Monash Medical Centre in Melbourne, where they had academic capacity parallel to those in Europe and North America. The Australian centers had excellent concepts and modes in medical sciences; meanwhile, they paid particular attention to training, especially trainees from other countries. As I know, many well-known Chinese cardiovascular surgeons had been trained or did their internships in Australia. During the training period, the trainees not only could observe but also be involved in the clinical practice. The study in Australia was a fruitful trip for me. After I returned to China, I was able to perform coronary surgeries independently.

**JTD:** *As we know, your team has performed well in both clinical practice and scientific research. Would you please briefly introduce your department and your team to us?*

**Prof. Li:** The Department of Cardiothoracic Surgery of Nanjing General Hospital currently is divided in two sections: the Cardiovascular Surgery and the General Thoracic Surgery. The latter is focused on pulmonary and esophageal diseases as well as some general chest diseases and mediastinal tumors. The minimally invasive surgery in the General Thoracic Surgery is currently one of our priorities. Thoracoscopic lung resection is the preferred surgical procedure for lung cancer, and video-assisted thoracoscopic surgery (VATS) is also the mainstream treatment for mediastinal tumors. In recent years, the rapid development of completely endoscopic

radical resection of esophageal cancer has achieved good results. The Cardiovascular Surgery is mainly focused on heart valve diseases, coronary heart disease, and macrovascular disease, with the minimally invasive treatment of heart valve disease and coronary heart disease and the hybrid cardiac surgery for macrovascular disease as the priorities.

*JTD: Coronary artery bypass grafting (CABG) has become a relatively mature procedure. Would you like to introduce the use of CABG in China?*

**Prof. Li:** Coronary surgery has been widely performed in China, and its levels in the majority of Chinese third-grade class-A hospitals are comparable to their international counterparts. Now our goal is to do it better, though CABG is the gold-standard treatment for multiple-vessel lesions, most eligible patients prefer coronary intervention, which is less invasive. Only patients with poor vascular conditions and therefore not feasible for intervention undergo surgical treatment, which make the surgery more difficult and risky. Therefore, cardiac surgeons must try their best to maintain good quality control and expected long-term outcomes. The long-term role of internal mammary artery in anterior descending coronary artery reconstruction is irreplaceable and therefore the internal mammary artery should be routinely used. CABG should be actively applied in young patients with coronary heart disease to achieve good long-term patency rate and maintain good quality of life. The concept of “minimally invasive” should be rationally applied in the surgical treatment of coronary heart disease. Off-pump CABG can lower the impact of extracorporeal circulation on human body and thus reduce the peri-operative risks. By cooperating with the Department of Cardiology, we are using the Hybrid Operation Room and da Vinci robot for hybrid coronary surgery. More specifically, the left internal mammary artery (LIMA) reconstruction or the anterior descending artery reconstruction is performed under the assistance of the robot or completed by the robot, whereas the international intervention except for the anterior descending artery is performed by the Department of Cardiology. The joint efforts of these two departments enable us to apply the most advanced treatment concepts to our patients, thus reducing the trauma and achieving the optimal efficacies.

*JTD: How about the treatment of aortic dissection in your department?*

**Prof. Li:** More patients with aortic dissection have been identified along with the advances in diagnostic technology and the increased awareness of this condition, particularly when the climate changes. The routine use of ECG and CT for patients with acute chest pain has increased the detection rate of acute aortic dissection. Aortic dissection is a very dangerous disease, and therefore must be appropriately

managed according to patients' conditions. The type A aortic dissection is easy to become ruptured at its early stage and is associated with high mortality; thus, active surgical treatment is warranted. The improvements in the surgical procedures, anesthesia, and other techniques for the type A aortic dissection have made the surgical treatment more effective. In addition to the routine techniques including deep hypothermic circulatory arrest for aorta/aortic arch replacement and the "elephant trunk" technique, we also apply hybrid procedures without deep hypothermic circulatory arrest in carefully selected cases, which avoids the impact of deep hypothermic circulatory arrest on human body and reduces the post-operative complications. For type B aortic dissection, minimally invasive interventions are preferred, which are featured by good effectiveness, small trauma, and quick recovery.

### **Enter the era of minimally invasive surgery with the help of the da Vinci robot**

*JTD: The Nanjing General Hospital was one of the hospitals that introduced the da Vinci Surgical System at an early stage. In 2012, the first case of robotic assisted heart repair surgery in Jiangsu Province was completed in the hospital. What are the indications for the robotic surgeries?*

**Prof. Li:** The da Vinci robotic surgery is a specific example of the application of modern high technology in surgery and also represents one of the future directions of minimally invasive cardiothoracic surgery. However, a wider application of da Vinci robot in the cardiothoracic surgery still has a long way to go, since it may involve many issues such as the costs of the system, the cost of treatment, the training of medical staff, and the acceptance of the relevant concepts. Generally, the applications of robotics in cardiothoracic surgery have many advantages. For instance, the robotic hand, when replacing the human hand, can reduce surgical trauma; also, the 3-dimensional vision of the robot is more accurate when compared with the 2-dimensional vision of the conventional endoscope and therefore allows the operator to directly transfer his/her ideas to the robot hand. The robot can perform reconstruction accurately, which is also superior to the endoscope. Currently, the applications of the robot in the cardiothoracic surgery include CABG assisted by or fully by the robot, mitral valve repair or replacement, repair of atrial septal defect, and resection of cardiac tumors. In the General Thoracic Surgery section, it is mainly applied in the treatment of thymic tumor, lung tumor, and esophageal surgeries. In 2014, the application of robot to cardiothoracic surgery has been listed as a key academic project in our department. It is planned that about 150 robotic operations will be performed this year. Before the robotic surgery, the doctors must carefully evaluate patients' conditions. Only those who are expected to achieve therapeutic effectiveness comparable to the routine surgeries and meanwhile

will benefit from the “minimally invasive” and “aesthetic” features will be considered appropriate for the robotic surgery.

**JTD:** *After the use of robotic assisted treatment, will the priority of a specific surgical procedure be changed?*

**Prof. Li:** The role of doctors remains critical during the robotic cardiothoracic surgeries. The operators must have rich experiences in the conventional surgeries. In other words, only surgeons who are good at the conventional surgeries are possible to carry out the robotic operations. Robot is just a tool used by doctors. With the robot, the surgeons just operate in the console instead of the operative field. Therefore, the use of robot does not cause changes in the key surgical procedures.

**JTD:** *As the deputy director of Lung Cancer Center of Nanjing General Hospital, what's your opinion on the role of surgery in the multidisciplinary treatment of lung cancer?*

**Prof. Li:** The treatment for lung cancer differs based on the disease stage. Multidisciplinary management currently is the main treatment for lung cancer. Surgery plays an important role in the treatment of lung cancer, particularly those at an early stage (stages I and II). For resectable tumors (stage III), tailored multidisciplinary management is needed. In our department, the treatment for lung cancer focuses on surgical treatment (e.g., bronchial sleeve resection and reconstruction, bronchial/pulmonary arterial double-sleeve resection and reconstruction, and carina resection and reconstruction) for complicated lung cancer; and, minimally invasive radical resection of lung cancer (totally thoracoscopic lung resection and robotic lung resection). The Hybrid Operation Room in our hospital allows us to carry out accurate thoracoscopic resection of the small lung lesions under digital subtraction angiography (DSA).

**JTD:** *In fact, in addition to surgery itself, post-operative care is also very important for the recovery and treatment of a patient. What kind of work is expected in post-operative care? Is there any experience you would like to share with our readers?*

**Prof. Li:** Post-operative care is important to ensure the effectiveness of surgical treatment. An increasing number of our patients are elderly people, and they often have concomitant conditions such as diabetes, hypertension, chronic obstructive pulmonary disease, and organ dysfunction. For these patients, in addition to minimally invasive surgery, post-operative care including peri-operative airway management, fluid management, maintenance of water and electrolyte balance, blood sugar regulation, anti-infection treatment, nutritional support, and supportive therapy of vital organs are also very important. Treatment and care should be

conducted in a more proactive manner. We must carefully observe and analyze the disease conditions and take effective preventive measures before the occurrence of any complication. All in all, modern surgery has placed higher demand on surgeons.

***JTD: Thank you very much!***

(Interview Editor: Grace S. Li, AME Publishing Company)

AME Correspondence E-mail: [kysj@amegroups.com](mailto:kysj@amegroups.com)

Interviewed Expert's E-mail: [dr.demin@126.com](mailto:dr.demin@126.com)

Department Secretariat Tel No: 025-80860012

Department Address and Postal Code: Department of Cardiothoracic Surgery, Nanjing General Hospital, No. 305, Zhong Shan East Road, Nanjing, 210002

## Video Interview

### Yue Yang: Cultivation of Thoracic Surgeons as the Medical, Teaching and Research All-around Talent

**Editor's Note:** Recently, “new rules of training” has been a controversial topic. During the AME interview with Professor Yue Yang, Peking University Cancer Hospital, Professor Yang put forward his own idea of doctor training, especially the cultivation of thoracic surgeons. He reckons that the thoracic surgery has a certain extend of “danger”, the “breath-in and breath-out” process of patients are controlled by the surgeons most of the time. The young surgeons need the practices of gaining experience, help and guide. The aim of cultivation of thoracic doctors is to be clinical, teaching and research all-round doctors and scientists.



Yue Yang, chief physician, Ph.D. supervisor, now head of Department of Thoracic Surgery Section II, Peking University Cancer Hospital, vice president of Thoracic Surgery, University of Beijing and Vice Secretary of Party Committee, University of Beijing.

### Interview Question

Recently, the problem of Standardized Training System has been to the cusp of public opinion. Can you summarize your experience and share your view on the cultivation of thoracic surgeons?



(Interview Editor: Grace Li, AME Publishing Company)

AME Correspondence E-mail: [kysj@amegroups.com](mailto:kysj@amegroups.com)

Interviewed Expert's E-mail: [zlyangyue@bjmu.edu.cn](mailto:zlyangyue@bjmu.edu.cn)

Department Secretariat Tel No: 010-88121122

Department Address and Postal Code: Peking University Cancer Hospital, 52 Fucheng Road,  
Haidian Qu, Beijing, China, 100142

## Video Interview

# Yilong Wu: The Next Generation Sequencing for Precision Medicine in Lung Cancer

**Editor's Note:** From March 4<sup>th</sup> to March 5<sup>th</sup>, 2016, the 13<sup>rd</sup> Lung Cancer Summit was held in Guangzhou, China assembling the clinicians and researchers in lung cancer to discuss about “Precision and standardized medicine: the clinical application of liquid biopsy and Next Generation Sequencing (NGS)”. During the summit, we were honored to have an interview with Prof. Yilong Wu. He has shared the spot topics in this meeting and his perspectives toward the current and future development of Liquid Biopsy and NGS. Prof. Wu hoped the young generation to be earnest and down-to-earth so as to enhance their knowledge and expertise on the practicing road when asked to give suggestions for young doctors.



YiLong Wu. Guangdong Lung Cancer Institute, Guangdong General Hospital & Guangdong Academy of Medical Sciences, Guangzhou, China. Professor YiLong Wu is a vice-president of the Guangdong General Hospital & Guangdong Academy of Medical Sciences and a director of Guangdong Lung Cancer Institute. He is the president of Chinese Society of Clinical Oncology (CSCO), the former director of Chinese Society of Lung Cancer (CSLC), the President of the Chinese Thoracic Oncology Group (C-TONG), the

President of the Fifth International Chinese Society of Thoracic Surgery (ICSTS), a Fellow of the American College of Surgeons, a Member of staging committee and Board of Directors of the International Association Study of Lung Cancer (IASLC) and a Member of the International Affairs Committee of ASCO. He graduated from Sun Yat-sen University of Medical Sciences in 1982, and completed his thoracic surgery training in Germany in 1989. His main research interests are the multidisciplinary synthetic therapy on lung cancer from basic science to bedside and evidence-based medicine in oncology. He is leading the Chinese lung cancer field and has been a Principle Investigator or Co-PI in more than 90 multi-center clinical trials. He has contributed 20 books on cancer and has published more than 300 articles in peer-reviewed journals including J Clin Oncol, Lancet Oncol, New Engl J Med, Cancer Cell and J Thorac Oncol. He also serves on the editorial boards of Cancer Letters, Annals of Surgical Oncology, Lung Cancer Management, International Journal of Biological Marker and General Thoracic and Cardiovascular Surgery. He is editor-in-chief of Journal of Evidence-based Medicine, Journal of Thoracic Oncology (Chinese Edition), and Oncologist (Chinese Edition) etc.

## Interview Questions

1. Could you please share the spot of this summit?
2. What roles of liquid biopsy and NGS play in the precision medicine in lung cancer?
3. How is the clinical application of liquid biopsy and NGS? Is there any technical difficulty?
4. What are the biggest challenges in the clinical application?
5. Here we goes to the 13rd Lung Cancer Summit, could you share your future plans and expectation for the next summit?
6. Why do you choose to be a doctor? Is there any suggestion you would like to give our young doctors?



(Interview Editor: Helen Seliman, AME Publishing Company)

AME Correspondence E-mail: [kysj@amegroups.com](mailto:kysj@amegroups.com)

Interviewed Expert's E-mail: [gzlrn2015@126.com](mailto:gzlrn2015@126.com)

Department Secretariat Tel No: 020-83827812-21187

Department Address and Postal Code: Weilun Building, Guangdong General Hospital, No. 106, Zhongshan Second Road, Yuexiu District, Guangzhou, Guangdong, China, 510080

## Video Interview

### Nan Wu: The SOP for Lung Cancer Management

**Editor's Note:** The thoracic surgery forum hosted by Thoracic Surgery Management Branch of Guangdong Medical Industry Association was held in Guangzhou on Dec. 26<sup>th</sup> in 2015. During this meeting, lots of domestic leading experts in the field of thoracic surgery gathered and delivered speeches on special topics like perioperative treatment of common diseases in thoracic surgery, prevention and cure of intraoperative or postoperative complications and so on. The AME editorial team is honored to join this academic event and invite Prof. Nan Wu from Beijing Cancer Hospital to do a short interview.



Nan Wu, MD, Professor, Deputy Director of Department of thoracic oncology in Beijing Cancer Hospital; Member of the eighth Committee on lung cancer of Chinese Society for Thoracic and Cardiovascular Surgery; Member of Beijing Medical Association for Thoracic Surgery, Vice Chairman of Youth Committee of Beijing Medical Association for Thoracic Surgery; Committee member on lung cancer of Beijing Medical Association for Thoracic Surgery.

Through making the keynote speech, Prof. Wu hopes to raise awareness on standardized management of lung cancer. As what he said, surgery itself is so complicated that it would be unreasonable to make an operation only depends on personal experience. Therefore, it is more important to systematize the procedures and apply them in the medical practice. Prof. Wu believes that this process-oriented management can reduce the possibility of change caused by people and eventually bring benefits to patients.

In this interview, Prof. Wu also mentioned the SOP of lung cancer management. He thinks that preoperative phase, the operation day and 1-2 days after surgery are critical stages. Firstly, preoperative management should focus on determining the feasibility of surgery, avoiding over-treatment and reducing unnecessary operation trauma. Secondly, doctors need to check patients' information carefully and consider the suitable surgical treatments (like minimally invasive treatment etc.) on the premise of safety in the operation day. Finally, there is a series of procedures after

operation, which is aimed to control pain, prevent infection, remove drainage tube as soon as possible, prevent and control complications. Except for those processes, doctors also should give encouragement to patients and enhance their confidence to be healthy. With the help of such kind of management, the surgical quality may tend to be unified and clinical behavior would be more standardized.

Prof. Wu also promotes regular retrospective analysis for personal data. As different patients have different conditions, so it's important for surgeons to let patients obtain the best therapeutic effect with the minimum variability. Through the administrative tool, surgeons can summarize and analyze their work in a certain period. Then they improve their work during the next phase. Also, the incidence of complications can be reduced gradually. Prof. Wu believes that continuous improvement of personal data can ultimately help patients achieve rapid recovery.

### Interview Questions

1. Why do you choose this topic “Standardized and Processed Management for Lung Cancer”?
2. The SOP of lung cancer management refers to preoperative, intraoperative and postoperative phases, which phase is more important?
3. What factors determine the range of lymph node dissection during intraoperative management?
4. We learnt that you have started to analyze your personal data since 2013, what's your biggest harvest?



(Interview Editor: Yan Zhang, AME Publishing Company)

AME Correspondence E-mail: kysj@amegroups.com

Interviewed Expert's E-mail: nanwu@bjmu.edu.cn

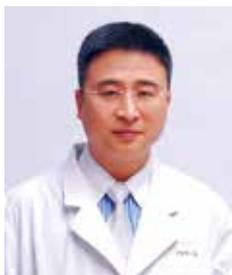
Department Secretariat Tel No: 6-10-88196569

Department Address and Postal Code: fucheng Road 52, Haidian, Beijing(Dinghui Temple), China,  
100142

## Video Interview

### Jianxing He: Perfect the Thoracoscopic Techniques, Accelerate Patients' Recovery

**Editor's Note:** First National Symposium on Endoscopic Tracheal Juga Surgery and the Eighth China's Forum on Minimally Invasive Therapy for Lung Cancer was held successfully in First Affiliated Hospital of Guangzhou Medical University, on May 16, 2015. During the meeting, Director of the Thoracic Surgery Department, First Affiliated Hospital of Guangzhou Medical University, Chair of the meeting, Prof. He was interviewed by AME Publishing Company. Prof. He's team has just completed the first two glasses-free 3D video-assisted thoracoscopic lung surgery days ago. Prof. He shared his opinions on whether glasses-free 3D video-assisted thoracoscopic surgery could displace 2D or 3D, limitations of glasses-free 3D video-assisted thoracoscopic surgery etc. Besides, he also gave a prospect of the development of thoracoscopic technique, saying that with further improvement of this technique, surgeons could use their skills to speed patients' recovery.



Prof. Jian-Xing He is the Director and Professor of the Thoracic Surgery Department, First Affiliated Hospital of Guangzhou Medical University, Guangzhou Institute of Respiratory Diseases (GIRD), as well as the President of the First Affiliated Hospital of Guangzhou Medical University, China. Prof. He is Fellow of the American College of Surgeons (FACS), Fellow of the Royal Colleges of Surgeons (FRCS), and member of American Association for Thoracic Surgery (AATS) and European Society of Thoracic Surgery (ESTS), Chief Advisor of National Ministry of Health Clinical Invasive Pathway Technique Advisory Board.

#### Interview Questions

1. What're the advantages of glasses-free 3D VATS?
2. What're the limitations of glasses-free 3D VATS?
3. Could you share your comments on the development of thoracoscopic technique and your perspective on its future?
4. Can you summarize the highlights of today's meeting?



First Affiliated Hospital of Guangzhou Medical University is a tertiary general hospital, specialized in medical treatment, teaching, research, health care, rehabilitation and pre-hospital care. Affiliated with the hospital are Guangzhou Institute of Respiratory Diseases (GIRD), Guangzhou Institute of Orthopaedic Diseases (GIOD), Guangzhou Institute of Urology Surgery (GIUS), and Affiliated Institute of Integrated Traditional and Western Medicine of Guangzhou Medical University. It is also one of the first 13 national general clinical research centers.



**Jianxing He:**  
**Perfect the Thoracoscopic Techniques,  
Accelerate Patients' Recovery**

Available online:  
<http://kysj.amegroups.com/articles/3224>

(Interview Editor: Molly J. Wang, AME Publishing Company)

AME Correspondence E-mail: [kysj@amegroups.com](mailto:kysj@amegroups.com)

Interviewed Expert's E-mail: [drjianxing.he@gmail.com](mailto:drjianxing.he@gmail.com)

Department Secretariat Tel No: 020-83062807

Department Address and Postal Code: No. 151, Yanjiang Road, Yuexiu District, Guangzhou, China, 510120

## Video Interview

### Jianxing He: Simple to Simplest, To Make Patients Recover Sooner and Suffer Less

**Editor's Note:** On the First International Course on Tubeless and Advanced VATS Lobectomy Techniques held in Guangzhou China from December 7<sup>th</sup> to December 11<sup>st</sup> 2015, we were honored to have an interview with Prof. Jianxing He, the Director and Professor of the Thoracic Surgery Department, First Affiliated Hospital of Guangzhou Medical University. In the interview, Prof. He has explained the theme of the course -“Simple to Simplest” which means to make patients recover sooner and suffer less from the illness, to help surgeon learn faster and treat patients in a more comfortable way. Besides, he introduces the development history from the first minimally invasive thoracoscopic surgery in 1994 to Tubeless VATS in recent two decades. In addition, Prof. He recalled how he became a thoracic surgeon and keeps moving and become more and more professional with his persistence, seriousness and courage.



You may refer to the previous article for the biography for Prof. Jianxing He.

#### Interview Questions

1. Could you please explain the special meaning of the theme of this course -“Simple to Simplest”? What you may expect to achieve and bring for the attendees through this course?
2. You are the first to perform VATS in China and now your team created Tubeless VATS, what kind of efforts and attempts to make it? Would you like to share more achievement from your team?
3. What is the advantage of the Tubeless VAST and the challenges for the clinical application?
4. Why do you choose to be a thoracic surgeon and what make you succeed to be the top?



(Interview Editor: Helen Seliman, AME Publishing Company)

AME Correspondence E-mail: [kysj@amegroups.com](mailto:kysj@amegroups.com)

Interviewed Expert's E-mail: [drjianxing.he@gmail.com](mailto:drjianxing.he@gmail.com)

Department Secretariat Tel No: 020-83062807

Department Address and Postal Code: No. 151, Yanjiang Road, Yuexiu District, Guangzhou, China, 510120

## Video Interview

# Xiangyang Chu: Surgery Relieves Patients from Pain in the Most Effective Way

**Editor's Note:** On Nov. 28, 2015, the Book Launching of *Lung Cancer* (English edition and Chinese Edition) and AME Surgery Time (Beijing) was held successfully in Beijing, China. The meeting focused on video-assisted thoracic surgery, aiming to extend the latest advances in the field, and to discuss on problems in application of VATS to complicated surgeries. It provided the attendees with various themed sessions, such as practices of VATS shared by outstanding thoracic medical centers, experiences and skills of publishing a high-quality paper. After the meeting, the editorial office of AME were honored to conduct an interview with Prof. Xiangyang Chu. Via the interview, Prof. Chu shared with us the latest advances in thoracic surgery, and his experiences in treatment of small pulmonary nodules.



Xiangyang Chu, MD General Hospital of Chinese People's Liberation Army, Beijing, China. Dr. Chu specializes in surgical treatment of lung cancer, esophageal cancer and thymic diseases, as well as diagnosis and treatment of complicated thoracic disease. He was one of the experts that carried out minimal invasive surgery such as VATS and mediastinoscope.

## Interview Questions

1. How would you comment on this meeting?
2. Diagnosis of pulmonary nodes has drawn more and more attention. The meeting also covers some discussion upon this topic. Would you like share your experience?
3. How would you define precision medicine?
4. How do you think about the necessity of early intervention for pulmonary nodes? What's your expectation on its future development?
5. What do you think is the key to the education of young surgeons?



The General Hospital of the People's Liberation Army (PLAGH) was founded in 1953 and was formerly the Second Clinical Medical College Affiliated to the China Union Hospital. Over more than half of a century, it has developed itself into a large modern general hospital that has numerous professional talents, all clinical disciplines, state-of-the-art equipments and unique predominance. With medical care, education and research well integrated, the PLAGH has provided health and medical care to the leaders of the CPC Central Committee, the Central Military Commission, the PLA General Headquarters, and to the troops stationed in Beijing. It has also provided diagnosis and treatment for the critically-ill who are transferred from different areas of commands of the PLA. Meanwhile it is open to civilian patients. The PLAGH is at the same time the PLA Medical College that was founded in 1958. It is the same institution that has two names and is the only hospital-run education institution in the PLA.

6. You have been dedicated to the field of thoracic surgery for many years. Would you like to share with us some stories or experiences along the way?
7. What do you love about surgery? What does it attract you most?



**Xiangyang Chu:**  
**Surgery Relieves Patients from Pain in  
the Most Effective Way**

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<http://kysj.amegroups.com/articles/4048>

(Interview Editor: Jessie Zhong, AME Publishing Company)

AME Correspondence E-mail: [kysj@amegroups.com](mailto:kysj@amegroups.com)

Interviewed Expert's E-mail: [drchu301@aliyun.com](mailto:drchu301@aliyun.com)

Department Secretariat Tel No: 66938012

Department Address and Postal Code: No. 28, Fuxing Road, Beijing, China, 100853

## Text Interview

# Lanju Zhang: Precision Medicine as Homeopathy

**Editor's Note:** “The 10<sup>th</sup> Lung Cancer Summit Forum for Chinese Directors of Thoracic Surgery and the 4<sup>th</sup> Summit Forum for Chinese Lung Cancer Collaborative Group (CLCCG)” took place in Soluxe Hotel, Guangzhou on 24 May 2015. AME invited Professor Zhang, the president of the assembly, to share the decade of history of the Lung Cancer Summit Forum for Chinese Directors of Thoracic Surgery, and give an in-depth explanation for this forum’s latest topic – precision medicine.



Lanju Zhang, chief physician, professor, postgraduate teacher, Head of Thoracic Surgery at Sun Yat-sen University Cancer Center, member of the International Association for the Study of Lung Cancer (IASLC), committee member of the Chinese Association of Thoracic Surgeons (CATS), committee member of Guangdong Chinese Society for Thoracic and Cardiovascular Surgery, and committee member of Guangdong Chinese Medical Association Trauma Society.

### **Strong lineup of experts explore together “precision medicine”**

Professor Zhang proudly stated that the Lung Cancer Summit Forum for Chinese Directors of Thoracic Surgery had been successfully held nine times. In its tenth year, it is a time to affirm old traditions and make new beginnings as the forum gathered the knowledge of lung cancer treatment from the pioneers of thoracic surgery all over China. Lung cancer is the number one killer of malignant tumors in China with the highest rates in both morbidity and mortality. In view of the uneven development of science and culture among different regions, the forum was born under the collaboration between Cancer Foundation of China and Chinese Lung Cancer Cooperative Group (CLCCG) with a mission to propagate and consolidate new concepts and knowledge. With the support of these organizations, each of the past nine forums met with unprecedented success, from the 1st forum that discussed thoracic surgery and combination drug therapy to subsequent forums exploring hot issues including targeted therapy for lung cancer, standardized treatment, minimally



Sun Yat-sen University Cancer Center is composed of a cancer hospital and a cancer research center. After nearly 50 years of relentless effort, the Cancer Center has developed into one of largest nationally and most powerful academic oncological center where medical science, education, scientific research and prevention are assembled. Its academic status and comprehensive strength include taking the leading positions in the country and playing pivotal roles in tumor care especially in the Guangdong Province. Thoracic Surgery at Sun Yat-sen University Cancer Center, one of the earliest thoracic surgery disciplines established in China, is the national key oncological discipline and the essential component of national key laboratories. After decades of development, it has become the most powerful thoracic surgery center in Southern China, with substantial influence all over China.

invasive techniques and so on.

Today, the 10th forum discussed controversial topics such as precision diagnosis of lung cancer and the outlook of precision treatment in the clinical domain of lung cancer. “Precision medicine”, a frequently encountered buzzword in the medical field this year, was put forward by President Barack Obama in March. Professor Zhang explained that “lung cancer treatment developed from the standardized version in the early stage to the individualized version today. Despite this shift, how do we execute individualized treatment? Is it the surgical approach, the diagnosis or the treatment method that is individualized, or is it a treatment tailor-made for each particular patient? We set up three discussion sessions with focuses on the outlook of precision diagnosis, precision treatment and precision medicine.” The CLCCG committee members were invited in the hope of gathering major Chinese centers to conduct more valuable research through establishment of a new union of lung cancer research centers. At the same time, the leading figures of lung cancer treatment and prognosis including Professor Wang Jian, the President of Shenzhen Genomics Institute, who engaged in high-tech research, and Dr. Danyi Wen, the CEO of Shanghai LIDE Biotech Company, were also invited to this forum. Through them,

it is hoped that thoracic surgeons can widen their horizon and further strengthen their knowledge about precision medicine.

This forum also aimed at establishing an enormous database of the thoracic domain in order to build a high-standard Chinese platform for lung cancer research.

### **The status quo and future of precision medicine**

Precision medicine was introduced in March 2015 in the US health care reform, which included individualized treatment and targeted therapy. Targeted therapy, as part of precision medicine, can be defined as a more scientific diagnosis of existing diseases through new molecular biology techniques, including genomics techniques, proteomics techniques, and diagnostic reagents. With this information, more precise medication can be provided and the patients will be more precisely treated. This reform plays an important role in President Obama's health care reform program. At present, the US economy is depressed and the medical expenses keep increasing. Through this medical reform, Obama wishes to reallocate the resources that are wasted without using precision medicine to more precise treatment so as to enable more effective use of the limited budget. Correspondingly, President Xi Jinping put forward similar idea of precision medicine.

With respect to the realization of precision medicine in thoracic surgery, Professor Zhang's conclusion is as follows: "as what we mentioned during the forum, we have to comprehend precision medicine from different levels. For instance, the precise pathological diagnosis of sarcoidosis used by the thoracic surgery domain is one aspect of precision medicine." On 9 April 2015, Sun Yat-sen University Cancer Center introduced to the center electromagnetic navigation bronchoscopy. The old techniques for the diagnosis for patients with pulmonary disease, sarcoidosis and lesions of early tumors can limit the pathological identification of these abnormalities, particularly since most are small and located in the peripheries ('blind spots'). With the aid of the electromagnetic navigation bronchoscopy, the small lesions around the lungs can be targeted to carry out more precise pathological diagnosis, which helps achieve a minimally invasive diagnosis for lung lesions that is "without dead end". Secondly, Dr. Jianxing He, the Dean of the First Affiliated Hospital of Guangzhou Medical University, introduced the concept of "easier operation for doctors, better recovery of patients", which makes thoracic surgery unprecedentedly become a "daytime surgery". Through the use of the most advanced technology for the diagnosis and treatment of the most difficult diseases, doctors can master the situation of patients and opt for methods of treatment more precisely, and thus patients can recover more comfortably. This is another aspect of precision medicine. Furthermore, the prognosis of individualized treatment, what kind of patients are prone to better recovery and what kind of patients are prone to relapse are associated with the patient's immunity and the type of lesions they have. If these differences can be detected with the involvement of technology, this is one

exciting application of precision medicine.

Professor Zhang said, "the implementation of precision diagnosis and treatment will benefit both doctors and patients, but its promotion requires our relentless effort from three levels: doctors, patients and the government. Due to the uneven development of hospitals in different regions, there are also differences in the level of knowledge development. We will have to keep fortifying and strengthening the understanding and learning of precision treatment, precision diagnosis and precision surgery among all doctors in the nation, who can gradually serve patients and make the best use of precision medicine. For the public, we have to keep educating people about precision medicine and let patients know there is a more advanced approach to make accurate diagnosis. It takes time to gain their acceptance, but it all relies on patient's education level. Lastly, the management of hospitals and the government ought to introduce and install advanced equipment. If Medicare can cover the high-cost advanced medical examination, this will not only can alleviate the burden of patients, but is also conducive to the implementation of advanced technology. Assembling the power of doctors, patients and the government is thus the only way to keep up with the international standard of development.

Furthermore, multi-clinical center collaboration is more conducive to the development of precision medicine. Multidisciplinary collaboration is very successful in some leading hospitals of foreign countries, where doctors in various fields join hands to make analysis, and thus enable more precise diagnosis and treatment. This is what Chinese doctors can learn from. At the end of the interview, Professor Zhang shared his view about the outlook of precision medicine in our country, "with the escalation of economic status and the combination of medical industry, pharmaceutical companies and clinical effort, I believe that our nation's precision medicine, especially in thoracic surgery, can undoubtedly keep up with the international standard."

(Interview Editor: Helen Seliman, AME Publishing Company)

AME Correspondence E-mail: [kysj@amegroups.com](mailto:kysj@amegroups.com)

Interviewed Expert's E-mail: [zhanglj@sysucc.org.cn](mailto:zhanglj@sysucc.org.cn)

Department Secretariat Tel No: 87343258

Department Address and Postal Code: No. 651 Dongfeng East Road, Guangzhou, Guangdong, China, 510060

## Text Interview

# Lanjun Zhang: Electromagnetic Navigation Bronchoscopy (ENB) Accomplishes Precision Surgery

**Editor's Note:** In April 2015, Sun Yat-sen University Cancer Center took the lead in introducing SuperD electromagnetic navigation system and became the first hospital that carried out the technology of electromagnetic navigation bronchoscopy (ENB) in southern China. With the help of the system, the Department of Thoracic Medicine at the Cancer Center performed the first national “ENB-VATS lobectomy”, which set new direction of development for “precision surgery”. On 19 October 2015, the “Sun Yat-sen University Cancer Center - Greater Chinese Clinical Application of Medtronic Electromagnetic Navigation Bronchoscopy Training Center” was formally established with an aim to set the benchmark for the promotion and research of the revolutionary technology of ENB, so more doctors can comprehend this technology and ultimately benefit lung cancer patients. At the inauguration ceremony, AME interviewed Professor Lanjun Zhang, who is the core member of the Research Center.



You may refer to the previous article for the biography for Prof. Lanjun Zhang.

According to Professor Zhang, about 7 centers in China are about to introduce or have already introduced electromagnetic navigation bronchoscopy (ENB). Shanghai Pulmonary Hospital, Sun Yat-sen University Cancer Center and Liaoning Cancer Hospital and Institute are 3 of the centers that have introduced the ENB system and used it clinically. Due to the cost of implementing such system (ENB treatment is free of charge currently), the work of ENB, most of which are carried out in Shanghai Pulmonary Hospital and Sun Yat-sen University Cancer Center, has not yet been fully unfolded so far. The other 4 centers, locating in Zhejiang, Xi'an, Chengdu and Henan, have already signed contracts for bringing in ENB and are expected to lift off very soon. Moreover, as the Sun Yat-sen University Cancer Center has been using ENB since 9 April 2015, many other centers would like to make a visit to and learn at the Cancer Center. Professor Zhang decided

to establish the Training Center where standardized ENB training courses can be held periodically, for example, several times a year. The comprehensive research platform of the Cancer Center and its rich experience in thoracic oncological treatment have thus gained the support of Medtronic, the world's largest medical device company. This also led to a signed strategic agreement by both parties which laid the groundwork for future cooperation.

“As the pioneer of a new technology, we are happy to share as much experience as we can to help the development of this technology. With the help of the training platform, the technology can be shared to everybody and spread to more places. For places having this technology installed, they can exchange knowledge and facilitate a better application of the technology so its development can ascend another story. There are two initial goals of building such a Training Center: (I) to cultivate young doctors who are interested in ENB, and to let them better master and apply ENB; (II) to foster interaction and communication among experts who have been using this technology. And of course, the hospital also shows full support for this cooperation in the hope of contributing more to the country through this platform, which stresses early diagnosis and treatment of lung cancer,” said Professor Zhang.

### **ENB Technology: unfamiliar yet familiar?**

We can trace the footprints of the early application of ENB technology back to 10 years ago. Professor William Krinsky of MedStar Franklin Square Medical Center, as the pioneer of this technology, has accomplished more than 2,000 cases of ENB so far. After more than a decade of development, the ENB technology is rather mature. On top of the original bronchoscopy, electromagnetic navigation is added on to extend the scope of examination from originally only the central zone above the segmental bronchus to the whole lung without blind spots. In the past, it was difficult to reach the apex and the diaphragm due to constraints in angles, but with the aid of electromagnetic navigation, the bronchoscope can now reach these areas, where regional biopsy can theoretically be carried out as well. Insertion of bronchoscope uses the inborn bronchial network existed in human body. However, some regions such as the periphery or some “tricky” parts cannot be reached easily. When bronchus, bronchiole, segmental bronchus or intrasegmental bronchus cannot reach the target, it is necessary to find routes to reach the target without using the bronchial network. This is the real challenge.

After reaching the target, precise biopsies of local tissues require the assistance of pathology and anesthesiology. The pathologist diagnoses using the collected samples, under freeze or in culture medium, determining the malignancy of the sample. This is actually a challenge to the hospital. It would be a predicament if the pathologist said the sample cannot be used for diagnosis. This means giving up pathological judgment, which also implies the end of the surgeon's rope.

“Therefore, the application and promotion of the ENB technology requires the joint effort from anesthesiologists, pathologists and surgeons. We develop this technology under thoracic surgery because when there are no alternatives, we can make use of minimally invasive technology to resect the nodules. The use of ENB technology in thoracic surgery can effectively develop ‘one-stop’ services that benefit patients: surgeons can directly set up surgical plans based on the accurate pathological diagnosis or location information; patients need not to worry about coordinating with pathologists or surgeons. Now, every ENB-treated patient will first go through examination, then surgery. I would like to standardize the process of diagnosis and treatment, which is also the purpose of implementing this Training Center. Rather than mere diagnosis, we expect to better utilize this technology in all-round aspects,” Professor Zhang concluded.

### **ENB vs. EBUS: real-time navigation with immense advantages**

Endobronchial ultrasound-guided transbronchial lung biopsy (EBUS-TBLB) is very common nowadays. In comparison with EBUS-TBLB, electromagnetic navigation bronchoscopy-guided transbronchial lung biopsy (ENB-TBLB) has the following advantages: default navigation path, real-time localization and the ability to reach the end of bronchus.

With ultrasound bronchoscopy, EBUS punctures mediastinal lymph nodes and even lesions near the mediastinum. It is like a bronchoscope wearing an ultrasound probe that can detect any swollen lymph nodes around the bronchus through the bronchial wall, such as the seventh station of lymph nodes under the carina, and the second and the fourth station of lymph nodes on the right. Upon detecting any swollen lymph nodes, through the use of fine needles to conduct repeated examinations under transbronchial needle aspiration (TBNA), we can then determine whether the lymph nodes are benign or malignant and whether there is any occurrence of metastasis. EBUS is superior to PET-CT due to its ability to see the pathological results.

ENB is superior to EBUS for the fact that not only it is fully competent to do what EBUS can do to lesions, it can also do what EBUS cannot – to be able to extend to the surrounding and distant areas with a thinner bronchoscope. ENB has a guide sheath with diameter of only 2 mm. To use this, patient’s lungs are first scanned through HRCT. A personalized bronchial tree map can then be drawn and entered into the ENB system. Lastly, a set of navigating pathways for biopsy can be formulated so that the guide sheath can be placed next to the target lesion in the lungs. Upon deviation from the path, the system will prompt surgeons to return to the set path. This well designed real-time path display is what EBUS lacks. ENB can even replace the EBUS-TBNA technology. With its cavity of only 2 mm and a probe of 1.8 mm in the middle, a variety of puncture instruments such as puncture needle, brush, suction needle and hook can easily reach the destination.

### **ENB-inspired clinical collaboration: where to go?**

Professor Zhang has had a preliminary idea for future clinical collaboration on ENB technology. First of all, the Training Center can serve as a platform that gathers outstanding experts from centers that are developing or has developed this technology all over the United States, Europe and mainland China in order to carry out multi-center clinical research and co-operation on the treatments for pulmonary nodules and to explore new uses of the ENB technique. Secondly, to facilitate the collaboration of medical device company and the hospital to invent new equipment, like the combination of ENB and the radiofrequency ablation technology, which enables the probe of the radiofrequency ablation to reach the lesion directly for ablation and elimination while concurrently making diagnosis. For inoperable patients, such as elderly or patients with severe heart disease, such treatment is comparable with SBRT. After all, SBRT, as a type of external radiation, takes certain time for the treatment, whereas the combined use of ENB and radiofrequency ablation, eliminating the tumor in one go, is a precise treatment. “The development of such new device requires feedback, clinical trials, continuous perfection of the technique, and the formulation of guidelines by experts. Working closely with Professor Krinsky, Professor Hao Wang and other experts, we will do more interesting things together,” happily said Professor Zhang.

### **Standardization for the Application of the ENB Technology: It's a must!**

With the increasing use and promotion of the ENB technology, we come across an inevitable question: what standards should we follow amidst the application of ENB? Professor Zhang believes that the application standardization of ENB should be based on expert consensus, which represents: (I) the standardization of the operational processes – from selection of patients, preparation and operational specifications to what has to be cautious about in surgical puncture and how damages induced by sampling biopsy can be minimized. The experience should be written down for other doctors' reference. (II) full utilization of the advantages brought by multidisciplinary teams – Professor Zhang took an example of their experience in carrying out laryngeal mask anesthesia to explain the significance of the presence of standardization: how to match up the position, what kind of pathologists to do a certain kind of pathological biopsy, how to extract blood tissue and how to do frozen section examination. After making a definite diagnosis, treatment has to be specified at the same time. In other words, the suitable patient population for ENB has to be determined based on current experience in order to avoid any abuse of the technology or unnecessary financial burden on patients. We have to make choice over the use of the ENB technology such as intraoperative location and treatment. It is hoped that through the expert consensus among surgeons and doctors specializing

in electromagnetic navigation, the application of the technology can be specified so that patients can be benefited with the optimized treatment.

Speaking of the suitable patient population for ENB, Professor Zhang further explicated using his experience at the Department of Thoracic Surgery, Sun Yat-sen University Cancer Center. At present, the Cancer Center has accomplished 10 cases of ENB (100% success rate), all of which provide “one-stop” services since the selection of patients (for instance, if clear diagnosis can be made using bronchoscopy, EBUS or mediastinoscopy, these patients do not have to take ENB). The criteria are: if the tumor can be clearly diagnosed using existing technology, try not to use ENB; if patients can take the CT-guided puncture, no ENB is needed. And for elderly patients on whom puncture can easily lead to pneumothorax or hemothorax or for some patients whose tumors are around the mediastinum resulting in surgical complexities, ENB can be considered. ENB functions from inside, preserving the cardiovascular system well. Besides, internal puncture is less likely to cause pneumothorax, which is less harmful to elderly patients with poor lung function. Moreover, ENB is also suitable for treating surrounding lesions, especially those near the apex, the base and the peripheries of the lungs. The principle of patient selection for ENB is from simple to complex, and from less expensive options to more expensive ones, as the cost is up to tens of thousands of dollars (there is no charge currently though).

### **Prospects of ENB: to achieve Precision Surgery**

Professor Zhang thinks highly of the ENB technology, “Apart from being able to make diagnosis of pulmonary nodules, it provides new methods of treatment. For nodules that cannot be tackled under surgery, ENB achieves the effect through the use of radiofrequency ablation and cryosurgery. For benign diseases such as tuberculosis, ENB also allows local drug perfusion which reduces the use of medicine, thus minimizes any possible side effects. With the popularization of minimally invasive technology, from four ports, three ports, then two ports in the past, to a single port today, surgical wound has been getting smaller and smaller, equally the space for placing surgical devices. For treating the inscrutable pulmonary nodules, preciseness is the key. Instead of performing anatomical resection or lobectomy, ENB can precisely locate and eliminate these tiny nodules through minimally invasive techniques. From the perspective of surgery, the prospects of ENB rest on its technology extension. Surgeons all love to see potentiality of treatments after clear diagnoses. Even at MD Anderson Cancer Center, one fifth of patients taking SBRT are without clear pathology and, thus, are prone to overtreatment. With the use of ENB, surgeries can be more precise.

At the end, Professor Zhang indicated that the status of surgical treatment meets with challenges mainly due to surgical trauma and relatively slower recovery, while

all SBRT does to the body is merely radiation. Now with ENB, precision surgery can eventually be achieved, for example, a single-port surgery-induced wound of 3 cm can be healed in around 1 to 2 days. In light of this, minimally invasive surgery has great advantage over SBRT (which is believed to cause potential damage such as radiation pneumonitis).

(Interview Editor: Grace S. Li, AME Publishing Company)

AME Correspondence E-mail: [kysj@amegroups.com](mailto:kysj@amegroups.com)

Interviewed Expert's E-mail: [zhanglj@sysucc.org.cn](mailto:zhanglj@sysucc.org.cn)

Department Secretariat Tel No: 87343258

Department Address and Postal Code: No. 651 Dongfeng East Road, Guangzhou, China, 510060

## Video Interview

# Lanjun Zhang: New Technology, New Media Boost Medical Development

**Editor's Note:** “The Fourth West-lake Forum of International Breast Tumor (National Continuing Education Program) and The New Minimally Invasive Technique in Breast Diseases, Rapid Rehabilitation—Airway Management Classes” were held from November 11<sup>th</sup> to 15<sup>th</sup>, 2015 in Hangzhou CROWNE PLAZA HOTELS&RESORTS. November coincides with the international lung cancer concern month, many international and domestic well-known thoracic experts participate in the academic discussion on minimally invasive technology, airway management and new concept of rapid rehabilitation. Professor Zhang gave a lecture entitled “New progress in WCLC targeted therapy for 2015” at the conference, demonstrating the efficacy of different EGFR types. Professor Zhang accepted our interview and told us the similarities, differences and prospects between targeted therapy and precise therapy. To the majority of young thoracic surgeons, he put forward some valuable propositions.



You may refer to the previous article for the biography for Prof. Lanjun Zhang.

### Interview Questions

1. Professor Zhang, the theme of this meeting is targeted therapy and last time we interviewed the precise therapy, what is the relationship between them? What's your opinion on the prospects of lung targeted therapy?
2. How do you see the feasibility and effectiveness of individual clinical treatment or targeted therapy in an atmosphere of tension between doctors and patients under the current state of medical care in China?
3. Do you think what highlights this meeting? What's the similarities and differences among “Chinese thoracic surgery director lung cancer peak forum”?
4. Professor Zhang, can you tell us how to stand out in medical research? And would you please give some advices to these young thoracic surgeons?



(Interview Editor: Hestia S. He, AME Publishing Company)

AME Correspondence E-mail: [kysj@amegroups.com](mailto:kysj@amegroups.com)

Interviewed Expert's E-mail: [zhanglj@sysucc.org.cn](mailto:zhanglj@sysucc.org.cn)

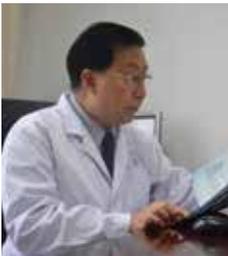
Department Secretariat Tel No: 020-87343258

Department Address and Postal Code: No. 651, Dongfeng East Road, Guangzhou, Guangdong, China, 510060

## Text Interview

# Xun Zhang: Sow Today, Harvest Tomorrow: Doctors Have to Learn on a Lifelong Basis

**Editor's Note:** In an interview with AME, Prof. Xun Zhang , the president of Chinese Association of Thoracic Surgeons, discussed the history, turning point, reformation and outlook of China's clinical talent cultivation system.



Xun Zhang, professor, chief physician, teacher of PhD students, the department head of Thoracic Surgery at Tianjin Chest Hospital, the vice president of Thoracic Cardiovascular Surgery Branch of Chinese Medical Association, and the president of Thoracic Surgeon Branch of Chinese Medical Doctor Association.

## Lack of Specialty Rotation may result in Narrow Knowledge Coverage

*AME: You made a wonderful speech entitled “Reformation and outlook of China’s clinical talent cultivation system” at the 1st Southeast Thoracic Surgery Forum. Can you please briefly introduce to us the history of Chinese clinical talent cultivation?*

**Xun Zhang:** There used to be no standardized training for residents in hospital. Which department medical students were assigned to, which department they would work in. Without rotation of specialty, their coverage of knowledge could be rather narrow, which might further lead to frequent consultations among specialist hospitals and different specialties.

For instance, for ailments like blood sugar, blood pressure and heart rate, thoracic doctors should have the ability to deal with. Clinical workers should demand themselves to master both medical and surgical knowledge. After all, a patient is a whole being who may simultaneously suffer from several illnesses.



Thoracic surgery was developed in 1951 in Tianjin Chest Hospital, which is one of the earliest hospitals having this department started up in the country. Its founder, Director Zhang Jizhen, was in charge of the first case of pneumonectomy in lung cancer treatment. Thoracic surgery was rated by the Ministry of Health in 2011 as the country's key clinical specialist. It was ranked number 9 in National Best Specialist Selection hosted by the Hospital Management Institute of Fudan University.

### **Career Direction should vary for Clinical Type and Research Type of Students**

*AME: Does it make any difference after postgraduate education?*

**Xun Zhang:** In the past, there were two major types of postgraduate trainings: clinical studies and research studies. But practically there was only one – doing graduate research, publishing papers and taking part in thesis defense. Apart from basic disciplines, students spent all resources doing scientific research without reserving enough time on clinical skills training. Even attaining a level as high as master or PhD, after entering a specialty, they have to learn all over again from the beginning. Their treatment capability might be far weaker than those of the same age who started their career earlier.

Now the reformation direction is “5+3”, which requires even master students to attend standardized resident training in hospital. Together they will hold three certificates by graduation: degree certificate, academic certificate and certificate of completing standardized resident training. This significantly enhances the level of practice of students, who will in turn make contributions by inputting their skills and knowledge into different specialties. A win-win situation is thus formed for both doctors and hospitals.

Different academic expertise should be followed by different career directions. Academic type of postgraduates can choose to be lecturers engaging in scientific research instead of being a clinician. In Tianjin Medical University, students who are unable to obtain a medical license within two years will be advised to go on the academic path.

### **Specialist Training will become an essential part of Learning**

*AME: Will there be specialist training coming after the standardized resident training?*

**Xun Zhang:** Doctors have to learn on a lifelong basis. Specialist training in our

country is still on trial and not fully developed so far. According to the National Health and Family Planning Commission, from now on, every specialist is required to go through standardized resident training followed by the specialist training before they can obtain a certificate of specialist and become a real doctor. Unlike in the past, they are no longer allocated randomly to any departments.

*AME: Do we have a clear schedule for promoting the specialist training now?*

**Xun Zhang:** Starting from 2016, China will commence the trial work of the standardized specialist training. But when exactly the programme will fully implement will await decision by relevant government departments. Future learning of clinicians will be composed of institutional teaching, standardized resident training, specialist training and lifelong learning. And of course, if you do not wish to become a specialist, you can always choose to take part in any corresponding training in order to become a general practitioner.

*AME: How do we assess the effect of the training?*

**Xun Zhang:** According to current practice, examination questions are designed by each branch of the Chinese Medical Association. Specific examinations, which are mainly theoretical, are carried out by each local administrative unit.

### **Strengthen assessments to achieve “Qualitative Changes”**

*AME: During the reformation process, we seem to have made reference to the clinical talent cultivation system in western countries. What’s worth learning in your opinion?*

**Xun Zhang:** Comparing Chinese and western systems in cultivating clinical talents, the western system contains a standardized resident training, by which doctors are cultivated to acquire wider range of knowledge. Additionally, mentors in western system play very important roles in strictly enforcing the training programs which are systematic and giving proper and unbiased opinion to each trainee. In contrast, trainings in some Chinese hospitals lack planning and supervision without achieving the desired outcomes. Therefore, even though the form of both training systems is similar, we are short of a learning effect of “qualitative changes”. What we need to do at this stage is to raise awareness of the importance of trainings and strengthen any assessments. Through standardized trainings, younger doctors will have their clinical skills significantly improved.

## **Doctor's Wages should be Raised**

**AME:** *Some medical students think it's not a good choice to be doctors who suffer long learning cycles and expensive school fees without corresponding growth in wages.*

**Xun Zhang:** Unlike other professions, medical profession demands more time and experience in theoretical learning and clinical practice. It is a career that requires lifelong learning. Despite the long period of learning, it is lucrative in western countries once a medical license is obtained. It is, however, another picture in China – long training period, relatively lower wages, returns being disproportionate to what was invested. In a word, doctor's wages are to be raised. Young doctors undergoing standardized trainings should be supported by subsidization as well.

**AME:** *As a very outstanding thoracic surgeon, can you share your experience with these students and say a few words to encourage them?*

**Xun Zhang:** There is an old saying that “hard work is the boat to sail through the endless sea of learning”. It's particularly true to doctors as it is a career that requires lifelong learning. Our country is developing a systematic talent cultivation program. To become a qualified specialist, one must go through long processes with limited economic reward. If you are only after monetary rewards, it will undeniably be hard for you to persist. Yet many outstanding doctors have noble aspirations which they are willing to strive after. Always remind yourself – what you sow today, what you will harvest tomorrow.

(Interview Editor: Mei Li, AME Publishing Company)

AME Correspondence E-mail: [kysj@amegroups.com](mailto:kysj@amegroups.com)

Interviewed Expert's E-mail: [zhangxun69@163.com](mailto:zhangxun69@163.com)

Department Secretariat Tel No: 13602036596

Department Address and Postal Code: Department of Thoracic Surgery, Tianjin Chest Hospital, 261 Taierzhuang South Road, Jinnan District, Tianjin, China, 300222

## Video Interview

### Longqi Chen: Content Is What Matters

**Editor's Note:** The first Southeastern Thoracic Forum & the first Learning Course of Progress in Minimally Invasive Surgery for Esophageal and Lung Cancer organized by Union Hospital of Fujian Medical University was held successfully in Fuzhou from 28<sup>th</sup> November to 29<sup>th</sup> November 2015. Gathering well-known experts in the thoracic field, the forum discussed many hot topics in the thoracic field. One of the highlights lied on the first day's hot topic debate. During the debate, experts openly shared their perspectives on several controversies about lung and esophageal cancer, not only inspiring sparkles among experts but also brought a significant feast to all audience. In the section of *Choice for Lymph Node Cleaning of Esophageal Cancer*, Prof. Longqi Chen, from the West China Hospital of Sichuan University, chose the two-field lymph node dissection and presented an excellent speech of argument. This time, we have the great honor to invite Prof. Chen to share with us his rich experience in the treatment for esophageal cancer.



Prof. Longqi Chen, deputy chief of the Thoracic Department of West China Hospital of Sichuan University, doctoral tutor. Graduated from Medical Major of Hebei Medical University in 1984, Prof. Chen obtained the MD degree of Thoracic Surgery in the University of Montreal in 2003. Being chairman of the Chinese Society for Diseases of the Esophagus, Prof. Chen's research interest lies on thoracic surgery.

During the interview, Prof. Chen briefly introduced the different condition for applying two-field and three-field lymph node dissection as well as his expectation for the selective three-field lymph node dissection.

When mentioning about some interesting or impressive experience as a surgeon, Prof. Chen said that though surgeons enjoy the pleasure when successfully save a patient, surgeons still would face the moment when they could do nothing for the patients. For example, though they could save a patient's life, many problems still exist, like patient's social life changes due to the surgery, which surgeons could not help a lot. For these helpless moments, Prof. Chen suggested to have positive mind



West China School of Medicine/West China Hospital of Sichuan University (WCSM/WCH) is a prestigious medical center located on the banks of the Jinjiang River in Chengdu, a famous historical and cultural city of China. WCH is one of the largest single-site hospitals in the world and a leading medical center of West China, treating complicated and severe cases, especially in the fields of living donor liver transplantation, severe acute pancreatitis, and clinical anesthesia. The Department of Thoracic and Cardiovascular Surgery of West China Hospital was founded by Zhenhua Yang and Jingguo Yang, two national famous specialists of cardiothoracic surgery in the 1950's, who witnessed the unprecedented growth and development over the past decades. Today, the Department prides itself in a strong faculty with middle-aged and young researchers and doctors as the main force and a rational human resources echelon formation and discipline structure. The thoracic department of WCH is one of the earliest to establish the Thoracic Cardiovascular Surgery major. It is also listed in the National Key Disciplines of Ministry of Education and National Clinical Key Specialty of National Health and Family Planning Commission.

and encourage oneself thinking of solution in a deeper level in the future so that to benefit patients.

As the chairman of the Chinese Society for Diseases of the Esophagus (CSDE) and co-Editor-in-Chief of its official journal, Prof. Chen also shared his suggestion for Chinese young surgeons concerning the SCI thesis writing: paying more attention on the content instead of language. Young surgeons should also focus more on the prospective study when doing the esophageal cancer research.

### Interview Questions

1. In today's debate, you participated in the section of *Choice for Lymph Node Cleaning of Esophageal Cancer*. Here would you tell us the relationship between lymph node cleaning and esophageal cancer curing? What does the lymph node cleaning mean to esophageal cancer curing?
2. Comparing to the three-field lymph node dissection, what do you think is the advantage of two-field lymph node dissection?

3. What's the difference between selective three-field lymph node dissection and the common three-field lymph node dissection? Do you think selective three-field lymph node dissection will be the main lymph node cleaning way in the future?
4. We know that you're the member of the International Society for Diseases of the Esophagus and co-Editor-in-Chief of its official journal and also published many SCI papers. Here based on your experience, would you give some suggestion for Chinese young surgeons about the writing skill?
5. You have great experience in the esophageal cancer treatment. Then would you like to share with us some interesting or impressive stories that made you believe being a surgeon is meaningful?



(Interview Editor: Skylar Gao, AME Publishing Company)

AME Correspondence E-mail: [kysj@amegroups.com](mailto:kysj@amegroups.com)

Interviewed Expert's E-mail: [drchenlq@scu.edu.cn](mailto:drchenlq@scu.edu.cn)

Department Secretariat Tel No: Bolin Liu, 028-85422494

Department Address and Postal Code: Floor 13, the first inpatient building, West China Hospital of Sichuan University, No. 37, Guoxue Xiang, Chengdu, Sichuan, China, 610041

## Text Interview

# Keneng Chen: MDT in Thoracic Oncology, We Are on the Way

**Editor's Note:** In today's China, lung cancer is the leading cause of cancer death in both sexes. Its incidence rate ranks first among the male population, and second among the female population. In developed countries like the United States, due to the augmentation of tobacco control, the incidence rate of lung cancer exhibits slow decline or stability. It is however continuously escalating in China, and is expected to keep climbing in the future. In contrast, there is a decline in the esophageal cancer incidence in China, which is still one of the highest incidence malignant cancers. In view of this, lung cancer and esophageal cancer together have given rise to multidisciplinary treatment. At the 2015 Meeting of the Chinese Association of Thoracic Surgeons (CATS), the secretary general of the meeting, Professor Keneng Chen, was interviewed by AME and shared his experience in multidisciplinary diagnosis and treatment for lung cancer and esophageal cancer.



Dr. Prof. Keneng Chen, MD, PhD, is a professor, chief surgeon, supervisor of doctoral candidates and chair of thoracic surgery, cancer hospital, school of oncology, Peking university. For the past decades, Dr. Chen has been devoted to lung cancer and esophageal cancer treatment, especially surgical treatment. In the field of lung cancer, he successfully led his team transfer the 'conventional thoracotomy' to 'thorascopical assistant lung surgery', in the field of esophageal cancer, he has pushed forward 'gastric tube' to reconstruct esophagus followed esophagectomy instead of conventional whole/sub- stomach interposition. Alongside with ordinary lobectomy and esophagectomy, Dr. Chen is also skilled in the treatment of complex thoracic malignancies. Dr. Chen has also established lung cancer and esophageal cancer prospective database, with more than 98% follow-up rate, in which the 5-ysr for esophageal cancer patients was 44.0% and lung cancer patients 66.2% without staging. Due to his great achievements in medical practices and scientific researches, Dr. Chen was elected as active member of AATS, granted as FRCS, he was also elected in 'Beijing Science and Technology Star Plans', 'Beijing Cross-Century Talents' (1999), 'Ten-Hundred-Thousand 'Plan of Beijing(2005), Senior Technical Personnel Training Plan, the Foregoer of Thoracic Oncological Surgery(2009) and the top-100 doctors of china(2013).

## **Multidisciplinary treatment for lung cancer**

In 2003, Professor Jie Wang, the Department Head of Thoracic Oncology, Professor Guangyin Zhu, the Department Head of Radiotherapy and Professor Keneng Chen, the Department Head of Thoracic Surgery at Peking University Cancer Hospital, were appointed to start off a 2-year study program of multidisciplinary lung cancer treatment at MD Anderson Cancer Center. After returning to China in 2005, they set up a multidisciplinary team (MDT) of lung cancer to carry out weekly multidisciplinary treatment in the form of discussion on and sharing of own cases among different professions, which has been practiced for a decade.

Professor Chen indicated that MDT consists of two subgroups – diagnosis and treatment. The diagnostic subgroup is composed of imaging specialists in CT, MRI and PET-CT as well as specialists in endoscopy and pathology, whereas the treatment subgroup comprises specialists in oncology, medicine, radiology and surgery. Individualized treatment for lung cancer is what their team has long been exploring. Early-stage lung cancer is dealt with mainly using localized treatment by surgical approach, while late-stage lung cancer is managed using medicine-based multidisciplinary treatment. In the meantime, about 25% of patients are at the locally advanced stage, which suggests the involvement of each department in the decisions on patient's diagnosis and treatment in order to optimize their long-term survival and quality of life.

The functions of the MDT are: First, in terms of medicine, one doctor alone is inevitably prone to limitation of knowledge. Multidisciplinary collaboration can avoid conditions like underdiagnosis, undertreatment, overdiagnosis or overtreatment as a result of the doctor's limited knowledge. During their weekly meetings, they sometimes discuss up to 10 cases. Moreover, the team also holds multidisciplinary special needs outpatient service from time to time to address different special needs. Second, in terms of education, young doctors can acquire knowledge from different professions and the concept of standardized multidisciplinary diagnosis and treatment, avoiding the constraints of the traditional single-disciplinary training. There is a multidisciplinary joint consultation every Wednesday on which Professor Guangying Zhu of radiotherapy, Professor Jie Wang of thoracic oncology and Professor Keneng Chen of thoracic surgery come together for consultation. Going through unified and standardized checkups and qualitative and quantitative diagnoses, newly diagnosed patients can then be referred to the corresponding disciplines for treatment after interdisciplinary discussion. Simply speaking, after registration, patients with multidisciplinary problems can be tackled in one go. Practically, there are 20–30 patients who use the outpatient service every week.

With nearly a decade of joint treatment practice, different disciplines have been integrated with one another. Surgeons often need the help of medical practitioners

to carry out perioperative treatment. Similarly, medical practitioners often refer patients to and “urge” surgeons to perform surgery for early-stage patients. Needless to say, the processes involve debates between disciplines, but it is in the course of debates that patients can have their diagnosis further verified and receive appropriate treatment. This is the soul of the multidisciplinary, precise and individualized treatment. After a decade of practice, each discipline is gradually having “a piece of each other” – while surgery is less “surgical”, medicine is less “medical” – which is one major leap taken in lung cancer treatment.

On the other hand, since the article “Reduced Lung-Cancer Mortality with Low-Dose Computed Tomographic Screening” was published in the *New England Journal of Medicine* in 2011, the awareness towards health examination, lung nodules and early lung cancer has been aroused. Nevertheless, along with the growing exploration into lung nodules is a number of slowly arising problems: First, it may lead to overtreatment. Excessive amount of patients with benign nodules suffer from unnecessary surgery and even the complications brought by the surgery. Second, the lack of treatment, By the potentially curable cancer being diagnosed as “metastatic cancer”, no intervention of active treatment will be taken.

The current situation indicates that overtreatment is more common than undertreatment. One of the reasons is that not every surgeon, practitioner or radiologist is certain about the diagnostic criteria of low-dose spiral CT. In the screening of almost 60k US population, more than 90% of the lung nodules found are benign nodules, demonstrating that there are more benign nodules than we thought. Furthermore, clinicians must notice what we refer to is the thin slice CT scan (less than 2 mm in thickness). Among the Asian population, there is a kind of lung nodule called GGO or GGN, a carcinoma without infiltration that grows along the alveolar epithelium in situ. It was formerly known as lung bacterial cell carcinoma (BAC), and is now called carcinoma in situ (CIS), the diagnosis of which cannot be determined by pathologists alone, who, of course, have to spot out in advance that the lesion is growing in situ under microscope.

Nonetheless, it is impossible to do a continuous pathological dissection of a 3 cm lesion. Thus, the diagnosis of in situ or micro-infiltrating carcinoma must combine findings from both pathologists who can decide if the carcinoma is in situ, and radiologists who carry out thin slice CT to judge if it is pure GGO. Most of the time, we are only concerned about the radiologist’s diagnostic report without paying attention to its footing – the CT scan itself. This may misdiagnose a solid tumor as a GGO, or miss out on some tiny problems. If the window width technique of CT is not controlled well, it is possible to misinterpret a solid tumor to be a GGO, and vice versa. It is therefore of paramount importance that imaging diagnostician, pathologist and clinician sit together to make diagnosis and treatment so as to prevent from undertreatment or overtreatment.

The key of the 2011 IASLC/ATS/ERS International Multidisciplinary Classification of Lung Adenocarcinoma is “multidisciplinary”. The formulation of this standard includes professional experts of surgery, respiratory, oncology, molecular biology, imaging and pathology for the first time, and uses pathology-led diagnosis that involves experts from all disciplines. It is due to such multidisciplinary diagnosis and treatment that the diagnoses of in situ carcinoma, micro-infiltrating carcinoma or infiltrating carcinoma are made possible. Since the growth, prognosis and treatment approach of each tumor are entirely different, the establishment of the MDT, to lung cancer patients, is one big step forward.

### **The role of surgery in the treatment for lung metastases**

There have been more and more discoveries of multiple lung nodules in recent years. In the past, multiple bilateral lung nodules were easily diagnosed as stage IV lung cancer as they appeared as major lesions in the lung. Another possibility is multiple primary lung cancer, which can be classified into two types according to the chronological order - synchronous and metachronous multiple primary lung cancers. In fact, synchronous multiple primary lung cancers refer to early-stage cancer. Whenever there is hilar or mediastinal lymph node metastasis, we cannot name it multiple primary lung cancer, as we cannot rule out the possibility that the ipsilateral mediastinal lymph node metastasis is triggered by contralateral lesions. Those caused by contralateral lesions are called N3 lung cancers, whereas those caused by ipsilateral lesions are called N2 lung cancer. Both are late-stage lung cancers and are not indications for surgical local treatment. Therefore, synchronous multiple primary lung cancers refer to early-stage cancers instead of all lung cancers. For metachronous multiple primary lung cancers, we also have to delineate the intervals and whether there are mediastinal lymph nodes and distant metastasis. Thus, the diagnosis and treatment of these lung cancers can neither be excessive nor inadequate.

Moreover, we should also pay attention to the treatment progress for metastases of lung cancer. Common metastatic sites include brain, liver, bone, adrenal gland, and the easily overlooked site – the lung itself. Lung not only is the primary tumor site with the highest incidence rate, but also one of the sites most prone to metastasis. For example, osteosarcoma, soft tissue sarcoma, rectal cancer, renal cell carcinoma, breast cancer, prostate cancer and lung cancer can all easily cause metastasis. The prognosis of lung metastases is not only related to the number of metastatic tumors, but also the source of primary tumor, the disease-free survival time after treatment for the primary tumor and other factors. For instance, sarcoma lung metastases can be grown in batches from time to time. It would not be of much benefit to patients if surgeons carry out anatomical resection such as

pneumonectomy and lobectomy at this moment. Therefore, the key to managing sarcoma lung metastases is “precise dissection”, which means removing the tumor while preserving the pulmonary function and normal lung tissues as much as possible. It is like removing the blemishes on potatoes. In general, the understanding of surgical treatment for late-stage lung cancer patients is inadequate. We generally hold a belief that surgical treatment is ineffective against late-stage lung cancers, but it seems to be biased when we review it today. The surgical effects of lung metastases of sarcoma, colorectal cancer and renal cell carcinoma are especially optimistic. As long as we control the primary tumor well – avoid any extrapulmonary metastasis, preserve the lung function as much as possible and dissect properly, the prognosis of surgery would be far better than non-surgical treatment.

### **Multidisciplinary treatment for esophageal cancer**

Esophageal cancer, another significant disease of thoracic oncology, is the fastest growing malignant tumor in western countries. Yet, it varies between the West and China. In Southeast Asia, esophageal cancers are mainly squamous cell carcinomas of the chest, whereas lower esophageal or gastroesophageal junctional adenocarcinoma caused by gastroesophageal reflux are the major types of esophageal cancers in the West. Esophagogastric junction cancer is also categorized as a type of esophageal cancer. Despite the decline in incidence of esophageal cancer in China, it still takes up the 6<sup>th</sup> place of malignant tumor of highest incidence. The most commonly adopted methods for treating esophageal cancer include surgery, radiation therapy and chemotherapy. So far, there is no mature targeted drug therapy. Traditionally, the treatments used in China are only surgery and radiation therapy. Compared with lung cancer, the staging system for esophageal cancer are lagging behind. The staging methods of imaging include CT, MRI, bone scan, PET-CT and ultrasound endoscopy. Unfortunately, as esophagus is an organ with cavity, it is impossible to measure the size of tumor like lung cancer. With other constraints, the staging results are not very effective in general. Therefore, the inaccurate staging is the biggest obstacle to the comparison of and prognosis on esophageal cancer.

Surgeries performed on esophageal cancer in China are gradually shifting from middle or late stage to early stage, and from single surgical treatment to comprehensive MDT. The five-year survival rate of surgery alone is less than 30% and it has been stagnant for years. However, in recent years, in spite of limited number of data (due to problems in record or follow-up consultation, the data cannot be analyzed accurately), the five-year survival rate has escalated up to 50%. Although the result is not as good as Japan's, it is better than that of Europe or the United States. The major reason behind is the transition from single surgical treatment to MDT, which is originally a combination of surgery and radiation

therapy. It seems preoperative chemotherapy is of more importance, as preoperative radiation therapy does not improve the efficacy or significantly increase the survival rate. Nevertheless, preoperative treatment, regardless of preoperative chemotherapy or radiotherapy, can enhance the long-term efficacy in general.

There are two major clinical studies on preoperative chemotherapy. One of them is the RTOG trial 8,911 from the United States, which shows a negative result, indicating that preoperative chemotherapy alone cannot improve the long-term efficacy of the treatment. On the contrary, the British OEO2 trial demonstrates an entirely opposite result, which supports the proposition that preoperative chemotherapy alone can improve the long-term efficacy and augment the two-year survival rate by 7%. Comparing the two studies, most scholars admitted that there were deficiencies in the US study, such as the chemotherapy cycle, compliance, the time to perform surgery after chemotherapy and so forth. On the other hand, the British MRC OEO2 trial is closer to real situation. The treatment for esophageal cancer in Europe is mainly based on the combination of preoperative chemotherapy and surgery. On the other side, the conclusions drawn by Japanese are that the combination of preoperative chemotherapy and surgery is superior to surgery alone, and that preoperative chemotherapy is better than postoperative chemotherapy. The Dutch CROSS trial in 2012 also concluded that preoperative concurrent chemoradiotherapy is better than surgery alone. Since then, more people have realized the superiority of the combination of preoperative concurrent chemoradiotherapy and surgery. Nonetheless, all of these American, European or Dutch trials are based on adenocarcinoma, whereas the trials in China are based on squamous cell carcinoma, which we are still investigating and making conclusion on the efficacy of preoperative concurrent chemoradiotherapy.

Esophageal cancer and lung cancer are different. Esophagus is a digestive organ. Its surgical treatment involves two major issues: dissecting the tumor so patients can survive, and reconstructing the digestive tract so patients can live with quality. Due to the special anatomical locations of esophagus that involve three important anatomical areas: neck, chest and abdomen, reconstruction is difficult and, thus, risks for complications are high. Hence, it is currently regarded as one of the most complicated surgeries with highest complication and mortality rates. Resection-based comprehensive treatment is related to long-term efficacy, whereas reconstruction is based on shrewd surgical techniques, which is crucial for patient's postoperative quality of life. In terms of quality of life and long-term efficacy, more and more thoracic surgeons and oncologists advocate comprehensive treatment and preoperative induction for esophageal cancer. In terms of reconstruction, Chinese surgeons have been making immense contributions. First, they extensively carry out minimally invasive surgery (which is less invasive). Second, the traditional esophagus with gastric tube has been gradually replaced by tubular stomach. The

smaller stomach improved the patients' quality of life. Therefore, in the aspects of postoperative minimally invasive treatment, the improved quality of life associated with the tubular stomach, and the decline in mortality and complications, Chinese doctors and East Asian scholars have made notable contributions and gained international recognition.

### **Overview of the Annual Meeting of the Chinese Association of Thoracic Surgeons**

The number of participants in the 2015 Meeting of the Chinese Association of Thoracic Surgeons was out of expectation. Just the number of registered doctors alone had reached 1,000, not to mention the unregistered participants. Right after the end of the 5<sup>th</sup> annual meeting held on 15 June 2014, the Association had started preparing for the 6<sup>th</sup> meeting. In the meantime, they held at least 6 preparatory meetings. Professor Chen mentioned a number of features of this year's meeting:

A huge number of unsolicited submissions – in the past, the manuscripts received in such academic conferences mainly constituted invited submissions, solicited submissions and continuing education. Nevertheless, the major type of contributions for this year were original research papers. 80% of the speakers had their manuscripts gone through multiple rounds of screening based on the form of author submission.

The speeches made at the main venue were composed of a variety of aspects. First of all, Professor Xun Zhang expressed his view and aspiration towards the postgraduate education of thoracic surgeons. Secondly, Professor Jie Hu led the discussion on standardized treatment for lung cancer treatment, followed by the introduction of several new disciplines concerning pain control and rapid rehabilitation by Professor Tianyou Wang. Besides, Professor Haiquan Chen of Shanghai Chest Hospital further introduced the latest techniques in thoracic surgery – robotic surgery. On the other hand, Professor Gening Jiang of Shanghai Pulmonary Hospital was invited to make a speech on the prospect of “precision medicine”. With regard to esophageal surgery, Professor Yin Li of Henan Cancer Hospital was also invited to make an insightful speech. This meeting involved development, training, standardization, new technology, academic and even legal content with 8 topics as the direction of the main venue.

Just like previous meetings, there were subgroup meetings on esophageal surgery, lung surgery, and a newly set up subgroup – palmar hyperhidrosis, which formed the third venue of this year's meeting, similar to last year's thymus gland special area.

The subgroups of esophageal surgery and lung surgery selected a total of 32 topics as the speech content based on the original research received. Each speaker was provided 12 minutes for their own speech. At the same time, senior experts were

invited to give comments. This is similar to the style of the AATS, STS and other European or American meetings. As it is the first attempt, prior to the meeting, the organizer conducted a one-on-one communication between the authors and commentators, and recorded the whole process in written form. The 32 topics selected were taken charge by 32 experts, whereas each venue was presided over by 3 hosts.

Furthermore, since last year, the preparatory team of the annual meeting has recommended submissions, including invited submissions and unsolicited submissions (including speeches and posters) to get published in the designated journals, except the following conditions: (I) the quality of the manuscript does not meet the standard (about 5%); (II) less than 10% of the authors expressed reluctance to publish in the designated publications. Consequently, 80% to 85% of the manuscripts can be published. Upon receiving submissions, they continue to process the manuscripts by a full-text-extension follow-up. Their published works include two English journals, *Thoracic Cancer* and *Journal of Thoracic Disease* under AME; and two major Chinese journals, *Chinese Journal of Lung Cancer (Chinese Edition)* and *Chinese Journal of Gastrointestinal Surgery*. 9 other journals, such as *Journal of Clinical Surgery*, *Chinese Journal of Thoracic and Cardiovascular Surgery*, *Chinese Journal of Clinical Thoracic and Cardiovascular Surgery*, *Chinese Journal of Oncology*, *Journal of Oncology* are to be published soon.

Prior to the meeting, corresponding editors from different journals underwent manuscript selection and review. Other than the ones selected for speeches at the meeting, manuscripts were also selected for posting, most of which were accepted for publishing. Under time and space constraints, some papers were not presented or exhibited, but were included in the meeting papers collection. Furthermore, a team of experts was also established to provide professional assistance. As long as the paper was reasonable and the data cited were authentic, the author would receive a one-on-one guidance from a senior expert from the Association who would help reorganize the paper and resubmit to the abovementioned journals. Compared to previous or similar meetings, this year's meeting had tremendous improvement. The number of unsolicited submissions reached 188, an 80% growth.

It is worth mentioning that at the opening ceremony of this year's meeting, 8 senior experts who had outstanding contributions were recognized with awards. Unlike previous meetings, the organizer specially invited a famous host, Xiaochuan Ning, from BTV to give out the awards and introduce each expert using videos. Their enormous contributions to the development of thoracic surgery undeniably inspired younger experts to fearlessly set off on more adventures.

(Interview Editor: Grace S. Li, Fengping Gao, AME Publishing Company)

AME Correspondence E-mail: [kysj@amegroups.com](mailto:kysj@amegroups.com)

Interviewed Expert's E-mail: [chenkeneng@bjmu.edu.cn](mailto:chenkeneng@bjmu.edu.cn)

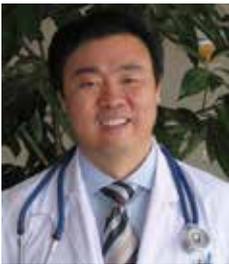
Department Secretariat Tel No: 13651100224

Department Address and Postal Code: Department of Thoracic Surgery (First Unit), Peking University Cancer Hospital, No. 52 Fucheng Road, Haidian District, Beijing, China, 100142

## Video Interview

# Keneng Chen: Thymoma Big Data: The Voice of China (ChART) is Under the Spotlight

**Editor's Note:** The 6<sup>th</sup> Annual Meeting of International Thymic Malignancy Interest Group (ITMIG 2015) was grandly held in Regal International East Asia on 23–25 October 2015, the world-famous research scholars and clinical experts of thymoma were gathered in this conference.



You may refer to the previous article for the biography for Prof. Keneng Chen.

Thymoma is a common tumor from thymic epithelium, the incidence rate is about 3/100 million (equivalent to the 1% of lung cancer). Due to the lack of attention, there were huge controversies in the imaging, pathology, diagnosis and treatment etc. in the past. With the development of International Thymic Malignancy Interest Group (ITMIG), June 2012, Chinese Alliance for Research of Thymoma (ChART) was established in Shanghai, the founding members were from different cities over China (Shanghai Chest Hospital, Peking University Cancer Hospital, Sun Yat-sen University Cancer Center, Tianjin Medical University Cancer Hospital, Sichuan Provincial Tumor Hospital, Henan Cancer Hospital and Zhongshan Hospital Fudan University etc.). Currently, ChART members are more than twenty organizations. Since its inception, ChART put much emphasis on the Chinese thymoma cooperation database and it obtained the international recognition. It is now indexed in ITMIG database. In this conference, the research result of ChART was an up-and-coming star, the influence of China on international thymoma research had been recognized by the announcement of a retrospective analysis of research result.

On the first day of the conference, Professor Keneng Chen, a member of ITMIG, reported the research results of ChART retrospective analysis in details. After the

conference, we are honored to have Professor Chan to go more in-depth of the ChART academic achievement.

### Interview Question

As a founding member of ChART research team, can you introduce the academic achievement from the ChART research team in ITMIG annual meeting this year?



(Interview Editor: Grace Li, AME Publishing Company)

AME Correspondence E-mail: [kysj@amegroups.com](mailto:kysj@amegroups.com)

Interviewed Expert's E-mail: [chenkeneng@bjmu.edu.cn](mailto:chenkeneng@bjmu.edu.cn)

Department Secretariat Tel No: 13651100224

Department Address and Postal Code: Department of Thoracic Surgery Section I, Peking University Cancer Hospital, No.52, Fucheng Road, Haidian Qu, Beijing, China, 100142

## Text Interview

# Haiquan Chen: Bilateral Exchange, Mutual Benefit

**Editor's Note:** The 2015 Annual Meeting of the Chinese Medical Association of Thoracic Surgeons and the 6<sup>th</sup> National Conference on Thoracic Surgery organized by the Chinese Association of Thoracic Surgeons was held in Hangzhou City on June 12, 2015. The front-line AME editors invited Professor Haiquan Chen of Shanghai Chest Hospital (now as the chief expert of the thoracic tumor multidisciplinary diagnosis and treatment group, Fudan University Cancer Hospital and director of Lung Cancer Prevention and Control Center) to share his experience in robotic surgery, thoracic surgeon training and other issues.



Haiquan Chen, MD, chief physician, professor, PhD supervisor, the chief expert of the thoracic tumor multidisciplinary diagnosis and treatment group, Fudan University Affiliated Tumor Hospital, and the director of lung cancer prevention and treatment center. He is also an AATS member, a committee member of STS International Relations Department and the deputy editor of FCCP and JOCR.

### The launch of robotic surgery

In 2009, The Shanghai Chest Hospital started the da Vinci surgery and accumulated abundant clinical experience. In February 2015, under the leadership of Professor Haiquan Chen, the hospital successfully held the first Shanghai Chest Robotic Chest Surgery International Forum. The forum invited internationally well-known experts and scholars in the field of minimally invasive thoracic surgery to share their experience and explore cooperation potentials. The forum also aimed to promote and push forward the development of minimally invasive thoracic surgery.

In general, the development of robotic surgery is not yet prevalent in China. To take thoracic surgery as an example, only 1000 cases of robotic surgery (including various types of surgery) have been completed in China by the end of 2014. Compared with other surgical techniques, this is a very small number. Professor Chen said that there are two reasons: (I) robotic surgery introduction restrictions.



Fudan University Affiliated Tumor Hospital, as a budget management unit of the National Health and Family Planning Commission, is one of the upper first-class cancer specialist hospitals assembling together medicine, education, scientific research and prevention. Its predecessor, Zhong Bi Lei Ding Treatment Hospital is the earliest tumor hospital in China established on March 1, 1931.

Robot surgical apparatus are under national control; finance is not the only criterion. China has a policy for controlling the number of introduced robots. Without robots, it is unable to carry out robotic surgery. (II) The cost of robotic surgery is relatively expensive, which increases the burden of the patients. At the early stage, the learning curve for robotic surgery is very low.

About 80 robotic surgeries were carried out at the Shanghai Chest Hospital from 2009 to September 2014. Starting from September 2014, Professor Chen led the hospital and took a lot of measures to promote the development of robotic surgery. Therefore, so far there are only few international hospitals that are comparable to the Shanghai Chest Hospital in terms of the number of robotic surgery carried out per month. In 2015, the Shanghai Chest Hospital will become the hospital that carries out the most number of robotic surgery in a single center in a single year.

### **The influence of surgical pathology on the choice of operation**

For lung cancer, lobectomy and lymphadenectomy have been the standard surgical approaches. With more and more early-stage lung cancer patients being discovered, minimizing the incision and keeping more healthy lung tissue for early-stage patients are what thoracic surgeons have to consider. In the 1990s, Memorial Sloan-Kettering Cancer Center (MSKCC) conducted a study which showed that sub-lobectomy was not beneficial to patients: sub-lobectomy increased the risk of surgical complications, mortality and regional recurrence. In this case, the development of sub-lobectomy almost came to a dead end. “In recent years, we discovered many early-stage lung cancers via imaging, PET-CT, lesion size and other aspects to select surgical methods. In fact, these judgments are not scientific. Our previous studies have found that even early-stage lung cancer, clinically stage I lung cancer and 3% to 5% of N1 or N2 may metastasize. According to the retrospective analysis of our data, we found that in situ adenocarcinoma and micro-infiltrating adenocarcinoma did not metastasize to lymph nodes. Therefore, lymphadenectomy was not necessary for these patients. Similarly, it is beneficial if these patients receive sub-lobectomy. Based on this study, the collected data was also reviewed and analyzed. The analysis

included more than 1,000 patients, the frozen pathology and the consistency of the final paraffin pathology were compared to confirm whether they would affect the surgical decision in the analysis. From the analysis, we noticed that the real impact of surgical decision-making is only 0.5%, which means that the number is still very accurate,” said Professor Chen.

### **Cultivation of thoracic surgeons: two prolonged approaches of clinical experience and research**

In recent years, China is the spotlight of the international academic stage. In all four top international thoracic surgery academic conferences (AATS, STS, EACTS, ESTS), the Chinese speaker team and the participating team have been strengthening. Professor Alper Toker, this year’s chairman of the ESTS conference, mentioned during the meeting that China had the largest number of participants. It solidified the cooperation between China and ESTS.

The team led by Professor Chen is an international rising star. Among them, Dr. Rui Wang received the ACCP Alfred Soffer Research Awards in 2012. As of that year, that was the second time a Chinese doctor received such award. In 2014, Dr. Bin Li, the champion of the 9<sup>th</sup> session of the American Society of thoracic and chest surgery, was the first Chinese scholar awarded with this honor. Dr. Yihua Sun received the “Excellent Youth” national project sponsor in 2014. Dr. Xinghua Cheng shone out from the AME Special Competition for the Selection of Junior Chinese Member for the ESTS Asian Team (AME Special competition) hosted by AME and became one of the young Asian team members in the ESTS Post-graduate Course competition. this year (a total of four members from China this year, two of whom are young and the other two are senior). It is worth mentioning that the Asian team won the first championship in this year’s ESTS Post-graduate Course competition. and broke the record.

Regarding cultivation of young surgeons, Professor Chen shared his thoughts, “We need both clinical and research training. Our training purpose is very clear, which is to send them abroad with purposes, questions and tasks. With a strong aim, we can expect results,” said Professor Chen.

For “how to grasp the essence of both surgery and research”, Professor Chen suggested that young doctors should be down to earth, “All the problems originate from clinical work. Good foundational work means every patient can receive effective treatments. Meanwhile, clinical experience and research cannot go head-to-head. Some say that people who write papers and conduct research cannot cure patients. This is a misunderstanding. Our daily medical work is what others have already concluded and published, not unreasonable imaginations. If you can organize well the research data, it will make a good paper. The key is that we need to record the clinical data accurately and draw a conclusion. Simply speaking, clinical research

is choosing a way to solve the problem or getting better results when facing clinical problems.”

During the interview, the the final of the AME Special Competition just came to an end. Speaking of his leading team member Dr. Tianxiang Chen, who became one of the top ten players in the finals, Professor Chen praised Dr. Chen for being ambitious, “I am glad to see so many young people doing so well, and we should create some conditions and opportunity to showcase and do something down-to-earth.”

### **From “going out, please come here” to “please go out and come here”**

Professor Chen became a member of the Society of Thoracic Surgeons (STS) in 2004. He was also a member of the STS International Affairs Department from 2011 to 2015. He is devoted to facilitating the communication between Chinese doctors and STS. In the light of Professor Chen’s outstanding contribution, the Society of Thoracic Surgeons Nominating Committee nominated Professor Chen as the International Member of the Board of Directors of the Society of Thoracic Surgeons (STS) in 2016 (the Council consists of 18 people, including 15 Americans, 1 Canadians, 1 Dutch, and 1 Chinese).

“The joint meeting of the two associations, STS and EACTS, will be held in Shanghai in October 2016. From the experience of the past few years, the focus was ‘going out, please come here’, meaning that we went out to study and invited the famous experts to come. Now we have a tremendous step forward, that is, ‘please go out and come here’. More and more Chinese experts are invited to foreign lectures, and foreign experts come to China to learn. We are pushing Chinese thoracic surgeons to the international stage. We are very pleased to see a truly bilateral international communication,” Professor Chen said.

Professor Chen was nominated this year (2016), indicating that the international counterpart has a high degree of recognition of the contribution by its team and Chinese physicians in the field of international cardiovascular surgery. So what is the nomination standard? Professor Chen said that he personally believes that STS put much emphasis on the quality of scholars – in which “honesty” is the most important element, including the validity of research data, personal reliability and so forth. At the same time, the contribution from previous work is important as well.

Professor Chen also mentioned that the Society of Thoracic Surgeons (STS) is committed to improving the quality of medical and scientific research of international cardiothoracic surgery. The United States National Medical Quality Database organized a rigorous quality assessment project, and actively promoted the cooperation among international peers in conducting scientific research. These practices can enhance the clinical level of Chinese thoracic surgery, accelerate the development of scientific research and act as a very good reference. China has

abundant clinical resources, as its clinical researches are increasingly recognized internationally. This also strengthens the academic exchange between China and foreign countries, which will be more conducive to promoting the rapid progress of international cardiac surgery.

### **AATS: Witnessing the improvements in Chinese thoracic surgery**

Professor Chen was elected as the AATS Active Member in 2011 and was invited by the AATS for three consecutive years, from 2013–2015, as the speaker. He was also nominated as co-chair of the first-day meeting of the 2016 Annual Conference. In the past, cardiac surgery plays a leading role over thoracic surgery in AATS. In recent years, the field of thoracic surgery has been rapidly developing. AATS Focus Conference has been held 4 times since 2012. For several consecutive conferences, Professor Haiquan Chen or his team's members have been invited to be guest speakers. Professor Chen said that "AATS society executives noticed the improvements in China's thoracic surgery. Chinese experts are nominated as active members every year." It is worth celebrating that Professor Chen was nominated as a member of AATS membership committee, which means that he is qualified to elect AATS members.

Professor Chen gave sentimental comment when talking about the Shanghai Chest Hospital physician team to the 95th Meeting of American Society of Thoracic Surgery in Seattle during 25–29 April, 2015. Many Chinese physicians have set foot on the AATS podium. Many of the outstanding domestic research results have drawn international attention and the International Institute of the organization's pragmatic spirit and high execution are also deeply impressed. Professor Chen also said that he is working with Memorial Sloan Kettering Cancer Center (MSKCC) and other well-known international societies to hold a meeting for further promotion of the cardiovascular surgery in China and foreign exchange. Professor Chen said, "Many people do not have the opportunity to go abroad, so the foreign conference moved back to China. To China's experts, this is a valuable opportunity."

As one of the few AATS members from China, Professor Chen revealed that in the AATS meeting, the general thoracic surgery content is still relatively insufficient as cardiac surgery remains dominant. Professor Chen mentioned, "In recent years, we can see the rapid progress in general thoracic surgery. In the past, the United States was very good at cardiac surgery, as there was a long training time for cardiothoracic surgeons. Students from thoracic surgery would choose cardiac surgery rather than general thoracic surgery. Therefore, most of the thoracic surgeries were operated by the general thoracic surgeons. When I was in the United States, I could see basically 80% of the thoracic surgeries were performed by general surgeons but now this proportion has dropped to 20–30% (There may be differences among regions).

### **Can medical service be replaced by artificial intelligence?**

The famous “Alpha Go *vs.* human” war triggered the discussion “will medicine be replaced by artificial intelligence (AI)?” Professor Chen said, “There would be no problem for AI to play chess but it would be a problem for AI to make diagnosis. Playing chess is a piece of cake in comparison to diagnosis. Calculation takes an important role in playing chess. The calculation speed of human brain cannot be as fast as AI. However, AI cannot completely replace the medical service in the near future, including online medical treatment. If it was feasible for AI to replace doctors, then every country’s medical investment would be very simple and direct. Simply collect the world’s best textbooks and make everyone a doctor? It is apparently unrealistic.”

(Interview Editor: Grace S. Li, Mei Li, AME Publishing Company)

AME Correspondence E-mail: [kysj@amegroups.com](mailto:kysj@amegroups.com)

Interviewed Expert’s E-mail: [hqchen1@yahoo.com](mailto:hqchen1@yahoo.com)

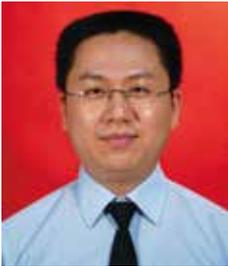
Department Secretariat Tel No: 64175590-82500

Department Address and Postal Code: Department of Thoracic Surgery, Fudan University Cancer Hospital, 270 Dong’an Road, China, 200032

## Text Interview

# Chun Chen: SBRT Combined Surgery May Become Future Treatment

**Editor's Note:** “The 4<sup>th</sup> China Lung Cancer Cooperative Group (CLCCG) Forum and 10<sup>th</sup> China Head of Thoracic Surgery Lung Cancer Forum” successfully took place at the Soluxe Hotel Guangzhou on 24 May 2015. At the meeting, experts held discussions on precision diagnostics, treatments and outlook of non-small cell lung cancer. Meanwhile, Professor Chun Chen, Vice President of the Affiliated Union Hospital of Fujian Medical University and the Department Head of Thoracic Surgery, was invited by AME for an interview to share his views on precision medicine strategies for lung cancer, the status of surgical treatment, and SABR vs surgery.



Chun Chen, Professor, Chief Physician, Medical Doctor, Supervisor of PhD students, and now the Vice President of the Affiliated Union Hospital of Fujian Medical University and the Department Head of Thoracic Surgery, has dedicated his life to the clinical and educational research fields of thoracic surgery for 30 years with fruitful achievement in the minimally invasive treatments for lung cancer, esophageal cancer and thymoma. Having published dozens of articles in SCI and eminent local journals, Professor Chen is one of the exceptional experts on general thoracic surgery who is simultaneously a member of Chinese Medical Association and a member of the Lung Cancer and Esophageal Cancer Committee of the Chinese Anti-Cancer Association.

## Precision Medicine Strategies for Lung Cancer

At present, typical treatments of lung cancer include surgery, chemotherapy, radiotherapy, targeted therapy, traditional Chinese medicine and biological immunotherapy. Chemotherapy, traditional Chinese medicine and targeted therapy are systemic treatments, whereas surgery and radiotherapy are local treatments. “No matter whether it is systemic or local treatment, ‘accuracy’ is always the key,” Professor Chen emphasized. In terms of systemic treatment, different lung cancers



Thoracic Surgery at the Affiliated Union Hospital of Fujian Medical University was the first batch of key medical disciplines in Fujian Province. After half a century of development, it now possesses the province's strongest general thoracic surgery in all aspects. It also serves as a base and research center for Fujian's thoracic surgery studies. The department, which has outstanding achievement in the field of thoracoscopic minimally invasive surgery, is skilled and experienced in diagnosing and treating chest tumour and is the solely qualified medical center in Fujian Province that can potentially carry out lung transplantation. Its in-depth scientific research on lung cancer, esophageal cancer, thymoma, and lung transplantation won the province's Scientific and Technological Progress Awards in 2012 and 2015.

have to be dealt with using different chemotherapy programs. At the genetic level, different changes in driver genes also must be treated with different targeted therapies. The same goes for surgery. Surgery and radiation therapy must be done with perfection at the right time. Professor Chen emphasized, “whether or not a surgery can take place? What scale should it be? These all require precise and individualized positioning.” The constantly updated NCCN guidelines as well as Chinese standard of lung cancer treatment are for the purpose of refining more standardized treatments. For a patient, from being suspected of having lung cancer, his/her treatment programs have to be tailor-made according to the stage of illness and the type of treatment, local or systemic, that is more appropriate for him/her. The methods used in the past were rather primitive – doctors making judgments and performing surgeries simply based on CT scan or B-mode ultrasound. Today, with the advancement of technology, not only can we use physical examination or instrument inspection, we can also carry out genetic examination to grasp a better idea of a patient's situation. Through an evidence-based medical perspective and a review of the patient's estimated survival period, we can more carefully analyze the

pathological changes, stages and methods of treatment. This greatly benefits the patients. What doctors can do is to provide patients, based on existing methods, with the most accurate diagnosis along with the best treatment.

### **Status of Surgical Treatment**

As a means of local treatment, surgical treatment for early stages of lung cancer has been very effective so far. For patients who are in the late stage and who have systemic disease, surgical treatment tends to be palliative. From the evidence-based medical perspective, most of the current data indicates that in the early stage of lung cancer, patients tend to choose comprehensive surgical treatment, which has longer survival period than other treatments.

### **SABR vs. Surgery**

Recently, Prof. Joe Chang from MD Anderson Cancer Center of the United States published a significant clinical research result of early lung cancer treatment – Compared to the currently used standard treatment (invasive surgery), SABR can prolong survival rates for stage I non-small cell lung cancer patients who can undergo surgical treatment. This sounds very promising. If this non-invasive and non-traumatic treatment has high effectiveness, many patients will opt for it. “As a doctor, I would love to see when patients benefit from a non-invasive and non-traumatic means of treatment, but I think this conclusion was drawn way too early! It has to be verified with more evidence,” admitted by Professor Chen. Surgery and radiation therapy are both means of local treatment. Whichever approach is applied, the prerequisite is that patients must be diagnosed of lung cancer. Clinically, we make the diagnosis through magnetic navigation and methods like lumbar puncture to prove if patients really suffer from lung cancer. If it is an early stage of lung cancer, we will provide two options: surgery or SABR treatment. The more options for treatment, the more chance that the patient would survive. However, each of the treatment has their own drawbacks. From the surgical point of view, firstly, invasive treatment comes along with trauma and pain. Secondly, whether surgery can take place is confined to certain preoperative criteria. Besides, not all pathological cells can be entirely removed. Finally, the same procedure cannot be carried out repeatedly. From the perspective of current stereotactic radiotherapy, there are difficulties in radiometric tracking due to patient’s breathing. This can be overcome with the development of technology and several new techniques, but radiotherapy may not be able to treat lymphatic drainage areas and some lymphatic micrometastasis thoroughly. Also, the number of stations of lymph node metastasis cannot be assessed. Therefore, the research results of Professor Chang’s team are awaiting more evidence for validation. If future patients can undergo both surgery

and SBRT, the two regimens may be used in combination to complement each other and can be deemed as part of the precision medicine concept.

(Interview Editor: Molly J. Wang, AME Publishing Company)

AME Correspondence E-mail: kysj@amegroups.com

Interviewed Expert's E-mail: chenchun0209@163.com

Department Secretariat Tel No: Guobing Xu, 18059036047

Department Address and Postal Code: Department of Thoracic Surgery, Section 8, 8th Floor, Surgery Building, 29 Xinquan Road, Gulou District, Fuzhou, Fujian, China, 350000

## Text Interview

# Wenlong Shao: Glasses-free 3D VATS May have Shorter Learning Curve

**Editor's Note:** Glasses-free 3D Technology has caught everyone's attention in the event - The 1<sup>st</sup> Thoracic Surgery Academic Conference of Guangdong Provincial Medical Association, the 1<sup>st</sup> Seminar of National Tracheal Carina Surgery, and the 8<sup>th</sup> Forum of China Minimal Invasive Treatment of Lung Cancer. AME invited Dr. Wenlong Shao, who introduced the latest application of the Glasses-free 3D VATS, for an interview.



Dr. Shao is currently an associate senior doctor in division of Thoracic Surgery at the First Affiliated Hospital of Guangzhou Medical University. From July 1997 till August 2002, Dr. Shao worked in the division of thoracic surgery in Cancer Hospital of Anyang City, Henan province, where incidence of esophageal cancer was extremely high. He committed himself to the screening of esophageal cancer and surgery-based comprehensive treatment. Since 2002, Professor Shao has been working in Prof. Jianxing He's team, focusing in his thoracic surgery career in its basic and clinical research. His clinical interest includes minimally invasive esophageal surgery combining thoracoscopic and laparoscopic techniques, and minimally invasive surgery of other thoracic diseases.

The improvement of minimally invasive surgical instruments has brought profound changes and achievement to the medical profession. A two-dimensional thoracoscopic device is more commonly used for thoracic technology at present. Surgeons tend to adopt two-dimensional thoracic technology when they are performing the surgery. Dr. Shao added that the flat image of two-dimensional thoracic technology is a flaw. It is because surgeons have to depend on their own imagination on converting the flat images from a two-dimensional image to a three-dimensional image in their minds. As a result, surgeons always have to think about the surrounding structures of the three-dimensional image before they

perform the surgery, otherwise it may lead to disastrous consequences. Regarding this extra process of image conversion, not only the level of learning difficulty is inevitably increased, the learning curve is also extended for young surgeons. Later on, with the advancement of three-dimensional thoracic technology, blood vessels, trachea and the surrounding structures of the patient's body will be much clearer to be seen. Under this technological advancement, not only is the operation easier to be executed but the learning curve is also relatively shortened. However, this approach is still flawed as surgeons still have to wear special eyeglasses when they are performing the operation. Dr. Shao stressed that three-dimensional glasses reduce the brightness of the light in which is needed during a surgical operation. Thus, three-dimensional thoracic surgery will increase the level of weariness in the eye. For those who are not used to wear eyeglasses, they will feel uncomfortable after a short period of time. Furthermore, as surgeons are also required to wear mask when performing surgery, the stem gets out of the eyeglasses, blurred the eyeglasses and resulting in increasing difficulty in performing surgery. Therefore, the Glasses-free 3D VATS has perfectly solved these two technical problems and demonstrated the surgical anatomy entirely. The surgery will become safer and learning curve will be shortened effectively. Most importantly, the problem of inconvenience that caused by using three-dimensional eyeglasses is resolved.

Surgeons need a long time training on two-dimensional thoracic technology. After the development of three-dimensional thoracic technology, many surgeons tend to adopt three-dimensional thoracic technology because it has a lot of advantages compared to that of two-dimensional thoracic technology. After the emergence of Glasses-free 3D VATS, it has been upgraded with a better displaying technology which enabled surgeons to obtain three-dimensional images directly. This is why Glasses-free 3D VATS has gradually replaced the ordinary two-dimensional and three-dimensional thoracic technology and has become a global trend. Regarding the future development of Glasses-free 3D VATS, it is too soon to say that the previously developed technologies can be completely replaced by this newly developed one, yet it is certain that its development would definitely go beyond two-dimensional and three-dimensional thoracic technologies.

For whether there is a higher requirement on learning Glasses-free three-dimensional technology, Dr. Shao gave a negative answer. Glasses-free three-dimensional illustrates three-dimensional images. For beginners, the learning curve of Glasses-free three-dimensional technology is relatively shorter compared to that of two-dimensional thoracic technology. It is because the reflecting images are more realistic and thus will enhance the accuracy of the doctor's judgment by adopting the Glasses-free VATS approach. Also, the learning time can be shortened. Therefore, Dr. Shao believed that the length of learning curve of Glasses-free VATS would not be extended.

Team work is vital in performing glasses-free VATS. There are also changes in team set-up. Dr. Shao introduced that the glasses-free VATS utilizing the eye

tracking 3D technology by tracking eyes of the main operator. Thus, a new problem emerges. For example, how can the tracking problem be solved if two people have to look at the screen simultaneously? Or how can the problem be solved if each user is looking at a different image due to different focal length during operation? Regarding these problems, Dr. Shao and his team have been looking for solutions. They believed that the best solution is that each person is equipped with a separate screen on tracking, so the presented images must be true.

In the end, Dr. Shao shared his experiences in learning glasses-free 3D VATS and concluded that the images presented from glasses-free 3D screen is with high solution for surgeons to observe and operate easily after the development of the technology over the past year. The learning curve may be shorter for the surgeons but the new set-up of team to cooperate well with the new technique also take time. Finally, it is essential for young surgeons to realise that basic anatomy and surgical training is still the core, although glasses-free 3D technique may have shorter learning curve.

(Interview Editor: Huang Chujun, AME Publishing Company)

AME Correspondence E-mail: [kysj@amegroups.com](mailto:kysj@amegroups.com)

Interviewed Expert's E-mail: [wenlong@grid.cn](mailto:wenlong@grid.cn)

Department Secretariat Tel No: 020-83062807

Department Address and Postal Code: No151, Yanjiang Road, Yuexiu District, Guangzhou, Guangdong, China, 510120.

## Video Interview

# Junqiang Fan: Perspective on VATS Treatment of Complicated Cases

**Editor's Note:** First National Symposium on Endoscopic Tracheal Juga Surgery and the Eighth China's Forum on Minimally Invasive Therapy for Lung Cancer was held successfully in First Affiliated Hospital of Guangzhou Medical University, on May 16, 2015. In this meeting, Prof. Fan presented a uniportal VATS video on left lower lung cancer, sharing his personal experience during the surgery. With great pleasure, AME Publishing Company has invited Prof. Fan to have an interview. Prof. Fan kindly provided his comments on several heated topics, like multidisciplinary therapy on lung cancer, Tubeless VATS and glassed-free 3D VATS. In Prof. Fan's opinion, VATS treatment of complicated cases will be the further research and development direction.



Prof. Junqiang Fan is Deputy Director of the Thoracic Surgery Department, Second Affiliated Hospital of Zhejiang University School of Medicine. He is member of International Association for the Study of Lung Cancer (IASLC), Chinese Association of Thoracic Surgery (CATS), and Thoracoscope Group of Zhejiang Cardiothoracic Surgery Association.

## Interview Questions

1. How to play the advantages of multidisciplinary therapy to let lung cancer patients get better treatment?
2. What's your comment on Tubeless VATS?
3. What's your most impressive part the meeting brought to you?



Second Affiliated Hospital of Zhejiang University School of Medicine (SAHZUSM) has 51 clinical and medical technical sections, 13 clinical priority specialties of Ministry of Health, one key subject of Ministry of Education, and one key cultivation subject, including oncology, general surgery, neurosurgery, ophthalmology, cardiology, burn, dermatology, emergency medicine, neurology, orthopedics, allergy and nursing. SAHZUSM paid attentions to medical service quality, setting up centers for Zhejiang cases management, clinical anesthesia, emergency medicine, infection management, interventional diagnosis and treatment of cardiovascular diseases, hyperbaric medical quality control and medical technical instruction. Currently, there are 3 zones in Thoracic Surgery Department, including General Thoracic in Jiefang Road, ICU, and General Thoracic in Binjiang. With independent wards, it is the best organized Thoracic Surgery Department in Zhejiang Province.

**Junqiang Fan:**  
**Perspective on VATS Treatment of Complicated Cases**

Available online:  
<http://kysj.amegroups.com/articles/2784>

A promotional graphic for an article. It features the AME Publishing Company logo (a globe with dots) and a QR code. The text is in yellow and white on a dark blue background with a faint world map pattern.

(Interview Editor: Molly J. Wang, AME Publishing Company)

AME Correspondence E-mail: kysj@amegroups.com

Interviewed Expert's E-mail: fanfun@126.com

Department Secretariat Tel No: 0571-87783641(Jiefang Road); 0571-89713723()

Department Address and Postal Code: Department of Thoracic Surgery, No. 88, the Second Affiliated hospital of Zhejiang University School of Medicine of , Hangzhou Jiefang Road Branch, No. 88, Jiefang Road, Hangzhou, Zhejiang, 310009; Department of Thoracic Surgery, the Second Affiliated hospital of Zhejiang University School of Medicine of Hangzhou Binjiang Branch, No. 1511, Binjiang district, Jianghong Road, Hangzhou Jiefang Road Branch, Jiefang Road, Hangzhou, Zhejiang, China, 310053

## Video Interview

### Xiaojing Zhao: Be Open to the New Challenge

**Editor's Note:** The first Southeastern Thoracic Forum & the first Learning Course of Progress in Minimally Invasive Surgery for Esophageal and Lung Cancer organized by Union Hospital of Fujian Medical University was held successfully in Fuzhou from 28<sup>th</sup> November to 29<sup>th</sup> November 2015. Gathering well-known experts in the thoracic field, the forum discussed many hot topics in the thoracic field. One of the highlights lied on the first day's hot topic debate. During the debate, experts openly shared their perspectives on several controversies about lung and esophageal cancer, not only inspiring sparkles among experts but also brought a significant feast to all audience. In the forum, Prof. Xiaojing Zhao, from the Renji Hospital Shanghai Jiaotong University School of Medicine, not only presented an excellent uniportal live surgery but also gave a fantastic speech about the uniportal or multiportal choice for the thoracoscopic resection of lung cancer. Seizing the opportunity, we invited Prof. Zhao to have an interview.



Prof. Xiaojing Zhao, director of Thoracic Department of Renji Hospital Shanghai Jiaotong University School of Medicine. Prof. Zhao specializes in the diagnosis and surgical treatment for many thoracic diseases (lung, mediastinum, esophageal disease, etc). He's especially skillful in the treatment of thoracic diseases with minimally invasive equipment, like applying thoracoscope, mediastinoscope, etc.

During the interview, taking his department training experience as an example, Prof. Zhao shared with us his perspective for the young surgeon training: combining the way of teaching and pushing, surgeons should pay much attention to let students realize the importance of responsibility and fostering the capability of risk controlling. Moreover, encouraging students to learn from others for self-improving is also important.

When looking into the current relationship between doctors and patients, Prof. Zhao emphasized the importance of putting oneself in patient's shoes when communicating with patients. A doctor should understand what patient and his



Renji Hospital Shanghai Jiaotong University School of Medicine, founded in 1844, is the first western-type hospital in Shanghai and one of the oldest in China as well. The hospital, affiliated to Shanghai Jiao Tong University School of Medicine, is a comprehensive, upper first-class (aka Grade 3, Class A) hospital with enormous branches of clinical disciplines involved in not only diagnosis and treatment but also medical education and scientific research. The cardio-thoracic surgery department of Renji hospital was established by famous experts like Yishan Wang, Qichen Liang etc in the fifties of last century, it's one of the earliest master degree and doctorate-awarding subject in China. With the development of the subject, thoracic surgery group was established in 2003 and department of thoracic surgery was officially set up in December 2011. The first director is professor Ziang Cao and the vice director is associate professor Qing Ye. In February 2014, associate chief physician Xiaojin Zhao was introduced into the department as the vice director. The department insists on developing academic innovation and has acquired great achievements on esophagus surgery. The department has rich experience in surgical therapy of cervical esophageal cancer, upper esophagus cancer and complexity esophagus cancer, which is leading position at the national. First put forward a new concept that local excision of early cervical esophageal cancer and end-to-end anastomosis of esophagus in the world. Since 2014, video assisted thoracoscopic operation has been largely improved, both surgical number and quality have reached the advanced level in Shanghai. The endoscopic surgery has become the routine way of making pulmonary operation and new therapy pattern for early stage malignant lung tumor.

family really want so that to cure the patient both mentally and physically.

Going back to the live surgery section, Prof. Zhao had mentioned the open mind for every surgeon. At the end of the interview, Prof. Zhao took the chance to talk more about his view on it: when getting used to the current stable surgical way, surgeons should not stand still and refuse to make progress. Instead, surgeons should be open to new challenge and try new things based on patient's safety.

### Interview Questions

1. This morning, you had performed the segmentectomy surgery and there's also topic about the resection choice for early lung cancer in the forum. Here

- would you like to tell us your idea about these two resection ways, pulmonary lobectomy and segmentectomy? Which would be your preference for treating the subcentimetre early lung cancer?
2. You had mentioned about a surgeon should have the “Fanjian” mind, i.e., open mind. Here would you like to tell us your view on this? Why is it important for surgeons?
  3. We know that you also pay much effort for young surgeons’ training. Here would you like to share with us your ways of training and what skill or capacity you hope young surgeons to possess?
  4. We know that you have quite a good reputation concerning the professional ethics. Here would you tell us what should surgeons pay attention to when communicating with patients?



(Interview Editor: Skylar Gao, AME Publishing Company)

AME Correspondence E-mail: [kysj@amegroups.com](mailto:kysj@amegroups.com)

Interviewed Expert's E-mail: [zhaoxiaojing@renji.com](mailto:zhaoxiaojing@renji.com)

Department Secretariat Tel No: 021-68383770

Department Address and Postal Code: Floor 10, the Seventh Building, No. 160, Pudong New District, Shanghai, China, 200127

## Video Interview

# Hongjing Jiang: You Need to Have a Strong and Firm Heart to be a Surgeon

**Editor's Note:** The first Southeastern Thoracic Forum & the first Learning Course of Progress in Minimally Invasive Surgery for Esophageal and Lung Cancer organized by Union Hospital of Fujian Medical University was held successfully in Fuzhou from 28<sup>th</sup> November to 29<sup>th</sup> November 2015. Gathering well-known experts in the thoracic field, the forum discussed many hot topics in the thoracic field. One of the highlights lied on the first day's hot topic debate. During the debate, experts openly shared their perspectives on several controversies about lung and esophageal cancer, not only inspiring sparkles among experts but also brought a significant feast to all audience. In the section of uniportal or multiportal choice for thoracoscopic lung cancer resection, Prof. Hongjing Jiang, from the Tianjin Medical University Cancer Institute and Hospital, starting from the three-field lymph node dissection, presented an impressive speech. Taking this chance, we invited Prof. Jiang to have an interview with us, sharing with us his view on two-field and three-field lymph node dissection.



Prof. Hongjing Jiang, chief physician of the Department of Thoracic Surgery in Tianjin Medical University Cancer Institute and Hospital. Prof. Jiang has worked in the thoracic tumor field for more than 20 years. He has hosted and participated in many municipal and bureau scientific research projects and as well won the Science and Technology Progress Award of Tianjin Medical University.

When talking about what skill should a surgeon possess for performing a successful surgery, Prof. Jiang said that not only the learning of necessary knowledge for different disciplines and self-improving from errors are important, a strong and firm heart is also the requirement of every surgeon.

As a surgeon, sense of achievement obtained in some moments or stages is a kind of great encouragement. However, this feeling is very short. For example, when you watch your surgical video, you'll find your skill is still not good enough, which though will prompts surgeons to improve and do better in the future, but on



Tianjin Medical University Cancer Institute and Hospital is the birthplace of Oncology in China. It has developed into a large highly specialized cancer facility with integrated patient care, education, training, research and prevention activities. It is one of the top cancer centers in China and provides cancer treatment not only to people in China, but also in other countries. The department of esophageal surgery is well known for the diagnosis and treatment of thoracic tumors. The surgeries it covers include: Esophageal cancer resection, pulmonary lobectomy, total pneumonectomy, mediastinal tumor resection, etc. It also develops many new and complicated surgeries, like R2 distal subtotal gastrectomy, Lung sleeve resection, two and three incisions esophageal radical resection, VATS Lobectomy, etc.

the other hand it will also bring sense of failure to surgeons. Younger you're, more failure you'll face and more negative emotion felt, in turn, less sense of achievement you'll feel. Therefore, when facing these negative emotions, surgeons' strong and firm heart plays its important role. Being clear of your goal and keeping moving forward, will one day bring the great changes from quantity to quality.

### **Interview Questions**

1. Would you like to tell us compared to the two-field lymph node dissection, what are the advantages of three-field lymph node dissection?
2. What would be your expectation to the future development of treatment for esophageal cancer?
3. We know that you have rich experience in the treatment for minimally invasive esophageal cancer. Based on your experience, what skill you think a surgeon should possess for performing a successful minimally invasive esophageal surgery?



(Interview Editor: Skylar Gao, AME Publishing Company)

AME Correspondence E-mail: [kysj@amegroups.com](mailto:kysj@amegroups.com)

Interviewed Expert's E-mail: [18622221069@163.com](mailto:18622221069@163.com)

Department Secretariat Tel No: 022-23340123, extension: 1041

Department Address and Postal Code: Department of esophageal cancer, fourth floor, Building A, Tianjin Medical University Cancer Institute and Hospital, Huxi Road, Ti Yuan North, Hexi district, Tianjin, China, 300060

## Video Interview

# Chundong Gu: Liquid Biopsy and Next-Generation Sequencing (NGS) Are Stepping into Chinese Clinic

**Editor's Note:** On the 13<sup>th</sup> Lung Cancer Summit held in Guangzhou in March 2015, attendees had a lively discussion on current situation and the future of liquid biopsy and next-generation sequencing (NGS). With this opportunity, we had an interview with Professor Chundong Gu, the director of the Department of Thoracic Surgery, and academic leader of Lung Cancer Diagnosis and Treatment Center of Dalian, The First Affiliated Hospital of Dalian Medical University, Dalian, China.



Professor Chundong Gu is the director of the Department of Thoracic Surgery, and academic leader of Lung Cancer Diagnosis and Treatment Center of Dalian, The First Affiliated Hospital of Dalian Medical University, Dalian, China. Professor Gu is a member of the Lung Cancer Group of Chinese Society for Thoracic Cardiovascular Surgery, member of the Thoracic Surgery Branch of Chinese Medical Doctor Association, member of Thoracic Surgery Branch of China International Exchange and Promotive Association for Medical and Health Care (CPAM), and principal of three national continuing education programs in lung cancer. Professor Gu mainly engages in the clinic, research and education of lung cancer and esophagus cancer.

Professor Gu said that the technologies of liquid biopsy and next-generation sequencing began to enter Chinese clinic in recent years. They need be improved step by step before they are totally employed to clinical practice as there are still lots of bottlenecks.

### Interview Questions

1. Would you mind introducing the development of liquid biopsy and next-generation sequencing(NGS) in China at present? Are they applied to the



treatment of lung cancer?

2. Currently, what are the major factors that impede the development of liquid biopsy and next-generation sequencing?
3. In terms of their developing trends, will the two technologies become complementary of each other, or will one replace another?
4. As a thoracic surgeon, what do you think about the future development of next-generation sequencing and liquid biopsy in postoperative follow-up and postoperative testing?

(Interview Editor: Chao-Xiu(Melanie) He, AME Publishing Company)

AME Correspondence E-mail: [kysj@amegroups.com](mailto:kysj@amegroups.com)

Interviewed Expert's E-mail: [chundong2003@163.com](mailto:chundong2003@163.com)

Department Secretariat Tel No: 18042626576

Department Address and Postal Code: No. 193, Lianhe Road, Shahekou District, Dalian, Liaoning, China, 116011

## Text Interview

# Weiqliang Yin: A Revolutionary Progress: Glasses-free 3D VATS

**Editor's Note:** "The 1<sup>st</sup> National Symposium on Endoscopic Lung Tracheal Surgery and the 8th Lung Cancer Minimally Invasive Treatment Forum" was held at the First Affiliated Hospital of Guangzhou Medical University on 16 May 2015. During this meeting, Dr. Weiqliang Yin, the Director of Thoracic Surgery at the First Affiliated Hospital of Guangzhou Medical University was interviewed by AME to convey his own unique views on Tubeless Video-Assisted Thoracic Surgery (VATS) and glasses-free 3D VATS.



Weiqliang Yin, the Director of Thoracic Surgery at First Affiliated Hospital of Guangzhou Medical University, specializes in diagnosing and curing common thoracic diseases, such as lung cancer, trachea and mediastinal tumors, and esophageal cancer. He is experienced in minimally invasive thoracic surgery and lung cancer treatment.

**AME:** *Many patients found that they often recover more quickly after undergoing tubeless VATS. Which particular type of patients is suitable for this technology?*

**Dr. Yin:** Tubeless VATS means that the patient is not intubated during anesthesia, nor do they need chest tube and urinary catheter. Because the patient is not intubated during anesthesia, the surgery should not be too complicated and the operation time should not be too long. Otherwise it becomes difficult for the anesthesiologist to manage the airway. Usually, chest tubes are used to check if patients have bleeding or air leakage after surgery. In order to not insert chest tubes, we need to ensure that the patients don't have postoperative air leakage and bleeding. In general, tubeless VATS is temporarily used for patients in fair condition who have simple and less traumatic surgery. For example, one of my operations today was a benign chest wall tumor resection. Because of the minor trauma, no damage to the lungs and short



The First Affiliated Hospital of Guangzhou Medical University encompasses medical care, teaching and education, scientific research, holistic health care, patient rehabilitation, and pre-hospital emergency, and is one of the major Grade 3A Hospitals. The hospital also serves as the Guangzhou Institute of Respiratory Diseases, Guangzhou Institute of Orthopedics, Guangzhou Urology, Institute of Integrative Medicine, Guangzhou Medical University, and is one of the first batch of thirteen national clinical research centers.

operation time, we don't have to insert the chest tube after thorough hemostasis. Our department has also used tubeless VATS on patients with myasthenia gravis combined with thymus tumor, which is a big innovation in this field.

***AME: While patients benefit more from tubeless VATS, it is more challenging for doctors. What do you think should be paid attention to during tubeless VATS?***

**Dr. Yin:** Firstly, tubeless VATS requires more sophisticated surgical technique. Doctors must be very confident in their operative skills. Secondly, a postoperative monitoring plan is needed. It means that doctors should monitor the patients after the surgery through some ways, such as ultrasound and bedside chest radiography. Thirdly, we have to ensure the safety of patients since any development of new technology should be based on the principle of patients' safety. Fourthly, the team's close cooperation is important to offer satisfactory patient management.

***AME: Glasses-free 3D technology is displayed in this meeting. What do you think this technology can help in thoracic surgery?***

**Dr. Yin:** Firstly, there is no doubt that glasses-free 3D technology is a revolutionary progress. Previously, doctors have to wear a 3D glass to see 3D images during surgery. However, 3D glasses not only affect the brightness, but also are uncomfortable for surgeons who do not wear glasses. The development of glasses-free 3D technology enables doctors to see 3D images without wearing a glass.

***AME: Which aspect of glasses-free 3D technology needs to be improved?***

**Dr. Yin:** There is an infrared tracking system installed within the glasses-free 3D screen. This technique is designed to identify the tracker wore by surgeons, leading

to clear image. However, there is a common problem for 3D technology that once there is a deflection, the image being shown will be unclear and vague. In my opinion, this problem needs to be solved for the development of the 3D industry. In addition, although glasses-free 3D technology displays clearer and more three-dimensional images than 2D technology, it has not yet reached to the highest level of resolution that the current 3D technology can get. Undoubtedly, it is still a big surprise to all surgeons, and it is for sure that this technology will have a bright future.

(Interview Editor: Yongshi Jiang, AME Publishing Company)

AME Correspondence E-mail: [kysj@amegroups.com](mailto:kysj@amegroups.com)

Interviewed Expert's E-mail: [yinweiqiang88@163.com](mailto:yinweiqiang88@163.com)

Department Secretariat Tel No: 020-83062822

Department Address and Postal Code: Department of Thoracic Surgery, Fost Hospital of Guangzhou Medical University, No.151, Yan Jiang Road, Guangzhou, Guangdong, China, 510120

## Text Interview

# Qingdong Cao: Patient Safety is the Most Important Concern

**Editor's Note:** “The 1<sup>st</sup> National Endoscopic Tracheal Carina Surgery Seminar and the 8<sup>th</sup> China Lung Cancer Minimally Invasive Treatment Forum” were held in Guangzhou from 16 May 2015 to 17 May 2015. In this meeting, Prof. Qingdong Cao, the Director of Department of Thoracic Surgery at Baoan People's Hospital of Shenzhen, was interviewed by AME Publishing Company. He shared his opinions and expectations on single-port thoracoscopic surgery.



Qingdong Cao, is the Chief Physician, Professor and the Director of Department of Thoracic Surgery at the Fifth Affiliated Hospital of Sun Yat-sen University. He is also a registered member of European Society of Thoracic Surgeons (ESTS) and a Vice Chairman of Guangdong Provincial Medical Association of Thoracic Surgery Branch.

## Great Oaks from Little Acorns Grow: Learning from the Simplest Surgery to a Complicated Ones

We conducted our first single-port thoracoscopic surgery in March 2011. No experts have ever mentioned performing a single-port thoracoscopic surgery prior to this. When we noticed that a foreign doctor was trying to perform the surgery, we started to attempt on it. At the very beginning, we encountered our first problem on medical equipment. We had to find a manufacturer to develop a set of surgical equipment as the medical equipment used in foreign countries was not allowed to use in China at that time. With the unique medical equipment we began to explore our own approach on performing the surgery. By September 2011, we have done dozens of single-port thoracoscopic surgeries and published the first article on single-port thoracoscopic surgery. Followed by a meeting of exposing the single-port thoracoscopic surgery, this surgery started to attract attention from our peers. Since 2012, more and more doctors have become experienced with performing single-port thoracoscopic surgery.

In 2013, Diego Gonzalez-Rivas, an Editorial Board Member of “Journal of



The Fifth Affiliated Hospital of Sun Yat-sen University is a large 3A level general hospital (belongs to the Central Government). It is located in the beautiful Xiangzhou Bay of Zhuhai City. This hospital is adjacent to Macau terminal nearby and the international airport, with easy access by land, sea and air. The hospital was built in June 2001 based on the original design of Zhuhai Medical Center. As an affiliated hospital of Sun Yat-sen University with more than ten years of development, the hospital has improved massively in medical care, teaching and scientific research. Thoracic surgery, one of the key departments of the hospital, is keeping up with the hospital development and progressing continuously.

Thoracic Disease” published by AME Publishing Company, reported the pulmonay lobectomy via the single-port thoracoscopic device. This has brought confidence to surgeons who perform single-port thoracoscopic surgery and confirms the possibilities that this highly difficult and complicated surgery is possible. After becoming familiar with handling simple surgery under the adoption of single-port thoraoscopic device, we are now trying on operative approaches. Apart from lobectomy resection surgery, we are conducting technical and clinical trials of single-port laparoscopy (TUSE) and Single-port Video-assisted Thoracic Surgery (SPVATS). Compared to traditional laparoscopic surgery, the patient’s trauma is much less. For now, we have had four cases of patients receiving such treatment. It is expected that the result is effective. As this medical technology is still in the beginning stage, we need a massive basis of knowledge on single-port thoracoscopic technology in order to try more complicated surgeries.

### **Neither Single-port nor Porous Thoracoscopic Surgery of the Most Important: Patient Safety Always Comes First**

When performing surgery, the view to use a double-port device or a triple-port device is different from the traditional surgery. However, such a problem does not exist when performing single-port thoracoscopic surgery. The approach of adopting a single-port device has the same effect as performing traditional surgery, which is

more in line with the traditional surgical habits of surgeons. Doctors can thus be more at ease when performing the operation and be less fatigued. For surgeons who perform single-port thoracoscopic surgery for the first time, it is advised that they should consider the patients' safety before trying this surgery. Otherwise, they will not be able to cope with more complex operations. We have to know for certain that the period of mastering a single one surgical technique properly is an orderly progress, or else it would lead to an undesirable result that increase the unnecessary risk of the patient's safety by an improper surgical method. Surgical safety should always be in the first priority. During the operation, surgeons are advised not to insist on adopting single-port thoracoscopic techniques without considering the patient's characteristics. Even though it was set to be a single-port thoracoscopic surgery before the operation, it should be altered to double-port thoracoscopic surgery or triple-port thoracoscopic surgery if the changing surgical condition is necessary during the surgery.

I hope that most of the doctors can consider adopting single-port thoracoscopic surgery. However, I am not saying the single-port thoracoscopic surgery is replacing multi-port thoracoscopic surgery. Single-port thoracoscopic surgery can act as an extended surgical technique, designed to bring more benefits to appropriate patients. Among the different types of surgeries, we should choose one based on the patient's actual clinical situation, as well as to maximize patient safety and health.

### **Beneath the Road, Dreams Ahead of Us**

Single-port thoracoscopic surgery has not been a perfect developmental process. We can hardly say that it is a very mature technique as there are not too many surgeons who are able to fully perform this technique. It is mainly because of surgeons' position and surgical equipment which has troubled many surgeons. For example, even if surgeons can visualize the anatomy, closed blood vessels and closed trachea are relatively easier to trigger bleeding because of the angulation. which is the biggest difficulty of performing the lung lobe resection. At the Asian Society for Cardiovascular and Thoracic Surgery (ASCVTS) meeting in 2015, I saw the introduction of a 5 mm vascular closure. If this vascular closure can be widely used, it will contribute to the development of single-port thoracoscopic surgery. We are also trying to develop surgical equipments, which are suitable for performing on single-port thoracoscopic surgery and multi-port thoracoscopic surgery.

In the future, with the advancement of surgical equipments, it will be easier for surgeons to manage a single surgical technique. However, we need more surgeons to try to learn these techniques rather than one or two surgeons attempting it individually. When more surgeons begin to practice these approaches, it will be easier to identify the weakness of the techniques. Last year, we held the 1st China (international) Single-port Thoracoscopic Surgery Seminar. We mainly focused on studying the techniques of single-port thoracoscopic surgery. While it is not always a

smooth process for a new technology to develop, we will fight for each improvement of the surgical techniques in order to help the patients.

For single-port thoracoscopic surgery, a lot of problems are still left to be solved. Firstly, we have to shorten the learning curve. It is not enough to learn to perform single-port thoracoscopic surgery by watching surgical videos. To avoid unnecessary learning detours and mistakes, experienced surgeons are advised to proctor junior doctors. Secondly, a norm of technique of single-port thoracoscopic surgery is needed, for more widely applied. Thirdly, multi-center cooperation is needed to clarify the surgical indications.

(Interview Editor: Silvia L. Zhou, AME Publishing Company)

AME Correspondence E-mail: [kysj@amegroups.com](mailto:kysj@amegroups.com)

Interviewed Expert's E-mail: [15013813866@163.com](mailto:15013813866@163.com)

Department Secretariat Tel No: 13926927879 (Mr. Chung)

Department Address and Postal Code: Department of Thoracic Surgery, 52 Meihua East Road, Xiangzhou District, Zhuhai City, Guangzhou, China, 519000

## Text Interview

# Wenjie Jiao: Current Situation and Development of Thoracic Surgery

**Editor's Note:** “The 1<sup>st</sup> National Session of the Endoscopic Tracheal Carina Surgery Seminar and the 8<sup>th</sup> Session of the Chinese Lung Cancer Minimally Invasive Treatment Forum” was held on 16 May 2015. Dr. Wenjie Jiao, the Head of Thoracic Surgery in Affiliated Hospital of Qingdao University, made a special video broadcast during the meeting. He was interviewed by AME after the meeting, who shared his thoughts on the current trends and developments of domestic and international thoracic surgery.



Wenjie Jiao, MD, is head of the Thoracic Surgery Department at the Affiliated Hospital of Qingdao University, a Chief Physician, and a Doctoral Tutor. Dr. Jiao have operated over 1,000 thoracic surgeries in lung, esophagus and mediastinum with specialty in minimally invasive surgery like VATS and Da Vinci robotic surgery. DHe studied at Cedars-Sinai Medical Center and Memorial Sloan-Kettering Cancer Center in 2014.

Dr. Jiao visited the United States in 2014, where he mainly studied minimally invasive treatment in tumor center and did a clinical study on oncology. When asked about the difference between domestic and foreign research on thoracic surgery, Dr. Jiao believed that the difference between domestic and foreign research on thoracic surgery is still quite obvious. Domestic thoracic surgeons emphasizes more on surgical techniques, and other foreign doctors, such as surgeons in America, focuses more on the surgical concept rather than the techniques. For example, viewing from the perspective of surgical performance, domestic doctors prefer to cut the tissue entirely, make the operative incision less bleeding and a neater sewed wound. For surgical techniques, foreign doctors, including doctors from the U.S. might not be able to outweighed domestic doctors. However, foreign doctors are concerned more on the systemization, including the patients' preoperative treatment, intraoperative and postoperative period. In this regard, the domestic doctors are not managing



The Affiliated Hospital of Qingdao University provides medical service, teaching, scientific research, prevention, health care, and rehabilitation. It is one of the largest 3A hospitals in China. The hospital's fixed assets is about 2 billion yuan, with more than 5,800 pieces of world-class medical equipment. The amount of emergency diagnosis is ranked the first in Shandong Province.

properly as they often performed the surgery and closed the case thereafter, except it is for a special case. Otherwise, doctors will not order an in-depth investigation and conduct research. Although there will be a number of large medical center which specialized in doing research on various medical cases, most of the doctors do not develop the habit to explore and conduct a comprehensive research. On the contrary, instead of noticing on the ornamental elements of the surgery, doctors from foreign countries tend to study different medical cases. It is because they are getting used to follow up the patients at all stages of their treatments. Therefore, foreign doctors are handling much better than that of domestic doctors due to the systematic analysis on the patients' treatments.

In the past twenty years, thoracoscopic techniques have developed rapidly. Thoracoscopy has been introduced into China for at least twenty years, including nowadays DaVinci robots, Glasses-free VATS Three Dimensional Thoracoscopic surgery. Dr. Jiao is confident that a diversification of surgical technology will be the future direction of development on thoracic surgery. Firstly, although there are more developed domestic surgical technologies, surgical methods are diversified, the principles and purposes are basically the same, in which to make sure it is a safe, efficient and accurate surgery. Secondly, the future development of the standardization of surgery and the standardization of training would be more advanced. Lastly, the doctor's level of comfort is more highly regarded. In the past, when doctors were performing surgery in a traditional way, a higher attention is placed on the size of patient's wounds. Nowadays, however, more attention is laid on the level of doctor's comfort when they are performing surgery, including the Glasses-free Three Dimensional Technology that is launched today. In fact, it is also good for patients besides reducing a doctor's tiredness and thus enhancing doctor's sense of comfort. To a certain extent, it is beneficial to patients when a doctor is less fatigued. Not only did the development of macromolecule robots be beneficial to patients, more importantly, the technical process of surgery is also becoming clearer.

Finally, Dr. Jiao believed that the biggest spot regarding the forum is the three

proposed principles. The first principle is to launch Glasses-free Three Dimensional Technology so that the surgery would be made much easier for surgeons. The second principle is to make a tubeless surgery more comfortable for the patients. The third principle is to perform the operation on a wider scope of surgery. Dr. Jiao stressed that Dr. Jianxing He and his team have raised out these three principles in this forum, which have reflected in the future development of minimally invasive surgery, as well as guided the future direction of the development of thoracic surgery.

(Interview Editor: Chujun Huang, AME Publishing Company)

AME Correspondence E-mail: [kysj@amegroups.com](mailto:kysj@amegroups.com)

Interviewed Expert's E-mail: [jiaowenjie@163.com](mailto:jiaowenjie@163.com)

Department Secretariat Tel No: 0532-82912305

Department Address and Postal Code: 16 Jiangsu Road, Qingdao City, Shandong, China, 266003.

## Text Interview

# Mingqiang Kang: Improve Personal Skill for Patients' Benefit

**Editor's Note:** On 16–17 May 2015, the 1<sup>st</sup> National Seminar on Endoscopic Tracheal Carina Surgery and the 8<sup>th</sup> National Forum on Minimally Invasive Surgery for Lung Cancer was held in Guangzhou. During the conference, Professor Mingqiang Kang, Department Head of Thoracic Surgery Section II, the Affiliated Union Hospital of Fujian Medical University, was invited to share his ideas on minimally invasive surgery and its related applications.



Mingqiang Kang, chief physician, MD, Ph.D. supervisor, head and party branch secretary of the Department of Thoracic Surgery Section II, the Affiliated Union Hospital of Fujian Medical University.

### **Adherence to the safety standards of patients enables wider use of minimally invasive surgery**

Today's development of thoracoscopy has reached certain heights on the technical level. Meanwhile, thoracic surgery experts are constantly striving to attain a higher level and wondering what kind of difficult diseases can be remedied with minimally invasive surgery, of which they attempt to extend the scope. During the conference, we could see the reconstruction of tracheal carina was a difficult surgery under open conditions. However, under the leadership of Professor Jianxing He, we successfully broke the limitations with the advanced thoracoscopic techniques and obtained the desired results. Similar cases such as regional advanced lung cancer, mediastinal tumors and esophageal tumors can be operated using thoroscopes. Through different integrations of the advancing technologies and the progress of the medical team, we believe that we can gradually expand the scope of minimally invasive surgery. Of course, there is one crucial point - it is a must to meet the safety standards.



Department of Thoracic Surgery, the Affiliated Union Hospital of Fujian Medical University is the earliest general thoracic medicine department developed in Fujian province. It is now the doctoral center of Cardiothoracic Surgery and the Cardiac Surgery Institute in Fujian province, which is the first batch of key medical subjects in Fujian, key subject of Fujian Medical University, and one of the top 5 best specialists in East China. Department of Thoracic Surgery Section II, a young and energetic department, is a key centre of clinical medicine, scientific research and education. It has an academic team with reasonable structure, well-educated background and energy. There are now 3 chief physicians, 2 professors, 3 vice professors, 3 vice chief physicians, 3 attending physicians, 1 MD, 3 doctoral supervisors, 3 doctors and 8 masters.

### **Perform the most appropriate surgery with accurate diagnosis of surgical indications**

Surgical techniques are highly vital to a surgeon, yet, I think the accurate judgment of patient's condition and the indications for operation prior to surgery are more crucial. First, the accurate diagnosis of surgical indications is of utmost importance. For example, whether the patient is suitable for surgery and if there is metastatic inflammation are what surgeons should be generally aware of. For patients with advanced cancer, surgery is inevitable under normal circumstances. However, speaking of how to perform the surgery using thoracoscopic techniques, it relates to my second point "surgical indications", which is associated with the doctor's technical level, the scale of the hospital and the surgical team's capability. Combining the doctor's indications for surgery, we can opt for the most appropriate surgery for the most suitable clinical case.

### **Scientific localization of pulmonary nodules**

We discovered some parts of pulmonary nodules require minimally invasive surgery in numerous clinical cases. One of the difficulties during the operation is to locate these tiny pulmonary nodules, especially those with less than 1cm diameter and soft texture. This challenges both surgeon's knowledge and techniques. We did not localize it on purpose at the beginning stage. Most of them could be accurately determined in normal situations. However, a small portion of nodules may have to be probed and palpated with fingers repeatedly for determining the location. Sometimes, the location cannot be confirmed. For this reason, we look for a stable technique for scientific localization. This is the intention of using micro-coil as it is small, convenient and easily palpable. This technology takes an important role in the pulmonary nodules localization surgery. Nowadays, this surgical method is regularly used in our hospital. For some larger pulmonary nodules with harder texture at the marginal position, this method may not be suitable. Yet, for the smaller and softer pulmonary nodules, we usually use the micro-coil localization to carry out the surgery to ensure medical quality and safety.

I would like to take this opportunity to quote this sentence to encourage all the doctors, "We should strive for scientific truth, artistic beauty and philosophical excellence to provide safer and more high-tech treatments for more patients."

(Interview Editor: Skylar Gao, AME Publishing Company)

AME Correspondence E-mail: [kysj@amegroups.com](mailto:kysj@amegroups.com)

Interviewed Expert's E-mail: [kangmingqiang@sina.com](mailto:kangmingqiang@sina.com); [ljh060@qq.com](mailto:ljh060@qq.com)

Department Secretariat Tel No: 0591-83357896

Department Address and Postal Code: Department of Thoracic Surgery Section II, Area 9, 8/F, Surgical Building, Affiliated Union Hospital of Fujian Medical University, 29 Xinquan Rd, Gulou Qu, Fuzhou, Fujian, China, 350000

## Text Interview

# Yongtao Han: Thoracic Surgery Gives Me Irreplaceable Satisfaction

**Editor's Note:** During an interview with AME, Prof. Yongtao Han talked about how to promote the standardization of clinical practice, focus of esophageal cancer research in the future and why he chooses to be a thoracic surgeon.



Yongtao Han, the Deputy Director of Thoracic Surgery Department at Sichuan Cancer Hospital, chief physician, and a mentor of Master research students. He is also a committee member of the Standardized Cancer Treatment Committee of the National Health and Family Planning Commission of the People's Republic of China (NHFPCC), an ordinary member of the International Society for Disease of the Esophagus (ISCE), a committee member of the Chinese Society for Disease of the Esophagus (CSDE), the head of National Esophageal Cancer Clinical Study Center, the head of National Esophagus Cancer Standardized Training Center, the team leader for Sichuan Issues of the National 12<sup>th</sup> Five-year Plan, the leader of Academic Research Unit of Department of Health of Sichuan Province, and a committee member of the Esophageal Cancer Committee of Chinese Anti-Cancer Association.

### **Pain of clinical practice standardization: theory and practice come apart; common trend differs from special cases**

*AME: As a committee member of the Esophageal Cancer Committee of Chinese Anti-Cancer Association, could you talk about the current status of the promotion of the standardization of clinical practices regarding esophageal cancer?*

**Prof. Han:** Starting from 2008, the committee has been promoting the standardization of practice in this field and it has been effective. However, the acceptance of theory may not necessarily come along with changes in clinical

practices or techniques because this involves changes of operational habits, which is the hardest part. The current situation does not allow us to explore the full potential of new techniques, as there are risks to bear. Therefore, doctors have accepted the concept of clinical standardization, but it comes apart from practical work.

*AME: Could you elaborate with some examples?*

**Prof. Han:** In the past, surgeons tended to prefer left thoracotomy for esophageal cancers operations. However, now we recommend right thoracotomy. Some doctors have accepted the concept, but it is hard to alter their operational habits.

We have to know why we choose the right side over the left. This is related to the standardized lymphadenectomy on mediastinal and abdominal lymph nodes. In fact, even if you operate on the right chest, it does not mean that your lymphadenectomy is standardized.

We organized seminar tours and put up online courses to promote right thoracotomy. However, I still think that this process is going to be long and slow.



Sichuan Cancer Hospital was established in 1988. It was graded as “Upper First-Class Hospital” by the NHFPC in 1994 and was listed as “Sichuan Cancer Prevention and Treatment Center” by the Province Board in 2012. With 2050 beds, 160,000 out-patients, and over 40,000 in-patients per year, the hospital is the largest multi-purpose cancer hospital in the south-west area of China. The center of esophageal and mediastinal cancer surgery of the hospital is the leading unit of the field in China. Right now, there are 4 specialized professionals, 2 Master mentors, and numerous doctors involved in medical issues on a provincial, or even national level. With 5,000 out-patients and 1,000 surgeries per year, and years of experience in training doctors in cancer specialty, this center is not only a National Esophageal Cancer Clinical Study Center, but also a National Training Center for minimally invasive esophageal surgery.

**AME:** *What are the main resistances?*

**Prof. Han:** In the beginning, we were teaching thoracoscopic esophageal cancer operational techniques. We decided we should promote right thoracotomy as well. When I look back on past two year's work, I see problems. To doctors who are being trained, thoracoscopic techniques are too vague. If they do not understand the structure of the right chest, the demands of lymphadenectomy, and the standards of thoracotomy, they will not be able to perform thoracoscopic esophageal operations. Lots of doctors tried the new technique during training, but as they went on, difficulties and risks of complications forced them back to the starting point.

From experience, to persuade a surgeon changing from left to right thoracotomy, we need to teach both the theory and technical skills, making sure they have internalized the essence of thoracotomy. This is like building a pyramid. We have to have a stable foundation before going on. For instance, we should master thoracotomy before moving to thoracoscopic techniques. It will be a waste of time to learn thoracoscopic techniques if you haven't master the technique of thoracotomy already.

**AME:** *Are there conflicts between personalized medicine and standardized clinical practices?*

**Prof. Han:** There are conflicts indeed. When we were writing "Clinical guide for esophageal cancer", we were worried that some patients' relatives may take this guide as reference and interrogate doctors about their choice of treatment. In the worst case, they may take this to court.

**AME:** *There are differences between patients. We cannot follow the guideline blindly.*

**Prof. Han:** For sure. However, many do not understand this and take the guideline as the absolute. Besides, when procedures are "too standardized" or formulated, will the advancement of techniques be hindered? For example, say I am going to operate on a patient with recurrence of malignant tracheoesophageal fistula who received radiotherapy 6 years ago. Based on the guideline, we cannot treat the patient.

**AME:** *Are there any solutions?*

**Prof. Han:** We have been thinking on it. At the National Esophageal Cancer Conference in 2015, Prof. Jie He suggested an update of the guideline and building a database for esophageal cancer in China. Following the National 12<sup>th</sup> and 13<sup>th</sup> Five-

Year Plan, we gathered national data for esophageal cancer. The number of cases consists of almost half of the world's cases. We could then promote new techniques using our own data, not those from other countries. We hope that this will eventually reduce conflicts.

### **Focus of next 5–10 years' esophageal cancer research: molecular target chemotherapy, redefining "laparoscopic"**

*AME: What are the focuses of esophageal cancer research for the next few years?*

**Prof. Han:** I think that our understanding in basic research is not deep enough and the next focus would be molecular target chemotherapy. The problem is that a lot of researchers are applying the mindset of treating lung cancer, as it has been successful, to treating esophageal cancer. We have to note that some chemotherapy may not be compatible for both lung cancer and esophageal cancer. I believe that molecular target chemotherapy has a long way to go in esophageal cancer, way longer than lung cancer. This is one of the most important directions.

Regarding clinical research, one topic will be multimodality therapy. To have breakthroughs in curing post-stage II cancers, multimodality therapy must be the way to go. Even though Japanese surgeons have perfected the three-field lymph node dissection, the five-year survival rate is still low. Thus, preoperative concurrent radiotherapy may be the next focus. We hope we can move forward in this area.

Another topic will be minimally invasive surgery. After a few years of rapid development, the first batch of surgeons who handled minimally invasive techniques start to think back on the question "what is minimally invasive?". The consensus we give out at first is "minor incision". In fact, a smaller wound does not mean less trauma. I conducted a research that compared the traumatic response induced by small and large surgical incision. Unfortunately, all 18 parameters showed insignificant results. This means that to patients who undergo large-scale operations, like esophageal cancer resection or alimentary canal repair, the size of incision will be insignificant compared to the overall trauma of the operation. When we talk about "minimally invasive", we have only been focusing on the size of the surgical incision, which is not the whole picture. In operations, we care for the protection of organs functions, nervous system, and the completeness of lymphadenectomy and these should be the essence of minimally invasive surgery.

### **Became a surgeon by chance? Even under the current circumstances, it is satisfactory to practise medicine.**

*AME: Why did you choose to be a thoracic surgeon?*

**Prof. Han:** (Jokingly) At first I wanted to be a hepatobiliary surgeon. Thoracic

surgery was a small department back then. From nine in the morning to four in the afternoon, we were operating non-stop. There was ward inspection after dinner and no rest on weekends. It was extremely tiring. One characteristic of thoracic surgery is that patients' conditions are unstable and change occasionally. Indications may be normal during operation, but there may be bleeding and respiratory issues right after. These changes are rapid and challenging, which give more satisfaction and fit most surgeons' personality, I suppose.

I personally like challenges, solving problems and exploring. I will not think on an operation for too long, as it becomes less interesting by time. By giving out lectures, I often find something new and intriguing. As a thoracic surgeon, I could operate on esophagus and pancreas without the help of a hepatobiliary surgeon, which is extremely rare. I am proud to be a surgeon.

I operated on a "living Buddha" before. My supervisors told me to be cautious because of religious issues. I refused, as saving people's life is my mission as a surgeon. It has been two years after that and I just checked on the patient, who has been doing well. This is what I have been looking for and how my personality shapes me to be me.

*AME: Have you thought of other occupations besides doctor?*

**Prof. Han:** I had been a salesman for 3–4 months in 2000. My sales were good, and I even had a chance to be the regional director. However, I could not leave my patients as a surgeon and, of course, my colleagues. I strongly believe in the saying "saving a life is better than building a seven-storey pagoda."

*AME: Tell us one of your most impressive cases.*

**Prof. Han:** A 19-year old female patient. An undergraduate student who was studying at a nursing school. Extremely huge mediastinal masses. Trachea and aorta were under pressure. Many hospitals reckoned that she was inoperable. To add insult to injury, she has a younger brother with congenital dementia. She is the only hope for her family. Her father implored me to help her. Our team thought of many ways of operating. In the end the surgery was successful. I not only saved a life, but also a family. This gave me self-recognition as a surgeon. I am proud and satisfied to be one.

(Interview Editor: Mei Li, AME Publishing Company)

AME Correspondence E-mail: kysj@amegroups.com

Interviewed Expert's E-mail: hanyongt@aliyun.com

Department Secretariat Tel No: ShiHui - 18608026943

Department Address and Postal Code: 55 Ren Min Nan Lu Si Duan, TongZiLin, Wuhou Qu,  
Chengdu Shi, Sichuan Sheng, China, 610041

## Text Interview

# Jianhua Fu: Comprehensive Treatment for Esophageal Cancer Needs Further Advancement

**Editor's Note:** The Fourth Haixi Thoracic Surgery Forum and the Sixth Seminar of Fujian New Progress of Minimally Invasive Surgery for Thoracic Tumor, Diagnosis and Treatment of Primary Lung Cancer Norms in China (2015) and the National Analysis Tour was held in Fuzhou from 21 to 23 August 2015. During this time, AME had an interview with Prof. Jianhua Fu, Chief Physician of Thoracic Surgery of Sun Yat-sen University Cancer Center, who shared his insights on the new advancements in minimally invasive surgery for thoracic tumor.



Prof. Jianhua Fu, Chief Physician, PhD, Supervisor of Sun Yat-sen University Cancer Center. He is the leading specialist in the diagnosis and treatment of thoracic tumor, in particular in the field of research, diagnosis and comprehensive treatment of esophageal cancer. Prof. Fu is currently in charge of many collaborative projects.

*AME: What do you think about current clinical applications of neoadjuvant treatments for esophageal cancer in China?*

**Prof. Fu:** Current neoadjuvant treatments for esophageal cancer are up to standard internationally. However, its implementation in China is far from satisfactory. Neoadjuvant treatments for esophageal cancer typically come in two modes: preoperative chemotherapy and preoperative concurrent chemoradiotherapy. Evidence-based studies show that patients with esophageal squamous-cell carcinoma do not benefit much from receiving preoperative chemotherapy but have fared better with preoperative concurrent chemoradiotherapy. Currently, there exists many flaws in the collaboration between various disciplines in China, doctors lack relevant concepts, and preoperative concurrent chemoradiotherapy has not been



Sun Yat-sen University Cancer Center (SYSUCC) is the national key discipline (Oncology), State Key Laboratory (SKL) of Oncology in South China, National Key Laboratory (Ministry of Education), Provincial Key Laboratory (Guangdong Province), National Center for Clinical Trials of Anti-cancer Drugs, Doctoral Degree Granting Institution, Post-doctoral Research Station, and Guangdong Anti-cancer Association Partnering Institution. The Section of Thoracic Surgery of SYSUCC is one of the earliest surgical departments for thoracic tumor, as well as an important part of the national key discipline and State Key Laboratory.

carried out well in some institutions. We have conducted a national multi-center clinical trial, which has proven to have helped in promoting neoadjuvant treatments for esophageal cancer.

*AME: How is the current progress of your Topic 5010?*

**Prof. Fu:** As of 31 December 2014, we have gathered a total of 430 patients, and we will require further follow-up. Our final results are estimated to be available in 2017.

*AME: What are your views on the prospects of comprehensive treatment for esophageal cancer?*

**Prof. Fu:** I think one should consider the follow factors in order to maximise the effects of esophageal cancer treatment methods: firstly, we treat esophageal cancer by stages, not only because we need to be accurate in our diagnoses of their current stage, but also because the strategies differ according to the stages. Secondly, diagnose and treat as early as possible. Thirdly, the comprehensive treatment is essential. For better results, it is not practical to just rely on surgeons to solve esophageal problems. We should also use comprehensive treatment to maximise the benefits of esophageal cancer treatment methods. Furthermore, it has been proven by adequate evidence that patients can benefit from comprehensive treatment, including neoadjuvant therapy prior to esophageal squamous-cell carcinoma

surgery, adjuvant chemotherapy after surgery. Lastly, in order to prolong the survival of patients with esophageal cancer, it is crucial that surgeons improve their surgical techniques. We now prefer the right thoracotomy approach instead of the left to perform esophageal cancer surgery, as it significantly increases the 5-year survival rate.

**AME:** *What is your view on the left thoracotomy approach for esophageal cancer surgery?*

**Prof. Fu:** Left thoracotomy approach used to be the dominant method of surgical treatment for esophageal cancer, however, if we were to consider the standardization of lymph node dissection, a right thoracotomy is more advantageous. There are literatures illustrate that if patients appear to not have mediastinal lymph node metastasis, or if the preoperative evaluation shows no metastasis, the curative effect of right and left thoracotomy approach is similar, as mediastinal lymph node dissection is the main advantage of right thoracotomy approach.

**AME:** *What is your opinion about the 3-field lymphadenectomy? Under what circumstances would you choose the 3-field lymphadenectomy?*

**Prof. Fu:** The 3-field lymphadenectomy is a great surgical method. We are currently performing selective lymph node dissection, and may choose 3-field lymphadenectomy to treat patients with cancer in the upper esophagus, or if the preoperative tests show that they have cervical lymph node metastasis.

(Interview Editor: Taidui Zeng, Jianfeng Lin, AME Publishing Company)

AME Correspondence E-mail: kysj@amegroups.com

Interviewed Expert's E-mail: 13802447736@139.com

Department Secretariat Tel No: 020-36591136

Department Address and Postal Code: Department of Cardiovascular and Thoracic Surgery, the First Affiliated Hospital of Guangzhou University of Traditional Chinese Medicine, No. 16, Airport Road, Guangzhou, Guangdong, China, 510410

## Text Interview

# Kaicai Cai: Tubeless VATS' Turning into Reality Benefits Patients

**Editor's Note:** The 1<sup>st</sup> National Seminar on Endoscopic Tracheal Carina Surgery cum 8<sup>th</sup> National Forum on Minimally Invasive Surgery for *Lung Cancer* was held at The First Affiliated Hospital of Guangzhou Medical University on 16th May, 2015. Prof. Kaican Cai, minimally invasive thoracic surgery expert from Nanfang Hospital, Prof. Zheng Wang from Shenzhen People's Hospital, and Prof. Qingdong Cao from Bao'an People's Hospital, led the discussion on tubeless VATS. At the conference, Prof. Cai was interviewed by AME regarding tubeless VATS.



Prof. Kaican Cai, chief physician, mentor of research students, the Department Head of Thoracic Surgery at Nanfang Hospital. Prof. Cai is also the committee member of the China Lung Cancer Surgery Consortium.

Minimally invasive surgery has started its own era in surgery with more and more new ideas proposed in recent decades. Tubeless VATS is a new idea that was discussed at this instance. In this interview, Prof. Cai introduced the three rationales of Tubeless VATS: “No endotracheal intubation during anesthesia, no post-operative chest tube, and no perioperative Foley catheter.” He reckoned that these are beneficial to patients, “Without the need of a chest tube during VATS, patients will experience less pain and less trauma after the operation. They would be able to go home sooner as well. The recovery rationale is: no insertion of chest tube if not necessary; removing the tube as soon as possible; accessing the patient's condition before proceeding a Tubeless.”

To discuss the post-operative chest tube usage in open thoracotomy or VATS, Prof. Cai elaborated on three perspectives:

### Why Post-Operative Chest Tube?

- (I) The chest tube helps drain blood, exudate or effused air so as to restore the negative pressure in the pleural



Nanfang Hospital was established in 1941 and transitioned to Guangdong province in August, 2004. Nanfang Hospital is the First Affiliated Hospital and First College of Clinical Medicine of Nanfang University (originally First Military Medical University). Ranked 16 on the latest China's Best Hospitals Ranking (Fudan ver.), the hospital is a place for medication, teaching, research and preventive healthcare services. Nanfang Hospital has a long history of success in cardiothoracic surgery, contributed by several generations of doctors. The hospital is one of the leading hospitals in medication, education and research.

- cavity, which helps with breathing;
- (II) Physicians can monitor the condition of the pleural cavity by examining the fluid drained from the chest tube;
- (III) When the anesthesiologist uses positive pressure to inflate the lungs after operation, there might be accumulated air in the pleural cavity. A chest tube is there to remove any excess air;
- (IV) Negative pressure in the pleural cavity may lead to bleeding, exudation and air effusion. A chest tube is required to remove the abnormal fluid.

### **Why Chest Tube Removal?**

From research conclusions:

- (I) Without the use of a chest tube during VATS, patients will experience less pain and less trauma after operation. They would be able to be discharged sooner as well;
- (II) Uniportal thoracoscope reduces perioperative bleeding from chest wall, postoperative pain and chances of having complications like sensory processing disorder.

Possible reasons that chest tubes may cause pain:

- (I) Intercostal nerves commonly have origins around the anterior axillary line.

Chest tubes are usually inserted between the anterior axillary line and the mid axillary line, pressuring intercostal muscles and causing pain; (Tube insertion from second rib at mid-clavicular line usually does not induce pain)

- (II) The inserted chest tube may be too long or twisted, stimulating the diaphragm muscle or parietal pleura;
- (III) Chest tubes have rough texture or are over-sized;
- (IV) Psychological factors, for instance, patients being nervous, being overly afraid of being inserted a chest tube.

### **Is Chest Tube Necessary?**

- (I) To alleviate patients' pain, doctors wondered if they could discard the use of chest tubes. Prof. Cai said that if bleeding or effusion do not occur after operation, theoretically tubeless thoracic surgery, especially minimally invasive VATS, is feasible.
- (II) Substitutions for monitoring pleural cavity after operation: monitor respiratory rate, depth, and pitch; monitor blood pressure, heart rate, and oxygen saturation; use of chest film and B-scan to observe the situation in the pleural cavity.
- (III) In a clinical setting, some small-scale VATS have already been using the tubeless technique and have satisfactory results. For hyperhidrosis, NUSS procedure for pectus excavatum, and some mediastinal masses resections, the common practice is to remove the chest tube after sufficient air removal. The question is: Are there anymore operations that can be tubeless? We could consider the following:
  - (i) Primary spontaneous pneumothorax patients, with bullae located collectively at apex.
  - (ii) Lung sarcoidosis patients without complaints before body check. They usually have solitary pulmonary nodules discovered by chest film or CT chest scan.
  - (iii) Benign tumors at diaphragm, pleural membranes, and esophagus.

Tubeless VATS indicates a new breakthrough in minimally invasive thoroscopic surgery. As a newly proposed idea, more research evidence is needed to support the technique. "Currently, tubeless is only suitable for less sophisticated operations. There is a possibility that the technique can be applied to more sophisticated ones. As VATS equipment is becoming more advanced, there is a lower chance of bleeding and effusion after closure. Thus, a chest tube cannot serve its purpose and is not needed. In other situations, like patients in large-scale, large-area operations, or those received adjunctive therapy, exudation is another problem beside bleeding and effusion. In such cases, a chest tube is always recommended for safety. No matter what, safety comes first. Do not blindly apply new techniques in the risk of one's

neck,” said Prof. Cai.

Prof. Cai indicated that the naked-eye 3D technique mentioned in the conference caught his attention. He claimed that Nanfang Hospital already has three sets of traditional 3D VATS equipment, which helped them to achieve satisfactory results. Prof. Cai compared the traditional 3D and naked-eye 3D VATS, “In our hospital, we would need to wear 3D glasses for VATS. Long operating time makes the eyes uncomfortable for both the surgeons and the assistants. It would be great if glasses are not needed, but it has to maintain the level of visual quality. We are lucky to have a chance to experience this technique today, at this conference. At certain distance, the 3D effect is pretty good, no worse than wearing glasses. All these good work and effort are contributed by Prof. Jianxing He and SuperD Company. However, there are limitations to the naked-eye 3D technique. If the monitor is 26”, the observer needs to be 1.5–2 m away from it, or else the 3D effects are not good enough. Also, practically, as surgeons and assistants look at the monitor at different angles, they cannot have the optimal 3D effects simultaneously, not to mention the delay it has. I think as this technique develops, these limitations can be solved. We should look forward to having more from this technique in the future.”

Besides, *Lung Cancer* was published in Chinese and English and was mentioned by Prof. Jianxing He and Prof. Xiuyi Zhi, the Editor-in-Chiefs, adding yet another highlight to the conference. *Lung Cancer* collects the work of numerous famous researchers and clinical doctors, covering topics in *lung cancer* from basic sciences to advanced technical treatments.

(Interview Editor: Lucille L. Ye, AME Publishing Company)

AME Correspondence E-mail: [kysj@amegroups.com](mailto:kysj@amegroups.com)

Interviewed Expert's E-mail: [doc\\_cai@163.com](mailto:doc_cai@163.com)

Department Secretariat Tel No: 02061641822

Department Address and Postal Code: Department of Thoracic Surgery, Nanfang Hospital, Nanfang Medical School, 1838 Guangzhou Road N, Guangzhou, China, 510515

## Text Interview

# Kaicai Cai: Meeting all the Experts in the Name of Nanfang Hospital

**Editor's Note:** Doctors are intelligent and curious about knowledge. When attending academic conferences, they would have to be more cautious and critical. Prof. Kaican Cai, the Chairman of the 2<sup>nd</sup> “Da Nan Yi” Thoracic Surgery Forum, was interviewed by AME to talk about the characteristics of the forum.



You may refer to the previous article for the biography for Prof. Kaican Cai.

*AME: What are the differences between “Da Nan Yi” Thoracic Surgery Forum and other conferences/forums in this field?*

**Prof. Cai:** Before talking about the differences, I would like to address their similarities. Every conference/forum wants to provide a platform for experts to share, to exchange and to collaborate, such that everyone can bring something back home. “Da Nan Yi” Thoracic Surgery Forum has something more than the above characteristics.

First, this forum was established when there were only five affiliated hospitals to the Southern Medical University (now having a 6<sup>th</sup> Affiliated Hospital, which is Shenzhen Hospital). “Da Nan Yi”, as elaborated by the university’s Secretary of Party Committee Minsheng Chen, originally means that each affiliated hospital is its own unit, community, and has its own individuality yet a common culture and value. By this rationale, all hospitals should share a common interest and their resources to maximize the potential for development. “Da Nan Yi” Forum is now inviting more experts from other affiliated institutes to expand the network. We hope that all the guests can work well and add value to the field of cardiothoracic surgery.

Second, China is following the trend of specialization.

There are many conferences for particular diseases or topics, like the annual meetings on thoracic surgery and heart surgery. However, “Da Nan Yi” invites experts in both areas. We reckon that “Heart and thorax are inseparable” as they are closely related. Even under specialization, there is a need to learn from a related field. We hope that this forum can strengthen the link between the two specialties.

Third, “Da Nan Yi” Forum is not restricted to one district, or one local area. We hope that in 2016 there will be more experts joining this forum from all over the world. Our advocacy is “Meeting all the experts in the name of Nanfang Hospital”. We welcome anyone to come to Guangzhou and would like to invite those who worked or are working at the affiliated hospital, non-affiliated hospitals and those who studied or are studying at the South Medical University to join in.

***AME: What are the similarities and differences between the 1st and the 2nd “Da Nan Yi” forums?***

**Prof. Cai:** The 2<sup>nd</sup> forum had the same rationale as the 1<sup>st</sup> one, which was “Communicate, share, collaborate, and achieve a win-win situation”. We chose to focus on new progress, new techniques and new ideas of thoracic surgery and invite experts to give presentations, sometimes including surgical videos. To be more specific, other topics included the research progress of minimally invasive thoracic surgery, and the individualization and standardization of cardiac valves repair, aorta surgery, coronary artery surgery and thoracic tumor. By introducing state-of-the-art techniques at the forum, attendants could learn and apply them in their clinical work.

Based on the success of the 1<sup>st</sup> Forum, the 2<sup>nd</sup> one was larger in scale. There were more experts and wider coverage in topics discussed. The 2<sup>nd</sup> Forum not only stepped out of Southern Medical University, but also reached out to other provinces and even other countries. Numerous cardiothoracic experts attended the forum, including Prof. Jianxing He, the Chairman of the Thoracic Surgery Association of the Medical Society of Guangdong province, Prof. Gang Chen, the Director of Guangdong Medical Doctor Association – Thoracic Surgery Branch, Prof. Keneng Chen, the Department Head of Thoracic Surgery at Peking University Cancer Hospital, Prof. Chimei Chen, the Standing Committee and Secretary General of the Chinese Society for Thoracic and Cardiovascular Surgery, and Dr. Li from the Heart Center, University of Freiburg. They shared thoughts on hot topics like robotic thoracic surgery, thoracic surgery without general anesthesia (conscious breathing), uniportal VATS, demonstration of wedge resection in VATS and so forth. There were specific sections for anesthesia, ICU, special care and so on as well. As there are ongoing arguments about the treatments for esophageal cancer, we had a voting

session for this issue, bringing it up for discussion. Besides, we are trying to build a foundation for the coming generations of cardiothoracic surgeons, anticipating their ideas and contribution, continuing the legacy of “Da Nan Yi”.

(Interview Editor: Yuanling Chen, AME Publishing Company)

AME Correspondence E-mail: [kysj@amegroups.com](mailto:kysj@amegroups.com)

Interviewed Expert's E-mail: [doc\\_cai@163.com](mailto:doc_cai@163.com)

Department Secretariat Tel No: 02061641822

Department Address and Postal Code: Department of Thoracic Surgery, Nanfang Hospital,  
Nanfang Medical School, 1838 Guangzhou Road N, Guangzhou, China, 510515

## Video Interview

# Kaicai Cai: The Controversies of Esophagus Cancer Treatment and My Experience

**Editor's Note:** The second BIG SMU Cardiothoracic Surgery Forum was successfully held in South Medical University, Guangzhou, China. We were honor to interview the president of the forum Prof. Cai Director of Department of Thoracic Surgery, Nanfang Hospital, Southern Medical University. As a surgeon with rich experience in the treatment of esophagus cancer, he has shared controversies the common long-standing myths in the treatment and some interesting stories in his career. Hope this interview will bring you inspiration.



You may refer to the previous article for the biography for Prof. Kaican Cai.

### Interview Questions

1. Could you share your understanding of the theme of this forum “BIG SMU”?
2. What are the controversies of esophagus cancer treatment?
3. Could you give some suggestions for young doctors who want to learn the standardized treatment of esophageal cancer?
4. Could you please share your some interesting stories in your career as cardiothoracic surgeon?



(Interview Editor: Helen Seliman, AME Publishing Company)

AME Correspondence E-mail: [kysj@amegroups.com](mailto:kysj@amegroups.com)

Interviewed Expert's E-mail: [doc\\_cai@163.com](mailto:doc_cai@163.com)

Department Secretariat Tel No: 020-61641822

Department Address and Postal Code: Department of Thoracic Surgery, Nanfang Hospital,  
Southern Medical University, No. 1838, Guangzhou Avenue North, Guangzhou, Guangdong,  
China, 510515

## Video Interview

# Lijie Tan: Better Future for Uniportal Video-Assisted Thoracic Surgery

**Editor's Note:** On the afternoon of December 12, 2015, editorial committee of the book *Uniportal Video-Assisted Thoracic Surgery* was held by AME Publishing Company in Hilton Hotel in Shenzhen. The Editors-in-Chief Prof. Lijie Tan and Prof. Alan Sihoe, and the Associate Editors-in-Chief Prof. Guibin Qiao and Prof. Chun Chen attended this meeting, together with many other young surgeons. Brief interview with Prof. Lijie Tan was conducted after the meeting. He shared with us the development and prospect of uniportal VATS, and also some of his own stories.



Lijie Tan, Professor of Surgery. Deputy Chief of Division of Thoracic Surgery, Chief of Section of Esophageal Surgery, and Director of Center for Esophageal Cancer, Zhong Shan Hospital, Fudan University, Shanghai. Deputy Chief of the Molecular and Cell biology Research Lab, Fudan University. He is the member of Esophageal Cancer Committee of Chinese Anti-Cancer Association, Esophageal Surgery Committee and Endoscopic Committee of Chinese Medical Association.

## Interview Questions

1. What are the development trend and prospect of uniportal VATS?
2. What are the difficulties in the development of uniportal VATS?
3. Could you share with us the case/surgery impressed you most?
4. Why did you choose to be a surgeon?



Zhongshan Hospital, a Budget Management Unit under the National Health and Family Planning Commission, is a comprehensive teaching hospital affiliated to Fudan University. Founded in 1936, the hospital was the first large-scale general hospital managed by Chinese people. Previously affiliated to Shanghai Medical College, the hospital was first named Sun Zhongshan Memorial Hospital to commemorate the pioneer of Chinese democratic revolutionist Mr. Sun Yat-sen. Later it was renamed Zhongshan Hospital. The hospital has been called Zhongshan Hospital affiliated to Shanghai First Medical College and Zhongshan Hospital affiliated to Shanghai Medical University in post-liberation China. It started to use its current name from 2001. In December 1991, Zhongshan Hospital was approved by the Ministry of Health as one of the first top tertiary hospitals in Shanghai. The Department of Thoracic Surgery of Zhongshan Hospital is included as a clinical key discipline by the Ministry of Health, and the key discipline of Shanghai. It's also the Shanghai Cardio-Thoracic Surgery Clinical Quality Control Center and the National Thoracic Surgery Clinical Pharmacology Base.



**Lijie Tan:**  
**Better Future for Uniportal Video-Assisted Thoracic Surgery**

Available online:  
<http://kysj.amegroups.com/articles/4057>

(Interview Editor: Suki X. Tang, AME Publishing Company)

AME Correspondence E-mail: kysj@amegroups.com

Interviewed Expert's E-mail: tan.lijie@zs-hospital.sh.cn

Department Secretariat Tel No:

Department Address and Postal Code:

## Text Interview

### **Fei Xiong: The Difficult Endoscopic Tracheal Carina Surgery is not only a Highlight but also a Challenge**

**Editor's Note:** On 16 May 2015, “The 1<sup>st</sup> Academic Meeting of National Endoscopic Tracheal Carina Surgery and the 8<sup>th</sup> Minimally Invasive Thoracic Treatment Forum” was held in The First Affiliated Hospital of Guangzhou Medical University. The meeting consisted of the heated discussions on Tubeless Video-Assisted Thoracoscopic Surgery (VATS), Live Broadcast of Thoracic Ambulatory Surgery and “highly difficult” Endoscopic Tracheal Carina Resection and Reconstruction Surgery, which attracted a lot of international experts. AME editor was honored to have an interview with Prof. Fei Xiong during the meeting to share his viewpoints on endoscopic tracheal carina surgery with us.



Fei Xiong, a Chief Physician. He is currently the Head of Department of Thoracic Surgery, Hubei Provincial Cancer Hospital and the Primary Expert on Lung Cancer Surgery. He is also the Committee Member of Thoracic Cancer Branch of China International Exchange and Promotive Association for Medical and Health Care (CPAM) and Southwest Collaboration Group of China Lung Cancer Collaboration Group. Professor Xiong has been working in the field of thoracic surgery for more than thirty years. He has extensive experience in diagnosing and treating thoracic cancer. He specializes in minimally invasive thoracic surgery.

For conventional endoscopic surgery, we usually perform pulmonary lobectomy and segmentectomy. Nevertheless, the highlight of a video broadcast on endoscopic tracheal carina surgery was about “the highly difficult” surgery. This is because not only the surgery at this meeting is for resection, but is also for reconstruction, including a reconstruction surgery on airway, bronchus, carina, blood vessels and so on, which has become a difficult surgical problem for thoracic surgery. Therefore,



Hubei Provincial Cancer Hospital (Hubei Cancer Center), Wuhan University Cancer Institute was founded in 1973. It is a large Upper First-Class cancer specialized hospital, which is directly administered under the Hubei Provincial Health Committee, offering the medical services, scientific research resources and teaching resources. It serves several positions including Hubei Provincial Cancer Medical Quality Control Center, National Drug Clinical Trial Base, Wuhan University Graduate Base, Postdoctoral Station, Hubei Province and Wuhan City Medical Insurance Station, New Rural Cooperative Medical Center Hospital and Commercial Insurance Hospital. Thoracic surgery is one of the key departments of the hospital. There is a reasonable structure in the range of staff age with a strong technical force. The hospital is in the leading position in Hubei Province for the diagnosis and treatment of lung cancer, esophageal cancer, cardia cancer, tracheal cancer, mediastinal tumors and other diseases. In recent years, minimally invasive surgery has been developing rapidly. The surgical techniques of thoracoscopic lobectomy, thoracoscopy combined with esophageal cancer resection, mediastinal tumor resection and other minimally invasive surgery are widely carried out, especially for the thoracoscopic lobectomy and bronchial formation, which has achieved the domestic advanced level.

when young doctors are learning surgical techniques, they should start learning basic surgical techniques from simple surgeries like pulmonary lobectomy to more difficult surgeries. Despite the advanced development in single-port thoracoscopic surgery, we need to explore more in this field. For instance, once the patient experienced bleeding during the single-port thoracoscopic surgery, it is highly difficult to solve the bleeding problem. On the other hand, the traditional three-port thoracoscopic surgery is now being widely performed by surgeons. On the premises of skillful surgical techniques and securing safety, we need to promote the surgical approaches that create the least post-operative trauma to the patients.

Thoracoscopic surgery has been advancing and improving through out the years. From an early stage of three-port thoracoscopic surgery, which developed into two-port thoracoscopic surgery, to a current period of development in single-port thoracoscopic surgery, many remarking experience are worth to learn: Firstly, we ought to be equipped with a proper knowledge base of surgical techniques. Once

we have sufficiently mastered our basic surgical techniques, we are able to do an in-depth research on advanced surgical techniques. Secondly, teamwork is very important. It is crucial to maintain a relatively fixed and cooperative team in the long term. Then, we can figure out how the team can best work together during the operation. In addition, we need to ponder over every operation and make a conclusion on the better surgical process. For example, we can conclude on the advantages of thoracoscopic tracheal reconstruction technique by using complete continuous sutures. The advantages including simple operation, same degree of tension in-between the sutures and stitches at a faster speed. In fact, We can make more progress in research by summarizing and concluding the better surgical approaches after the operations constantly.

(Interview Editor: Mingzhen Gao, AME Publishing Company)

AME Correspondence E-mail: [kysj@amegroups.com](mailto:kysj@amegroups.com)

Interviewed Expert's E-mail: [xiongf66@sohu.com](mailto:xiongf66@sohu.com)

Department Secretariat Tel No: 027-87670424

Department Address and Postal Code: Hubei Provincial Cancer Hospital, Zhuodaoquan South Road, No. 116, Hong Shan District, Wuhan City, Hubei, China, 430079.



## **Chapter III**

**Global Vision: To see a world in a grain of sand**

## Video Interview

### Adrian Ooi: Mindset and Patience Mean a lot

**Editor's Note:** The 2<sup>nd</sup> International Conference of Asia Thoracoscopic Surgery Education Program (ATEP) was held successfully in Seoul National University Bundang Hospital, Seoul, Korea from Dec. 4<sup>th</sup> to 5<sup>th</sup>, 2015. Among all the well-known surgeons, Prof. Adrian Seng Wae Ooi, from the Gleneagles Hospital Kuala Lumpur, was actively joining into every speeches in the conference and expressed his own perspective. During this conference, the Editorial Office of *Journal of Visualized Surgery (JOVS)* had the great honor to have an interview with Prof. Ooi to share with us some of his perspective on uniportal video-assisted thoracic surgery (VATS) .



Prof. Adrian Seng Wae Ooi, FRCS(C/Th) CCT(UK), is the Consultant Cardiothoracic Surgery (CTS) Surgeon in the National Heart Centre, Singapore. Being president of Singapore Thoracic Society since 2013, Prof. Ooi is an expert on uniportal VATS and robotic lung surgery.

In the interview, other than sharing about his perspective on the current development of VATS in Singapore and expectation on its future development, Prof. Ooi also told us his focus on the training of young surgeons about performing uniportal VATS—mindset (believe in yourself and just do it) and patience when practicing the uniportal VATS.

When talking about how to balance the busy work with personal life, Prof. Ooi gave us his own answer with a sweet smile—I married the right person. Thanks to his considerate wife, Prof. Ooi could enjoy what he does every day in the work and then go home after work every day being looked after by his lovely wife. Thus, Prof. Ooi always told his trainees that it's quite important to marry the right one for the pursuit of surgical life.

#### Interview Questions

1. We know that you're an expert on the Uniportal VATS. Would you like to share with us the current development of VATS in Singapore and what's your

- expectation on its future development?
2. What would be your focus when training young surgeons about Uniportal VATS?
  3. Being a surgeon means to dedicate most of your time to patients and research. Also, we know that you're the president of Singapore Thoracic Society. Would you like to share with us how to balance your personal life and your work?
  4. What do you like about surgery?



(Interview Editor: Fengping Gao, AME Publishing Company)

## Video Interview

### Alan D.L Sihoe: Glasses-free 3D VATS to Thoracic Surgeons, a Liberation

**Editor's Note:** Prof. Sihoe observed the world's first glasses-free 3D VATS lobe resection, performed by Dr. Jianxing He's group, during the 1st National Seminar on Endoscopic Tracheal Carina Surgery cum 8<sup>th</sup> National Forum on Minimally Invasive Surgery for Lung Cancer held in Guangzhou On 16–17 May 2015. Prof. Sihoe was interviewed by AME to share his observation and thoughts on glasses-free 3D technique, which he reckoned as an important breakthrough for thoracic surgery. Prof. Sihoe also talked about the limitations and potential problems in promotion of the technique. Last but not least, as requested by AME, Prof. Sihoe shared his experience and techniques in writing medical articles, hoping that it could help with readers' academic writings.

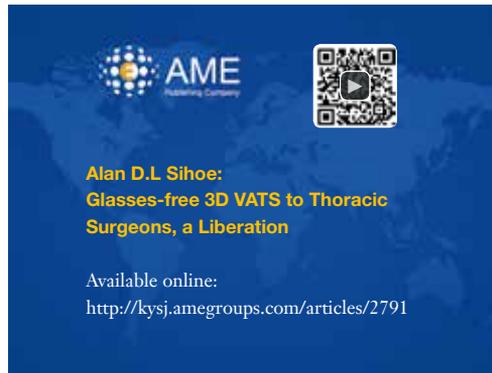


Alan D.L. Sihoe is the head of Thoracic Surgery Department of the University of Hong Kong – Shenzhen Hospital and a Professor at Li Ka Shing Faculty of Medicine, The University of Hong Kong. Prof. Sihoe specializes in laparoscopic surgeries and is skilled in Uniportal VATS. He is the only Asian committee member of the European Society of Thoracic Surgeons (ESTS). Prof. Sihoe actively participates in Asian, European and North American training programs to share his operational experience. He is also highly active and experienced in publishing English medical articles.

#### Interview Questions

1. What is your comments on the conference?
2. You have just witnessed in the operating theater the first glasses-free 3D VATS globally operated by Dr. Jianxing He' s group. What have you found?

3. What do you think would be the limits of 3D monitors to be widely utilized in most of the centers?
4. Could you share with us your experience in medical writing?



(Interview Editor: Nancy Zhong, AME Publishing Company)

## Video Interview

# Antonio Martin-Ucar: It is Lucky to Do What You Really Like

**Editor's Note:** The 2<sup>nd</sup> Cambridge International VATS Symposium was held successfully in Madingley Hall, Cambridge, UK. As one of the distinguished invited speakers, Dr. Antonio Martin-Ucar from University Hospitals Nottingham NHS Trust gave an excellent presentation on the topic “Uniportal approach: lowerer lobes”, in which he shared the skills and experiences of their hospital in applying single-port VATS to lowerer lobes, illustrating with multiple surgical videos. The excellent presentation was well received by the audiences. After the meeting, the editorial office of AME were honored to conduct an interview with Dr. Martin-Ucar.



Dr. Antonio E. Martin-Ucar is a Consultant, Thoracic Surgeon in Department of Thoracic Surgery, University Hospitals Nottingham NHS Trust, Nottingham, UK.

During the American College of Surgeons Clinical Congress 2015, a message board that read “What do you LOVE about surgery” drew our attention. Interestingly, many surgeons leave their various, unique, and touching answers. Therefore, in this interview, we also added the question. What would be Dr. Martin-Ucar’s answer? Let’s enjoy the interview video!

### Interview Questions

1. Could you first briefly introduce yourself to our audience, including your affiliation and interests?
2. Today you gave a nice presentation on the topic “Uniportal approach: lowerer lobes”. Would you like to summarize you main points to us?
3. In your clinical practice, what are your normal approaches in uniportal VATS?

4. Would you like to share some tips dealing with vessels/lymph gland in uniportal VATS?
5. Have you ever tried the approach below the xiphoid in clinical practice?
6. So what's the indication in this approach (below the xiphoid)?
7. What do you love about surgery?



(Interview Editor: Jessie Zhong, AME Publishing Company)

## Video Interview

# Bernard Park: Love the Technical Aspect of Surgery

**Editor's Note:** The 2<sup>nd</sup> International Conference of Asia Thoracoscopic Surgery Education Program (ATEP) was held successfully in Seoul National University Bundang Hospital, Seoul, Korea from Dec. 4<sup>th</sup> to 5<sup>th</sup>, 2015. In the conference, Prof. Bernard Park, from the Memorial Sloan-Kettering Cancer Center, made an excellent speech on the Robotic-assisted minimally invasive thoracic surgery based on his last thirteen years of experience, earning a lot admiration from the audience. During this conference, the Editorial Office of *Journal of Visualized Surgery (JOVS)* had the great honor to have an interview with Prof. Park.



Prof. Bernard Park, Deputy Chief of Clinical Affairs of the Thoracic Surgery Service at Memorial Sloan Kettering Cancer Center, is one of the world's leaders in robotic video-assisted thoracic surgery (VATS) lobectomy, a minimally invasive lung surgery which can decrease recovery time. He published one of the first large studies of robotic lobectomies using the DaVinci™ surgical robot and regularly uses VATS to perform a wide variety of thoracic surgeries, such as lobectomy, segmentectomy, thymectomy and metastasectomy. Prof. Park is board-certified in cardiothoracic surgery specializing in general thoracic surgery. He completed his residency and a fellowship at New York Presbyterian Hospital at Weill Cornell Medical Center before going on to additional fellowships at the Mayo Clinic and Memorial Sloan-Kettering Cancer Center.

In the interview, when talking about the standard of training in the robotic-assisted thoracic surgery, Prof. Park mentioned that future surgeons should know the disease process so that to decide the best choice of robotic-assisted surgery and as well to appropriately apply the technology into the procedure to improve patients' condition. For the training, Prof. Park also emphasized the importance of having a comprehensive understanding of the advantage and disadvantage of the robotic-assisted surgery for the benefit of patients.

Besides, Prof. Park also shared with us his advice for surgeons to update

themselves to keep pace with the thoracic world, for example, to read and see what other people are doing, attend conference, pay attention to what technology company are doing and creating.

At the end of the interview, when talking about the question written on a post board in this year's *American College of Surgeons (ACS)*—what do you love about surgery, Prof. Park instantly told us his answer—he loves the technical aspect of surgery.

### Interview Questions

1. We know that tomorrow you will talk about the “Robotic-assisted Minimally Invasive Thoracic Surgery”. Would you like to preview the speech with us? What message would you like to deliver through this speech?
2. We know that you are working on the standard for the training in the field of robotic thoracic surgery. In your opinion, what do you think should be the standard of training in the field of robotic-assisted thoracic surgery?
3. When training your students, what will be your focus, like skills, knowledge, technology, attitude or any other aspects?
4. Speaking of training, the purpose of training is to improve oneself. We know that the thoracic world is always progressing and we believe, as a surgeon, you'll also update yourself every day. Would you like to share with us what'll you learn or what'll be your way in your spare time to improve yourself to keep pace with this developing world?
5. You are currently a thoracic surgeon. What'll you do if you're not a surgeon?
6. What do you love about surgery?



(Interview Editor: Fengping Gao, AME Publishing Company)

## Video Interview

### Brian Louie: Like the Technical Aspect of Being a Surgeon

**Editor's Note:** The 6<sup>th</sup> International Thymic Malignancy Interest Group Annual Meeting (ITMIG 2015) has been successfully held on October 23–25, 2015 at the Regal Hotel in Shanghai, China. Many excellent scientists and clinicians have attended the meeting, sharing the latest basic and clinical developments related to the management of thymic malignancies and other mediastinal tumors. Dr. Brian Louie, an expert in thoracic surgery from Swedish Medical Center, USA, gave presentation on "Subtotal vs total thymectomy" in the meeting. After his presentation, we were honored to have an interview with Dr. Louie. During the interview, he shared with us that the purpose of the research "Subtotal vs total thymectomy" is to investigate the value of the partial thymectomy in the management of thymic tumors. As an expert in the minimally invasive surgery, when being asked what inspired him to be a surgeon, Dr. Louie replied: "Because my family have a lot of physicians, I want to be a different kind of physician."



Dr . Brian Louie is currently a thoracic surgeon at Swedish Medical Center, USA, as well as the Director of Thoracic Research and Education and Co - Director of the Minimally Invasive Thoracic Surgery Program in the Division of Thoracic Surgery at Swedish Medical Center and Cancer Institute.

#### Interview Questions

1. Dr. Louie, thank you for accepting our invitation. Would you kindly introduce yourself to our audience?
2. In your presentation in the ITMIG 2015, you talk about your research "Subtotal vs. total thymectomy", would you share with us the purpose of the research?
3. We know that you are expertise in the Robot-assisted surgery. What are the key points in performing a successful Robotic surgery?
4. You are currently the co-director of the Minimally Invasive Thoracic Surgery

Program at Swedish Medical Center. Would you introduce more about the program?

5. The developments of new technologies may help in improving patient outcome. What challenges a surgeon may face in using these new technologies?
6. Do you have any plans for any new researches?
7. What inspired you to become a surgeon?



(Interview Editor: Lucille L. Ye, AME Publishing Company)

## Video Interview

# Christopher Cao: VATS International Multi-center Project

**Editor's Note:** Dr. Christopher Cao is the section chief of *Annals of Cardiothoracic Surgery*. He is responsible for the Systematic Review section with rich experience in publishing systemic review and meta-analysis articles. Dr. Cao shared with us his experience in publication after the 8th National Forum on Minimally Invasive Surgery for Lung Cancer, held in Guangzhou, 16th to 17th May 2015. During the conference, Dr. Cao observed the glasses-free 3D VATS and tubeless VATS techniques operated by Dr. Jianxing He's group. Dr. Cao also introduced an International Multi-center VATS Project.



Christopher Cao,  
The Collaborative  
Research Group,  
Macquarie University.

### Interview Questions

1. What is your impression towards the meeting so far? What do you think is the most practical section of it?
2. As the section chief of *Annals of Cardiothoracic Surgery* on Systematic Review and Meta-analysis, could you share with us your experience in publishing systematic review and meta-analysis? What should be the focus?
3. Could you give a brief introduction to your presentation you are going to give this afternoon on the VATS project?



(Interview Editor: Nancy Zhong, AME Publishing Company)

## Video Interview

# David R. Jones: Willing to Accept the Modest Concerns Raised by our Colleagues

**Editor's Note:** The meeting of “AATS Focus on Thoracic Surgery: Lung and Esophageal Cancer 2016” was successfully held from March 19 to 20, 2016 in Shanghai, China. This meeting gathered the world's foremost experts of thoracic surgery with a fulfilled agenda. During the meeting, the editor from AME publishing company was honored to conduct a brief interview with prof. David R. Jones, Chief of Thoracic Surgery from Memorial Sloan-Kettering Cancer Center, New York, NY, USA.



David R. Jones is the Professor and Chief of Thoracic Surgery in Memorial Sloan Kettering Cancer Center, New York, NY USA. Prof. Jones is one of the earliest doctors in the United States to apply thoracoscopic surgery in clinical treatment. He has been committed to improving the treatment of chest tumor and conditions of prognosis. He has his own unique insights in the field of individual treatment of cancer.

Prof. Jones talked about his greatest sense of satisfaction in your career as a surgeon, and what makes a great team of surgeons. He also shared with us how he faced with modest concerns or doubts or even risks as one of the first innovative thoracic surgeons in the US to develop minimally invasive/VATS approaches as well as his perspectives on the current and future development of new technologies. Hope his sharing of experience and opinions are also beneficial to our readers.

## Interview Questions

1. What gave you your greatest sense of satisfaction in your career as a surgeon?
2. What do you think makes a great team of surgeons based on your experience in MSKCC?
3. Would you like to give some comments/suggestions on the young residents to pass their exams on the way to be a successful surgeon?

4. Did you feel that you were taking a risk or facing some skeptics as one of the first thoracic surgeons in the US to develop minimally invasive/VATS approaches?
5. Do you have faith in some new technology in the diagnosis or surgery options of Cancers, like the liquid biopsy?
6. From open surgery to VATS surgery and Robotic Surgery, is it possible that the young generation of surgeons become too dependent on technology?
7. AlphaGo beating the Go player Lee Sedol has raised great attention to artificial intelligence (AI). Do you think that AI would replace the surgeons to do the surgery in one day?



(Interview Editor: Anne Lu, AME Publishing Company)

## Video Interview

# David Sugarbaker: Artificial Intelligence is Awesome, Yet It Can Hardly Replace Human to Encourage or Comfort Patients

**Editor's Note:** The AATS Focus on Thoracic Surgery: Lung and Esophageal Cancer 2016 was held successfully in Shanghai from March 19<sup>th</sup> to 20<sup>th</sup>. It was a great pleasure for us witness such a grant and significant meeting onsite, and to extend it to our readers worldwide. During the meeting, the editorial office of AME were honored to conduct an interview with Prof. David Sugarbaker from Baylor College of Medicine, who was one of the meeting Chairmen. Prof. Sugarbaker was also the Chairman of the AATS 2013–2014, and an author of our journal *Annals of Translational Medicine*.



Prof. David Sugarbaker is a world-renowned doctor and certified thoracic surgeon widely credited for developing the first tri-modal treatment approach for malignant pleural mesothelioma.

Prof. David Sugarbaker is a world-renowned doctor and certified thoracic surgeon widely credited for developing the first tri-modal treatment approach for malignant pleural mesothelioma. Regarding the diagnosis and treatment of pleural mesothelioma, he recently published a perspective entitled “Perspective on malignant pleural mesothelioma diagnosis and treatment” for the *Annals of Translational Medicine*.

Prof. Sugarbaker is an active expert in international academic communications. He actively communicated and discussed with speakers and audiences during the whole meeting, and answered our questions patiently. We were deeply impressed by his profound knowledge, amiability and unique perspectives.

## Interview Questions

1. There was a lunch symposium discussing the differences of education of young thoracic surgeons between North America, China and Europe. How do you see the differences? How do you think to better educate them?
2. You may have heard that recently the computer AlphaGo won in a Go-chess showdown against the world's top player. Some people say artificial intelligence may replace many roles of human in the future, including surgeons. How do you think?
3. As one of the co-director of the meeting, would you like to share some highlights with our readers?
4. Are there any plans/projects with AATS in near future to share with us?



(Interview Editor: Jessie Zhong, AME Publishing Company)

## Video Interview

# Diego Gonzalez-Rivas: Uniportal Video-assisted Thoracic Surgery Has Become Increasingly Important

**Editor's Note:** The 1<sup>st</sup> International Course on Tubeless and Advanced VATS Lobectomy Techniques was held successfully in the First Affiliated Hospital of Guangzhou Medical University from December 7–11, 2015. The course was chaired by Dr. Jianxing He from First Affiliated Hospital of Guangzhou Medical University, China and Dr. Diego Gonzalez-Rivas from Coruña University Hospital, Spain. One hundred international experts from 16 different countries were invited to train the tubeless VATS lobectomy techniques. At the first day the course, I was honored to have an interview with Dr. Diego Gonzalez-Rivas after his speech on “Non-intubated VATS lobectomy surgery: CORUÑA experience”.



Dr. Diego Gonzalez-Rivas is the creator of Minimally Invasive Thoracic Surgery Unit (UCTMI) working at Coruña hospital, Quiron hospital, San Rafael and Modelo medical center.

In the interview, Dr. Gonzalez-Rivas briefly introduced the advances of VATS lobectomy over the past 8 years. He performed the first uniportal VATS lobectomy in June 2010 and performed the first non-intubated uniportal VATS lobectomy in the world in April 2014. Uniportal VATS for major resections has become a revolution in the treatment of lung pathologies since 2010, because the outcome of uniportal approach is good and it pushes the boundaries on the minimal thoracic invasive surgery.

When talked about the future development of uniportal VATS lobectomies, Dr. Gonzalez-Rivas expected that further development of new technologies like sealing devices for all vessels and fissure, robotic arms that open inside the thorax, and wireless cameras, which will probably allow the uniportal approach to become the standard surgical procedure for major pulmonary resections in most thoracic departments.

For more detail of this interview, readers can refer to the following video.

## Interview Questions

1. As the course director of this International Course on Tubeless and Advanced VATS Lobectomy Techniques, what do you think would be the most interesting session in this course?
2. Could you briefly introduce the advances of VATS lobectomy over the past 8 years?
3. Any insights of future development into uniportal VATS lobectomies?
4. You have organized a focused issue “Uniportal VATS” (V6, S6) for JTD. Do you have any future follow-ups on this issue?
5. What drives you to be a thoracic surgeon?



(Interview Editor: Mingzhen Gao, AME Publishing Company)

## Video Interview

# Enrico Ruffini: Thymoma Research Progress – Based on International Databases

**Editor's Note:** The 6<sup>th</sup> International Thymic Malignancy Interest Group Meeting (ITMIG 2015) came to an end on Oct 25<sup>th</sup>, 2015. This two-day meeting held in Shanghai gathered thoracic surgery experts from all over the world. It was by far the largest ITMIG meeting and was highly rated.



Enrico Ruffini, MD currently works at University of Torino, Department of Thoracic Surgery, 3 Via Genova, Torino, Italy. He is the Director of ESTS 2015 annual conference and the former secretary of TIMIG. His research interests include Thoracic Surgical Oncology, Thymic Diseases, Surgical Training and Lung Transplantation.

During the meeting, Dr. Ruffini shared recent thymoma researches progress, which are based on ITMIG and ESTS databases. After the meeting, he was interviewed by AME.

### Interview Questions

1. Would you like to share with us the overview of thymic carcinoma based on the ITMIG and ESTS database?
2. What remains to be issues in thymic surgery and what is your opinion?



**Enrico Ruffini:**  
**Thymoma Research Progress – Based on  
International Databases**

Available online:  
<http://kysj.amegroups.com/articles/3930>

(Interview Editor: Grace S. Li, AME Publishing Company)

## Video Interview

### Eric Lim:

## Surgery can Better Benefit Our Patients

**Editor's Note:** The 2<sup>nd</sup> Cambridge International VATS Symposium was held successfully in Madingley Hall, Cambridge, UK, during Oct. 16 to Oct. 17, 2015. As one of the distinguished invited speakers, Dr. Eric Lim from the Royal Brompton Hospital gave an excellent presentation on the topic “VATS vs SART/RFA”. He is an author of our journals *Annals of Translational Medicine* and *Journal of Thoracic Disease*. With the nice view and weather in Cambridge, we had a great time catching up with Dr. Lim and conducted a brief interview with him. Via the interview, Dr. Lim shared with us his unique perspectives and experiences on uniportal VATS.



Mr. Eric Lim is a Consultant Thoracic Surgeon at the Royal Brompton Hospital and a Reader in Thoracic Surgery at the National Heart and Lung Institute of Imperial College London.

### Interview Questions

1. Could you first briefly introduce yourself to our audience, including your interests?
2. Today you gave an impressive presentation in an interactive session “VATS vs SART/RFA”. Would you like to summarize your main points, your arguments to us?
3. What shall we expect/learn from this presentation?
4. How do you see the single port VATS?
5. What are your normal approaches in uniportal VATS?
6. Any stories to share with us in your clinical practice?
7. What do you love about surgery?



**Eric Lim:**  
**Surgery can Better Benefit Our Patients**

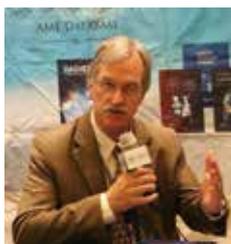
Available online:  
<http://kysj.amegroups.com/articles/3909>

(Interview Editor: Jessie Zhong, AME Publishing Company)

## Video Interview

### Frank Detterbeck: More attention should be paid to subgroup in the study of rare disease

**Editor's Note:** The 6<sup>th</sup> Annual International Thymic Malignancy Interest Group (ITMIG) Meeting in Shanghai on Oct 23–25 came to a close with a resounding success. It was marked by exciting sessions, scientific progress and further development of relationships and collaborations among clinicians, researchers and industry partners.



Frank Detterbeck, MD, FACS, FCCP is a Professor of Surgery and Chief of Thoracic Surgery at Yale University and Associate Director of the Yale Cancer Center. He earned a BS in Cell Biology at the University of Michigan, and an MD degree from Northwestern University. After completing general surgery training at the Virginia Mason Clinic in Seattle, he pursued a cardiothoracic fellowship and a fellowship in thoracic transplantation at the University of North Carolina at Chapel Hill. He rose to the rank of professor of surgery at the University of North Carolina during a long tenure there before being recruited to Yale University in 2005. The major focus of his career has been on thoracic oncology. In particular, he has promoted evidence-based care and multidisciplinary teamwork. He has written extensively on these and other topics, with over 150 papers and book chapters. He holds leadership positions in many of the major professional societies associated with thoracic surgery and has given invited lectures on a wide variety of topics at many institutions and international meetings.

During the conference, Prof. Frank Detterbeck, the former President and the committee member of ITMIG, has given an innovative lecture on outlier analysis, leading us to think out of box and find novel ways to advance in a rare disease.

*Journal of Visualized Surgery* was honored to invite Prof. Detterbeck for a brief interview to further share his opinion on the controversial issues presented during the meeting.



The full report and abstracts for the conference has been published as a supplement issue in Journal of Thoracic Disease: <http://www.jthoracdis.com/issue/view/158>.

### **Interview Questions**

1. WWhat is the take home message from your Innovative Lecture on Outlier Analysis?
2. What do you think of the efficacy of subtotal and total thymectomy?
3. How is the updated IASLC (proposal) and WHO tumor classification going to influence the upcoming study of thymic surgery?
4. In terms of thymic surgery, which is your preferred procedure: open, video-assisted thoracoscopic surgery (VATS) or robotic surgery?
5. How would you comment on the recent development of thymic surgery in China?

(Interview Editor: Grace S. Li, AME Publishing Company)

## Video Interview

# Gonzalo Varela: Be a Doctor First and then a Surgeon

**Editor's Note:** In the Third Shenzhen International Forum of Thoracic Surgery, we had the great honor to invite 2016 President of the European Society of Thoracic Surgeons (ESTS)—Prof. Varela to share with our readers his perspective on the training of thoracic surgeon.



Prof. Gonzalo Varela is presently the Chief of the Thoracic Surgery Service and Professor of Thoracic Surgery in Salamanca University Hospital and Medical School, Salamanca, Spain. His main clinical focus is on thoracic surgery. In his surgical practice, Prof. Varela puts much attention to the surgery quality and patient safety. During the interview, he also mentioned many times about the importance of focusing on patient safety.

### Interview Questions

1. What kind of skills do you think a surgeon should possess so that to do a perfect surgery even without the advanced technology?
2. How to balance the relationship between patients safety and technology?
3. What kind of mistake you think could be avoided during the surgery for the patients?
4. You're quite an excellent expert in the thoracic field. So we're quite interested in your early experience as a thoracic surgeon. Would you like to share with us some interesting or unforgettable experience as a thoracic surgeon?



**Gonzalo Varela:**  
**Be a Doctor First and then a Surgeon**

Available online:  
<http://kysj.amegroups.com/articles/3324>

(Interview Editor: Fengping Gao, AME Publishing Company)

## Video Interview

# Henrik Jessen Hansen: The Charm of Cardiothoracic Surgery Lies in Various and Constant Challenges

**Editor's Note:** During Oct.16–Oct.17, 2015, the 2<sup>nd</sup> Cambridge International VATS Symposium was held successfully in Madingley Hall, Cambridge, UK. As one of the distinguished invited speakers, Dr. Henrik Jessen Hansen from the University of Copenhagen gave an excellent presentation on the topic “Segmentectomy”, and successfully completed a live surgery during the meeting. With the nice view and weather in Cambridge, we had a great time catching up with Dr. Hansen and conducted a brief interview with him.



Dr. Henrik Jessen Hansen is a Consultant Thoracic Surgeon and Head of the Minimal Invasive thoracic program at the Department of Cardiothoracic Surgery, Rigshospitalet, University of Copenhagen.

## Interview Questions

1. Would you like to briefly introduce yourself to our audience, including your interests?
2. Yesterday you gave a very impressive presentation on “Segmentectomy”. Would you like to share with us your main points?
3. Today you also had a live surgery. Would you like to introduce the case to us? How was the surgery going?
4. What about the main difficulties in the surgery? Any tips you like to share with us?
5. What do you love about surgery?



**Henrik Jessen Hansen:  
The Charm of Cardiothoracic  
Surgery Lies in Various and  
Constant Challenges**

Available online:  
<http://kysj.amegroups.com/articles/3902>

(Interview Editor: Jessie Zhong, AME Publishing Company)

## Video Interview

# Javier Gallego: We are the Changer for the Better Way for Patients

**Editor's Note:** The 3<sup>rd</sup> International Uniportal VATS course jointly organized by the University Hospital Charité in Berlin, Germany, the University Hospital in Coruña, Spain and the Shanghai Pulmonary Hospital, Tongji University, Shanghai, China, was held successfully in Campus Charité Mitte, Berlin, Germany from March 16<sup>th</sup> to 18<sup>th</sup>, 2016. During the course, Prof. Javier Gallego, a well-known cardiothoracic surgeon from Hospital Santa Maria, Portugal, gave an excellent presentation on “Uniportal VATS for cardiac procedures”, earning a lot attention from the audience. This time, the Editorial Office of *Journal of Visualized Surgery (JOVS)* had the great honor to have an interview with Prof. Gallego.



Prof. Javier Gallego Poveda , MD, PhD, FETCS, currently is in the department of Cardio-Thoracic, Santa Maria University Hospital, Lisbon, Portugal. He has experience on training courses of Uniportal VATS surgery and he was the director in the last year for two Trainings in Uniportal VATS courses and one International Meeting for Minimally Invasive Cardiac techniques. He has published many papers in several Cardiac and Thoracic surgery fields.

In the interview, Prof. Gallego briefly introduced to us the advantages of Uniportal VATS in cardiac procedures and as well his experience of this application in his hospital, which we believe will be an inspirational and educational sharing for other cardiothoracic surgeons.

When mentioning about “what do you love to be a cardiac surgeon”, Prof. Gallego happily shared with us his early experience as a cardiothoracic surgeon and finally told us his motivation to keep moving—as a surgeon, we are the changer and we’re in the point of changing for the benefit of patients!

## Interview Questions

1. Advantage of uniportal VATS in the cardiac procedure
2. Is uniportal VATS for cardiac procedure popular in your hospital? What's your expectation to its future?
3. Do you think uniportal VATS for cardiac surgery will someday totally substitute open surgery?
4. What attitude should surgeons take when facing the new progress, technique in medical world?
5. What do you love to be a cardiac surgeon?



(Interview Editor: Fengping Gao, AME Publishing Company)

## Video Interview

### Joel Dunning: Surgery Keeps You Active and Exciting

**Editor's Note:** The 2<sup>nd</sup> Cambridge International Video-Assisted Thoracoscopic Surgery (VATS) Symposium was successfully held in the Madingley Hall, Cambridge, United Kingdom on Oct. 16<sup>th</sup> and Oct. 17<sup>th</sup>, 2015. In this symposium, Prof. Joel Dunning, from James Cook University Hospital, Middlesbrough, United Kingdom, shared his practice and perspective on microlobectomy, earning lots of applause from other experts. During the symposium, the Editorial Office of *Journal of Visualized Surgery (JOVS)* had the great honor to have an interview with Prof. Joel Dunning. In the interview, Prof. Dunning analyzed many advantages of microlobectomy based on drainage and pain. He also shared with us the principles needed to be observed when starting microlobectomy and his advice to the training for young thoracic surgeons. In the last, when talking about the question written on a post board in this year's American College of Surgeons (ACS)—*What do you love about surgery*, Prof. Dunning instantly told us his own answer—surgery keeps him active and exciting for 25 years!



Prof. Joel Dunning, FRCS, PhD, thoracic surgeon in James Cook University Hospital, Middlesbrough, United Kingdom.

#### Interview Questions

1. Today your speech is about the microlobectomy. Would you like to tell us about the advantages and shortcomings of microlobectomy?
2. What principles should the thoracic surgeons observe when starting microlobectomy?
3. Would you like to give some suggestions about the training of the young thoracic surgeons?
4. In this year's *American College of Surgeons (ACS)*, there was a post board written, “what do you love about surgery”. Would you like to share with us—what do you love about surgery?



**Joel Dunning:**  
**Surgery Keeps You Active and Exciting**

Available online:  
<http://kysj.amegroups.com/articles/3733>

(Interview Editor: Fengping Gao, AME Publishing Company)

## Video Interview

# Keng Leong Ang: Fellowship Experience under Dr. Jiangxing He's Group

**Editor's Note:** The 1<sup>st</sup> International Course on Tubeless VATS, starting from December 7<sup>th</sup>, 2015, has come to an end after 5 days' course with full schedule. Dr. Keng Leong Ang, the emcee of the event, interacted well with all attendees. He is a fellow at The First affiliation Hospital of Guangzhou Medical University, and a surgeon form East-midland Deanery, Nottingham city hospital. After the event, Dr. Ang was interviewed by AME to share his fellowship experience under Dr. Jianxing He's group.



Keng Leong Ang

### Interview Questions

1. Why do you choose this hospital for your fellowship?
2. What is your expectation before you take the fellowship and what is the progress for now?
3. What do you think impress you most during your fellowship in this hospital?
4. Do you have other interesting experience that you would like to share with us?

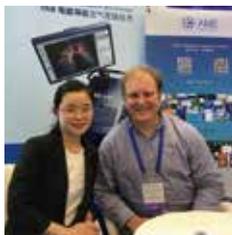


(Interview Editor: Nancy Zhong, AME Publishing Company)

## Video Interview

# Kyle Hogarth: American Experience of Electromagnetic Navigation

**Editor's Note:** CHEST World Congress 2016 was successfully held in Shanghai during April 15–17. Apart from normal key-note speeches, a series of education sections were set, including Live Learning Simulation Program, Clinical Case Puzzlers, and Problem-Based Learning Sessions etc. It's aimed at helping the attendees to better learn new knowledge, new techniques, to faster use them in the clinic.



Dr. Kyle Hogarth, MD, FCCP, is Associate Professor of Medicine in the Section of Pulmonary and Critical Care Medicine at The University of Chicago, USA.

Nowadays, lung cancer has been one of the most common cancers in China. What's the experience of other countries in early diagnosis? Is there anything to be shared from the USA regarding Electromagnetic Navigation Bronchoscopy (ENB), which has attracted more and more attentions in recent years? With great honor, AME Publishing Company has invited Prof. Kyle Hogarth, a leading person in ENB from Section of Pulmonary and Critical Care Medicine at The University of Chicago to talk about his experience. Welcome to watch the video for more information.

### Interview Questions

1. Lung cancer is one of the top killers in China. How about in the USA? Could you give us a general picture of current situation of Lung Cancer in the world?
2. Early diagnosis plays an important role in the treatment of lung cancer. But how can we diagnose as early as possible? Do you have any better practices in the USA to share with us?

3. What are the differences and the revolutionary changes for Electromagnetic Navigation Bronchoscopy (ENB) compared with the traditional diagnosis methods?
4. For the peripheral lesions, which are difficult for TTNA, what are the advantages of ENB?
5. For the technique, what's the major challenge when operating ENB? Could you here share some of your experience with us?



(Interview Editor: Molly J. Wang, AME Publishing Company)

## Video Interview

# Mahmoud Ismail: Not just Love the Uniportal VATS Technique but More for the Benefit of Patients

**Editor's Note:** The 3<sup>rd</sup> International Uniportal VATS Course jointly organized by the University Hospital Charité in Berlin, Germany, the University Hospital in Coruña, Spain and the Shanghai Pulmonary Hospital, Tongji University Shanghai, China, was held successfully in Campus Charité Mitte, Berlin, Germany from March 16<sup>th</sup> to 18<sup>th</sup>, 2016. During the course, Prof. Mahmoud Ismail, director of the Uniportal VATS Course, not only gave a great presentation on “Uniportal VATS: lobectomy”, but more importantly, made an impressive work for the whole course, which is as well a big move for the development of uniportal VATS in Europe. During the WETLAB in the third day, the Editorial Office of *Journal of Visualized Surgery (JOVS)* had the great honor to have an interview with Prof. Ismail.



Prof. Mahmoud Ismail is a graduate of the Charles University Prague, faculty of medicine in Plzen.

In the interview, Prof. Ismail told us that nowadays uniportal VATS is getting more and more popular due to its minimally invasive effect and its development in Germany is also getting faster. He also took the case number of uniportal VATS in University Hospital Charité for example—almost twenty times than usual, a solid evidence of the delight future of uniportal VATS in Europe!

At the end of the interview, when talking about the attraction of uniportal VATS, Prof. Ismail passionately gave us his answer—I'm not doing uniportal VATS only because I love it but more importantly because of the benefit of our patients.

### Interview Questions

1. What do you think about the current development of Uniportal VATS in Germany?
2. What about the condition of the Uniportal VATS practice in Charité Hospital and its percentage among all thoracic surgeries?

3. Could you show us about Uniportal VATS training for young thoracic surgeon and the training focus in Charité Hospital?
4. What's in Uniportal VATS attracts you so much?
5. What do you think about the progress or highlights of the 3rd International Uniportal VATS Course?
6. What's your expectation to the next year's Uniportal VATS Course?



(Interview Editor: Fengping Gao, AME Publishing Company)

## Video Interview

### Robert Korst: PORT in completely resected thymoma— more observation is needed

**Editor's Note:** The 6<sup>th</sup> Annual International Thymic Malignancy Interest Group (ITMIG) Meeting in Shanghai on Oct 23–25 came to a close with a resounding success. It was marked by exciting sessions, scientific progress and further development of relationships and collaborations among clinicians, researchers and industry partners.



Prof. Korst is board certified in surgery and thoracic surgery, and he received his medical degree from the University of Connecticut School of Medicine in 1989. He completed a general surgery internship at Hartford Hospital, Ct., in 1990. Midway through his residency at the University of Connecticut Integrated Program in General Surgery, Farmington, Ct., Dr. Korst went to the National Institutes of Health's Heart, Lung, and Blood Institute in 1992 as a research fellow in genetics. Before coming to Valley, Dr. Korst was a member of the departments of Cardiothoracic Surgery and Genetic Medicine at New York-Presbyterian Hospital/Weill Cornell Medical Center.

In the conference, Prof. Robert Korst has given a speech on “Post Operative Radiation Therapy in Completely Resected Thymoma”. *Journal of Visualized Surgery* was honored to conduct an interview with Prof. Korst to further share the recent advancement of thymic tumor research.

The full report and abstracts for the conference has been published as a supplement issue in *Journal of Thoracic Disease*: <http://www.jthoracdis.com/issue/view/158>.

#### Interview Questions

1. From your presentation about efficacy of Post Operative Radiation Therapy in Completely Resected Thymoma, what is the key message you would like to

- convey to the audience?
2. How would you comment on the recent development of thymic tumor research?
  3. What is your expectation for future international collaboration in thymic tumor research?
  4. What is your impression for the ITMIG 2015 annual conference?



(Interview Editor: Grace S. Li, AME Publishing Company)

## Video Interview

# Jens C. Rückert: If One More Chance, I Will Choose Surgery Again

**Editor's Note:** “International Symposium on Complications in General Thoracic Surgery: Sino-Europe Summit 2016” was held successfully in Shanghai. Many domestic and European experts were invited to conduct a special lecture and in-depth discussion. AME was honored to have an interview with Prof. Jens C. Rückert in the symposium, who is the representative of the European Robotic Surgery.



Jens C. Rückert, Professor. Director, Department of thoracic surgery, Universitätsmedizin Berlin, Charité Campus Mitte, Berlin, Germany; The member of The Society of Thoracic Surgeon (STS); The Consultant of *Journal Surgical Oncology*.

Prof. Rückert is working in the Charité Campus Mitte, affiliated to Freie University Berlin and Humboldt-Universität zu Berlin. The Charité is the largest medical institution in Europe with a long history of more than 300 years. All scientific research, teaching and medical staffs are at the highest international level. Also, more than half of all German Nobel Prize winners in Physiology or Medicine are from Charité. Charité extends four campuses, located in four different regions of Berlin. Now, Charité is the largest employers in Berlin, employing 13,000 staff.

Prof. Rückert's Robot Thymectomy is respected in the world by academic circles. Prof. Rückert introduced the complications after robotic mediastinal surgery and risk factors in the symposium. Also, Prof. Rückert always speaks to surgeons, “NO bad routine with growing experience”. Regarding the future development of the robotic surgery, he said does not expect the robot can replace the surgeons' hands to do surgeries in the future... For more information, please do not hesitate to click on the video.

## Interview Questions

1. You have a speech on “Complications after robotic mediastinal surgery” today, is it possible that robot would replace the surgeons to do the surgery in the future?
2. What can you do if you were not a surgeon?



(Interview Editor: Crystal M Yan, AME Publishing Company)

## Video Interview

# Scott J. Swanson: What Role will Robotic-assisted Thoracoscopic Surgery Play?

**Editor's Note:** “AATS Focus on Thoracic Surgery: Lung and Esophageal Cancer 2016” was held in Shanghai, China, on March 19–20, 2016. Renowned thoracic surgeons gathered together to present academic reports, share their experience in performing surgery, and discuss technological advances in the field of thoracic surgery. Prof. Swanson delivered lectures on the topics of “VATS Resection following Induction Therapy” and “Management of Chyle Leak”. Also, Prof. Swanson showed how to perform “VATS Lobectomy” to the participants at the video display session. During the conference, AME publishing company is honored to have an interview with Prof. Swanson for sharing experience in thoracic surgery.



Scott J. Swanson, Dr. Swanson is a professor in surgery at Harvard Medical School and director of Minimally Invasive Thoracic Surgery at Brigham and Women's Hospital (BWH). He is chief surgical officer of Dana-Farber/ Brigham and Women's Cancer Center. Dr. Swanson's major clinic research interests focus on lung cancer, esophageal surgery. Specifically, his expertise lies in the areas of minimally invasive video-assisted thoracoscopic surgery, lung transplantation and thoracic oncology.

In the interview, Prof. Swanson talked about his own experience of being a thoracic surgeon, and is pleased to have been helping many more patients with lung cancer through surgery for more than 20 years. Prof. Swanson summarized some main points about Management of Chyle Leak, saying that 5–10% of patients suffer from Chyle Leak, early detection and treatment are keys to alleviate patient suffering. Prof. Swanson also shared his insights on the current status of robotic-assisted thoracoscopic surgery (RATS) and video-assisted thoracic surgery (VATS), and mentioned that currently most hospitals in the United States may choose to not allow more money to be used for RATS.

Becoming a thoracic surgeon is still very challenging, Prof. Swanson suggested that young surgeon should keep learning and strengthening skills every day, just as

it's not an easy thing to get better and better. He added that doctors should be more patient and sincere to their patients.

### Interview Questions

1. Why did you select your field, what do you like about thoracic surgery?
2. Would you like to share with us some of your proudest achievements?
3. You gave an excellent lecture on “Management of Chyle Leak” today, would you please summarize your main points for our readers?
4. What's the disadvantage of robotic thoracic surgery, compared to thoracoscopic surgery? What's your opinion on robotic thoracic surgery?
5. Any advices for students interested in pursuing a career in your field?



(Interview Editor: Ann Young, AME Publishing Company)

## Video Interview

# Simon YK Law: The Role of Surgery for Esophageal Cancer in the Era of Multimodality Treatments

**Editor's Note:** The “West China 2015 Forum on Esophagology” was held in Chengdu, Sichuan Province of China on September 20<sup>th</sup>, 2015. On the forum, Prof. Simon YK Law from Queen Mary Hospital of The University of Hong Kong received an interview by AME. Prof. Simon YK Law is the Chief of the Division of Esophageal and Upper Gastrointestinal Surgery in Queen Mary Hospital, and Chairman of the 14<sup>th</sup> International Conference of the International Society of Esophageal Diseases (ISDE). His research interest mainly focuses on upper gastrointestinal diseases, especially in esophageal and gastric cancer.



Simon YK LAW, MBBChir (Cantab), MS (HK), MA, FRCSEd, FCSHK, FHKAM, FACS, Cheung Kung-Hai Professor of Gastrointestinal Surgery, Chief, Division of Esophageal and Upper Gastrointestinal Surgery, Department of Surgery, The University of Hong Kong, Queen Mary Hospital, Hong Kong. He is a council member of the College of Surgeons of Hong Kong.

## Interview Questions

1. As you introduced in your speech “Surgery for Esophageal Cancer in the era of multimodality treatments”, the role of surgery is changing. What role of surgery will play in the future multimodality treatment for esophageal cancer?
2. Actually, the conference had quite a lot of introductions and discussions on the researches on neo-adjuvant therapies and the adjuvant therapies about the treatment of esophageal cancer. What are the outcomes\progresses of these researches at present?
3. What are the major factors causing esophageal cancer? How to prevent esophageal cancer?
4. As you are the expert on esophageal and gastric cancers, would you like to share the latest progress of your researches?



**Simon YK Law:**  
**The Role of Surgery for Esophageal  
Cancer in the Era of Multimodality  
Treatments**

Available online:  
<http://kysj.amegroups.com/articles/3708>

(Interview Editor: Chao-Xiu(Melanie) He, AME Publishing Company)

## Video Interview

# Steven DeMeester: Focus on the Long-term Outcomes

**Editor's Note:** In the West China 2015 Forum on Esophagology, the Editorial Office of *Journal of Visualized Surgery (JOVS)* has the great honor inviting Prof. Steven DeMeester, from the University of Southern California, to share with our readers his expectation on the future development of research on esophagus disease in China as well as his suggestion to the next generation of thoracic surgeons.



Steven R. DeMeester, MD, is a professor and clinical scholar in the department of cardiothoracic surgery at the University of Southern California School of Medicine.

### Interview Questions

1. During Dr. Wang's speech, you mentioned that some people still got cancer even they do not drink or smoke. Is there any research on the reason behind this phenomenon and what would be the result?
2. After his speech, Dr. Simon Law left a question about the role of surgery in the early cancer. Would you like to tell us your perspective on the role of surgery in the early cancer?
3. We know that you have extensive experience in the field of advanced thoracoscopic surgery for the treatment of reflux disease. What kind of skills you think the young thoracic surgeons should possess so that they can achieve a successful minimally invasive thoracoscopic surgery?
4. In today's forum, we noticed that you asked question after almost every speech. Would you tell us your view on today's forum and your expectation on the future development of research on esophagus disease in China?



**Steven DeMeester:**  
**Focus on the Long-term Outcomes**

Available online:  
<http://kysj.amegroups.com/articles/3629>

The image is a blue rectangular graphic with a faint world map background. In the top left is the AME Publishing Company logo, which consists of a cluster of white dots forming a globe-like shape next to the text 'AME Publishing Company'. In the top right is a square QR code with a play button icon in the center. Below these elements, the text 'Steven DeMeester: Focus on the Long-term Outcomes' is written in yellow. At the bottom, the text 'Available online: http://kysj.amegroups.com/articles/3629' is written in white.

(Interview Editor: Fengping Gao, AME Publishing Company)

## Video Interview

# Takuya Nagashima: I Want to do My Best for Lung Cancer Patients

**Editor's Note:** “The Fourth West-lake Forum of International Breast Tumor (National Continuing Education Program) and The New Minimally Invasive Technique in Breast Diseases, Rapid Rehabilitation—Airway Management Classes” were held from November 11<sup>th</sup> to 15<sup>th</sup>, 2015 in Hangzhou CROWNE PLAZA HOTELS&RESORTS. At this meeting, Takuya Nagashima from Yokohama City University gave a wonderful lecture on “Thoracoscopic Left mediastinal Lymph node dissection” and received an exclusive interview with AME after the meeting. When Dr. Nagashima was asked why he wanted to be a thoracic surgeon, he replied earnestly: “I want to do my best for lung cancer patients.”



Dr. Takuya Nagashima, an assistant professor at Yokohama City University Medical Center, Respiratory Disease Center, is the board certified by Japan surgical society, Japan general thoracic surgery, Japanese society for respiratory endoscopy and Japan society of clinical oncology, he is also a councilor of the Japanese association for chest surgery and Japanese society for respiratory endoscopy. He was the head surgeon at Kanagawa cardiovascular and respiratory center, department of general thoracic surgery between 2011 and 2012. His research focus is on the minimally invasive surgery with safety and high quality for lung cancer, mediastinal mass and pneumothorax.

## Interview Questions

1. First, could you please briefly introduce yourself to our audience, including your research interests?
2. Today you gave an excellent speech on “Thoracoscopic Left mediastinal Lymph node dissection”, could you give a summary on your main points of your report? What shall we learn from the report?
3. You are doing well in the Lymph node dissection, what is the biggest challenge for Lymph node dissection, and do you expect any innovative technology to have a breakthrough?

4. We notice you have been working on respiratory disease for a long time, what is your most memorable surgery?
5. What is your impression on China and Chinese chest researches?
6. Finally, why do you want to be a surgeon of respiratory, is there any story here?



(Interview Editor: Hestia S. He, AME Publishing Company)

## Video Interview

# Tomoyuki Hishida: Surgical Outcome of Thymic Carcinoma

**Editor's Note:** The 6<sup>th</sup> International Thymic Malignancy Interest Group Annual Meeting (ITMIG 2015) has been successfully held on October 23–25, 2015 at the Regal Hotel in Shanghai, China. Many excellent scientists and clinicians have attended the meeting, sharing the latest basic and clinical developments related to the management of thymic malignancies and other mediastinal tumors. Dr. Tomoyuki Hishida, a thoracic surgeon from National Cancer Center Hospital East, Japan, gave an important lecture on “Surgical outcome of thymic carcinoma”. At the meeting, we were honored to have an interview with Dr. Hishida.



Dr. Tomoyuki Hishida, a thoracic surgeon at National Cancer Center Hospital East, Japan. Dr. Hishida received his M.D. and Ph.D at Nagoya University.

### Interview Questions

1. Dr. Hishida, welcome to ITMIG 2015 and welcome to China. First of all, would you kindly introduce to us the current incidence of thymic carcinoma in Japan?
2. As you are an expert in surgery for thymic carcinoma, what is the secret for performing a successful procedure?
3. Would you kindly introduce to us the factors affecting survival after surgical treatment for thymic carcinoma?
4. Minimally invasive surgery is a trend now, like Robotic surgery and VAST surgery. What is the current status of these surgeries for thymic carcinoma in your hospital?
5. In your presentation, you talked about “Surgical outcome of thymic carcinoma”. Would you kindly summarize the key points of your presentation?



(Interview Editor: Lucille L. Ye, AME Publishing Company)

## Video Interview

# Toni Lerut: My Experience in China as a Thoracic Surgeon

**Editor's Note:** The 1<sup>st</sup> International Course on Tubeless and Advanced VATS Lobectomy Techniques has been successfully held on December 7–11, 2015 at the 1<sup>st</sup> Affiliated Hospital of Guangzhou Medical University, Guangzhou, China. Professor Toni Lerut from University Hospital Leuven, Belgium, gave a presentation on the topic “Evolution of thoracic surgery and my Chinese experience”, introducing the development of thoracic surgery in general and sharing his experience in China. After his presentation, we were honored to have an interview with Prof. Lerut.



Professor Toni Lerut, professor of thoracic surgery at University Hospital Leuven, Belgium. Prof. Lerut received his medical degree and training in general surgery at the Catholic University of Leuven, Belgium.

Professor Toni Lerut has a lot of fascinating experience in China, with his first visit to Shanghai in 1991. After 1991, he got opportunities to visit several cities in China, like Beijing and Kunming during the years, communicating with Chinese thoracic surgeon and learning Chinese thoracic surgery in depth. During his several visits to China, Prof. Lerut was surprised by the fast development of economy in China, and as a thoracic surgeon, Prof. Lerut was stunned by the development of thoracic surgery China has made. In the interview, Prof. Lerut revealed his plan that he would stay in Shanghai for 4 to 5 weeks in 2016, working on and cooperating with Shanghai Pulmonary Hospital, etc. He was past president of ESTS, EACTS, ISDE, and was very active in international academic communication. In the 2015 ESTS, he was glad to see many Chinese surgeon attending the meeting, and the Chinese Night organized for the Chinese visitors. He liked this interesting event, hopefully to socialize with Chinese surgeons again in the next year the Chinese Night in ESTS. Prof. Lerut believed that Tubeless VATS will be part of our daily practice in a short time as there is much more technology to take care of anesthesia and to develop equipment for VATS. When being

asked why did he choose to become a surgeon, Prof. Lerut said “A surgeon is not only using his brain and also working with his hands. It is like doing an art.”

### Interview Questions

1. Would you kindly introduce yourself to our audience first?
2. You talked about your Chinese experience just now in your presentation. Would you like to share it again here with our audience?
3. Do you have any plans for further cooperation with Chinese surgeons?
4. How do you think of the Tubeless VATS techniques?
5. Would you like to talk about the current status of VATS surgery in your country?
6. What inspired you to become a surgeon?



(Interview Editor: Lucille L. Ye, AME Publishing Company)

## Video Interview

### Tristan D. Yan: Views on Laparoscopic Thoracic Surgery

**Editor's Note:** On 16–17 May 2015, the 1<sup>st</sup> National Seminar on Endoscopic Tracheal Carina Surgery cum 8th National Forum on Minimally Invasive Surgery for Lung Cancer was held in Guangzhou. Prof. Yan was interviewed by AME. He introduced the mini-bentall procedure for laparoscopic cardiac surgeries and talked about the benefits of minimally invasive aortic surgery. He also shared thoughts on the “separation” of thoracic and cardiac surgery. Last but not least, Prof. Yan said that he was impressed by the glasses-free 3D VATS technique presented by Dr. Jianxing He's group. He believes that this technique will greatly benefit thoracic and cardiac surgery.

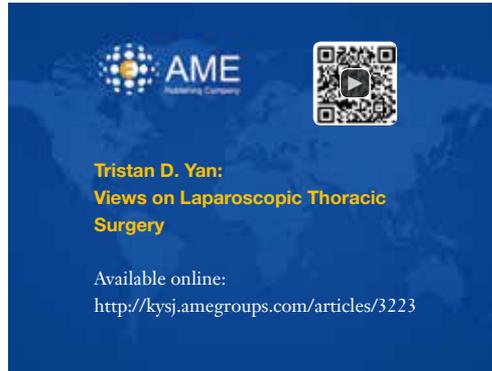


Prof. Yan is the Editor-in-Chief of the *Annals of Cardiothoracic Surgery*. He is also a Consultant Cardiothoracic Surgeon, Professor of Cardiovascular and Thoracic Surgery at the Macquarie University Hospital and Clinical Professor of Surgery at the University of Sydney, Royal Prince Alfred Hospital, and Sydney Adventist Hospital in Sydney, Australia.

#### Interview Questions

1. As you know in China, Thoracic Surgical Practice is now separated from Cardiac Surgery. Do you see the advantages of the trend of having a streamed practice?
2. You mentioned that you do the posterior VATS lobectomy approach. What are the main advantages of this approach as opposed to the anterior approach?
3. You talked about mini-bentall procedure. What is a mini-bentall procedure?
4. Through 5–7 cm incision, what kind of procedures can you perform?
5. What are the benefits of minimally invasive aortic surgery? For example, what is the average length of the hospital stay following this procedure?
6. What is the secret for successful mini-bentall procedure?

7. Prof. Jianxing He and his group had a live surgery on glasses-free 3D VATS during the conference. Can you see that you can utilize the monitor in both minimally invasive thoracic and cardiac surgery in your practice?



(Interview Editor: Nancy Zhong, AME Publishing Company)

## Video Interview

### Walter Weder: I've Always been Fascinated by Surgery

**Editor's Note:** "AATS Focus on Thoracic Surgery: Lung and Esophageal Cancer 2016" was held in Shanghai from Mar. 19–20, 2016. Many thoracic experts gathered around, discussing the important issues of thoracic surgery. AME invited Prof. Walter Weder from University Hospital Zurich for an interview.



Walter Weder is currently the chief and chairman of division of thoracic surgery of University Hospital Zurich. He served as the president of ESTS from 2004–2005 and performed the first lung transplantation in Switzerland in 1992 and also the first Thoracoscopic Lung Volume Reduction worldwide in 1994. His research interests include lung malignant tumor, pleural mesothelioma and robotic surgery etc. He has been invited to China several times and he played an active role in promoting the development of thoracic surgery.

Comparing the two therapies for patients with early lung cancer: surgery or SBRT, Prof. Weder believed surgery is a better choice for patients with its lower mortality and less tissue damage. Some people thought that someday Artificial Intelligence(AI) might replace human surgeons to perform surgeries as Alphago's victory to its human opponent Lee Se-dol. But Prof. Weder was very skeptical of this. He said surgeries are very complicated considering different individuals and cases. It's better to make medical decisions by human surgeons. He said there would be more robot-assisted surgeries in the future, but they would still be guided by human surgeons.

Prof. Weder has made brilliant achievements in the field of thoracic surgery. He told us that he's always been fascinated by surgery. He believed that surgeon should fully understand the diseases to make medical decisions and then use advanced medical techniques and correct surgery procedures to achieve the best outcome of patients.

The lunch symposium's topic of the meeting was "Thoracic Surgery Resident Education: North America, Europe and China". Prof. Weder said that the training

system between North America and Europe are mostly the same but there is slight difference. He took Europe for an example. He said that Europe consisted of many countries, which differed in economic power, policy etc. Therefore their training systems were not completely the same. From Prof. Weder's point of view, it's very important to have a standardized education system to evaluate the young doctors and also send excellent doctors to go abroad to exchange and this could promote the development of thoracic surgery.

### Interview Questions

1. Would you kindly introduce yourself to our audiences?
2. Surgery vs SBRT, what do you think about the two therapies?
3. Do you think that AI would replace the surgeons to do the surgeries in one day?
4. Could you tell us what/who drives you to be an outstanding surgeon?
5. About the lunch symposium topic Thoracic Surgery Resident Education; North America, Europe and China. Could you tell us the differences between these regions?
6. Do you think that the standard criteria are necessary to set for evaluating the young doctors and sending those better doctors to go abroad?



(Interview Editor: Amy Liu, AME Publishing Company)

## Text Interview

# Changqing Pan: Build Shanghai Chest Hospital as an International Brand



Changqing Pan is the Dean of Shanghai Chest Hospital Affiliated to Shanghai Jiao Tong University, chief physician of General Surgery, executive director and academic committee member of Shanghai Hospital Association, academic committee member of Shanghai Jiao Tong University School of Medicine, member of Hospital Architecture System Research Branch of Chinese Hospital Association and member of Shanghai Federation. He has served as the resident, attending and deputy chief physician of General Surgery at Shanghai First People's Hospital, and got promoted to be the chief physician in 2002. He has served as the deputy chief executive officer of General Surgery since 1998. In October 1999, he went to the University of California, Los Angeles (UCLA) where he carried out expert visits. Since 2003, he has taken up administration work and has served as the Director of Medical Services and the Director of Equipment Operations at Shanghai First People's Hospital, where he has become the Vice President of Support Services, the Associate Dean and the Dean of the Hongkou Branch since April 2008. In March 2016, he was further appointed to be the Dean of Shanghai Chest Hospital Affiliated to Shanghai Jiao Tong University. He has remarkable experience in both clinical and management work. Specializing in the standardized surgical treatment and chemotherapy of gastrointestinal cancer, he and his team attained four "firsts" in Shanghai, which include: first instance of simultaneous pancreas-kidney transplantation with enteric drainage, first reduced-size orthotopic liver transplantation, first instance of simultaneous liver-kidney transplantation and first case of liver transplantation for severe hepatitis. Scientific research on "Magnetic-activated cell sorting for micrometastasis of gastric cancer" and "The effects of oxidative stress on telomerase activity, regulation of apoptosis and tissue homeostasis in cirrhosis and liver cancer patients" won the Shanghai Science and Technology Award. He also won the prize of "Shanghai Energy Conservation Advanced Individual" in 2013 and was awarded the "Shanghai Employees' Most Trusted Manager 2014-2015" by Shanghai Federation of Trade Unions. So far, he has published 33 management and profession-related papers and participated in three books.

In 2016, Professor Changqing Pan shouldered the crossbeam of Shanghai Chest Hospital. Serving in the hospital for more than a year, he used his double decades of experience as a doctor to carry through a simple doctor's vision, and to exert a comprehensive management concept to make an efficient hospital management come true.

### **Stay gold—clinical work and management spark off the best in both**

Last year in March, an “appointment notice” issued by Shanghai Hospital Development Center made Professor Pan, who was at that time the Associate Dean of Shanghai First People's Hospital, the new Dean of Shanghai Chest Hospital.

According to the notice, Professor Pan, originally the chief physician of General Surgery at the Shanghai First People's Hospital, specialized in gastrointestinal cancer and thus had nothing to do with chest. The decision made by Shanghai Hospital Development Center was based on three major factors: his considerable experience, clear thinking and pragmatism.

Reaching the pinnacle after twenty years of clinical experience, Professor Pan transitioned to a hospital management role that was full of new challenges. Shifting his roles from a doctor to a manager, he had been confronted with collision between the two distinctive work approaches. Having been clinical-oriented for most of his life, he adopted the new role at rather late of a stage. Nevertheless, he did all he could do to delve into management techniques after being entrusted with such significant task. Stepping into the Chest Hospital, he took part in meetings actively, studied reports carefully and walked every nook and cranny of the hospital. Using every possible means, he gained understanding about the hospital's situation step by step through multi-angle and multi-level listening and feedbacks. By clinging to his original aspiration as a doctor, further combined with his years of clinical experience and advantages, he figured out a unique set of management techniques and theories after a year of extensive practice and learning.

During our interview with Professor Pan, we could feel how passionate and proud he was towards his career. It is also because of his remarkable clinical experience that he could integrate hospital management with clinical needs inseparably. Speaking of the advantages of the Chest Hospital, Professor Pan was full of pride—high brand popularity in conjunction with strong clinical and innovative ability is the hospital's core competitive strength. Every management decision was made for the cultivation of the hospital in terms of medical treatment, education and scientific research. Coming hand in hand, clinical work and management let him view the development of the hospital in both depth and breadth. Such “collision” does spin off lots of brisk and dazzling sparkles that bring out the best in both.

Being asked what he would like to be remembered for after retirement, Professor Pan admitted that his real concern was not that but something bigger—what he could possibly contribute with his utmost effort to the hospital's development and

the establishment of the medical teams. This answer, as a matter of fact, tallied with his style—having been in the field for more than 20 years, whether as a doctor or a manager, he regards medical ethics rather than wealth or fame as the principle, and carries through a simple doctor’s vision with an acute management concept to implement efficient hospital management.

### **Strive for excellence, build Shanghai Chest Hospital as an international brand**

Founded in 1957, Shanghai Chest Hospital (Shanghai Chest Hospital Affiliated to Shanghai Jiao Tong University) is the oldest cardiovascular, pulmonary, esophageal, tracheal and mediastinal diseases-based specialist hospital built in the nation that assembles together medical treatment, education and scientific research. As a 3-star first-class specialist hospital, it has created many medical “firsts”: in terms of surgical techniques, it has carried out the world’s first instance of unrelated donor unilateral lobar lung transplantation on adult, the nation’s first aortic valve replacement with coronary artery bypass and the nation’s first Da Vinci robot-assisted lung cancer radical surgery and thymoma resection. In terms of innovative development, it gave birth to the nation’s first bubble-type artificial heart-lung-machine along with its manufacture and application. Out of the four nationally recognized pioneers of Cardiothoracic Surgery, Jiasi Huang, Yingkai Wu, Kaishi Gu and Xichun Lan, three of whom served as the Dean or deputy Dean of the hospital before. Despite the rather young age of the hospital, it has profound foundation which our nation’s most excellent resources of cardiothoracic surgery are congregated. In Professor Pan’s opinion, the direction of Shanghai Chest Hospital’s development strategies and planning lies in its own position. At present, the hospital has fairly high ranking in pulmonary and mediastinal tumors treatment, while more effort has to be put in cardiac treatment. He strongly believes that through the joint effort of the entire staff the hospital will become a place full of uniqueness and strengths, where the development of cardiothoracic techniques can take a step forward, where professions like chest-lung tumor treatment can reach the forefront of the country, and where cardiothoracic discipline can come out of the intense competitions to the front of Shanghai and other hospitals of the nation.

Not only is disciplinary establishment the cornerstone of a hospital’s brand, reputation and competitiveness, it is also the starting point of a hospital’s management, business and quality. Meanwhile, both clinical and scientific research abilities are indispensable. It is to Professor Pan’s belief that as a national and international first-class Chest Hospital, the abundant resources of clinical research samples derived from the huge number of patients provide conditions that are favorable to the enhancement of clinical research level and operational skills. In the near future, through continuous exploration and research, the hospital crew will formulate a set of medical norms and standards that is generally applicable to the

country so as to provide patients with better treatment programs. This has been a long-cherished dream made by doctors of all generations.

Needless to say, not only does the international brand building of a hospital depend on its own strength in core competitiveness, it also relies on the support of a powerful academic platform. On 1st April this year, Shanghai Chest Hospital and AME Publishing Company came to a strategic cooperation that could elevate scientific impacts by setting up together the “AME-Shanghai Chest Hospital International Research Center”. Together, these parties laid down five major areas of strategic cooperation—co-founding an international medical journal *Shanghai Chest*, publishing Chinese and English medical books, conducting systematic trainings for young and middle-aged doctors, organizing international multidisciplinary consultation on difficult cases, and international multidisciplinary consultation on scientific papers (wisdom gathering). Speaking about the journal *Shanghai Chest*, Professor Pan affirmed that a good journal is what a well-known hospital requires to publicize itself and strengthen its influential power. Shanghai is an international metropolis. Through a platform such as *Shanghai Chest*, we can demonstrate to the public the professional experience of the hospital, while facilitating academic exchanges among domestic and foreign experts. As a result, the hospital can have its brand-awareness truly heightened and “go big” with an ultimate goal of becoming an international first-class specialist hospital. Learning the achievements made by AME in establishing an international academic platform, Professor Pan is fully confident that the cooperation between Shanghai Chest Hospital and AME will undeniably make noteworthy contributions to the whole medical industry and the development of the hospital.

### **Hold on well at the current situation, pave future road through cultivation and innovation**

In Professor Pan’s eyes, today’s youth is tomorrow’s nation. The future of the hospital rests on young doctors. He is therefore concerned with the cultivation and education of young doctors. Level training, tailor-made career planning, personnel and distribution systems that are open, fair and just... all these factors stirred up the passion among young doctors, and attracted a noticeable number of outstanding medical talents to join their hospital. Having originated from clinical work, Professor Pan has always stressed that “it is nothing bad for some doctors to get involved in management. On the one hand, it plays a more precise guiding role in clinical work. On the other hand, it can train up their ability as well.” The Chest Hospital now is rather mature in its training system for young doctors, which lays emphasis on the “four enhancements”: to keep them motivated, to enhance their ability, to appropriately place them under pressure and to improve their innovative ability.

For more than a year after taking the managing role, Professor Pan has brought every management task and decision for the hospital into operation, which is

bringing Shanghai Chest Hospital to another new milestone. As a doctor, he is diligent, hardheaded, ethical and dedicated. As a Dean, he is constantly taking new challenges and persists in moving forward through wind that combs his hair and rain that bathes him. “I keep reflecting from work. Only if we bear success and gain in mind will we keep making progress”.

Standing on the new height and threshold, Shanghai Chest Hospital will from now on keep making unremitting efforts to achieve faster and better development and to reach a point higher and farther under the leadership of Professor Pan. He staunchly believes that medical work embraces esteemed beliefs and far-reaching dreams.

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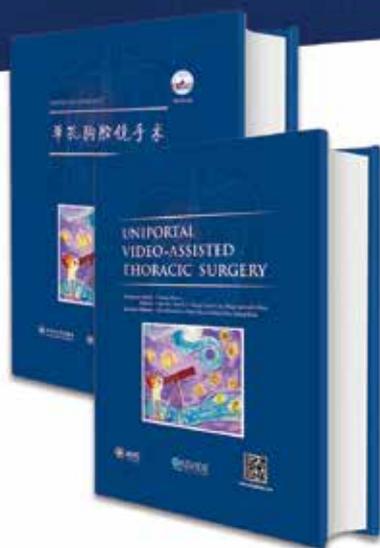
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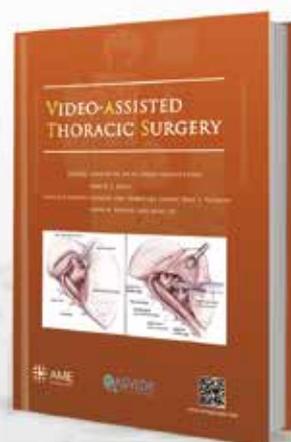
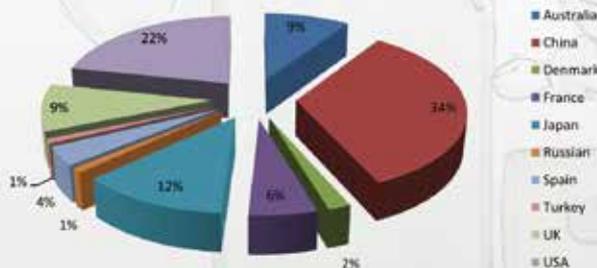
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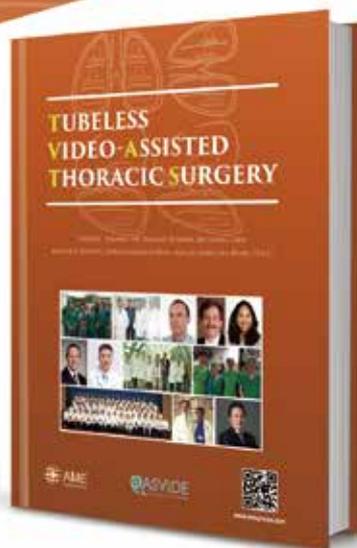
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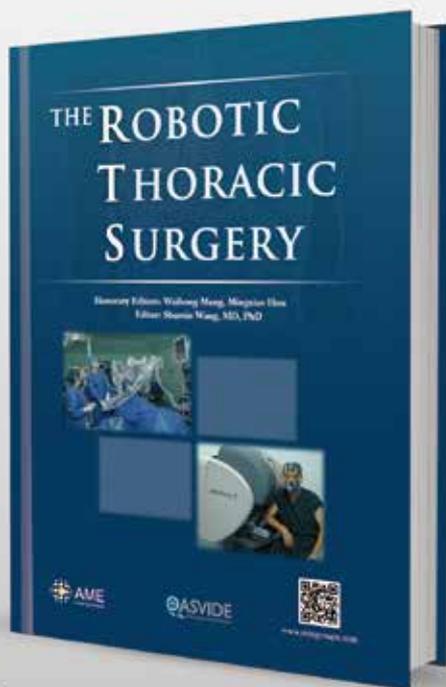
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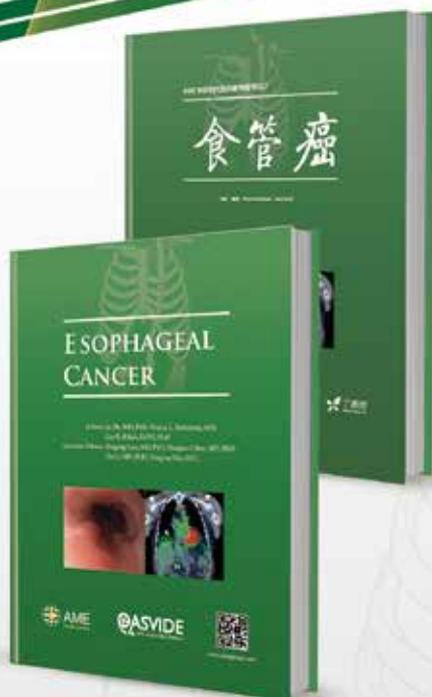
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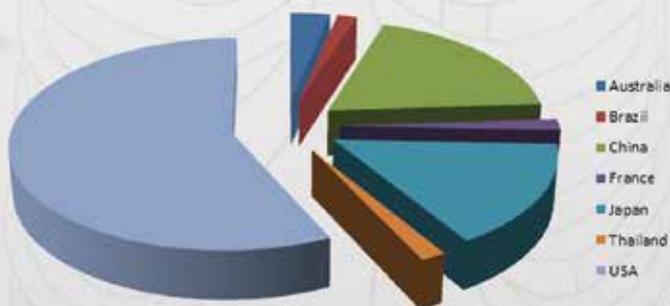
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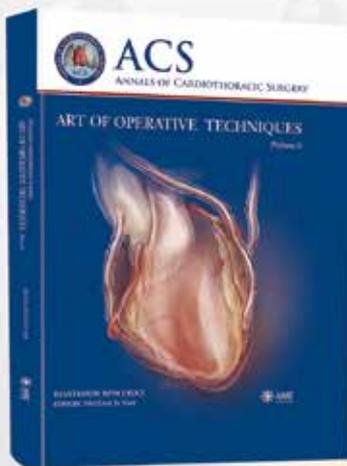


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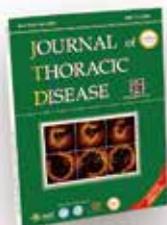
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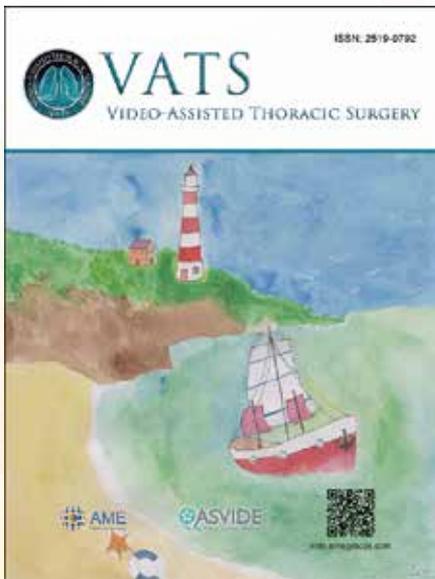
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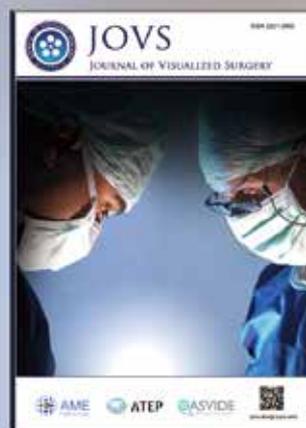
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