

# Exploring Da Vinci robotic surgery with Prof. David Rice and Prof. Hecheng Li

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The Shanghai Ruijing Hospital Symposium for Thoracic Surgeons organized by the Department of Thoracic Surgery, Ruijing Hospital of Shanghai Jiaotong University, jointly held by the Shanghai Anti-cancer Association and AME Publishing Company, was held successfully in Shanghai Ruijing Hospital from October 14<sup>th</sup> to 15<sup>th</sup>. Gathering renowned thoracic surgeons at home and abroad, the focus of this symposium was on the current progress for minimally invasive treatment for thoracic disease and the main topics were set on video-assisted thoracoscopic (VATS) and Da Vinci robotic surgery. During the symposium, Prof. David Rice from MD Anderson Cancer Center and Prof. Hecheng Li from Ruijing Hospital, executive president of this symposium have both given the impressive presentations to the audience. This time, the Editorial Office of *Journal of Visualized Surgery (JOVS)* seized the great opportunity to have an interview with both experts to discuss about the Da Vinci robotic surgery (*Figure 1*).

At the beginning of the interview, Prof. Rice and Prof. Li have shared with us the current development of Da Vinci robotic surgery in China and in USA as well as the potential reasons that affect its application. Given the cost, economic factor is the common reason that limits the use of robotic surgery. Prof. Rice also mentioned the training for robotic surgery and the difficulty in proving its value are another reasons for the limitation.

As for the advice for young surgeons for performing Da Vinci robotic surgery, Prof. Rice and Prof. Li have both agreed on this is a step-by-step process. Young surgeons should have a good command of the knowledge and instrument about how the robot works, take VATS as a basis for the robotic surgery performing, start from simply cases and do as much thoracic cases as possible so that to accumulate more experience.

When going back to the first experience to try the Da Vinci robotic surgery, Prof. Li said he took the inspiration of trying this surgery from Prof. Rice in 2011 when visiting MD Anderson Cancer Center. After his sharing with us the

first hard surgery, Prof. Rice instantly told us his that he as well had the similar experience and feeling—Da Vinci robotic surgery was not easy at the time when he tried it. But with practice and practice and with persistence, skill will be improved day by day and finally Prof. Rice and Prof. Li become the one they're now.

When talking about concern for applying new technique, Prof. Li said the most important consideration is on the patient. Agreeing on Prof. Li's view, Prof. Rive also mentioned about a group in his institute for the new technique researches.

Do you think robot or artificial intelligence, like AlphaGo will replace the role of surgeon in the future? Prof. Rice and Prof. Li here gave us their reply—no, since robot actually just know to reproduce what human want them to do. As for artificial intelligence, Prof. Rice told us his view on the future direction and his hope—a marriage of Robot with 3D imaging for the more accurate surgical plane, and in turns, benefits our patients.

At the end of the interview, Prof. Rice and Prof. Li have also shared with us their view about the difference between Chinese thoracic surgeons and American thoracic surgeons as well as feeling and highlight for this symposium.

Want to know more about the interview, why not click the video here (*Figure 2*).

Interview questions:

- ❖ Today's symposium is about Uniportal VATS and Da Vinci robotic surgery. Here I would like to ask what's the current development of Da Vinci robotic surgery in your country? What do you think is the factor that might affect the application of this technique in your country?
- ❖ When you teach the young residents, what'll be your advice for them for performing the Da Vinci robotic surgery? Or what mistake you think they could avoid?
- ❖ Both of you are the experts in the robotic surgery, then do you still remember the first time when you do the Da Vinci robotic surgery? Would you like to share with us this experience?



**Figure 1** Interview with Prof. David Rice and Prof. Hecheng Li.



**Figure 2** Exploring Da Vinci robotic surgery with Prof. David Rice and Prof. Hecheng Li (1).

Available online: <http://www.asvide.com/articles/1295>

- ❖ What's in Da Vinci robotic surgery that attracts you to do this? What's its charming?
- ❖ Concerning the new technique, we know that both of you are focusing on practicing new and more innovative way of surgery for the benefit of patients. What'll be your concern or what'll you take into consideration when facing new technique or before applying them into our patients?
- ❖ Previously, AlphaGo is quite a hot topic, shaking the world with its intelligence. For this kind of artificial intelligence, do you think in the future medical world, this intelligence or robot will replace the role of surgeon?
- ❖ One of you is a thoracic surgeon from China, and another from USA. What similarity and difference you find from each other? You could take this as a question as what's the similarity and difference between Chinese and American thoracic surgeon in your opinion;
- ❖ Come back to the symposium today. Prof. Rice,

what's your idea on today's symposium?

- ❖ Prof. Li, as the executive president of this symposium, would you like to tell us the highlight of this symposium?
- ❖ Prof. Li, we also know that you have written a book about the Da Vinci robotic surgery cases from Ruijin Hospital. Here would you like to take this chance to tell us some content of this book?

## Expert introduction

### *David C. Rice*

David C. Rice, Professor in Department of Thoracic and Cardiovascular Surgery, Division of Surgery, The University of Texas MD Anderson Cancer Center, Houston, TX, USA.

Since joining MD Anderson, Dr. Rice has striven to provide the best and most modern surgical care possible to patients with thoracic malignancies. His clinical interests have followed two very divergent paths. First, to continue to be a leader in the field of thoracic surgery by pushing the envelope and practicing new and more innovative ways of doing surgery that impart less surgical trauma and pain for the patient and yet offer the same oncologic benefit as traditional procedures. Dr. Rice and his colleagues have been active in greatly expanding the role of VATS surgery in thoracic malignancies. Dr. Rice was the first surgeon to perform a minimally invasive esophagectomy at this institution. Similarly, Dr. Rice and his colleagues have greatly expanded the use of minimally invasive lobectomy and now offer this procedure routinely for patients with small-localized lung cancers. Dr. Rice participated as a founder in the development of the minimally invasive and new technologies in oncologic surgery (MINTOS) working group and has fostered the use of endobronchial ultrasound (EBUS) guided mediastinal nodal biopsies in thoracic malignancies.

### *Hecheng Li*

Hecheng Li, Chair of Department of Thoracic Surgery, Ruijin Hospital, Shanghai Jiaotong University, School of Medicine, Shanghai.

Prof. Li obtained MD in Fudan University Shanghai Cancer Center, then worked there as attending physician. In 2004 and 2011, he became Clinical Research Fellow at Vanderbilt-Ingram Cancer Center, Duke University Medical Center and University of Texas MD Anderson

Cancer Center. Since 2014, Prof. Li has become the Chair of Department of Thoracic Surgery, Ruijin Hospital.

He is Chairman of the youth group of Shanghai Anti-cancer Association professional committee of thoracic oncology. He also holds the membership of Society of Thoracic Surgeons, International Association for the Study of Lung Cancer, American Society of Clinical Oncology, American Association for Cancer Research, Chinese Society of Clinical Oncology, International Chinese Society of Thoracic Surgery, Union for International Cancer Control.

Prof. Li is familiar with the comprehensive treatment of lung cancer, esophageal cancer, cardia cancer and mediastinal tumor based on surgery, and skilled in minimally invasive surgery for lung cancer and esophageal cancer. In recent years, he focuses on Da Vinci Surgical Robot assisted surgery for thoracic neoplasms.

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None.

## Footnote

*Conflicts of Interest:* The author has no conflicts of interest to declare.

## References

1. Gao S. Prof. Exploring Da Vinci robotic surgery with Prof. David Rice and Prof. Hecheng Li. *Asvide* 2016;3:520. Available online: <http://www.asvide.com/articles/1295>

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