# Prof. Abbas E. Abbas: a robotic thoracic practice can provide both clinical and financial benefits for an academic institution

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## Expert introduction

Dr. Abbas E. Abbas is Surgeon in Chief and Professor of Thoracic Medicine and Surgery at the Lewis Katz School of Medicine of Temple University in Philadelphia, Pennsylvania. He is the Surgical Director of the Lung Cancer, Thoracic Malignancy and Foregut Disease Programs. Board certified in both General Surgery and Cardiothoracic Surgery, Dr. Abbas earned his MD from Ain-Shams University School of Medicine in Cairo, Egypt. He completed a General Surgery residency at Pennsylvania Hospital, and a fellowship in Cardiothoracic Surgery at the Mayo Clinic in Rochester, Minnesota. Since then, he has held several leadership positions at different academic institutions including the Ohio State University, Ochsner Clinic, Tulane University and Temple University. Dr. Abbas is one of the earliest adopters of robotic thoracic surgery and has extensive expertise in robotic surgery for mediastinal, esophageal and lung disease. His center is active in providing training for robotic thoracic surgery. He has authored and edited numerous publications in the fields of thoracic surgery and minimally invasive surgery and is frequently invited to speak at National and International meetings. His research includes ongoing studies in robotic thoracic surgery, adopting new technologies to robotic surgery. esophageal dysmotility, gastroesophageal reflux disease and cryospray therapy. (*Figure 1*).

**Figure 1** Prof. Abbas E. Abbas.

## Editor's note

Dr. Abbas E. Abbas is Surgeon in Chief and Professor of Thoracic Medicine and Surgery at the Lewis Katz School of Medicine of Temple University in Philadelphia, Pennsylvania.

The abstract of Dr. Abbas's paper entitled "*Financial Impact of Adapting Robotics to a Thoracic Practice in an Academic Institution*" has been accepted for presentation as poster at the 97th Annual Meeting of American Association for Thoracic Surgery (AATS) held from April 29–May 3, 2017 in Boston, USA.

Before the opening of AATS annual meeting, the academic journalist Dr. Jianfei Shen has raised 5 questions related to the presented paper and conducted an interview with Dr. Abbas through email, discussing some interesting and complicated topics about the robotic surgery in terms of its current and future developments, the high cost, the advantages and the difficulties, etc.

## Interview topics

***Q1. Could you tell us the current status of robotic assisted thoracic surgery and its future developments?***

Robotic assisted surgery is currently one of the fastest growing trends. Specifically, in thoracic surgery the adoption rate for robotics has been extremely rapid compared to that for video-assisted thoracoscopy. In just 6 years, almost 20% of anatomical lung resections in the United States are now performed by robotic-assisted thoracoscopy. This has been fueled by the wide availability of robots and the relative ease of learning the technology. There is also significant interest in possible future applications including the ability to

incorporate advanced imaging and navigational technology to the robotic platform.

### *Q2. Do you think that traditional VATS surgery would be replaced by robotic surgery in the future?*

No, I don't think that traditional VATS will or should be replaced by robotics. There will always be a need to visually inspect the pleural space without having to dock an expensive robot. Simple procedures that do not require extensive dissection can be performed more rapidly and less expensively with VATS. In fact, future platforms may make the robot used only as an additional instrument on the table. It may be that we can add the robot only for the portion of the procedure where it is necessary.

### *Q3. Is robotic surgery worthy of the high cost? How to reduce the cost of robotic surgery?*

This is an interesting and complicated question. Defining true worth depends on economical, political, social, and ethical principles. Having said that, there is no doubt that for a hospital to start a robotic program, there is a need for significant initial and ongoing capital investment. We have completed a study at Temple University Hospital that shows that indeed a robotic thoracic program can provide both clinical and financial benefits for an academic institution. Compared to traditional surgery, when the robot is used for complex procedures in higher acuity patients there can actually be a cost advantage. This is especially true if other costs such as the hospital length of stay are kept low. Of all the departments performing robotic surgery at our institution, thoracic surgery had the highest net income.

### *Q4. What are the advantages and difficulties of robotic thoracic surgery?*

The advantages of robotic thoracic surgery are numerous. Some of the technical advantages include the superior visualization thanks to 3-dimensional high-definition and magnification camera abilities. It also allows the surgeon to always have the ability to use two-handed and even three-handed dissection. It requires less need for assistance. It also offers a minimally invasive approach to complex cases that may otherwise require open surgery such as large tumors that invade the chest wall the mediastinum.

The difficulties encountered during robotics may also be technical. Accurate port placement can be very important to avoid correlation between the arms. The ability to troubleshoot problems such as bleeding from the surgeon console does require experience. In addition, the technical platform is quite advanced and requires the entire team to be familiar with the technology. This underscores the need for building a cohesive robotic team in order to minimize the difficulties that can be encountered. This team includes nurses, surgical technicians, physician assistants, and surgeons.

### *Q5. Whether robotic thoracic surgery contributes to reducing postoperative complications?*

Numerous studies have shown a benefit of robotic-assisted thoracic surgery compared to traditional video-assisted thoracoscopy and open surgery. Several of these have compared specific Hospital outcomes to similar procedures done by VATS or open surgery and reported in larger databases such as the STS database, the Premier database, and others. In many of these studies, despite being more expensive then VATS and open surgery, patients have had fewer complications and better outcomes with RATS.

## Acknowledgements

None.

## Footnote

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

 

*Author's introduction:* Jianfei Shen, MD. Taizhou Hospital of Zhejiang Province, Wenzhou Medical University, China. Dr. Jianfei Shen graduated from Guangzhou Medical University with a master degree on general thoracic surgery. Since 2013, he has studied for his doctoral degree in Guangzhou Medical University. His expertise is in curing thoracic diseases by surgical approach, especially for lung cancer. He has also been involved in translational research of lung cancer. In recent years, he has published several articles on journals related to his research interests.

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