



Continuous improvement of surgical skill

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In the *Journal of Thoracic Disease* Vol. 10, No 10 October 2018 (1), the Society for Translational Medicine (STM), has proposed a training program and certification criteria to which surgeons and assistants are supposed to adhere in minimally invasive thoracoscopic surgery for lung cancer.

STM, established in 2012 in Hong Kong, is a global non-profit organization whose principal objective is to improve the survival and quality of life of patients by various approaches including medical innovations and continuous medical education. The organization mainly consist of active Chinese physicians, medical scientists who are practicing in influential high-volume hospitals.

Thoracoscopic surgery had been introduced in early 90s, however, it took quite a long time to be accepted widely. Sceptics on its outcome, risk of injury to the fragile pulmonary artery which directly leads to catastrophic results, the long learning curve, these factors have been obstacles for prevailing in lung cancer therapy. After decades, these techniques are regarded as daily practice, not only for early stage lung cancer but also for locally advanced cancer which may requires thoracoplasty, angioplasty or bronchoplasty. Furthermore, these techniques still continue to evolve towards new frontiers, such as single port approach or robotics. Under these circumstances, there is yet no standardized theory and training, or evaluating system including in Japan where the author of this editorial is engaged in surgery, education, and research as a chest surgeon. Thoracoscopic lung resection has been a requirement to be board certified by the European Society for Thoracic Surgery, however, no definite criteria was found in the articles. In Japanese Association of Chest Surgeon, the candidates of board certified member are required to participate a training course for thoracoscopic procedures, which consists of dry lab training and swine lobectomy but clinical experience of thoracoscopic procedures is not

mandatory. STM's commitment on the *JTD* is timely, and holds high value in the context of quality control of surgical skill in minimally invasive thoracoscopic surgery for lung cancer.

Regarding the other area of minimally invasive surgery including urology, pediatric, orthopedic, gynecology, surgery of gastrointestinal system including esophagus, Japan Society for Endoscopic Surgery (JSES) had set up Skill Qualification Committee and the endoscopic surgical skill qualification system (ESSQS) has been introduced since 2003 (2). In this system, the candidates are required to send three no-edited videos deemed to be examined by more than one reviewer. The pass rate is around as low as 50%. Unfortunately, qualification system for pulmonary resection has not yet been established in Japan, partly because there have been variety of approaches and arguments on the safety and feasibility of the MIS in this particular field. Quite recently, in 2018, the Japanese Association for Chest Surgery set up working group to build the ESSQS which emphasize the safety aspect of the procedures. A system in which a panel of judges reviews multiple unedited videos from candidates is under discussion.

In the STM statement (1) they are proposing the number of cases required for training to be certified as an assistant and a primary operator, and how the candidates would achieve the goals. However, they, regretfully enough, lack point of view evaluating the individual surgeon's skill and giving feed back to them. In the service industry, quality management of the service (QMS) has long been regarded as a crucial issue. By operating, each surgeon is providing a service to the patient, to his client, and the current available system is insufficient to assure the quality of service for the moment. There is a report in the *New England Journal of Medicine* which estimates that the rate of mortality after surgery varies widely ranging

from 3.5 to 6.9 percent from hospital to hospital in the United States (3). There is an urgent and social demand to build up a system designed to manage the quality of surgical intervention. There already existed simple but well-designed skill evaluation tool for laparoscopic (GOALS: a global assessment tool for evaluation of intraoperative laparoscopic skills), and robotic procedures (GEARS: Global Evaluative Assessment of Robotic Skills) (4,5). Combination of these tools and certification system like ESSQS should be valuable to evaluate the individual surgeon's skill and ameliorates the quality of medical service. Continuous evaluation or monitoring of each surgeon's procedures are ideal. The primary purpose of ISO 9001, most accepted QMS system certification in the world, is not providing a good service, but creating a system which realize continuous improvement. In recent years, Chinese thoracic surgeons are attracting worldwide attention for their cutting-edge techniques based on their vast amount of cases. The author of this editorial is expecting that they will play important role in establishing QMS of MIS for lung cancer to improve the survival and quality of life of patients, namely, our clients.

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Footnote

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