



Establishment of video-assisted and robot-assisted thoracic surgery training platform with surgical simulations for the new generation of thoracic surgeons

It is indeed a special privilege and pleasure to introduce readers to this issue about current status of surgical simulation in minimally invasive surgery including video-assisted thoracic surgery (VATS) and robot-assisted thoracic surgery (RATS). Surgical simulation has come to the forefront of resident training and preoperative planning for minimally invasive surgery in recent years since it shortens learning curves involved in developing new skills and can improve patient outcomes. Technology developments of simulators with advances in three-dimensional (3D) image processing and integration of data manipulation that provides high-quality virtual reality create an ideal environment for inexperienced physicians to learn new procedures and realistic models of surgical catastrophes without compromising patient safety. The traditional apprenticeship model of surgical training has been changed radically since reductions in duty hours have reduced training opportunities for young surgeons. Instead, the rise in simulation-based learning environment allows them to practice both basic and advanced VATS and robotic surgical skills in a setting outside of the operating rooms. In the context, I would like to focus on the current and future application of a variety of novel surgical simulation techniques and state-of-the-art 3D imaging modalities for the safety and efficiency of VATS and RATS with contributing authors with their extensive expertise in the field of surgical simulations in thoracic surgery.

Acknowledgments

Funding: None.

Footnote

Provenance and Peer Review: This article was commissioned by the editorial office, *Video-Assisted Thoracic Surgery* for the series “Current Status of Surgical Simulation in Video-Assisted Thoracic Surgery and Robot-assisted Thoracic Surgery”. The article did not undergo external peer review.

Conflicts of Interest: The author has completed the ICMJE uniform disclosure form (available at <http://dx.doi.org/10.21037/vats.2018.08.01>). The series “Current Status of Surgical Simulation in Video-assisted Thoracic Surgery and Robot-assisted Thoracic Surgery” was commissioned by the editorial office without any funding or sponsorship. YS served as the unpaid Guest Editor of the series and serves as an unpaid editorial board member of *Video-Assisted Thoracic Surgery* from Dec 2016 to May 2019. The author has no other conflicts of interest to declare.

Ethical Statement: The author is accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

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Received: 24 July 2018; Accepted: 10 August 2018; Published: 14 August 2018.

doi: 10.21037/vats.2018.08.01

View this article at: <http://dx.doi.org/10.21037/vats.2018.08.01>

doi: 10.21037/vats.2018.08.01

Cite this article as: Shimada Y. Establishment of video-assisted and robot-assisted thoracic surgery training platform with surgical simulations for the new generation of thoracic surgeons. *Video-assist Thorac Surg* 2018;3:32.