

Response to: “Proving the Effectiveness of the Fundamentals of Robotic Surgery (FRS) Skills

Curriculum: A Single-blinded, Multispecialty, Multi-institutional Randomized Control Trial”: Not only surgeon’s manual skills...”

Richard M. Satava, MD¹, Dimitrios Stefanidis, MD PhD², Jeffrey S. Levy, MD³, Roger Smith, PhD⁴, John R. Martin, MD², Sara Monfared, MD², Lava R. Timsina, PhD², Ara Wardkes Darzi, MD⁵, Andrea Moglia, PhD⁶, Timothy C. Brand, MD⁷, Ryan P. Dorin, MD⁸, Kristoffel R. Dumon, MD⁹, Todd D. Francone, MD¹⁰, Evangelos Georgiou, MD PhD¹¹, Alvin C. Goh, MD¹², Jorge E. Marcet, MD¹³, Martin A. Martino, MD¹⁴, Ranjan Sudan, MD¹⁵, Justin Vale, MBBS⁵, Anthony G. Gallagher, PhD¹⁶

1 Department of Surgery, University of Washington Medical Center, Seattle, WA

2 Department of Surgery, Indiana University School of Medicine, Indianapolis, IN

3 Department of Ob/Gyn, Drexel University College of Medicine, Institute of Surgical Excellence, Philadelphia, PA

4 Florida Hospital Nicholson Center, University of Central Florida College of Medicine, Celebration, FL

5 Department of Surgery, St. Mary’s Hospital, Imperial College, London, United Kingdom

6 EndoCAS Simulation Center, University of Pisa, Pisa, Italy

7 Andersen Simulation Center, Madigan Army Medical Center, Tacoma, WA

8 Center for Education, Simulation and Innovation, Hartford Hospital, Hartford, CT.

9 Penn Medicine Clinical Simulation Center, Philadelphia, PA

10 Department of Colon and Rectal Surgery, Lahey Health and Medical Center, Burlington, MA

11, National and Kapodistrian University of Athens, Athens, Greece

12 Houston Methodist Hospital, Methodist Institute for Technology, Innovation, and Education, Houston, TX

13 USF Health Center for Advanced Medical Learning and Simulation, Tampa, FL

14 Lehigh Valley Health Network, Allentown PA.

15 Department of Surgery, Surgical Education and Activities Lab, Duke University Medical Center, Durham, NC

16 Director of Technology Enhanced Learning, ASSERT Centre, College of Medicine and Health, Brookfield Health Sciences Complex, University College Cork, Cork, Ireland

CORRESPONDENCE Richard M. Satava, MD FACS

Department of Surgery

University of Washington Medical Center

Office: 2884 Rancho Road

Pebble Beach, CA 93953 USA

Tel: (425) 765-0730

email: rsatava@uw.edu

The authors of the commentary letter (Zattoni, et al)¹ were focused upon the importance that both the technical and non-technical skills are critical to a complete surgical procedure, to which we totally agree – the non-technical skills portion was not included in the original study or manuscript. Dr. Zattoni is correct, and in their specific response, they referred to a non-technical course which they developed: Should an adverse event occur during a procedure (for example, partial nephrectomy), they have developed an excellent, validated team-training/non-technical skills course on conversion from robotic surgery to laparoscopic or open surgery.

In response to the letter by Dr. Zattoni (above), the original FRS curriculum² “Proving the Effectiveness of the Fundamentals of Robotic Surgery (FRS) Skills Curriculum: A Single-blinded, Multispecialty, Multi-institutional Randomized Control Trial“ is focused upon using proficiency-based progression (PBP) training and assessment of only the very basic technical skills of a learner in order to insure these fundamental skills can be developed to the same level as an experienced robotic-assisted surgeon before allowing a learner to begin performing robotic surgery in the operating room. There was neither time nor funding available to develop the non-technical skills portion of the course at that time.

Although the original manuscript for the FRS basic technical skills did not initially include the team-training component, the fundamental non-technical skills (team-training, communication generic course) was subsequently finalized and added to complete the original Fundamentals of Robotic Surgery (FRS) on-line course, which is free to anyone at <http://www.frsurgery.org> .

Dr. Zattoni and colleagues’ course is a welcomed addition to the full scope of training needed for any minimally invasive surgical procedure, and the addition of a team-training for a critical course on emergency conversion to laparoscopic or open surgery is most welcome. We are thankful and pleased that they provided this commentary to bring attention of their course to us as well as the readership of Annals of Surgery.

References:

1. Zattoni F, Morlacco A, Cattaneo F, et al. Development of a Surgical Safety Training Program and Checklist for Conversion during Robotic Partial Nephrectomies. *Urology*. 2017;109:38-43. doi:10.1016/j.urology.2017.06.057
- 2, Satava R, Stefanidis D, Levy J, et al. Proving the Effectiveness of the Fundamentals of Robotic Surgery (FRS) Skills Curriculum: A Single-blinded, Multispecialty, Multi-institutional Randomized Control Trial. *Ann Surg*. 2020 Aug;272(2):384-392. doi: 10.1097/SLA.0000000000003220. PMID: 32675553