Update on the Current Role of Medical Simulation in Urological Residency Training Programs

Renee Powell, M.S., Carol Thrush, Ed.D., Katherine Berry, Ed.D., Ehab Eltahawy, M.D.

INTRODUCTION
- Although simulation has become increasingly accessible, many urology training programs continue to teach technical skills through hands-on experience without a nationally-adopted curriculum for teaching and testing these skills.
- In this study, we evaluate:
  1) current usage of simulation in urology residency training.
  2) receptiveness to incorporating a simulation curriculum if one were made available.
  3) barriers to implementing it into residency training programs.

METHODS
- Residency program directors at the 122 ACGME-accredited urology training programs in the U.S. were invited to complete an anonymous electronic survey in 2014.
- Survey items were adapted from a similar urology survey conducted by Le et al., in 2005.
- A total of 43 completed surveys were received, a 35% response rate.
- Results are compared to the 2005 study by Le et al.

RESULTS
- Residency program directors at 122 ACGME-accredited urology training programs in the U.S. were invited to complete an anonymous electronic survey in 2014.
- Survey items were adapted from a similar urology survey conducted by Le et al., in 2005.
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RESULTS SUMMARY
- 97% of program directors reported they have access to a simulation education center for their urology residents. Of those, 58% have incorporated simulation education into their residency training, while 39% have access to trainers, but do not have any required time spent on simulation.
- 88% of responders agree there is a role for a standardized simulator training curriculum, and simulators are a useful tool for teaching surgical techniques to improve performance in the OR.
- The most commonly used simulators are Laparoscopic/Robotic and TURP trainers. Laparoscopic/Robotic and percutaneous renal access simulators were thought to be the most useful, realistic and easily incorporated into residency training.
- Compared to 2005 survey results (Le et al, 2005), the availability of simulators at each program has increased 20% for laparoscopy and 18% for TURP.

CONCLUSIONS
- The overall availability of simulators has had an upward trend over the past 10 years.
- The majority of program directors believe there is a role for incorporating a simulation curriculum into urology training and are receptive to adopting this at their institutions.
- Barriers to implementing a simulation curriculum include cost burden, need for constant technology updates, need for advanced planning, and the willingness of the faculty to participate in administration.
- Fewer program directors now believe, compared to 2005, faculty are willing to participate in simulator training, or it is cost-effective, or it will reduce patient risks and complications.

FUTURE CONSIDERATIONS
- Programs are receptive to incorporating a standardized simulation-based curriculum into their residency training programs. The next step will be the development of such a curriculum.
- As advances in simulators continue at a rapid pace, there is a need for more research in validating individual trainer modules.