

**Robotic assist technology
utilization for urologic surgery
across a nationwide sample of
tertiary pediatric hospitals**



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Disclosures:

- None

Background

- Over the last decade, access to robotic assist technology has substantially increased at tertiary children's hospitals
- Current national trends in utilization and specific drivers are unknown

Methods

- The Pediatric Health Information System (PHIS) was queried for cases of robotic urologic surgery between Jan 2010 and June 2018
- 27 children's hospitals provided continuous data

Methods

- Cases were grouped into the following categories:
 - 1) Renal pelvis/ureter
 - 2) Ureter reimplantation to bladder
 - 3) Renal parenchymal surgery
 - 4) Complex bladder reconstruction
 - 5) Other urologic procedures

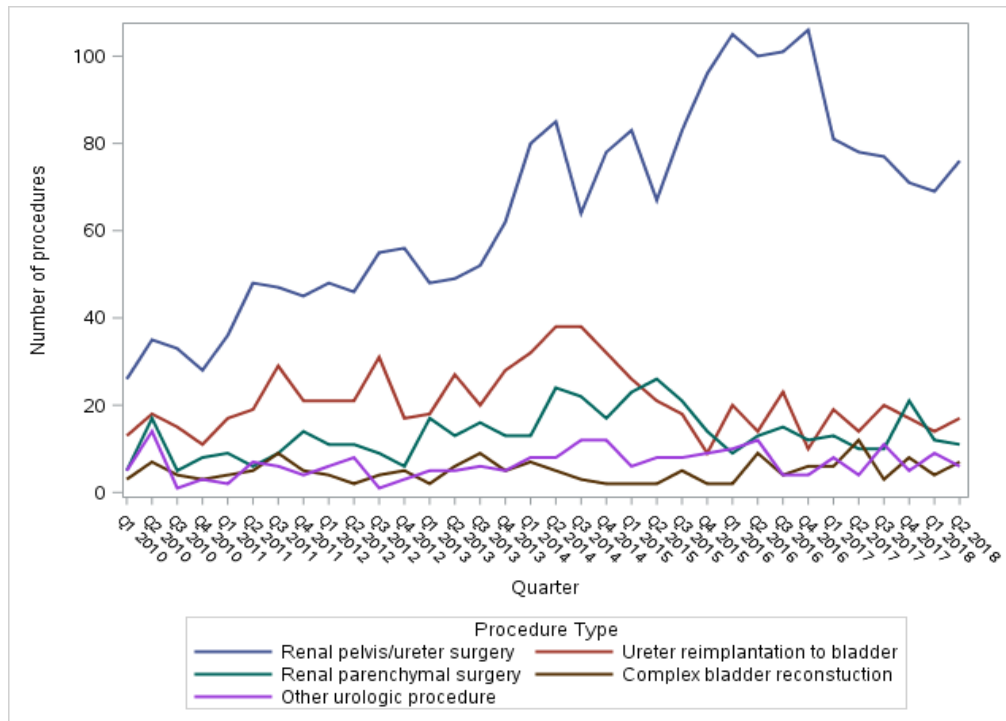
- Analysis included trends over time for 1) overall utilization 2) by case category and 3) number of individual surgeons

Results

- 3,768 urologic robotic surgeries identified across 20/27 hospitals
 - (hospitals with < 5 robotic procedures per year were excluded)
- Overall utilization of robotic surgery increased by 2.9% per quarter ($p < 0.0001$)
- The number of attending surgeons performing robotic surgery increased 3% per quarter ($p < 0.0001$)

Results

Figure. Trends in the types of urologic procedures performed robotically during the study period



- ❖ Renal pelvis/ureter surgery was most common (58.8%) and increase most over time (3.3% per quarter)
- ❖ Renal parenchymal surgery showed smaller but significant increase (1.6% per quarter)
- ❖ No significant trends in other procedure categories noted

Discussion

- There was a positive trend in robotic surgery utilization for pediatric urology over the time period
- There are increasing numbers of pediatric urologists adopting robotic technology
- This increase in utilization appears to be driven mostly by renal pelvis/ureteral surgery

Conclusion

- Despite evidence in the literature suggesting the feasibility of robotic technology for ureteral reimplantation and complex reconstruction, upward trends for these surgeries was not noted
- Future research is necessary to elucidate any barriers for expanded application of robotic technology in pediatric urology