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Review and update: robotic transanal surgery (RTAS)

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As the field of surgery advances, new approaches have allowed surgeons additional flexibility to perform further interventions with minimal or no external incisions. For many years, single site access (SSA) has been used for transanal procedure and platforms allowing modified endoscopic approaches have been available. These platforms have limitations related to access, visualization, dexterity, camera control and instrumentation. Recently, surgical robotics companies have developed and introduced new technologies and platforms, which may help address some of these limitations. Comprehensive internet, open access and medical and industry conference reviews of robotic surgery platforms and technology available for use in SSA surgery were conducted and 30 articles were found using keywords robotic surgery, transanal, single site and robotic transanal surgery. A PubMed, Medline, Journals @OVID and open access search for data related to these platforms and technologies was also performed yielding 11 articles. Abstracts were reviewed for those written in the English language, leaving 40 articles which were then filtered for those pertaining to robotic surgery, transanal. 58 abstracts were found, duplicates were eliminated and the remaining 35 articles were read in their entirety by two reviewers. Several new and existing platforms are identified for use in SSA surgery for transanal surgery as well as abdominal and transoral surgery. These are reviewed, including brand, features, approved and suggested uses and potential limitations. New robotic technologies serve to enhance the ability of surgeons to perform SSA surgery. This next generation of robotic surgery technology overcomes some of the limitations of preceding endoscopic SSA surgery technology and will enhance the advancement of robotic transanal surgery, but outcomes and performance data are still limited.

Biography

Steven S Tsoraides has completed his medical degree and MPH degree from the University of Illinois, College Of Medicine at Peoria (UICOMP). After completing his Residency at UICOMP where he was also an Administrative Chief, he went on to complete a fellowship in Colorectal Surgery at Southern Illinois University, School of Medicine. He is currently an Associate Professor in Clinical Surgery and a Residency Program Director.

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