



ROBOTIC SURGERY: FINDING EVIDENCE OF BENEFIT IS CHALLENGING

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FINDING high-quality evidence supporting the use of robotic surgery remains challenging with surgeons themselves the biggest hurdle, according to the authors of a Perspective published today in the *Medical Journal of Australia*.

"Approximately 1.2 million robotic procedures had been performed worldwide as of December 2020, most of which were robotic-assisted radical prostatectomies (RARPs)," wrote the authors, led by Dr Wei Shen Tan, Honorary Clinical Lecturer and Urologic Oncology Fellow at the University College London.

"By contrast, many colorectal and gynaecological procedures have remained within the remit of laparoscopic or traditional open surgery.

"Opponents of robotic surgery often cite the lack of evidence to support its use and highlight the high health care cost."

Perceived benefits of robotic surgery, despite little or no evidence of benefit, are "often enough for both patients and surgeons to choose a new technology", Tan and colleagues wrote.

One challenge for conducting research is that key opinion leaders adopt the technology early and then drive expansion and use before safety and efficacy data are collected. Once the technology is in use, there is then little motivation to conduct clinical trials.

"RARP, first described in 2002, is now the standard of care in most developed countries and was widely adopted despite little evidence for benefit previously," wrote Tan and colleagues. "It was not until 2016, that the first well designed RCT reported outcomes."

The authors detailed randomized control trials of robotic surgery in prostate cancer and wrote that "evidence purporting to show a benefit for robotic surgery has not been forthcoming to other surgical procedures" either.

"In the case of radical hysterectomy for early-stage cervical cancer, a robotic-assisted procedure may result in inferior oncological outcomes," Tan and colleagues wrote, citing an RCT of 631 patients which reported that the minimally invasive arm (including robotic-assisted surgery) resulted in lower disease-free survival and overall survival.

"Surgeons remain the main obstacle to the success of surgical randomised trials," they wrote.

"In our pursuit of high-quality evidence, we owe it to our patients to set aside personal views, acknowledge that limited evidence is available in certain areas of surgical practice, and support surgical trial recruitment.

"New technologies should be evaluated in a prompt manner before widespread dissemination. Evaluating new technologies in an evidence-based approach in collaborative centralised health networks group within surgical technology hubs may aid rapid patient recruitment, particularly in complex and uncommon surgical procedures," they concluded.

"This could then enable prompt trial completion before adoption of such technologies and before they are entrenched as standard of care."



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