

## Robotic Surgery

### Question

Our hospital purchased a robotic surgical system (RSS). We're looking forward to using it for surgical procedures, but we're also concerned about potential risks. What should we do to prepare?

### Answer

When dealing with any new technology, including an RSS, it is always best to assess and examine the risks proactively, rather than after an adverse event. Currently, no standard consensus has been reached on appropriate training and credentialing for robotic surgery. Rather, healthcare organizations are responsible for determining their own standards for clinical training, proctoring and oversight, competency, and credentialing.

The Agency for Healthcare Research and Quality recommends that, until well-validated credentialing and training models can be developed, hospitals should require a basic robotic safety curriculum for any surgeons using a RSS and also require them to provide case logs or undergo case proctoring before receiving robotic privileges.<sup>1</sup>

If you plan to perform robotic surgery, at a minimum, you and your surgical team should consider these risk strategies.

- For each type of procedure you plan to perform, document all physician and staff training and ongoing competency specific to the RSS. Because sources have suggested that robotic device manufacturers are not providing adequate training, consider supplementing the manufacturer's training and arranging mentorships.

- Work with your anesthesia team to develop screening criteria to identify the best candidates for robotic procedures. Criteria should specify exclusions for patients who might be at higher risk for surgical complications, nerve injuries, or other complications.
- For each potential candidate for a robotic procedure, work with the anesthesiologist to evaluate the patient's medical history and physical exam to identify the risks and benefits of robotic surgery. Choose the conventional approach when indicated based on risk.
- Discuss and document informed consent with the patient, including the risks, benefits, and alternative treatment options. The anesthesiologist also should conduct an informed consent discussion with the patient and document the information in the patient's health record.
- Establish a contingency plan for converting from a robotic procedure to a laparoscopic or open procedure. Be cognizant of, and plan for, any risks that may occur during such a conversion.
- Document in the patient's health record any special actions taken before, during, or after the procedure that specifically minimized the risks associated with robotic surgery (e.g., positioning of the patient or special monitoring).

## Resources

- [Agency for Healthcare Research and Quality: Robotic Surgery: Risks vs. Rewards](#)
- [American Association of Gynecologic Laparoscopists: Guidelines for Privileging for Robotic-Assisted Gynecologic Laparoscopy](#)
- [American College of Obstetricians and Gynecologists: Robotic Surgery in Gynecology](#)
- [American Urological Association: AUA BLUS Handbook of Laparoscopic and Robotic Fundamentals](#)
- [American Urological Association: Robotic Surgery \(Urologic\) Standard Operating Procedure \(SOP\)](#)
- [Outpatient Surgery: Robotic Surgery Linked to 144 Patient Deaths Over 13-Year Timespan](#)

- Society of Gastrointestinal and Endoscopic Surgeons—Minimally Invasive Robotic Association: A Consensus Document on Robotic Surgery
- U.S. Food and Drug Administration: Computer-Assisted Surgical Systems

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<sup>1</sup> Agency for Healthcare Research and Quality. (2016, February). *Robotic surgery: Risks vs. rewards*. PSNet Web M&M Cases & Commentaries. Retrieved from [psnet.ahrq.gov/webmm/case/368/robotic-surgery-risks-vs-rewards-](https://psnet.ahrq.gov/webmm/case/368/robotic-surgery-risks-vs-rewards-)

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