Minimally invasive robotic-assisted surgery augments the benefits of minimally invasive laparoscopic surgery with improved video capabilities, enhanced access to the surgical field, greater precision and increased dexterity. In some cases, surgery may be performed through a single port.

As part of the Virginia Institute of Robotic Surgery, surgeons at Retreat Doctors’ Hospital utilize the latest robotic surgery technology to perform numerous urological procedures. By combining our urology specialists’ expertise with Virginia’s most advanced technology, we offer patients the best possible experience and superior outcomes.

This guide provides an overview of the robotic surgery capabilities for urology at Retreat Doctors’ Hospital.

HCA Virginia Institute of Robotic Surgery is an award-winning organization in Central, Northern, and Southwest Virginia, performing more robotic-assisted surgeries than any other health system in Virginia.

Robotic Surgery Overview

Minimally invasive surgery (also known as laparoscopic surgery) requires just a few very small ports, usually less than an inch. In some cases, only one small port is needed. The surgeon inserts thin surgical instruments and a tiny video camera through the ports; the video camera projects images of the surgical field onto a screen, and the surgeon uses these images as a guide while manipulating the tools. However, because the surgeon is working through very small ports, their mobility within the surgical field may be limited.

Robotic technology enhances minimally invasive surgery by allowing the surgeon to operate using robotic arms inserted through the ports. The surgeon views the surgical field on high-definition, three-dimensional video that magnifies the area up to 10 times larger than normal. The surgeon stands at a console and controls every movement of the robotic arms. Because the arms can move in any direction, including ways that human hands cannot, they give the surgeon much more dexterity, precision and control.

If necessary, the surgeon may convert the procedure to an open surgery at any time.

Benefits of Robotic Surgery

Minimally invasive robotic surgery can offer many benefits to patients, including:

- Smaller incisions
- Less pain
- Less blood loss
- Lower risk of infection
- Minimal scarring
- Shorter hospital stay
- Faster recovery and return to activities

Risks of Robotic Surgery

Because it is less invasive, robotic surgery has fewer risks than traditional surgery. These include:

- Infection
- Excessive bleeding
- Organ, tissue or nerve damage
- Complications from anesthesia
- Equipment failure
Robotic Urology Surgery Procedures at Retreat Doctors’ Hospital

Retreat Doctors’ Hospital is the first and only hospital in Virginia to perform urological surgery using the latest robotic technology designed for single-incision surgery. We’re also the first hospital in Virginia to expand our urological program with next-generation robotic technology, the da Vinci® Single Port SP Surgical System.

Utilizing the latest and most advanced da Vinci® Surgical robotic systems, we are fully equipped for minimally invasive robotic procedures.

Our surgeons have completed advanced, specialized training to perform robotic surgery for procedures including:
- Cyst removal
- Cystectomy
- Partial and total nephrectomy
- Prostatectomy
- Pyeloplasty
- Sacrocolpopexy
- Ureteral Implantation

Meet the Retreat Doctors’ Hospital Robots

daVinci SP
Recently cleared by the U.S. Food and Drug Administration, the da Vinci® SP Surgical System makes robotic laparoscopic single-site surgery possible through a single incision, about one inch long. The new single port system provides our surgeons with more precision, a clearer image of the surgical field, and improved patient access.

daVinci Xi
The da Vinci Xi® is versatile and flexible, with set-up automation and guidance that promotes OR efficiency. It provides multi-quadrant access and integrated table motion.

Indications and Contraindications for Robotic Surgery

Most patients are candidates for robotic surgery, and it may be an option for patients who cannot have open surgery. Robotic surgery may be contraindicated for patients who cannot have surgery.

Learn More About Robotic Surgery at Retreat Doctors’ Hospital

- To learn more about robotic surgery at Retreat Doctors’ Hospital, visit retreatdoctors.com/specialties/robotic-surgery/
- To speak with our robotic surgery navigator, call 804-254-5226.