

AT THE FOREFRONT



At Walter Reed National Military Medical Center, surgeons are using robots in the operating room so that Soldiers and their families experience less pain, less blood loss and shorter recovery times. Robotic surgery can be used effectively in a variety of specialty areas, including urogynecology, gynecology oncology, urology, prostate oncology, pediatric urology and cardiothoracic surgery, as well as productive endocrinology and infertility. Plans are underway to expand the use of robotic technology to other surgical specialties to provide Soldiers and their families with the latest, safest and best care.

ADVANTAGES OF ROBOTICS IN THE OPERATING ROOM

Shorter recovery time for cardiothoracic and thoracic patients -

At Walter Reed, robotic surgery is being used to remove anterior mediastinal tumors, treat lung cancer and esophageal disorders and perform meticulous tumor resections around vital structures of the chest. With standard surgery, it is necessary to split the breast bone. With robotic surgery, the surgeon goes in through the patient's side, which allows the patient to go home in one to two days and shortens the usual two-month recovery period to approximately two weeks.

Robotics used for delicate pediatric surgery - Robotics are also being successfully used for pediatric procedures, such as pyeloplasty, a surgical repair of the tube that connects the kidney and bladder. After the surgical area is prepped and filled with carbon dioxide, up to five tiny incisions are made, with the largest in the belly button, to insert a small scope the surgeon will look through. A surgical assistant changes out the surgical instruments connected to up to three computerized "arms" that cut, dissect, grasp and suture. The surgeon is seated at a console several feet away from the patient and uses hand controls to operate a computerized "endowrist" that mimics the surgeon's motions with intuitive, seven-degree movement and 90-degree articulation.

Reduced bleeding in prostate surgery - Walter Reed surgeons also use robotics for the removal of ovarian cysts and pelvic adhesions, for performing reconstructive pelvic surgery and for prostate removal. With an open prostatectomy, blood loss can be significant. Robotic surgery reduces the amount of bleeding, which lessens the patient's need for blood transfusions and improves the surgeon's view.

ARMY OPERATING ROOM ROBOTICS SHORTEN RECOVERY TIME.

ADDITIONAL ARMY-SPONSORED PROJECTS

Telepresence-Based MicroSurgery System - Developed by a leading university in conjunction with the Uniformed Services University of the Health Sciences, this system is designed to improve microsurgical dexterous manipulations, specifically to optimize fine motor control and minimize hand tremor and fatigue. These advances in microsurgery would make possible procedures such as small vessel anastomosis, nerve reconstruction, and microdissection and repair of ocular injuries.

Automated System for Percutaneous Needle Insertion - Another leading university has developed a robotic device to accurately place a needle tip at a predetermined 3-D coordinate. This device has been demonstrated in Percutaneous Access of the KidneY (PAKY) using fluoroscopy.

A CHALLENGING ENVIRONMENT

U.S. Army physicians with an interest in robotic surgery can play a key role in the advancement of robotics research. This opportunity allows them to not only provide essential assistance to our nation's warriors, but also to develop as health care professionals in a supportive and highly resourced environment.

The Army's work in advanced robotics is one example of the numerous innovations you'll find as part of our team. Across many different disciplines, we're leading the way - while offering physicians opportunities to explore specific areas that interest them and grow their careers.

TO REQUEST MORE INFORMATION ABOUT A CAREER ON OUR INNOVATIVE HEALTH CARE TEAM, [CLICK HERE. >>](#)

