

Fewer complications, better outcomes with robot-assisted prostate cancer surgery

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Robot-assisted surgery is now both more common and far more successful than radical "open" surgery to treat prostate cancer in the United States, according to a new Henry Ford Hospital study published in the current issue of the medical journal *European Urology*.

The research, led by scientists at Henry Ford Hospital's Vattikuti Urology Institute (VUI), is the first to compare in a nationwide population sample the results of robot-assisted radical [prostatectomy](#) (RARP) to the standard surgical procedure, open radical prostatectomy (ORP).

The researchers found, based on a representative 20 percent sample of the U.S. that:

- 19,278 patients underwent RARP or ORP in 647 medical institutions between October 2008 and December 2009.
- Of those, 11,889 underwent RARP and 7,389 underwent ORP.
- More RARPs were performed at teaching institutions in urban locations, and a higher proportion of RARPs were performed at high-volume hospitals.
- RARP patients were less likely than ORP patients to need a [blood transfusion](#), less likely to have a prolonged hospital stay, and less likely to suffer complications during or after surgery, including cardiac, respiratory, and [vascular problems](#).

ORP involves opening the lower abdomen with a long incision, and removing the entire diseased prostate gland and some surrounding tissue in the hope of preventing the cancer from spreading to other parts of the body.

A similar procedure, known as RARP, is done through tiny incisions using minimally invasive laparoscopic surgery. Henry Ford Hospital pioneered the use of robots to assist surgeons in this delicate procedure, and the new study confirms earlier Henry Ford findings that RARP is now the most common technique in the United States for treating localized prostate cancer.

Prostate cancer is the most common "solid organ" malignancy and the second leading cause of [cancer death](#) in U.S. men. Radical prostatectomy became the standard treatment after it was shown that the surgery resulted in higher [survival rates](#) than "watchful waiting."

But in the past 10 years, "we've seen a significant trend toward the use of minimally invasive approaches to RP for the treatment of prostate cancer, particularly in the U.S.," says Quoc-Dien Trinh, M.D., a fellow at VUI and lead author of the study.

"While this evolution has been controversial, there have been few comparative studies. Most of those looked only at single institutions or single surgeons, and they were of poor evidentiary quality."

Most significantly, the new study found "superior" results with RARP in virtually every outcome studied, including the amount of necessary blood transfusions, complications during and after surgery, and length of hospital stay.

At Henry Ford, which did much of the original work on robotic surgery for prostate cancer, 98 percent of patients go home within 24 hours of

the operation and major complications are less than 2 percent, according to Mani Menon, M.D., director of Henry Ford's Vattikuti Urology Institute.

In selecting the study's subjects, researchers relied on the Nationwide Inpatient Sample (NIS) maintained by the Agency for Healthcare Research and Quality under the U.S. Department of Health and Human Services.

In another first-of-a-kind study published in *European Urology* in February 2011, Henry Ford urologists and epidemiologists determined that RARP is safe over the long term, with a complication rate of less than 10 percent. That followed another Henry Ford study that found nearly 87 percent of patients whose cancerous prostates were removed by robot-assisted surgery had no recurrence of the disease after 5 years.

That was followed in September 2011 by another Henry Ford-led international study that found [prostate cancer](#) patients who undergo [radical prostatectomy](#) get better results at teaching hospitals than at non-academic medical institutions.

The authors of the new research paper noted that while their study did not examine the disparities in patient access to robotic surgery, they did find significant differences between RARP and ORP patients:

- More of them were white.
- They had fewer additional diseases or disorders.
- They were more likely to get their surgery at urban academic centers.

"This is significant not only because better surgical outcomes are expected at academic centers," says Dr. Trinh, "but other recent data

show that patients without private insurance – those covered by Medicare or Medicaid, or self-paid – are more likely to have complications during and after [surgery](#), and need much more time in the hospital."

More information: Article: [europeanurology.com/article/S0 ... \(11\)01411-4/fulltext](https://europeanurology.com/article/S0011014114000004/fulltext)

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