

Prostate cancer—what you need to know

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Men should discuss health history with their family and physician. Credit: University of Alabama at Birmingham

In 2016, more than 180,890 men will be diagnosed with prostate cancer, the second leading cause of cancer death in men. Next to skin cancers, prostate cancer is the most common cancer diagnosed in American men.

"Men's health and prostate cancer are topics that many tend to shy away

from, but they need to be discussed more openly," said Soroush Rais-Bahrami, M.D., assistant professor at the University of Alabama at Birmingham in the Department of Urology and co-director for the UAB Program for Personalized Prostate Cancer Care. "One out of eight men will be diagnosed with prostate cancer in his life."

The prostate is a reproductive gland in men located between the bladder and the penis. The fluid from the prostate is discharged into the urethra at the time of ejaculation as part of the semen to nourish and stabilize sperm for reproductive purposes.

Prevention

Men ages 50 and older should be screened during their annual physical exam with a discussion regarding [prostate cancer risk](#). A routine [blood test](#) can measure a biomarker called prostate-specific antigen or PSA, which can identify a man's risk of prostate cancer along with a [digital rectal exam](#). Concern based on the PSA blood test level or digital rectal exam can prompt a biopsy of the prostate gland, which can be further evaluated to determine the presence of prostate cancer and, if found, the aggressiveness of the cancer.

"Many men do not know their [family history](#) of prostate cancer because men tend not to talk about their health concerns, even with children and other family members," Rais-Bahrami said. "It is important to discuss family history due to the significantly higher risk for men with a first-degree relative who has been diagnosed with prostate cancer."

Certain men may have a higher risk of prostate cancer based on family history or ethnicity, race, and ancestry, and should receive their first screening discussions at the age of 40.

Diagnosis

Symptoms of prostate cancer are rare, and many men show no symptoms before being diagnosed. Once a blood test shows signs of higher PSA levels, a tissue biopsy is required to help determine the grade and stage of the prostate cancer.

In advanced stages, symptoms may affect quality of life, ranging from pain in the bones to bloody urine, blood in the semen, blockage in the urinary tract and renal failure.

Once a man has been diagnosed with cancer, Rais-Bahrami recommends asking these questions to learn more about a path toward a cure:

- How will my personal health be affected?
- What grade or level of aggressiveness is my specific cancer?
- What stage or level of progression does my cancer have?
- Are there any additional staging studies that should be done for me?
- What are my treatment options?
- What are the side effects of each treatment option?

"When a patient has received a positive prostate cancer diagnosis, it is important he communicates with his family and his doctor about the different types of treatment and understands what will be faced through this journey of treatment," Rais-Bahrami said.

Treatment

The patient and physician should look at the options available to treat his prostate cancer and develop a personalized road map to manage symptoms and cure his cancer.

"Treatment is based on the patient's overall health and what works best in treating the patient to ultimately cure the cancer and help the patient preserve an excellent quality of life," Rais-Bahrami said.

In the earliest stages of low-grade prostate cancer, and with the consultation of a physician, men can opt for active surveillance, which is when the doctor does not prescribe immediate treatment, but watches the cancer cells closely to postpone treatment with curative intent, perhaps for years. Other treatment options include:

- Surgery, which includes removing the entire [prostate gland](#) and occasionally regional lymph node tissues
- Radiation therapy, or beams of radiation focused on the prostate
- Hormone therapy, which reduces levels of male hormones to stop them from affecting prostate cancer cells
- High-intensity, focused ultrasound therapy, or high-energy sound waves that destroy cancer cells
- Cryosurgery, or the use of extreme cold temperatures to freeze and kill cancer cells

"Prostate cancer is a treatable disease and can be cured if caught in early stages," Rais-Bahrami said. "This is why it is important to receive routine screenings and have early detection when present."

If the cancer is diagnosed in later stages and has spread to other parts of the body, it becomes more aggressive and more difficult to treat in most cases.

To help with personalized care of patients, UAB offers magnetic resonance imaging and ultrasound fusion-guided biopsy. The image fusion allows doctors to target a direct tissue sampling of an individual based on imaging areas of concern that can be tested for prostate cancer.

Current research

New research for prostate cancer is on the horizon, including the ongoing search for better biomarkers that indicate the presence of prostate cancer. Researchers are now searching for prostate cancer biomarkers that have specific implications for improved diagnosis and prediction of cancer aggressiveness and patient prognosis.

"With the serum PSA, a red flag is raised as a potential prostate cancer diagnosis; but it is not specific in diagnosing an individual's prostate cancer," Rais-Bahrami said. "Serum PSA can detect abnormalities with the prostate that are not exclusive to prostate cancer. Biomarker research is important to achieve a more individualized diagnosis."

At UAB, prostate cancer research is focused on advanced imaging and biomarker development, and hopes of defining the best way toward focal therapy of prostate cancer . UAB has become one of two beta sites in the United States to receive the iSR'obot™ Mona Lisa machine. This machine helps surgeons diagnose [prostate cancer](#) in earlier stages with imaging guidance and provides precise location mapping to help with targeting cancer cells for treatment.

Provided by University of Alabama at Birmingham

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