

Myths about PSA tests and prostate cancer screening

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The understanding of prostate cancer has significantly evolved in the past 15 years. However, many people—including primary care providers—may not be aware of the current guidelines for prostate

cancer screening, says Andrew Vickers, Ph.D., of Memorial Sloan Kettering Cancer Center (MSK).

The main screening tool for prostate cancer is the PSA test, which measures levels of a protein called [prostate-specific antigen](#) (PSA) in the blood. In the past, some experts have suggested that PSA testing caused more harm than good, saying it can lead to unnecessary biopsies and therapies for cancers that actually don't need to be treated.

Today, the PSA test should be used as one part of the tool kit for finding cancer and identifying which cancers should be treated, Dr. Vickers says. An expert in health outcomes related to the detection and treatment of prostate cancer, Dr. Vickers spoke at the 2024 Annual Meeting of the American Association for Cancer Research.

In his presentation, "Seven Myths About PSA and Prostate Cancer Screening," Dr. Vickers sought to raise awareness about the best way to use the PSA test. Here, we recap those myths.

Myth: PSA test results will show you whether your levels of PSA are elevated or normal

Many people are not clear about what a PSA test really shows.

"I often hear from friends that the result of their PSA test was negative," Dr. Vickers says. "But the PSA test result is not like a COVID-19 test. It doesn't suddenly turn positive when you develop prostate cancer."

The test tells you how much PSA protein is in your blood, measured in nanograms per milliliter (ng/ml). Results between 0 and 3 ng/ml were once considered "normal," but recent research has shown a gradient of risk, even at these low levels of PSA.

For patients with results of 3 ng/ml or higher, Dr. Vickers says the test should always be repeated to confirm the results. Elevated PSA levels can be caused by conditions other than cancer, including an enlarged prostate or a prostate infection. It's important to rule out those potential causes.

If your doctor can't find a benign (not cancerous) cause for your elevated PSA level, the next step should be additional tests like an MRI scan or a 4Kscore test—rather than going straight to an invasive prostate biopsy. An MRI can detect the presence of a tumor. The 4Kscore test, a blood test developed at MSK, looks at additional markers in the blood and can help determine whether a biopsy is needed.

Doctors used to believe that changes in PSA (known as "PSA velocity") were an indicator that cancer might be present, even in patients with no history of the disease. But researchers from MSK published several studies showing that looking at changes in PSA was not of value. Since then, PSA velocity has been removed from practice guidelines.

Myth: PSA is not an accurate test for prostate cancer

What makes this a myth is that it actually isn't very important at all.

"Almost all men will get prostate cancer if they live long enough," Dr. Vickers explains. "So we aren't at all interested in prostate cancer as an endpoint. What we want to know is whether PSA can predict who gets the sort of prostate cancer that can cause symptoms and threaten a patient's life. It turns out that PSA is very good at doing that."

- Because the PSA test is very sensitive, if your PSA is low, you can be reassured that you're at low risk of having an aggressive prostate cancer.
- That said, because the test is not specific, a higher PSA level

doesn't necessarily mean you will get an aggressive prostate cancer. That's because there can be many other reasons it is elevated.

Myth: The benefits of PSA testing are controversial

"We know there are benefits, and that's not controversial," Dr. Vickers says. "We have evidence that [prostate cancer screening](#) reduces the risk of dying from prostate cancer."

One of the [most well-known randomized studies](#) demonstrating that PSA reduces cancer mortality was conducted in Sweden in collaboration with MSK researchers. Dr. Vickers explains that the real controversy "isn't whether there are any benefits at all, but whether the benefits outweigh the harms."

Myth: PSA screening inevitably leads to a large amount of overtreatment and overdiagnosis

"Over the past few decades, many hundreds of thousands of American men have been diagnosed and treated for prostate cancer that never would have become apparent if not for PSA testing," Dr. Vickers says. "But the amount of overdiagnosis and overtreatment depends on how the test is used. If screening guidelines based on more up-to-date knowledge are followed and treatment is limited to aggressive cancers, the number of men being unnecessarily diagnosed with and treated for prostate cancer can be dramatically reduced."

For patients with prostate cancer that does not appear aggressive or likely to spread, MSK's Active Surveillance Program offers the option for regular monitoring. This program can help patients avoid the side effects associated with treatment.

Myth: PSA screening reduces prostate cancer mortality by about 1 in 1,000

PSA screenings have reduced deaths significantly more than 1 in 1,000. "This number is frequently cited, and it makes it look like the benefits are small, but it is based on a misunderstanding of a well-known trial," Dr. Vickers says. "Experts disagree about the best estimate, but one [study published](#) in *The New England Journal of Medicine* gave a number closer to 10 in 1,000."

He adds that cancer mortality rates have also improved thanks to better prostate cancer treatments, including many developed at MSK.

Myth: The best national policy for PSA screening is to only test men who ask their doctor

Most countries have adopted a policy that PSA testing should be done after "shared" decision making. "But for the most part, anyone who asks their doctor for a PSA test is going to get one," Dr. Vickers says. "The result we see across the globe is overuse of the test in men who are not going to benefit from it."

Another major problem with these policies is that they exacerbate inequality, with PSA testing more common in wealthier rather than in underserved communities, he adds.

Myth: Population-based PSA screening would dramatically increase the number of PSA tests as well as the number of prostate cancer diagnoses and treatments

If PSA screening is limited only to patients who fall within the appropriate age group, the number of PSA tests given should not dramatically increase. The guidelines recommend PSA testing based on age and risk factors, [explained in detail here](#).

"If we are systematic and organized about who gets the PSA tests, it would actually reduce the number of PSA tests given, especially as most men would get only two or three tests in their lifetime," Dr. Vickers says. "When PSA is being offered only to patients in the appropriate age range—meaning between the ages of 45 and 70—the amount of overdiagnosis and overtreatment will also go down."

Provided by Memorial Sloan Kettering Cancer Center

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