

Low risk prostate cancer not always low risk

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More and more men who believe they have low-risk prostate cancers are opting for active surveillance, forgoing treatment and monitoring the cancer closely with prostate-specific antigen (PSA) tests, digital rectal exams and ultrasounds at regular intervals to see if their tumors are growing. Nearly 400 men are now enrolled in the UCLA Active Surveillance program, the largest in Southern California.

However, according to a new UCLA study, selection of [men](#) for active surveillance should be based not on the widely used conventional [biopsy](#), but with a new, image-guided targeted prostate biopsy. The new biopsy method, pioneered by a multi-disciplinary team on the Westwood campus, is now a routine part of the UCLA active surveillance program.

UCLA researchers found that conventional "blind" biopsy failed to reveal the true extent of presumed low-risk prostate cancers, and that when targeted biopsy was used, more than a third of these men had more aggressive cancers than they thought. Their aggressive cancers were not detected by conventional blind biopsy using ultrasound alone, and the men were referred to UCLA's active surveillance program thinking they were at no immediate risk.

The study appears in the May 19, 2014 issue of the peer-reviewed *Journal of Urology*.

The targeted biopsy method, under study at UCLA since 2009, is performed by combining magnetic resonance imaging (MRI) with real-time ultrasound, a method of fusion biopsy, in a device known as the Artemis. Previous work from UCLA demonstrated the value of the new procedure in finding cancers in men with rising PSA who had negative conventional biopsies. This study is the first to show the value of using it early in the selection process for men interested in active surveillance.

"These findings are important as active

surveillance is a growing trend in this country," said study senior author Dr. Leonard Marks, a professor of urology and director of the UCLA Active Surveillance Program. "It's an excellent option for many men thought to have slow-growing cancers. But we show here that some men thought to be candidates for active surveillance based on conventional biopsies really are not good candidates."

Marks and his team identified 113 men enrolled in the UCLA active [surveillance program](#) who met the criteria for having low-risk cancers based on conventional biopsies. Study volunteers underwent an MRI to visualize the prostate and any lesions. That information was then fed into the Artemis device, which fused the MRI pictures with real-time, three-dimensional ultrasound, allowing the urologist to visualize and target lesions during the biopsy.

"Prostate [cancer](#) is difficult to image because of the limited contrast between normal and malignant tissues within the prostate," Marks said. "With the Artemis, we have a virtual map of the suspicious areas placed directly onto the ultrasound image during the biopsy. When you can see a lesion, you've got a major advantage of knowing what's really going on in the prostate."

Of the 113 volunteers enrolled in the study, 41 men - or 36 percent - were found to have more aggressive cancer than initially suspected, meaning they were not good candidates for active surveillance. The findings should result in a re-evaluation of the criteria for active surveillance, Marks said.

"We are hesitant now to enroll men in active surveillance until they undergo targeted biopsy," Marks said. "Fusion biopsy will tell us with much greater accuracy than conventional biopsy whether or not they have aggressive disease."

Michael Lewis, 70, of Channel Islands Harbor, had a slightly elevated PSA, but was told after a conventional biopsy that he had no cancer. Six

months later, his PSA had jumped 50 percent and he was given another biopsy, which again found no malignancy. A third biopsy showed a tiny amount of cancer, which qualified him for active surveillance at UCLA

However, six months later, as part of this study, a targeted biopsy revealed more cancer in Lewis' prostate than originally suspected. Despite what he thought at first, he had an aggressive tumor.

"It was a shock. No one wants to hear they have cancer," said Lewis, who recently finished stereotactic body radiation therapy at UCLA. "With the targeted biopsy system, we were able to find my cancer early. It might have been missed otherwise – it actually was missed. Before I came to UCLA, I was told I didn't even have cancer. I could have been dead - simple as that. Frankly, I owe my life to UCLA."

Lewis' prognosis is good, Marks said, because the cancer was detected early. Had he continued to receive conventional biopsies, the cancer may have spread before it was detected.

Prostate cancer is the most frequently diagnosed cancer in men aside from skin cancer. An estimated 233,000 new cases of prostate cancer will occur in the United States in 2014. Of those, nearly 30,000 men will die.

"For men initially diagnosed with low-risk prostate cancer, MRI-ultrasound confirmatory biopsy including targeting of suspicious lesions seen on MRI results in frequent detection of tumors," the study states. "These data suggest that for men enrolling in [active surveillance](#), the criteria need be re-evaluated to account for the risk inflation seen with targeted [prostate biopsy](#)."

On the other hand, Marks said, for men with a negative targeted biopsy, a degree of reassurance is provided that is much greater than that offered by the older, blind biopsy method.

Provided by University of California, Los Angeles

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