

*Study shows 3-D mapping biopsy to be gold standard for diagnosis*

# Hospital Shows Key to Fighting Prostate Cancer Is Finding It

*By Tyler Smith*

The second-most common cancer in men will claim nearly 30,000 lives this year, according to the American Cancer Society. Another 240,000 will learn they have the disease and face the question of what to do about it.

The disease wages war on the tiny prostate gland that surrounds the bladder and urethra in men. Until relatively recently, clinicians fighting back had the unsatisfying choice of launching an all-out counterattack with radical prostatectomy, razing the gland with radiation or simply waiting to see if the cancer cells multiplied in sufficient numbers to warrant retaliation.



*E. David Crawford, MD, co-authored paper that demonstrated the accuracy of three-dimensional mapping biopsies in identifying the location and size of prostate tumors.*

Today, the terms of engagement have changed as medical providers have beefed up their treatment arsenals, adding new techniques to freeze, cook, burn, or pulverize tumors. But the success of these

approaches, known as targeted focal therapies (TFTs), relies on increasingly sophisticated methods of zeroing in on rogue tissue and sparing healthy areas that surround it.

*"We have the weapons we need," said E. David Crawford, MD, head of the Urologic Oncology program at University of Colorado Hospital. "Finding the cancer is the key."*

**Putting the prostate to the test.** Crawford and his UCH colleagues are leaders in [three-dimensional biopsy mapping](#) technology that combines prostate tissue sampling at 5-millimeter intervals with transrectal ultrasound imaging. The approach vastly increases the number of samples taken from the gland and widens the area biopsied, thereby providing a more accurate view and boosting the chances of not only detecting tumors but also assessing their size and severity, in Crawford's estimation.

He and co-authors from the Division of Urology and Department of Pathology at the University of Colorado School of Medicine recently published a paper in [The Prostate](#) that showed the 3-D technique, dubbed transperineal mapping biopsy, very accurately detected the location and seriousness of prostate cancer lesions confirmed after radical prostatectomies.

Many of the patients in the study had their prostate cancer diagnosed with transrectal ultrasound guided biopsies (TRUSBs), a technique that takes 10 to 12 core samples from the prostate – about one-quarter the number taken with the 3-D approach – mainly from the back of the gland. According to the study, most of the men had more tumors than their TRUSBs indicated – and they were more aggressive than originally thought.

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The pay-off of 3-D mapping is that it expands the range of therapeutic choices for men and helps to ease uncertainty, Crawford said. If their cancer is in an early stage, they can choose a TFT over removing the prostate, which often leads to incontinence and sexual dysfunction, or strength-sapping radiation. In addition, the technique increases the chances of finding tumors that TRUSBs might have missed.

"Ultimately, we want to know what we're dealing with," Crawford said. "Knowledge is power."

**A long-awaited answer.** Michael Rutkowski, 66, a retired Ohio firefighter now living in Larkspur, Colo., had six negative TRUSBs in the six years after he had a high PSA (prostate specific antigen) score in 2005. In March 2011, a biopsy finally found one spot of low-grade cancer on his prostate.

Rutkowski's urologist referred him to Michael Glodé, MD, of the CU Division of Urology, who brought in Crawford to explain the mapping biopsy and TFT approaches that Rutkowski and his wife Vickie decided to pursue.

"I wanted to know what was going on in the prostate," Rutkowski said.

In October 2011, Rutkowski underwent a mapping biopsy at UCH. Crawford found not one, but three small spots of cancer, which he ablated with cryotherapy (freezing). Rutkowski said his PSA scores have been low and he's experienced no side effects since the procedure, which he described as "a couple of pokes."

The overall course of treatment was not free of discomfort, he acknowledged. He had to wear a catheter for a week after the mapping biopsy. "That was uncomfortable," he said. "I'd never had one. But after it was all over, it didn't seem that bad."

The trade-off was elimination of the anxiety that had dogged him for six years. "I was playing a big waiting game," he said. "Now I don't worry. I've done something about the cancer."

The choices for men like Michael Rutkowski continue to widen. Many [prostate cancer-fighting drugs](#) have hit the market in the past two years. In addition, the Food and Drug Administration last year approved [molecular testing](#) to rule out cancers in men clinicians suspect have cancers despite negative biopsies.

At UCH, meanwhile, the search continues for new and better ways to flush prostate lesions from hiding. Clifford Jones, a senior professional research assistant with Urologic Oncology, said for now 3-D mapping is the "gold standard" for confirming prostate cancer, but molecular testing is another important tool. The hospital's radiology group is also working on new imaging that marries MRIs with PET scans and ultrasound. The goal: sharpen the picture of the inside of the prostate gland, allowing clinicians to tailor their attack.

"We want to be able to use a scalpel on patients, not a baseball bat," Jones said.