

# Use of Prostate Health Index test reduces unnecessary biopsies

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The Prostate Health Index (phi) is a cost-effective tool used by urologists to detect prostate cancer. It reduces the risk of over diagnosis, and cuts down on the need to send men for unnecessary and often uncomfortable biopsies. So says Jay White of Carolina Urology Partners in the US, lead author of a study in the journal *Prostate Cancer and Prostatic Diseases*. The research included urologists from four large specialized practices across the US and is the first study to consider the value of the index within a multi-centre private practice setting.

The decision to send a patient for a [biopsy](#) isn't always straightforward. It becomes especially difficult when a blood test shows that a patient has an elevated level of a substance called prostate-specific antigen (PSA) but their [digital rectal exam](#) (DRE) shows nothing suspicious. Over two-thirds of such biopsies are typically found to be benign when the patient's PSA level ranges from 4 to 10 nanograms per millilitre (ng/mL). These men may be unnecessarily put through the discomfort of such procedures, which also hold the risk of bleeding, pain and infection.

The Beckman Coulter Prostate Health Index (phi) was approved by the US Food and Drug Administration in 2012 for use as an aid in the diagnosis of [prostate cancer](#) for men presenting with total PSA levels from 4 to 10 ng/mL and non-suspicious DRE findings. It combines the results of three quantitative kallikrein immunoassays (total PSA, free PSA and p2PSA) into a single numerical phi score. Other studies have also shown that elevated phi scores are associated with higher-grade prostate cancers.

In this multi-centre study, White and his colleagues used a two-part questionnaire to find out whether phi scores influence a physician's decision to perform a biopsy or merely monitor their patients further. In a second part of the study, the biopsy procedures performed on 506 patients were compared to that of a similar group of 683 patients who visited the practices before the test was implemented. The study is the largest of its kind to date.

In 73 percent of the cases, the phi scores were found to influence doctors' decisions about how to manage their patients. Only 36 percent of men received biopsies when phi testing was included in the assessment, compared to the 60 percent who had to undergo such procedures before the index was available. There was also an overall reduction in the percentage of low-grade [prostate](#) cancers detected.

"Physicians were less inclined to do a biopsy on patients receiving a low phi score, and more inclined to recommend biopsy for patients receiving an intermediate to high-risk phi score," explains White. "It also improved a physician's ability to communicate their recommendation to the patient, and helped alleviate patient anxiety in cases where the phi [score](#) was low."

"The appropriate use of the Prostate Health Index can significantly modify physician behavior patterns and improve their ability to diagnose and manage their [patients](#)," adds White.

**More information:** Jay White et al, Clinical utility of the Prostate Health Index (phi) for biopsy decision management in a large group urology practice setting, *Prostate Cancer and Prostatic Diseases* (2017). [DOI: 10.1038/s41391-017-0008-7](https://doi.org/10.1038/s41391-017-0008-7)

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