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Johns Hopkins Health Alert

What Can We Learn by Looking at the Percentage Free PSA or Bound PSA?

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Prostate-specific antigen (PSA) is an enzyme produced by the glandular cells of the prostate and secreted in the seminal fluid released during ejaculation. High blood levels may indicate prostate cancer but can also be caused by benign prostatic hyperplasia (BPH) and infection. By looking at the percentage of free PSA or complexed (bound) PSA, doctors can determine the cause of elevated PSA levels. Here's how ...

PSA in the blood is either bound (attached to proteins) or unbound (free). PSA assays usually measure the total PSA (both free and complexed). Other assays measure the percentage of free PSA or the percentage of complexed PSA. **Compared with men with BPH, men with prostate cancer have a higher percentage of bound PSA and a lower percentage of free PSA.** Research suggests that determining the ratio of free to total PSA in the blood helps distinguish between PSA elevations due to cancer and those caused by BPH. Using the percent free PSA result to help determine the need for biopsy might help reduce the number of unnecessary biopsies.

Researchers estimate that in men whose PSA levels are between 4 ng/mL and 10 ng/mL, performing a prostate biopsy only when the percent free PSA is 24% or below would detect more than 90% of prostate cancers while reducing the number of unnecessary biopsies by 20%. In addition, some investigators are enthusiastic about using complexed PSA measurements to detect cancer, believing that this provides the same information as free PSA and total PSA.

Posted in [Prostate Disorders](#) on December 30, 2010

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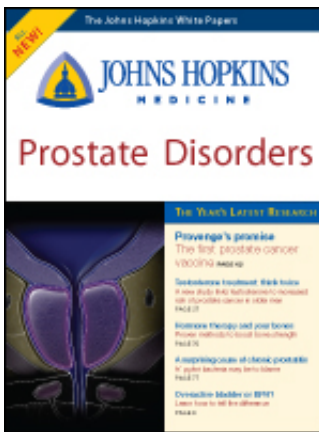
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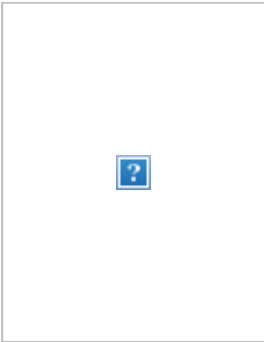
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