The British Association of Urological Surgeons

PSA MEASUREMENTS

Frequently-Asked Questions

What are the maximum PSA levels?

Age (yr)	Max PSA
40-29	2.7
50-49	3.9
60-69	5.0
70-75	7.2

These are age-related maximum levels but it is now clear that there is no real “safe” maximum level (see below).

Is the test useful in people with a short life-expectancy?

There is some doubt about the clinical usefulness of routine PSA measurements in patients with a life expectancy less than 5-10 years. In such patients, particularly if they have several other serious illnesses, it has been suggested that PSA should only be measured if the prostate is suspicious of malignancy on digital rectal examination (DRE) or if the patient has severe lower urinary tract symptoms, haematuria or bone pain

What is the sensitivity of the test?

The sensitivity and specificity of PSA in discriminating between cancer and BPH is somewhat limited. Even in men with a high PSA, only 30% are found to have a prostate cancer on biopsy; in men with a PSA <2.5, about 15% are found to have prostate cancer on biopsy.

The sensitivity can be improved by measuring both the free and the bound fractions of PSA and calculating the free/total PSA ratio (FTR). This service is now available for all PSA measurements.

What about the free-total PSA ratio?

Between the age-specific maxima (see table above) and 17, the FTR is a slightly better discriminator than total PSA alone. A low FTR (<17%) tends to suggest carcinoma and a high FTR (>22%) suggests BPH. If the total PSA is >17 or if the patient has known prostate cancer, the FTR will not have any useful role.

If the PSA is normal, the FTR is not used as an indicator for biopsy. The main role for FTR is to try and avoid biopsy in an elderly man who has a large benign feeling prostate. If the

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FTR is >22% then biopsy can be avoided.

How does all this help urologists and patients?

FTR assays do enable the urology team to make better decisions about the need for prostate biopsy so you are asked to report the FTR as well as the total PSA in your referral letters.

The use of FTR may help to reduce delay in referral of men whose total PSA is only marginally raised, but whose FTR is low.

Are there any other important points?

This publication provides input from specialists, the British Association of Urological Surgeons, the Department of Health and evidence-based sources as a supplement to any advice you may already have received.

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