



Position Statement on PSA Testing for Prostate Cancer

Background

Prostate cancer is the most common cancer in males in the UK, accounting for 28% of all new cancers, with 55,100 new cases annually. It is also the second most common cause of cancer death in UK men with around 12,000 deaths per year¹.

Almost 8 in 10 men diagnosed with prostate cancer survive 10 years or more. Survival has tripled in the past 50 years, partly due to PSA testing enabling early diagnosis. However, this can also lead to overdiagnosis which may artificially inflate survival by diagnosing cases which would not have gone on to cause harm in a patient's lifetime.

The challenge is to try to diagnose clinically relevant prostate cancers earlier without over diagnosing cancers which would never have caused clinical problems and to avoid unnecessary over treatment and resulting comorbidity.

What do we know about the risk of developing prostate cancer?

The average lifetime risk for men is 1 in 6. Prostate cancer is much more common in men over the age of 50 years. There are no obvious links to modifiable risk factors but we know that certain groups have an increased risk of developing prostate cancer and at an earlier age:

- Black men - The risk of developing prostate cancer is increased in black British, African and Caribbean men to 1 in 4 and becomes more common from age 45 years.
- Family history - men who have a first degree relative (father, brother or son) with prostate cancer are 2.5 times more likely to develop prostate cancer. This risk rises to 4 times more likely if two first-degree relatives have prostate cancer. Certain genetic syndromes also increase prostate cancer risk and at a younger age e.g. BRCA and Lynch syndrome. There is also some evidence to suggest that the risk of prostate cancer may be increased in patients with malignant melanoma.

Men without symptoms

Routine PSA screening is a controversial subject. PSA tests are unreliable and can suggest prostate cancer when no cancer exists (a false positive result). Most men are now offered an MRI scan before biopsy to help avoid unnecessary tests, but some men may have invasive and sometimes painful biopsies for no reason. Furthermore, around 1 in 7 of those with prostate cancer have normal PSA levels (a false negative result), so cases may be missed.

Large scale studies have not demonstrated a clear benefit in screening asymptomatic men by undertaking PSA. The UK-based Cluster Randomised Trial of PSA Testing for Prostate cancer (CAP) showed modest reduction in cancer death on 15 year follow up but evidence of

potential overdiagnosis and overtreatment². The UK National Screening Committee currently recommend against screening with PSA as benefits do not outweigh harms³.

Since 2016 asymptomatic men aged 50 years or older have been able to discuss having a PSA test with their GP as per the prostate cancer risk management programme⁴.

There is also no evidence to support digital rectal examination alone as a prostate screening tool in asymptomatic men⁵.

Recommendations⁶:

- High risk patients ≥ 45 years old - Primary care health professionals should proactively discuss prostate cancer risk and PSA testing in men with:
 - Black ethnicity
 - Family history of prostate cancer
 - Genetic risk factors such as BRCA gene variation that increase their risk
- Men ≥ 50 with no additional risk factors – should not be proactively invited for PSA testing but may request it. We should give men balanced information on pros and cons of the PSA blood test and diagnostic pathway and support them to make an informed choice on whether to have testing.
- Optimal intervals for repeat PSA testing in those without symptoms are unknown. Trials suggest this could be every 2 years for those at risk but could be every 8 years for those at low risk with an initial PSA <1 aged 40 years or PSA <2 aged 60 years in those without a family history.

Men with symptoms^{7,8}

Offer PSA testing to symptomatic men with:

- lower urinary tract symptoms scoring 8 or more on IPSS
- Erectile dysfunction
- Visible haematuria
- Prostate feels abnormal on digital rectal examination
- Unexplained weight loss
- Persistent bone pain

NICE suggests age-specific PSA thresholds for referral of:

40-49 years PSA > 2.5

50-59 years PSA > 3.5

60-69 years PSA > 4.5

70-79 years PSA > 6.5

Above 79: More than 10 and performance status 0-1, otherwise consider using advice and guidance or routine referral.

Additional things to remember when ordering and interpreting PSA tests

- PSA can be artificially high due to prostate inflammation, so ensure that a UTI is excluded and consider other causes (e.g. recent catheterisation, recent biopsy etc).
- Advise patient to avoid vigorous exercise and avoid ejaculation 48 hrs prior to testing.
- Digital rectal examination is not mandatory if PSA is raised but may be helpful in triaging referral.
- Consider repeat PSA after 6 weeks prior to referring if
 - PSA <10ng/ml and no risk factors
 - Recent urinary tract infection or instrumentation
- Finasteride and dutasteride reduce PSA levels by 50% - remember to multiply the result by 2 when considering referral thresholds.

PSA testing in men 80 years and above

NICE suggests we should use 'clinical judgement' when deciding whether to refer symptomatic men over 80 with an elevated PSA. Many cancers in this age group will be clinically insignificant and won't shorten life expectancy.

The Academy of Royal Colleges consensus on PSA testing for men over 80⁹ states that treatments with an intention to cure a patient generally only have benefit if life expectancy is >10 years. Men with asymptomatic prostate cancer aged over 80 are thought unlikely to benefit from hormonal manipulation in terms of quality of life versus medication side effects and so unless they have symptoms there is a rationale to avoid investigation or treatment.

Men with suspected metastatic disease should be referred to secondary care regardless of age as there are effective treatments which can manage the cancer and may improve symptoms.

Prostate cancer risk in transgender women¹⁰

The risk of prostate cancer in transgender women who are not on gender affirming hormone therapy or have not had gender affirming surgery is the same as the risk for cis men. However, awareness is low. The prostate is not removed as part of genital reconstructive surgery. Incidence in patients on gender affirming hormone therapy is lower but diagnosis and treatment can be more challenging.

Useful patient resources to aid decision making

- Prostate Cancer Risk Management Programme – [PSA Testing and Prostate Cancer: Advice for men without symptoms](#)
- NHS information [‘Should I have a PSA test?’](#)
- Prostate Cancer UK [‘Are you at risk?’](#) risk checker
- Cancer Matters Wessex – [Prostate Cancer Campaign](#)
- Risk calculators may be useful in helping people consider their risk factors e.g. Prostate Cancer Research Foundation [Calculate your prostate cancer risk](#)
- PCUK Information on risk for trans women <https://prostatecanceruk.org/prostate-information-and-support/risk-and-symptoms/trans-women-and-prostate-cancer>

References for health professionals

1. <https://www.cancerresearchuk.org/health-professional/cancer-statistics/statistics-by-cancer-type/prostate-cancer>
2. Martin RM et al. Prostate-Specific antigen screening and 15 year prostate cancer mortality: a secondary analysis of the CAP randomised clinical trial. Journal of the American Medical Association (2024) [PSA Screening and 15-year prostate cancer mortality](#)
3. UK National screening committee review of prostate cancer screening (2020) <https://view-health-screening-recommendations.service.gov.uk/prostate-cancer/>
4. Prostate Cancer Risk Management Programme [Advising men without symptoms of prostate disease who ask about the PSA test](#)
5. Is digital rectal examination any good as a prostate cancer screening test BJGP (2024) <https://bjgp.org/content/74/740/137>
6. Optimising the use of the prostate-specific antigen blood test in asymptomatic men for early prostate cancer detection in primary care: report from a UK clinical consensus, BJGP (2024) <https://bjgp.org/content/74/745/e534>
7. NICE CKS Prostate cancer <https://cks.nice.org.uk/topics/prostate-cancer/>
8. Getting it right first time Urology – Towards Better Diagnosis and Management of Suspected Prostate Cancer <https://gettingitrightfirsttime.co.uk/wp-content/uploads/2024/04/GIRFT-Urology-Towards-Better-Diagnosis-Management-of-Suspected-Prostate-Cancer-FINAL-V1-April-2024-1.pdf>
9. PSA Testing for men 80 years and above, Academy of Royal Colleges Best Practice Guidance, January 2024 <https://ebi.aomrc.org.uk/interventions/psa-testing-for-men-aged-80-years-and-above/>
10. Prostate cancer in transgender women: what does a urologist need to know? BJUI (2021) <https://bjui-journals.onlinelibrary.wiley.com/doi/epdf/10.1111/bju.15521>