|  |
| --- |
| **2CC — Prostate-specific antigen (PSA) test** |
| **Summary of Intervention** |
| Prostate-specific antigen (PSA) is a protein produced by the prostate gland. Blood PSA levels can be elevated in prostate cancer as well as a number of other conditions including benign prostatic hypertrophy, prostatitis and urinary tract infection. The PSA test is the most commonly used test that can lead to the diagnosis of localised prostate cancer for which potentially curative treatment can be offered. Increased PSA levels may be associated  with a raised probability of prostate cancer. However, many men have raised PSA levels without having prostate cancer and many men with prostate cancer don’t have raised PSA levels.  Typically, men with persistently raised PSA levels are referred on for further evaluation and may be offered histological assessment by trans-rectal or trans-perineal biopsy. Some centres are now using multi-parametric MRI  scans to further assess people before taking biopsies. MRI is less likely than biopsy to detect clinically insignificant cancers and therefore reduces over-diagnosis. MRI also enables a more accurate diagnosis of clinically significant cancers because the MRI image can be used to target the biopsy.  Biopsies help to confirm the presence of cancer and allows an assessment of the cancer grade and stage. It is possible that biopsies not guided by MRI imaging can miss smaller areas of cancer or detect indolent disease of unclear clinical significance (which may subsequently require further investigation or treatment). There are a number of potential adverse effects of biopsies including pain, bleeding, urinary retention, infection (which may  become serious sepsis) and sexual problems. It is also recognised this process has a significant psychological burden.  **This guidance applies to male adults aged 19 years and over.** |
| **Number of interventions in 18/19** |
| Data are not currently available |
| **Proposal** |
| Where PSA testing is clinically indicated (see below), or requested by the man aged 50 and over, he should have a careful discussion about the potential risks and benefits of PSA testing which allows for shared decision making before a PSA test. Various tools are available to assist with shared decision making (see below) PSA testing should be considered in asymptomatic men over age 40 who are at higher risk of prostate cancer due if they are Black and/or have a family history of prostate cancer PSA testing should be considered when clinically indicated (ideally after counselling on the potential risks and benefits of testing) in men when there is clinical suspicion of prostate cancer, which may include the following symptoms:  — Lower urinary tract symptoms (LUTS), such nocturia, urinary frequency, hesitancy, reduced flow, urgency or retention.  — Erectile dysfunction.  — Visible haematuria.  — Unexplained symptoms that could be due to advanced prostate cancer (for example lower back pain, bone pain, weight loss).  PSA testing for prostate cancer is not recommended in asymptomatic men (unless they are at high risk of prostate cancer i.e. Black and/or family history) is not recommended. This is because the benefits have not been shown to clearly outweigh the harms. In particular, there is concern about the high risk of false positive results. Where PSA test results are mildly raised above the age specific range for an individual patient, it may be appropriate to repeat the test within two to three months to monitor the trend.  *Note: PSA testing for prostate cancer should be avoided if the man has:*  — *An active or recent urinary infection (PSA may remain raised for many months).*  — *Had a prostate biopsy in the previous 6 weeks both of which are likely to raise PSA and give a false positive result.*  **Relevant Resources**  Public Health England (PHE) patient information sheet - PSA testing and prostate cancer: advice for well men aged 50 and over*.* Prostate Cancer Research Foundation - SWOP Risk Calculator*.*  Choosing Wisely UK - Patient education and shared decision-making resources*.*  Prostate Cancer UK - Patient education and shared decision-making resources*.* |
| **Rationale for Recommendation** |
| PSA testing for prostate cancer in asymptomatic men remains controversial. Testing probably increases the diagnosis of prostate cancer but there is little or no evidence this has an effect on cancer related mortality. Testing is also known to be associated with potential harms including overdiagnosis, infection and complications of treatment for indolent disease. Evidence suggests that people at high risker of prostate cancer may benefit more from PSA testing. Recently published UK guidance, based on an updated systematic review, made a weak recommendation against offering systematic PSA testing.  This was because of the small and uncertain benefits of testing on prostate cancer mortality and the large variability in men’s values and preferences. Given the lack of clear benefits, the group highlighted the importance of shared decision making in deciding whether to proceed with PSA testing which, is supported by other evidence.  It is worth considering, that the USA Preventive Services Task Force (USPSTF) has previously recommended against prostate cancer screening using PSA testing in men aged 75 years and above. The European Randomised study of Screening for Prostate Cancer (ERSPC) suggests that screening may reduce the long term risk of prostate cancer specific mortality by at least 9% (relative reduction).  NICE guidance stresses the importance of considering symptoms when proposing a PSA test and offering PSA to symptomatic men with lower urinary tract symptoms (LUTS), such as nocturia, urinary frequency, hesitancy, urgency or retention, erectile dysfunction, visible haematuria, or symptoms that could be due to advanced prostate cancer (for example lower back pain, bone pain, weight loss). It also advises on the use of tools to aid shared decision making between clinician and patient when deciding on PSA testing. |
| **References** |
| 1. NHS advice: https://www.nhs.uk/conditions/prostate-cancer/should-ihave-psa-test/.  2. Tikkinen KAO, Dahm P, Lytvyn L, et al. Prostate cancer screening with prostate-specific antigen (PSA) test: a clinical practice guideline. BMJ 2018:362:k3581. doi:10.1136/bmj.k3581.  3. Prostate Cancer UK: https://prostatecanceruk.org/prostate-information/prostate-tests/prostate-biopsy.  4. Ilic D, Djulbegovic M, Jung JH, et al. Prostate cancer screening with prostate-specific antigen (PSA) test: a systematic review and meta-analysis. BMJ 2018:362:k3519. doi:10.1136/bmj.k3519.  5. Vernooij RWM, Lytvyn L, Pardo-Hernandez H, et al. Values and preferences of men for undergoing prostate-specific antigen screening for prostate cancer: a systematic review. BMJ Open 2018;0:e025470. doi:10.1136/  bmjopen-2018-025470.  6. Martin RM, Donovan JL, Turner EL, et al., CAP Trial Group Effect of a low intensity PSA-based screening intervention on prostate cancer mortality: The CAP Randomized Clinical Trial. JAMA2018;319:883-95.  7. Young GJ, Harrison S, Turner EL, et al Prostate-specific antigen (PSA) testing of men in UK general practice: a 10-year longitudinal cohort study. BMJ Open2017;7:e017729. doi:10.1136/bmjopen-2017-017729. pmid:29084797.  8. Jemal A, Fedewa SA, Ma J, et al. Prostate cancer incidence and PSA testing patterns in relation to USPSTF screening recommendations. JAMA2015;314:2054-61. doi:10.1001/jama.2015.14905. pmid:26575061.  9. Van der Meer S, Kollen BJ, Hirdes WH, et al. Impact of the European Randomized Study of Screening for Prostate Cancer (ERSPC) on prostate specific antigen (PSA) testing by Dutch general practitioners. BJU Int2013;112:26-31. doi:10.1111/bju.12029. pmid:2346517.  10. NICE Clinical Knowledge Summary Prostate Cancer https://cks.nice.org.uk/prostate-cancer#!diagnosisSub:2.  11. Schröder FH et al. Screening and prostate-cancer mortality in a randomized European study. N Engl J Med. 2009 Mar 26;360(13):1320–8.  12. Thompson IM et al. Prevalence of prostate cancer among men with a prostate-specific antigen level < or =4.0 ng per milliliter. N Engl J Med. 2004 May 27;350(22):2239–46.  13. Promis Study: https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(16)32401-1/fulltext.  14. Precision Study: https://www.nejm.org/doi/full/10.1056/NEJMoa1801993. |