

Screening for prostate cancer

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Prostate cancer screening with PSA is controversial and the test does not fulfil the World Health Organization's (WHO) criteria for an adequate screening programme. Screening trials are limited by contamination of patients who have already had prior PSA tests, and most include mainly white men. Most screening trials do not include high-risk groups of men (family history of prostate cancer, Africans) and screening can lead to overdiagnosis of insignificant disease. The four largest randomised trials include in total around 700 000 patients; they have shown that screening did not improve overall mortality, but there is a small improvement in prostate cancer-specific mortality. However, screening increased prostate cancer diagnoses from prostate biopsies and can lead to overdiagnosis.

Summary box 84.5 Screening for prostate cancer

Local spread
Locally advanced tumours tend to grow upwards to involve the seminal vesicles, the bladder neck and trigone and, later, the tumours tend to spread distally to involve the distal sphincter mechanism. Further upward extension obstructs the lower end of one or both ureters, with obstruction of both resulting in anuria. The rectum may become stenosed by tumour infiltrating around it, but direct involvement is rare.

Spread by the bloodstream
Spread by the bloodstream occurs particularly to bone; indeed, the prostate is the most common site of origin for skeletal metastases, followed in turn by the breast, the kidney, the bronchus and the thyroid gland. The bones involved most frequently by carcinoma of the prostate are the pelvic bones and the lower lumbar vertebrae. The femoral head, ribcage and skull are other common sites.

Lymphatic spread
Lymphatic spread may occur via (i) lymphatic vessels passing to the obturator fossa or along the sides of the rectum to the lymph nodes beside the internal iliac vein and in the hollow of the sacrum and (ii) lymphatics that pass over the seminal vesicles and follow the vas deferens for a short distance to drain into the external iliac lymph nodes. From retroperitoneal lymph nodes, the mediastinal nodes and occasionally the supraclavicular nodes may become implicated.

The results of several large-scale randomised clinical trials evaluating the role of PSA screening for prostate cancer suggest that, at present, screening the entire population with serum PSA is not cost-effective as a large number of men must be screened, biopsied and treated in order to prevent each death from prostate cancer

Revision #1

Created 2025-12-31 15:30:42 UTC by Omar Ayman

Updated 2025-12-31 15:30:42 UTC by Omar Ayman