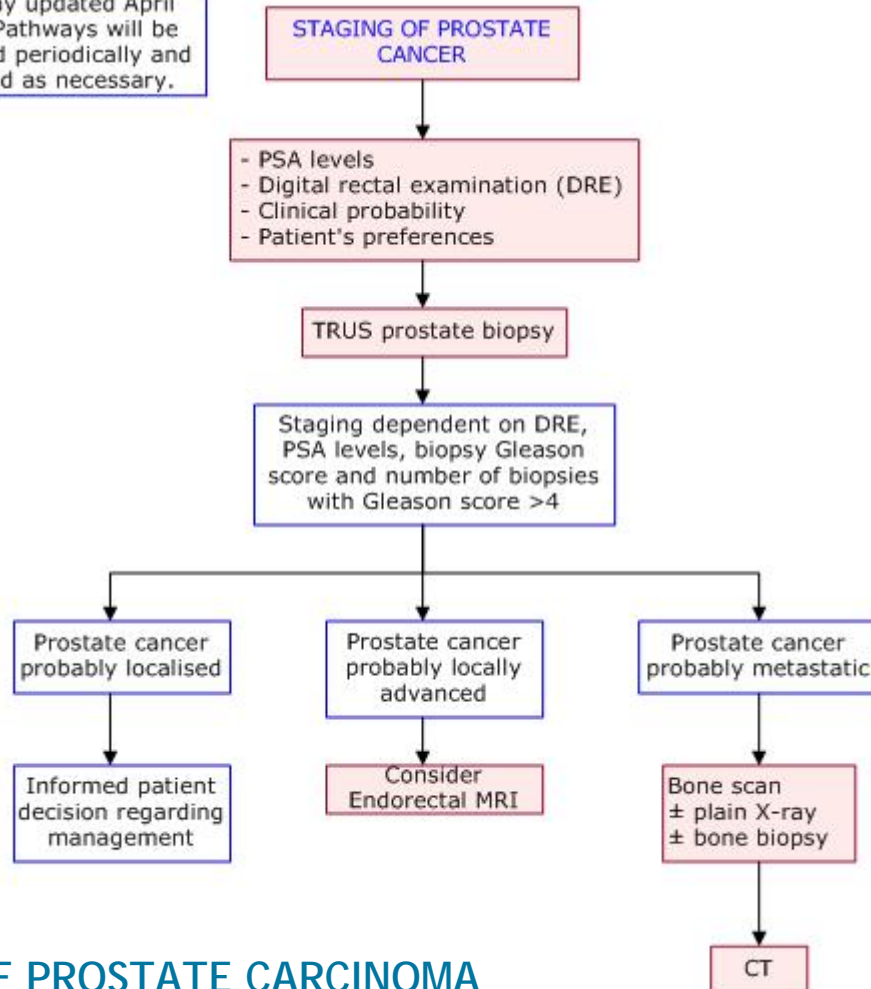




Pathway updated April 2009. Pathways will be reviewed periodically and updated as necessary.



STAGING OF PROSTATE CARCINOMA

- Prostate cancers are located in the peripheral zone of the gland in 85%, in the transitional zone in 10%; 40-50% are multi-focal.
- Staging of prostate cancer is controversial. [1](#)
- Digital rectal exam, tumour grade (biopsy Gleason score) and PSA levels are more important predictors than imaging in deciding the treatment of prostate cancer. [1-4](#)
- Accurate staging is critical to the management of patients with prostate cancer. [5,6](#)
- In patients treated by radical prostatectomy, seminal vesicle involvement or extracapsular extension are often associated with recurrent disease. [5](#)
- The surgical margin status and extent of extracapsular disease may influence the disease-free survival of patients treated with radical prostatectomy or may alter surgical approaches with respect to neurovascular bundle preservation. [6](#)

PROSTATE SPECIFIC ANTIGEN (PSA) LEVEL

- Correlates with the risk of extra-capsular extension, seminal vesicle invasion, and both regional and distant disease and predicts response to local therapy. [4](#)

- Levels of 10ng/ml or less are strong predictors of negative bone scans. [7,8](#)
- Limitations: urinary tract infections, instrumentation, catheterisation and benign prostatic hyperplasia may also cause PSA levels to rise.

TRANSRECTAL ULTRASOUND (TRUS)

- TRUS alone is of limited value in staging of prostate cancer (46-66% accuracy). [9-12](#)
- Most useful in performing systematic prostatic biopsies and biopsies of identifiable prostatic lesion and suspicious appearing periprostatic soft tissues, including the seminal vesicles. [3](#)

COMPUTED TOMOGRAPHY

- Routine CT is generally not indicated for the vast majority of patients with newly diagnosed prostate cancer for whom the incidence of positive lymph nodes is very low. [13,14](#)
- Useful in guiding the needle biopsy of pelvic lymph nodes.
- Limitations: CT identification of pelvic adenopathy depends upon lymph node enlargement, and the correlation between nodal size and metastatic involvement is poor (30-35% sensitivity for detecting positive nodes). [15,16](#)

ENDORECTAL MAGNETIC RESONANCE IMAGING

- Potential role as a staging modality for the identification of patients with extracapsular extension. [18](#)
- Multicoil MRI is useful for defining patients that may benefit from the surgery and may also help in evaluating the risk of positive margin, especially in apical resection. [11](#)
- High accuracy (89%) for detection of seminal vesical invasion. [11,19](#)
- Low sensitivity for detection of minor capsular penetration of the tumour. [19](#)
- More sensitive but less specific than TRUS for detection of extracapsular extension and seminal vesicle invasion of prostate carcinoma. [10,12,18,20](#)
- Addition of 3D proton MR spectroscopic imaging improves accuracy and reduces interobserver variability. [21](#)
- Recent decision analysis found MR staging to be cost-effective for men with moderate or high probability of extracapsular disease. [22](#)

BONE SCAN

- Routine use of a bone scan is not indicated for staging clinically localised prostate cancer when associated with low PSA levels as low PSA levels correlate well with absence of bony metastases. [7,8](#)

- Indicated in patients who have the history or clinical examination suggestive of bony involvement or high PSA levels (> 10ng/ml) or in advanced local disease or high grade disease as metastatic disease is significantly more common in this group and they may have low levels of PSA. [4,17](#)

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Website

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