

Staging Prostate Cancer

The AJCC (American Joint committee on Cancer) TNM staging system

How is prostate cancer staged?

The stage (extent) of a cancer is one of the most important factors in choosing treatment options and predicting a man's outlook. The stage is based on the prostate biopsy results (including the Gleason score), the PSA level, and any other exams or tests that were done to find out how far the cancer has spread. These tests are described in the section, "How is prostate cancer diagnosed?"

A staging system is a standard way for the cancer care team to describe how far a cancer has spread. The most widely used staging system for prostate cancer is the American Joint Committee on Cancer (AJCC) TNM system.

The TNM system for prostate cancer is based on 5 key pieces of information:

- The extent of the primary tumor (T category)
- Whether the cancer has spread to nearby lymph nodes (N category)
- The absence or presence of distant metastasis (M category)
- The PSA level at the time of diagnosis
- The Gleason score, based on the prostate biopsy (or surgery)

There are actually 2 types of staging for prostate cancer:

- The clinical stage is your doctor's best estimate of the extent of your disease, based on the results of the physical exam (including DRE), lab tests, prostate biopsy, and any imaging tests you have had.
- If you have surgery, your doctors can also determine the pathologic stage, which is based on the surgery and examination of the removed tissue. This means that if you have surgery, the stage of your cancer might actually change afterward (if cancer was

found in a place it wasn't suspected, for example). Pathologic staging is likely to be more accurate than clinical staging, as it allows your doctor to get a firsthand impression of the extent of your disease. This is one possible advantage of having surgery (radical prostatectomy) as opposed to radiation therapy or watchful waiting (expectant management).

Both types of staging use the same categories (but the T1 category is not used for pathologic staging). T categories (clinical)

There are 4 categories for describing the local extent of a prostate tumor, ranging from T1 to T4. Most of these have subcategories as well.

T1: Your doctor can't feel the tumor or see it with imaging such as transrectal ultrasound.

- T1a: Cancer is found incidentally (by accident) during a transurethral resection of the prostate (TURP) that was done for benign prostatic hyperplasia (BPH). Cancer is in no more than 5% of the tissue removed.
- T1b: Cancer is found during a TURP but is in more than 5% of the tissue removed.
- T1c: Cancer is found by needle biopsy that was done because of an increased PSA.

T2: Your doctor can feel the cancer with a digital rectal exam (DRE) or see it with imaging such as transrectal ultrasound, but it still appears to be confined to the prostate gland.

- T2a: The cancer is in one half or less of only one side (left or right) of your prostate.
- T2b: The cancer is in more than half of only one side (left or right) of your prostate.
- T2c: The cancer is in both sides of your prostate.

T3: The cancer has begun to grow and spread outside your prostate and may have spread into the seminal vesicles.

- T3a: The cancer extends outside the prostate but not to the seminal vesicles.
- T3b: The cancer has spread to the seminal vesicles.

T4: The cancer has grown into tissues next to your prostate (other than the seminal

vesicles), such as the urethral sphincter (muscle that helps control urination), the rectum, the bladder, and/or the wall of the pelvis.

N categories

N categories describe whether the cancer has spread to nearby (regional) lymph nodes.

NX: Nearby lymph nodes were not assessed.

N0: The cancer has not spread to any nearby lymph nodes.

N1: The cancer has spread to one or more nearby lymph nodes in the pelvis.

M categories

M categories describe whether the cancer has spread to distant parts of the body. The most common sites of prostate cancer spread are to the bones and to distant lymph nodes, although it can also spread to other organs, such as the lungs and liver.

M0: The cancer has not spread past nearby lymph nodes. M1: The cancer has spread beyond the nearby lymph nodes.

- M1a: The cancer has spread to distant (outside of the pelvis) lymph nodes.
- M1b: The cancer has spread to the bones.
- M1c: The cancer has spread to other organs such as lungs, liver, or brain (with or without spread to the bones).

Stage grouping

Once the T, N, and M categories have been determined, this information is combined, along with the Gleason score and prostate-specific antigen (PSA), in a process called stage grouping. If the Gleason score or PSA results are not available, the stage can be based on the T, N, and M categories. The overall stage is expressed in Roman numerals from I (the least advanced) to IV (the most advanced). This is done to help determine treatment options and the outlook for survival or cure (prognosis).

Stage I: One of the following applies:

T1, N0, M0, Gleason score 6 or less, PSA less than 10: The doctor can't feel the tumor

or see it with an imaging test such as transrectal ultrasound (it was either found during a transurethral resection or was diagnosed by needle biopsy done for a high PSA) [T1]. The cancer is still within the prostate and has not spread to nearby lymph nodes [N0] or elsewhere in the body [M0]. The Gleason score is 6 or less and the PSA level is less than 10.

OR

T2a, N0, M0, Gleason score 6 or less, PSA less than 10: The tumor can be felt by digital rectal exam or seen with imaging such as transrectal ultrasound and is in one half or less of only one side (left or right) of your prostate [T2a]. The cancer is still within the prostate and has not spread to nearby lymph nodes [N0] or elsewhere in the body [M0]. The Gleason score is 6 or less and the PSA level is less than 10.

Stage IIA: One of the following applies:

T1, N0, M0, Gleason score of 7, PSA less than 20: The doctor can't feel the tumor or see it with imaging such as transrectal ultrasound (it was either found during a transurethral resection or was diagnosed by needle biopsy done for a high PSA level) [T1]. The cancer has not spread to nearby lymph nodes [N0] or elsewhere in the body [M0]. The tumor has a Gleason score of 7. The PSA level is less than 20.

OR

T1, N0, M0, Gleason score of 6 or less, PSA at least 10 but less than 20: The doctor can't feel the tumor or see it with imaging such as transrectal ultrasound (it was either found during a transurethral resection or was diagnosed by needle biopsy done for a high PSA) [T1]. The cancer has not spread to nearby lymph nodes [N0] or elsewhere in the body [M0]. The tumor has a Gleason score of 6 or less. The PSA level is at least 10 but less than 20.

OR

T2a or T2b, N0, M0, Gleason score of 7 or less, PSA less than 20: The tumor can be

felt by digital rectal exam or seen with imaging such as transrectal ultrasound and is in only one side of the prostate [T2a or T2b]. The cancer has not spread to nearby lymph nodes [N0] or elsewhere in the body [M0]. It has a Gleason score of 7 or less. The PSA level is less than 20.

Stage IIB: One of the following applies:

T2c, N0, M0, any Gleason score, any PSA: The tumor can be felt by digital rectal exam or seen with imaging such as transrectal ultrasound and is in both sides of the prostate [T2c]. The cancer has not spread to nearby lymph nodes [N0] or elsewhere in the body [M0]. The tumor can have any Gleason score and the PSA can be any value.

OR

T1 or T2, N0, M0, any Gleason score, PSA of 20 or more: The cancer has not yet begun to spread outside the prostate. It may (or may not) be felt by digital rectal exam or seen with imaging such as transrectal ultrasound [T1 or T2]. The cancer has not spread to nearby lymph nodes [N0] or elsewhere in the body [M0]. The tumor can have any Gleason score. The PSA level is at least 20.

OR

T1 or T2, N0, M0, Gleason score of 8 or higher, any PSA: The cancer has not yet begun to spread outside the prostate. It may (or may not) be felt by digital rectal exam or seen with imaging such as transrectal ultrasound [T1 or T2]. The cancer has not spread to nearby lymph nodes [N0] or elsewhere in the body [M0]. The Gleason score is 8 or higher. The PSA can be any value.

Stage III:

T3, N0, M0, any Gleason score, any PSA: The cancer has begun to spread outside the prostate and may have spread to the seminal vesicles [T3], but it has not spread to nearby lymph nodes [N0] or elsewhere in the body [M0]. The tumor can have any Gleason score

and the PSA can be any value.

Stage IV: One of the following applies:

T4, N0, M0, any Gleason score, any PSA: The cancer has spread to tissues next to the prostate (other than the seminal vesicles), such as the urethral sphincter (muscle that helps control urination), rectum, bladder, and/or the wall of the pelvis [T4]. The cancer has not spread to nearby lymph nodes [N0] or elsewhere in the body [M0]. The tumor can have any Gleason score and the PSA can be any value.

OR Any T, N1, M0, any Gleason score, any PSA: The tumor may or may not be growing into tissues near the prostate [any T]. The cancer has spread to nearby lymph nodes (N1) but has not spread elsewhere in the body [M0]. The tumor can have any Gleason score and the PSA can be any value.

OR

Any T, any N, M1, any Gleason score, any PSA: The cancer may or may not be growing into tissues near the prostate [any T] and may or may not have spread to nearby lymph nodes [any N]. It has spread to other, more distant sites in the body [M1]. The tumor can have any Gleason score and the PSA can be any value.