Prostate Cancer Grading

What is cancer grading?
Grading is used to describe how abnormal or aggressive the cancer cells look. The grade helps to determine how a tumor may respond to treatment and the overall survival rates.

What is the Gleason score?
The Gleason scoring system is used for grading prostate cancer. This scale gives cancer cells a score from 1 to 10. The grades of the two most common patterns of cells found inside the tumor are added together to give a total score. For example cells with grades of 3 + 4 = a total grade of 7. Gleason scores normally range between 4 and 7. These scores are then grouped into three main levels:

- **Low-grade (well differentiated):** This type of slow-growing cancer looks the most like normal prostate cells and is the least dangerous. It has a Gleason score of 4 or less.

- **Intermediate grade (moderately differentiated):** This type is somewhere between the low and high-grade cancers and the most common of the three. Depending on PSA level and how much tumor there is, it can act like a high or low-grade cancer. It has a Gleason score between 4 and 7.

- **High-grade (poorly differentiated):** This type of cancer looks least like normal prostate cells. It is the most serious type since it is aggressive and grows very fast. It may grow into surrounding areas, such as lymph nodes and bones. These cancer cells also tend to be large, hard to treat, and return more often. They have a Gleason score between 8 and 10.
What is the TNM grading system?

The TNM grading system is based on the size of the tumor (T), the amount of spread to nearby lymph nodes (N), and if there is metastasis (M) or the spread of cancer cells to other parts of the body. A number is added to each letter to show the size and/or extent of the primary tumor and the degree of cancer spread.

- **T** stands for tumor and is based on the size of the original (primary) tumor and if it has grown into nearby tissues.
- **N** stands for nodes and tells if the cancer has spread to the lymph nodes.
- **M** means metastatic, and tells whether the cancer has spread throughout the body.

**T Status**

- **Stage T1**: Microscopic tumor confined to prostate and undetectable by a digital rectal exam (DRE) or ultrasound
- **Stage T1a**: Tumor found in 5% or less of prostate tissue sample
- **Stage T1b**: Tumor found in more than 5% of a prostate tissue sample
- **Stage T1c**: Tumor is found by a needle biopsy as a follow-up to an elevated PSA result
- **Stage T2**: Tumor confined to prostate and can usually be detected by DRE or ultrasound
- **Stage T2a**: Tumor involves half of a lobe or less, and can usually be discovered during DRE exam
- **Stage T2b**: Tumor involves more than half of one lobe of the prostate, and can usually be felt during DRE exam
- **Stage T2c**: Tumor involves both lobes of the prostate and is felt during a DRE exam
- **Stage T3**: Tumor has spread through the prostate capsule
- **Stage T3a**: Tumor has spread to outside of the prostate on one or both sides
- **Stage T3b**: Tumor has spread to one or both of the seminal tubes
• **Stage T4**: Tumor has spread outside the prostate to any or all of the bladder neck, external sphincter and or the rectum

**N Status**

• **Stage N0**: No cancer cells have spread to the pelvic lymph nodes

• **Stage N1**: Cancer cells have spread to a single lymph node in the pelvic area and are 2 cm (approximately 3/4 of one inch) or less in size

• **Stage N2**: Cancer cells have spread either to a single lymph node and are more than 2 cm but less than 5 cm (about 2 inches) in size, or the prostate cancer cells are found in more than one lymph node and are no larger than 5 cm in size

• **Stage N3**: Cancer cells have spread to the lymph nodes and are larger than 5 cm in size

**M Status**

• **Stage M0**: Cancer cells have not spread past the nearby lymph nodes

• **Stage M1**: Cancer cells have spread past the pelvic area to other parts of the body