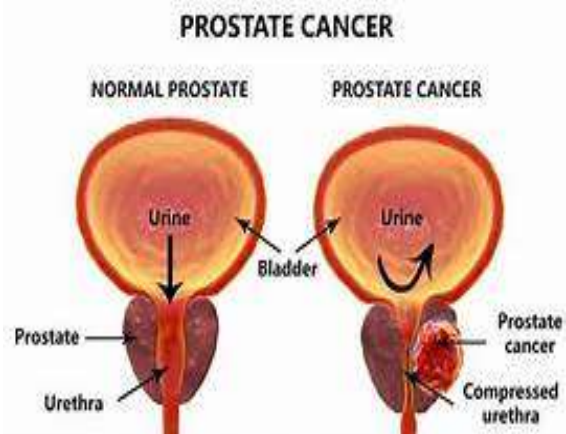# XX. Diseases of the Male Genital System

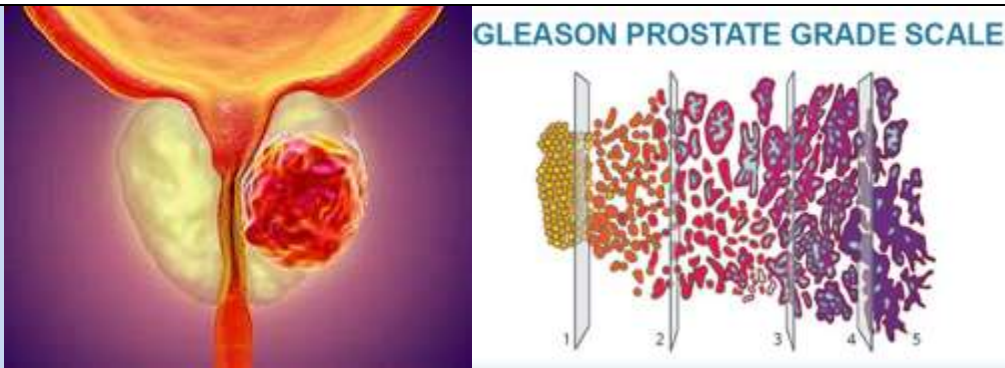| Carcinoma (prostate) IV-7. 555	
Urinary bladder:	• Is dilated Thick-walled • Shows protrusion of a prostatic tumour into its cavity
Prostate:	• Is enlarged • Rather firm in consistence in general) • Shows a tumour

The tumour:	• Is diffusely infiltrating the prostate (malignancy)
	 • Moderately large in size
	 • Is dense (without lobulations or nodularity)
	 • Homogeneous
	 • With foci of :
	   ○ Necrosis
	   ○ Haemorrhage
	 • Greyish-white in colour
	 • Mostly firm in consistence with harder areas
	 • Small yellowish islands separated by more translucent areas of fibrous tissue.

GLEASON PROSTATE GRADE SCALE

Carcinoma IV - 7.555
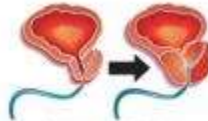
Prostate:	• Is slightly enlarged • Shows a tumour
The tumour:	• Is originating from the posterior lobe • Infiltrating the prostatic tissue (malignancy) • Has spread into the capsule

	Cut surface:	• Does not bulge • Has got a gritty sensation • Pale or opaque greyish-white in colour • Firm-to-hard in consistence

N.B.:
1. Carcinoma of the prostate usually **commences in the posterior lobe**; then it invades the rest of the prostatic glandular tissue.
2. Later still, the surrounding tissue may, or may not, be invaded in the following order :
    1. Posterior lobe.
    2. Lateral lobes.
    3. Urinary bladder, urethra, seminal vesicles, rectum and omentum.
    4. The other surrounding structures.
    5. Lymphatic spread to the capsule and the lymph nodes.
    6. Blood spread to bones, lungs, liver etc...

Spread of prostatic carcinoma by blood to vertebrae is through the *paravertebral venoue plexus of Batson,s* because it communicates with the pelvic venous plexus and has no valves. With straining the blood goes to the vertebrae.

The Gleason score and Grade Groups

- The Gleason score is the most common system doctors use to grade prostate cancer.
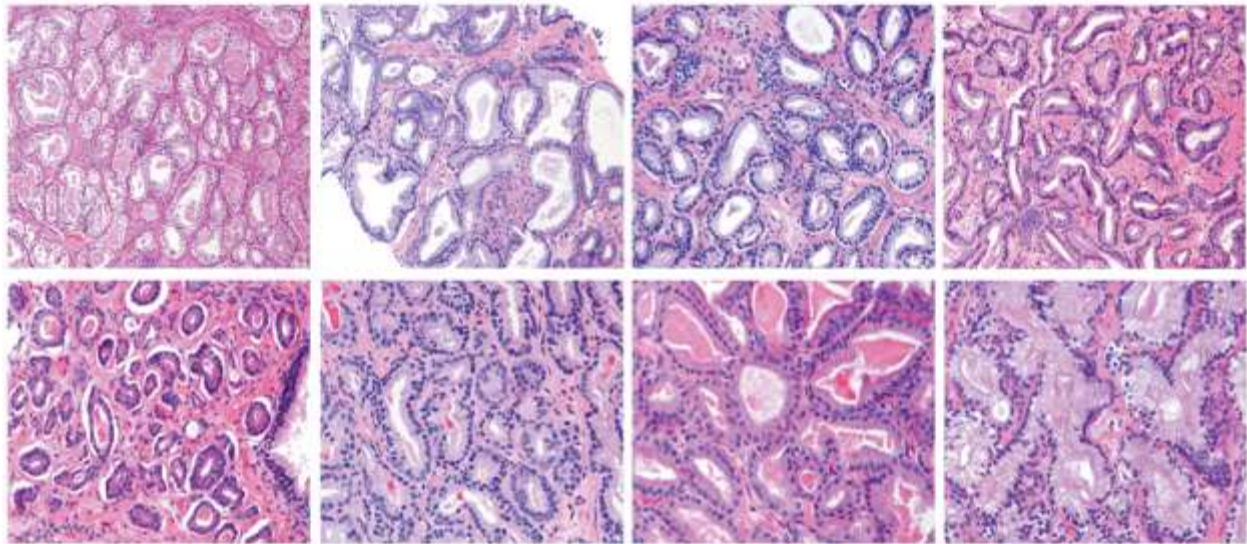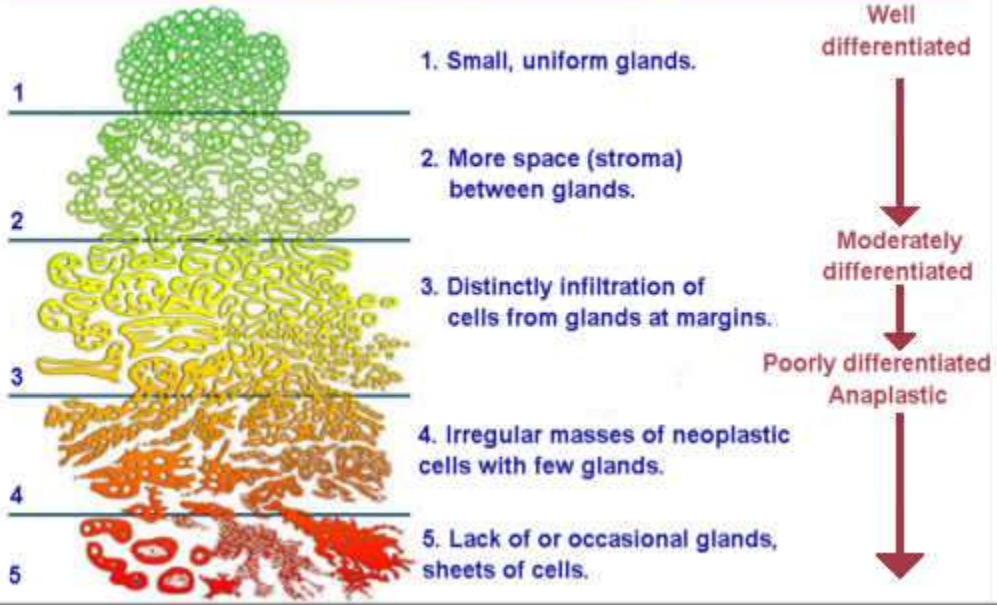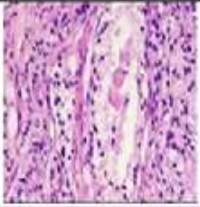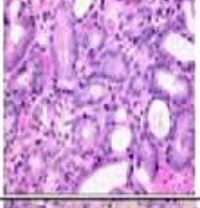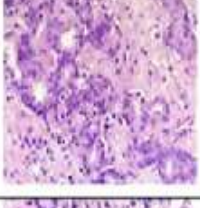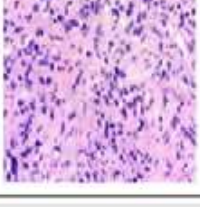- The grade of a cancer tells you how much the cancer cells look like normal cells.
- This gives your doctor an idea of how the cancer might behave and what treatment you need.
- To find out the Gleason score or Grade Group, a pathologist looks at several samples of cells (biopsies) from your prostate.
- The pathologist grades each sample of prostate cancer cells from 3 to 5 based on how quickly they are likely to grow or how aggressive the cells look.
- You may hear this score being called the *Gleason Grade.*
- Doctors then work out an overall Gleason score by adding together the 2 most common Gleason grades.
- So for example, if the most common Gleason grade is 3, and the second most common is 4, then the overall Gleason score is 7.
- Or they might write the scores separately as 3 + 4 = 7. This combined score is also now called the Grade Group.
- There are 5 Grade Groups.
- Grade Group 1 is the least aggressive and Grade Group 5 is the most aggressive.

Gleason score	Grade Group	What it means
Gleason score 6 (or 3 + 3 = 6)	Grade Group 1	The cells look similar to normal prostate cells. The cancer is likely to grow very slowly, if at all
Gleason score 7 (or 3 + 4 = 7)	Grade Group 2	Most cells still look similar to normal prostate cells. The cancer is likely to grow slowly
Gleason score 7 (or 4 + 3 = 7)	Grade Group 3	The cells look less like normal prostate cells. The cancer is likely to grow at a moderate rate
Gleason score 8 (or 4 + 4 = 8)	Grade Group 4	Some cells look abnormal. The cancer might grow quickly or at a moderate rate
Gleason score 9 or 10 (or 4 + 5 = 9, 5 + 4 = 9 or 5 + 5 = 10)	Grade Group 5	The cells look very abnormal. The cancer is likely to grow quickly

Gleason's Pattern Scale

Well differentiated

1. Small, uniform glands.

2. More space (stroma) between glands.

Moderately differentiated

3. Distinctly infiltration of cells from glands at margins.

Poorly differentiated
Anaplastic

4. Irregular masses of neoplastic cells with few glands.

5. Lack of or occasional glands, sheets of cells.

Grade	Pattern Description				Gleason Pattern Sample
	Tumor Boundary	Pattern	Size	Spread	
1	Sharp boundaries	Well differentiated uniform single glands which grows almost together	Medium	Closely packed	
2	Less well circumscribed	Variably spaced single glands apart and boundaries of the tumor are not finely bounded	Medium	Upto one gland diameter apart	
3	Well circumscribed	Single, separate, round, irregular OR enlarged masses with cribriform or papillary pattern	Small to large	Loosely packed with well-defined margins	
4	Architecture lost	Fused gland tumor, mostly consist of pale cells	Small or medium	No individual or separated glands	
5	Minimal glandular differentiation	Comedo carcinoma tumors and cords, solid sheets with no acinar formation	Small	Diffusely infiltrating prostatic stroma	

This is how the Gleason score and Grade Groups match up and what it means:

It can be difficult to understand what the Gleason score and Grade Group means in your situation. Ask your doctor or specialist nurse if you have any questions about this.

Treatment

The Gleason score and Grade Groups are important factors that can help your doctor recommend if you need treatment and the type of treatment you need. Other factors include:

- **the size** of the cancer and **whether it has spread (the stage)**
- **your PSA level**
- **your age and how well you are**

Another important factor is your own preference about the treatments available and their side effects.

Doctors may use these factors to work out your prognosis. This means your likelihood of coming to harm from the cancer if you do or do not have treatment. They balance this against your overall risk of coming to harm from other illnesses.

① ② ③ ④ ⑤

A B

Grade 3

Grade 4

Grade 5
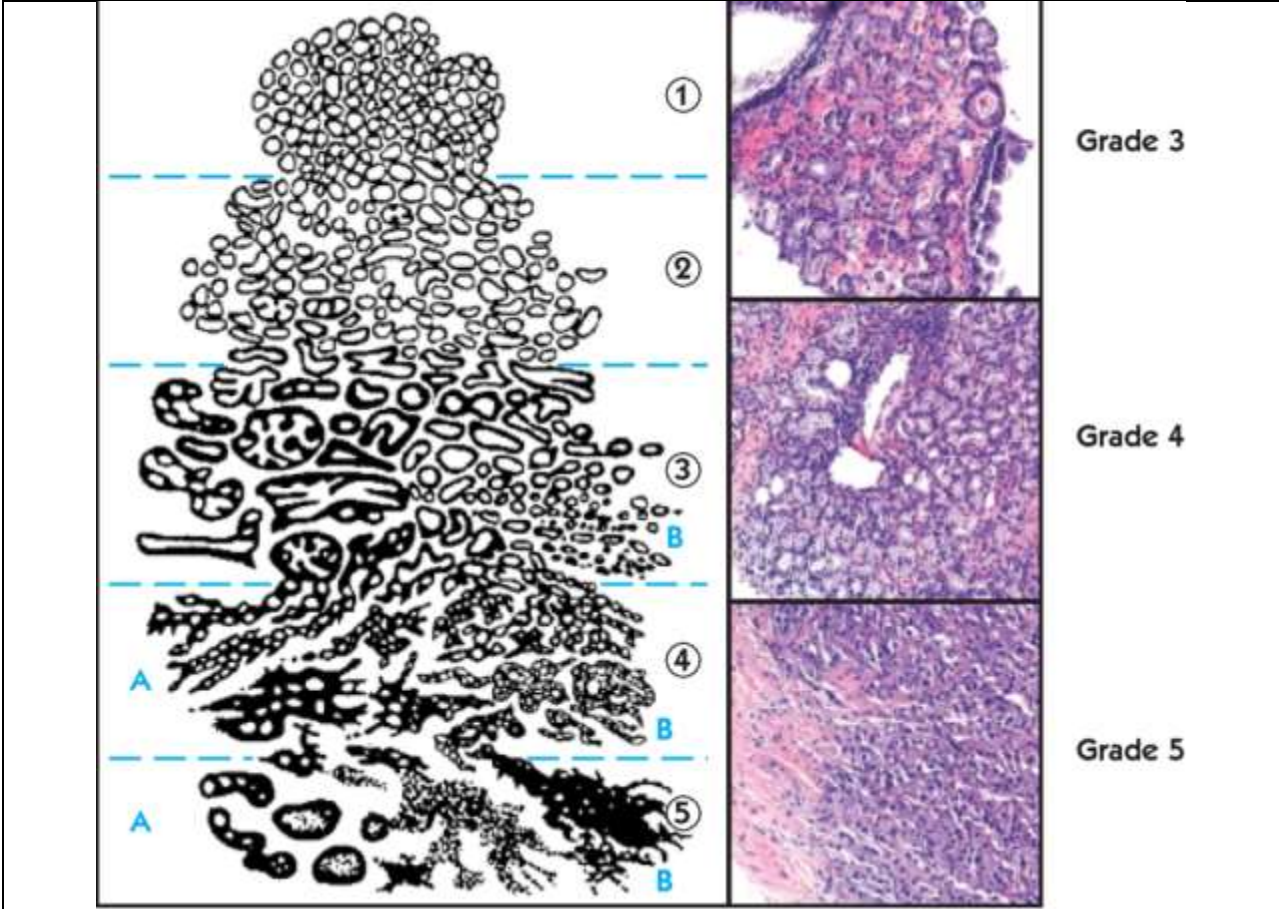
1. Glands are small, well-formed, and close together. There are only small signs of cancer.

2. Glands are larger and have more space in between them.

3. Glands are even further apart, are darker, and have different shapes.

4. There are hardly any glands. Cancer cells have lost their ability to form glands. Clumps of cancer cells throughout the tissue.

5. Often, there are no glands, there are sheets of cancer cells throughout the tissue.

ProstateCancer.net