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**Male Reproductive System**

The male reproductive system is a network of external and internal organs that function to produce, support, transport, and deliver viable sperm for reproduction, to discharge sperm within the female reproductive tract and to produce and secrete male sex hormones

The male reproductive anatomy includes internal and external structures.

The external structures of the male reproductive system include:

1. Penis
2. Scrotum
3. Testicles
4. Epididymis

The internal organs of the male reproductive system, also called accessory organs, include the following:

1. Vas deferens
2. Ejaculatory Duct
3. Urethra
4. Seminal vesicles
5. Bulbourethral glands
6. Prostate gland

**The different disorders of the prostate gland**:

**Prostate** It is an apricot-sized, muscular gland that produces some of the ingredients of semen. It sits just in front of the rectum and below the bladder. It secretes a fluid that keeps sperm alive while protecting them and the genetic code they carry.

**Disorders that affect the prostate are classified as:**

1. Inflammatory conditions (Prostatitis)
2. Neoplastic conditions:

 Benign

 Malignant

**Prostatitis**

This is an inflammation of the prostate that may be caused by a bacterial infection. This disease may affect men of any age and can occur in any prostate whether small or enlarged but is more common in younger men, aged between 30 and 50 years.

Types of prostatitis include the following:

* Acute bacterial prostatitis is caused by a bacterial infection. It appears suddenly with severe symptoms. Common bacteria such as **Escherichia coli**, Klebsiella, Proteus, Pseudomonas.
* Chronic prostatitis is the most common type. Its cause is often unknown.
* A bacterial infection also causes chronic bacterial prostatitis. It develops more slowly than acute bacterial prostatitis, and its symptoms tend to be milder but recurring.
* Asymptomatic inflammatory prostatitis doesn’t cause noticeable symptoms.

**Causes of Prostatitis**

Different types of bacteria can cause bacterial prostatitis. One common cause among men over the age of 35 is Escherichia coli. Sexually transmitted infections (STIs), including gonorrhea and chlamydia, can also cause bacterial prostatitis. An injury to your prostate gland can cause prostatitis. A disorder of your nervous system or immune system can also cause it. In many cases, the exact cause of chronic prostatitis is unknown.

Prostatitis signs and symptoms depend on the cause. They can include:

* Pain or burning sensation when urinating (dysuria)
* Difficulty urinating, such as dribbling or hesitant urination
* Blood in the urine
* Pain in the abdomen, groin or lower back
* Pain in the area between the scrotum and rectum (perineum)
* Pain or discomfort of the penis or testicles
* Painful ejaculation

## Treatment of Prostatitis

1. **Antibiotics.** Taking antibiotics is the most commonly prescribed treatment for prostatitis. The medication is based on the type of bacteria that might be causing your infection. If you have severe symptoms, you might need intravenous (IV) antibiotics.
2. **Alpha blockers.** These medications help relax the bladder neck and the muscle fibers where your prostate joins your bladder. This treatment might ease symptoms, such as painful urination.
3. **Anti-inflammatory agents.** Nonsteroidal anti-inflammatory drugs (NSAIDs) might make you more comfortable.
4. **Other medicines to relieve pain**. Medicines used for other conditions can also be used to treat prostatitis pain. You might be offered anti-depressants (such as amitriptyline) to treat long-term prostatitis pain

**Benign Prostatic Hyperplasia (BPH) - also called prostate gland enlargement**

It is a non-cancerous enlargement of the prostate gland that affects approximately 50% of all men before the age of 50 and greater than 75% percent of men over the age of 60. It occurs when the cells of the prostate gland begin to multiply. These additional cells cause your prostate gland to swell, which squeezes the urethra and limits the flow of urine.

Common signs and symptoms of BPH include:

* Frequent or urgent need to urinate
* Increased frequency of urination at night (nocturia)
* Difficulty starting urination
* Weak urine stream or a stream that stops and starts
* Dribbling at the end of urination
* Inability to completely empty the bladder

**BPH causes**

BPH is considered a normal condition of male aging, and many men older than 80 years have BPH symptoms. Although the exact cause is unknown, smoking, elevated estrogen levels, western diet may [be factor](https://doi.org/10.4103/1008-682X.140966%22%20%5Ct%20%22_blank)s.

**Therapeutic Interventions for BPH** There are several medications such as alpha-1 blockers, hormone reduction medications, and antibiotics that can help to both treat the symptoms of BPH and BPH itself.

### Alpha-1 blockers Alpha-1 blockers are medications that relax the muscles of the bladder and prostate and make it easier for urine to flow. Examples of alpha-1 blockers include: doxazosin, prazosin, alfuzosin, terazosin, tamsulosin

### Hormone reduction medications Medications that reduce the levels of hormones produced by the prostate gland such as dutasteride and finasteride are commonly prescribed. These are two medications that lower the levels of testosterone. Sometimes, lowering the hormone levels will make the prostate get smaller and improve urine flow.

### Antibiotics Antibiotics may be used if your prostate becomes chronically inflamed from bacterial prostatitis related to BPH. Treating bacterial prostatitis with antibiotics may improve your symptoms of BPH by reducing the inflammation.

**Non-pharmacological treatment for BPH is as follows:-**
1.Advise the patient about double evacuation of the bladder. This means that after finishing to pass urine, the patient should wait for 30-60 seconds and then again pass urine.

2.Bladder training should be introduced if available in the physiotherapy department, otherwise the patients should be taught to empty the bladder regularly at 2-3 hours’ interval.

**Surgery for BPH**

There are different types of surgical procedures that can help treat BPH when medications are not effective.

* Transurethral resection of the prostate ([TURP](file:///C%3A%5C%5Chealth%5C%5Cerectile-dysfunction%5C%5Cbph-surgery-recovery%22%20%5Cl%20%22surgery2)): It is the most commonly used surgical treatment for BPH. A small instrument is inserted through your urethra into the prostate. The prostate is then removed piece by piece.
* Simple prostatectomy: An incision in your abdomen or perineum, which is the area behind your scrotum is made, then the inner part of your prostate is removed, leaving the outer part. After this procedure, you may have to stay in the hospital for up to 10 days.
* Transurethral incision of the prostate (TUIP): This is similar to TURP, but your prostate isn’t removed. Instead, a small incision is made in your prostate that will enlarge your bladder outlet and urethra. The incision allows urine to flow more freely.

**Prostate cancer**

Prostate cancer is the second leading cause of cancer deaths among men. Usually prostate cancer grows slowly and is initially confined to the prostate gland, where it may not cause serious harm, however early detection often leads to the effective treatment of prostate cancer.

 **Causes of prostate cancer**

It is not clear what causes prostate cancer. Prostate cancer begins when some cells in your prostate become abnormal. Mutations in the abnormal cells' DNA cause the cells to grow and divide more rapidly than normal cells do. The abnormal cells continue living, when other cells would die.

**Management approaches for prostate cancer include:**

* active surveillance
* surgery – for example, prostatectomy (removal of the prostate)
* radiotherapy
* ablative treatments such as high-intensity focused ultrasound (HIFU)
* hormone treatment (androgen deprivation therapy)
* chemotherapy

**NURSING CARE Nursing management (Prostatitis).** Acute Prostatitis

1. Administration of prescribed antibiotics
2. Provision of comfort (analgesic, sitz bath)

Chronic Prostatitis

1. Outpatient teaching: continue antibiotic therapy
2. Increase fluid intake
3. Recognizing recurrent signs and symptoms of Prostatitis

**Nursing Management (BPH)**

1. Assess and palpate suprapubic area - Assess for bladder distention to suggest fluid retention

2. Monitor vital signs - Observe for signs of hypertension and infection. Fluid retention puts stress on the kidneys and heart and may increase blood pressure and heart rate.

3. Monitor Input & Output - Monitor frequency of urination and volume, paying attention to characteristics of urine. Dark, malodorous or bloody urine may indicate further complications.

4. Administer medications and educate patient of proper use

**Nursing Management (Prostate Cancer)**

1. Nurses must encourage patients to describe their experiences with diagnosis and the illness to facilitate their understanding of PCa.
2. Nurses should provide accurate, complete, and consistent information to help patients understand the full implications of the disease process
3. Physical Examination regarding presenting urinary problems, voiding functions, UTI, urinary retention, dysuria
4. Nutritional assessment and life style
5. Highlight the importance of water intake and catheter care after surgery is indispensable to prevent urinary tract infection

### Health Education

### 1. Choose a healthy diet

**- Choose a low-fat diet:** Foods that contain fats include meats, nuts, oils and dairy products, such as milk and cheese. In some studies, men who ate the highest amount of fat each day had an increased risk of prostate cancer.

**- Increase the amount of fruits and vegetables you eat each day:** Fruits and vegetables are full of vitamins and nutrients that are thought to reduce the risk of prostate cancer.

### - Limit how much [caffeine](https://www.webmd.com/balance/caffeine-myths-and-facts) and [alcohol](https://www.webmd.com/mental-health/addiction/standard-alcoholic-drink) you take in; they make you pee more and can irritate your bladder

### 2. Maintain a healthy weight

- Men who are obese — a body mass index (BMI) of 30 or higher — may have an increased risk of prostate cancer. If you are overweight or obese, work on losing weight.

- Do exercises to strengthen your pelvic floor muscles

1. Avoid or limit how you use decongestants and antihistamines during colds and allergy outbreaks as they tighten the muscles that control urine flow and make it harder to void.