RAMA UNIVERSITY

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FACULTY OF NURSING

BPH

BY:-

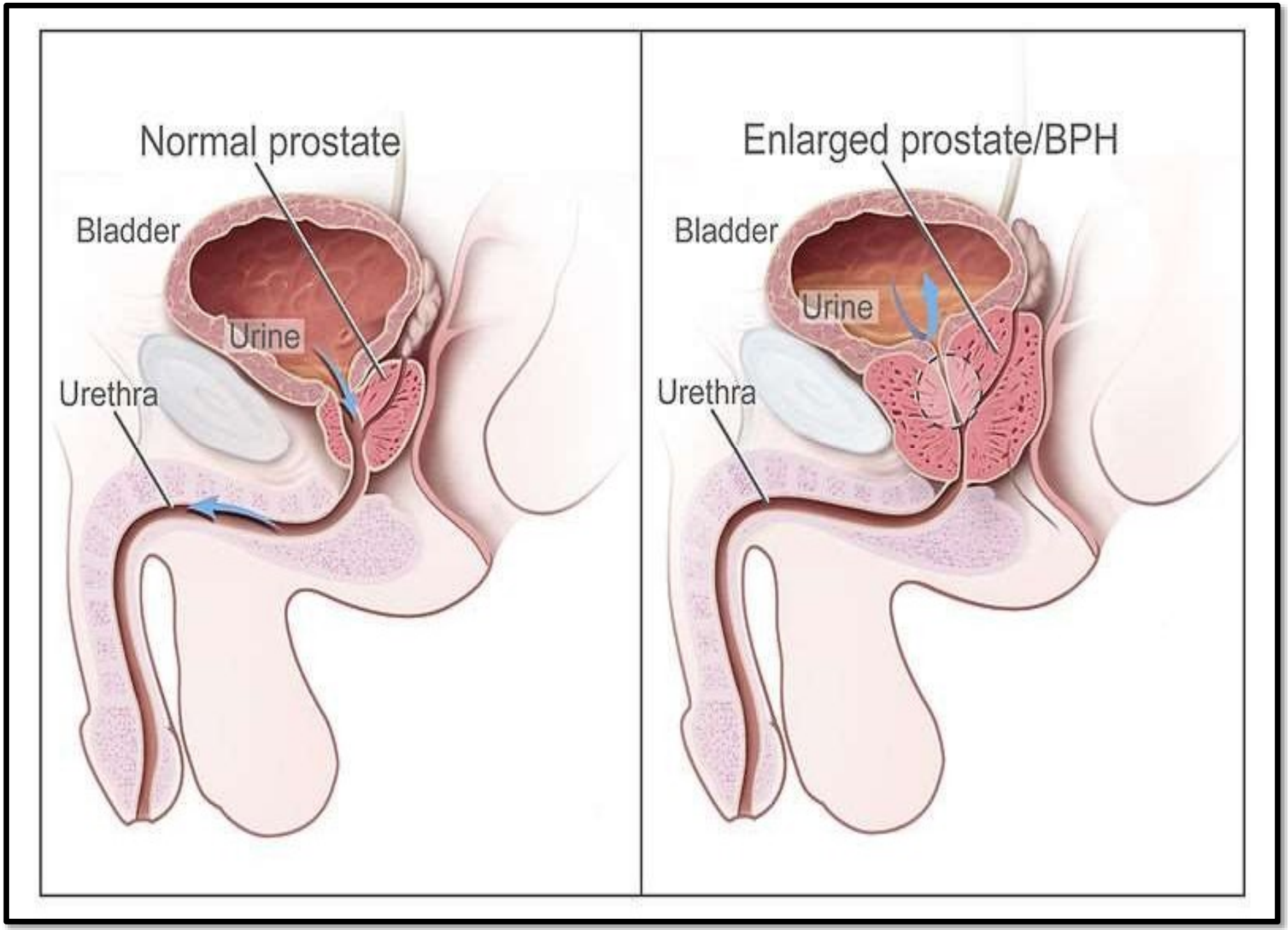
Arpit Kamal

Nursing Tutor

MSN Department

Rama College Of Nursing

Hypertrophy/ Hyperplasia


Normal prostate
Bladder
Urine
Urethra
Enlarged prostate/BPH
Bladder
Urine
Urethra

Introduction:

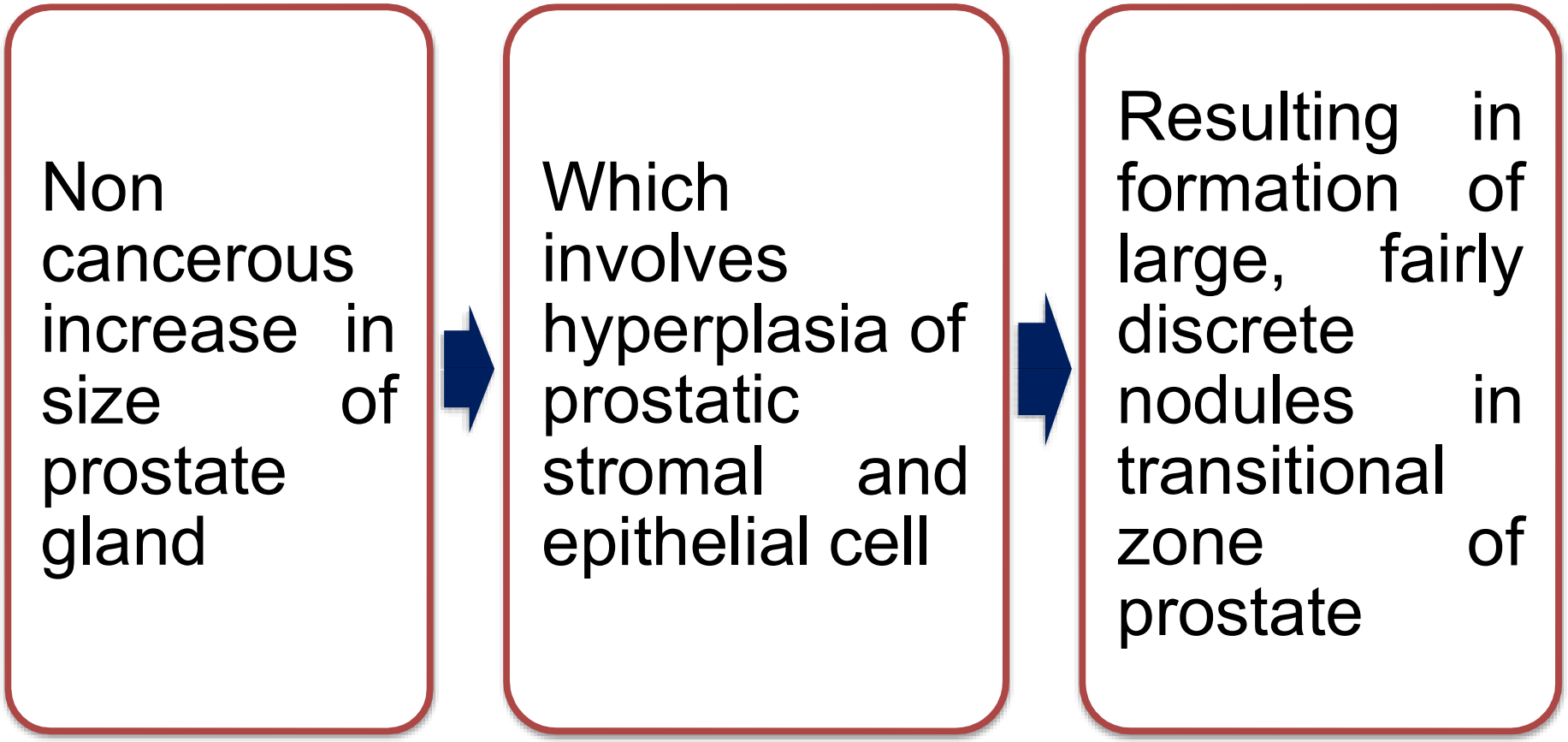
- Benign prostatic hyperplasia (BPH) is a benign enlargement of the prostate gland.
- In many patients older than 50 years, the prostate gland enlarges, extending upward into the bladder and obstructing the outflow of urine by encroaching on the vesicle orifice.

- This condition is known as benign prostatic hyperplasia (BPH), the enlargement, or hypertrophy, of the prostate.
- It is the most common urologic problem in male adults.

- About 50% of all men in their lifetime will develop BPH.
- Of these men, almost half of them will have bothersome lower urinary tract symptoms.

Definition:

- It is defined as, “ noncancerous increase in size of prostate gland which involves hyperplasia of prostatic stromal and epithelial cell resulting in formation of large, fairly discrete nodules in transitional zone of prostate, which push on and narrow the urethra resulting in an increase resistance to flow of urine from the bladder.”


Non cancerous increase in size of prostate gland
Which involves hyperplasia of prostatic stromal and epithelial cell
Resulting in formation of large, fairly discrete nodules in transitional zone of prostate

Which push on and narrow the urethra

Resulting in an increase resistance to flow of urine from the bladder

Incidence:

- 50% of men having evidence of BPH by age of 50years.
- 75% by age of 80 years.

Causes and risk factors:

- Dihydrotestosterone (DHT).

- Risk factors for prostate gland enlargement include:
- **Aging.** Prostate gland enlargement rarely causes signs and symptoms in men younger than age 40. About one-third of men experience moderate to severe symptoms by age 60 and about half do so by age 80.

- **Family history.** Having a blood relative, such as a father or brother, with prostate problems means more likely to have problems.

- **Ethnic background.** Prostate enlargement is less common in Asian men than in white and black men.

- **Diabetes and heart disease.** Studies show that diabetes, as well as heart disease and use of beta blockers, might increase the risk of BPH.

- **Lifestyle.** Obesity increases the risk of BPH, while exercise can lower your risk.

Clinical Manifestations:

- Hesitancy in starting urination
- Increased frequency of urination
- Nocturia
- Urgency
- Abdominal straining

- Decrease in volume and force of urinary stream
- Interruption of urinary stream
- Dribbling.
- Sensation of incomplete emptying of the bladder

- Acute urinary retention (more than 60 ml)
- Recurrent UTI_S.
- Fatigue
- Anorexia

- Nausea and vomiting
- Pelvic discomfort and pain
- Ultimately azotemia
- Renal failure result with chronic urinary retention and large residual volumes
- Blood in the urine

Assessment

- digital rectal examination(DRE)
- Urinalysis to screen for hematuria and UTI. including
- Physical examination-
- History collection

- Prostate-specific antigen (PSA) level is obtained if the patient has at least a 10-year life expectancy and for whom knowledge of the presence of prostate cancer would change management.

- Urinary flow-rate recording and the measurement of postvoid residual (PVR) urine.
- Urodynamic studies
- Urethrocystoscopy
- Ultrasound
- Complete blood studies, including clotting studies.

Medical Management:

- The treatment plan depends on the cause, severity of obstruction, and condition of the patient. Treatment measures include the following:

1. Immediate catheterization if patient cannot void (an urologist may be consulted if an ordinary catheter cannot be inserted).
2. A suprapubic cystostomy is sometimes necessary.
3. “Watchful waiting” to monitor disease progression.

Pharmacologic Management

- **Alpha blockers.**

  These medications relax bladder neck muscles and muscle fibers in the prostate, making urination easier. Alpha blockers — which include alfuzosin (Uroxatral), doxazosin (Cardura), tamsulosin (Flomax), and silodosin (Rapaflo) — usually work quickly in men with relatively small prostates.

- **5-alpha reductase inhibitors.**

These medications shrink prostate by preventing hormonal changes that cause prostate growth. These medications — which include finasteride (Proscar) and dutasteride (Avodart) — might take up to six months to be effective.

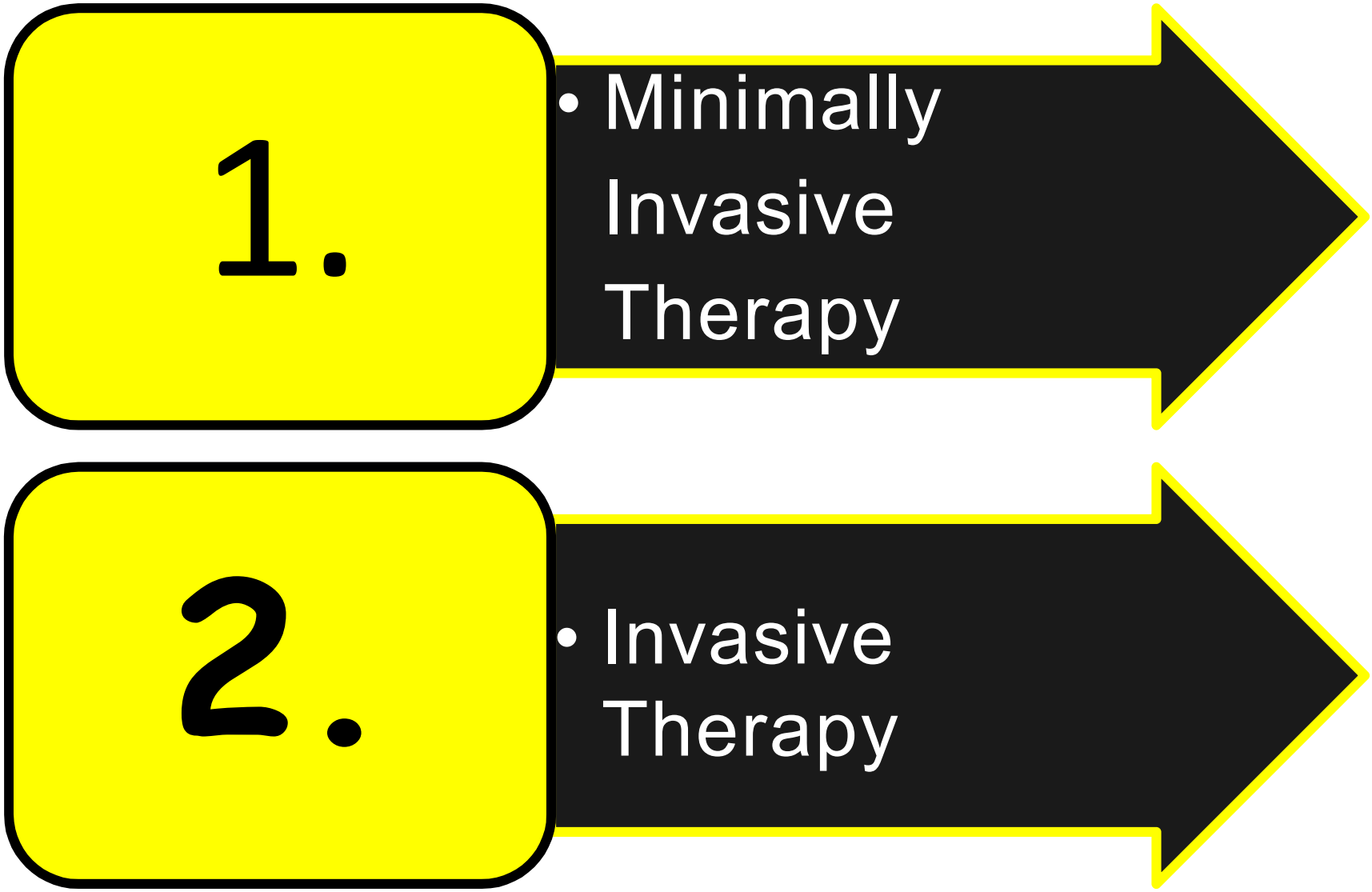
- **Combination drug therapy.**

  Doctor might recommend taking an alpha blocker and a 5-alpha reductase inhibitor at the same time if either medication alone isn't effective.

- **Tadalafil (Cialis).**

  Studies suggest this medication, which is often used to treat erectile dysfunction, can also treat prostate enlargement. However, this medication is not routinely used for BPH and is generally prescribed only to men who also experience erectile dysfunction.

Surgical Management:


1.
• Minimally Invasive Therapy
2.
• Invasive Therapy

(A). Minimally Invasive Therapy.

Minimally invasive therapies are becoming more common as an alternative to watchful waiting and invasive treatment. They generally do not require hospitalization or catheterization.

- Transurethral Microwave Thermotherapy

1

- Transurethral Needle Ablation.

2

- Laser Prostatectomy.

3

- Photovaporiza-tion

4

- Interstitial laser coagulation (ILC).

5

- Intraprostatic Urethral Stents.

6

1. Transurethral Microwave Thermotherapy.

- Transurethral microwave thermotherapy (TUMT) is an outpatient procedure that involves the delivery of microwaves directly to the prostate through a transurethral probe to raise the temperature of the prostate tissue to about 113° F (45° C). The heat causes death of tissue, thus relieving the obstruction.

- A rectal temperature probe is used during the procedure to ensure that the temperature is kept below 110° F (43.5° C) to prevent rectal tissue damage.

- The procedure takes about 90 minutes. Postoperative urinary retention is a common complication. Thus the patient is generally sent home with an indwelling catheter for 2 to 7 days to maintain urinary flow and to facilitate the passing of small clots or necrotic tissue.

- Antibiotics, pain medication, and bladder antispasmodic medications are used tolerate and prevent post procedure problems.

- The procedure is not appropriate for men with rectal problems.
- Anticoagulant therapy should be stopped 10 days before treatment. Mild side effects include occasional problems of bladder spasm, hematuria, dysuria, and retention.

2. Transurethral Needle Ablation.

- Transurethral needle ablation (TUNA) is another procedure that increases the temperature of prostate tissue, thus causing localized necrosis. TUNA differs from TUMT in that low-wave radiofrequency is used to heat the prostate. Only prostate tissue in direct contact with the needle is affected, thus allowing greater precision in removal of the target tissue.

- The extent of tissue removed by this process is determined by the amount of tissue contact (needle length), amount of energy delivered, and duration of treatment.

- This procedure is performed in an outpatient unit or physician's office using local anesthesia and IV or oral sedation. The TUNA procedure lasts approximately 30 minutes. The patient typically experiences little pain with an early return to regular activities.

- Complications include urinary retention, UTI, and irritative voiding symptoms (e.g., frequency, urgency, dysuria). Some patients require a urinary catheter for a short time. Patients often have hematuria for up to a week.

3. Laser Prostatectomy.

- The use of laser therapy through visual or ultrasound guidance is an effective alternative to transurethral resection of the prostate (TURP) in treating BPH.
- The laser beam is delivered transurethrally through a fiber instrument and is used for cutting, coagulation, and vaporization of prostatic tissue. There are a variety of laser procedures using different sources, wavelengths, and delivery systems.

4. Photovaporization

- (PVP) uses a high-powergreen laser light to vaporize prostate tissue. Improvements in urine flow and symptoms are almost immediate after the procedure. Bleeding is minimal, and a catheter is usually inserted for 24 to 48 hours afterward. PVP works well for larger prostate glands.

5. Interstitial laser coagulation (ILC).

- The prostate is viewed through a cystoscope.
- A laser is used to quickly treat precise areas of the enlarged
- prostate by placement of interstitial light guides directly into the prostate tissue.

6. Intraprostatic Urethral Stents.

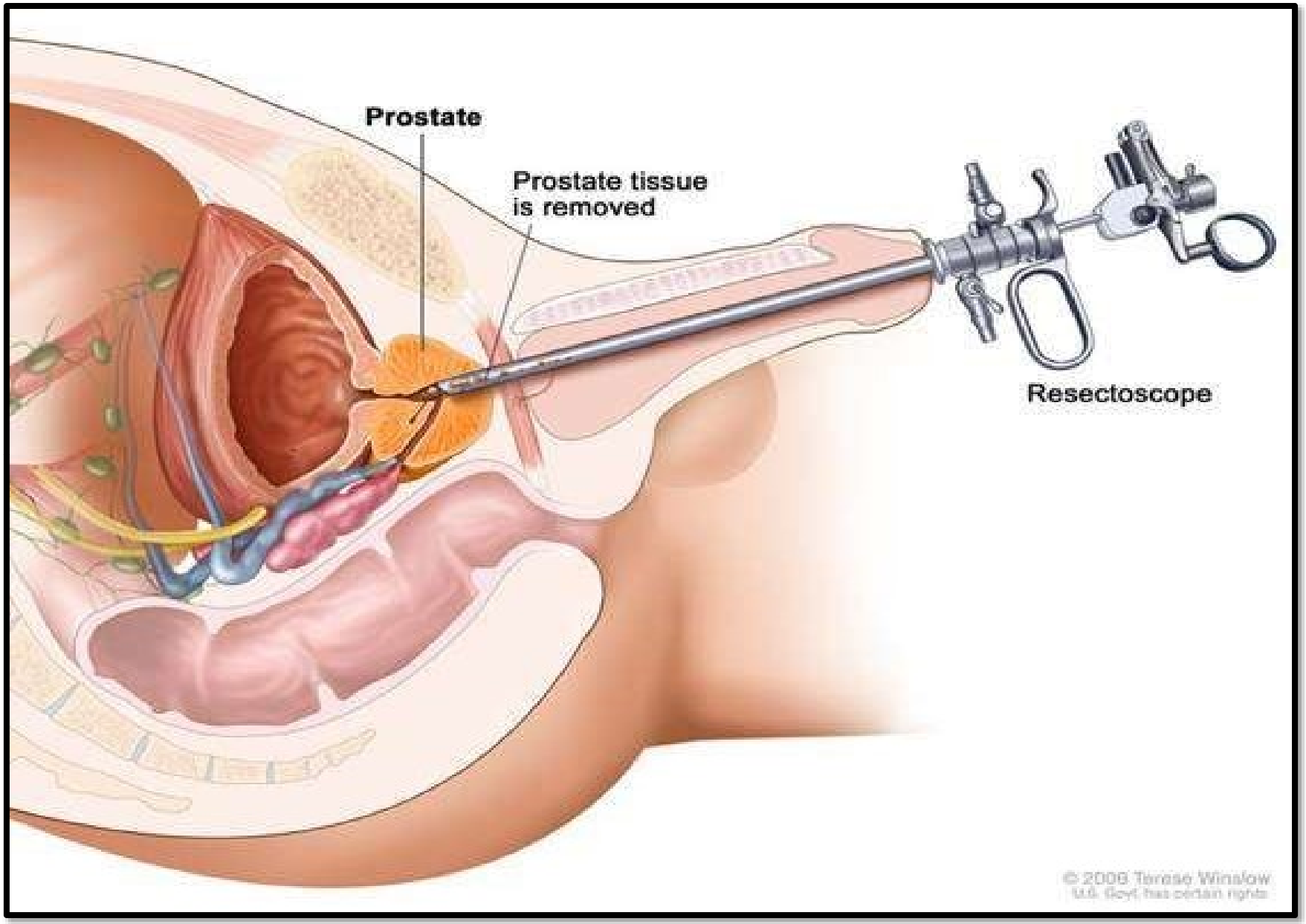
- Symptoms from obstruction in patients who are poor surgical candidates can be relieved with intraprostatic urethral stents. The stents are placed directly into the prostatic tissue. Complications include chronic pain, infection, and encrustation.

(B). Invasive Therapy (Surgery)

- Invasive treatment of symptomatic BPH involves surgery. The choice of the treatment approach depends on the size and location of the prostatic enlargement and patient factors such as age and surgical risk.

1. Transurethral Resection of the Prostate.

- Transurethral resection of the prostate (TURP) is a surgical procedure involving the removal of prostate tissue using a resectoscope inserted through the urethra.


Prostate
Prostate tissue
is removed
Resectoscope
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- TURP has long been considered the gold standard for surgical treatments of obstructing BPH. Although this procedure remains the most common operation performed, the number of TURP procedures done in recent years has declined due to the development of less invasive technologies.

- TURP is performed under a spinal or general anesthetic and requires a 1- to 2-day hospital stay. No external surgical incision is made. A resectoscope is inserted through the urethra to excise and cauterize obstructing prostatic tissue.

- A large three-way indwelling catheter with a 30-mL balloon is inserted into the bladder after the procedure to provide hemostasis and to facilitate urinary drainage. The bladder is irrigated, either continuously or intermittently, usually for the first 24 hours to prevent obstruction from mucus and blood clots.

- The outcome for 80% to 90% of patients is excellent, with marked improvements in symptoms and urinary flow rates.
- Postoperative complications include bleeding, clot retention, and dilutional hyponatremia associated with irrigation.

2. Transurethral Incision of the Prostate.

- Transurethral incision of the prostate (TUIP) is a surgical procedure done under local anesthesia for men with moderate to severe symptoms. Several small incisions are made into the prostate gland to expand the urethra, which relieves pressure on the urethra and improves urine flow.

- TUIP is an option for patients with a small or moderately enlarged prostate gland. TUIP has similar patient outcomes to TURP in relieving symptoms.

Nursing Assessment

- Obtain history of voiding symptoms, including onset, frequency of day and nighttime urination, presence of urgency, dysuria, sensation of incomplete bladder emptying, and decreased force of stream. Determine impact on quality of life.

- Perform rectal (palpate size, shape, and consistency) and abdominal examination to detect distended bladder, degree of prostatic enlargement.
- Perform simple urodynamic measures uroflowmetry and measurement of postvoid residual, if indicated.

Patient Education and Health Maintenance

- Explain to patient not undergoing treatment the symptoms of complications of BPH urinary retention, cystitis, and increase in irritative voiding symptoms. Encourage reporting these problems.

- Advise patients with BPH to avoid certain drugs that may impair voiding, particularly OTC cold medicines containing sympathomimetics such as phenylpropanolamine.

- Advise patient that irritative voiding symptoms do not immediately resolve after relief of obstruction; symptoms diminish over time.

- Tell patient postoperatively to avoid sexual intercourse, straining at stool, heavy lifting, and long periods of sitting for 6 to 8 weeks after surgery, until prostatic fossa is healed.

- Advise follow-up visits after treatment because urethral stricture may occur and regrowth of prostate is possible after TURP.
- Be aware of herbal or natural• products marketed for prostate health.

Complications

- Acute urinary retention
- Involuntary bladder contractions
- Bladder diverticula
- Cystolithiasis
- Vesicoureteral reflux

- Hydroureter
- Hydronephrosis
- Gross hematuria
- UTI

THANK YOU