Reproductive System

PHYSIOLOGY OF THE REPRODUCTIVE SYSTEM

Male Reproductive System
A. External genitalia.
   1. Penis: serves both reproductive and urinary function.
   2. Scrotum: wrinkled double pouch of skin that protects testes and sperm by maintaining temperature lower than that of the body.
B. Internal genitalia.
   1. Testes (gonads): sperm formation and production of testosterone.
   2. Epididymis: a tubular, coiled segment of the spermatic duct that stores spermatozoa until they are mature and then transports sperm from the testis to the vas deferens.
C. Accessory glands.
   1. Seminal vesicles: sac-like structures posterior to the prostate that secrete nearly one-third of the volume of semen; also prostaglandin.
   2. Prostate gland: produces a slightly alkalotic substance that contains high levels of acid phosphatase and serves as the vehicle for spermatozoa.
D. Semen.
   1. Average volume of ejaculate: 2.5 to 4 mL; may vary from 1 to 10 mL; repeated ejaculation leads to decreased volume.
   2. Sterility: sperm count less than 20 million per milliliter (normal sperm count = 100 million per milliliter).
   3. Storage of sperm: varies from a period of several hours to 40 days, depending primarily on the frequency of ejaculation.

Female Reproductive System
A. External genitalia.
   1. Labia majora: contain an extensive venous blood supply, which leads frequently to edema and varicosities in pregnancy.
   2. Perineum: are of fibromuscular tissue located between the vagina and anal opening.
B. Internal genitalia.
   1. Vagina: a thin-walled, muscular membranous canal that connects the external genitalia with the center of the pelvis.

2. Cervix: protrudes into the vagina.
   a. Provides an alkaline environment to shelter sperm from the acidic vagina.
   b. Cervical mucus pH increases (alkaline) and becomes clear and more viscous at ovulation, similar to egg white consistency.
3. Uterus: a hollow, pear-shaped, muscular pelvic organ; located between the bladder and the rectum.
   a. Uterine wall: endometrium is the inner mucosal lining; undergoes cyclic changes as a result of hormonal levels.
   b. Uterine ligaments: maintain upright position of uterus in pelvic cavity.
4. Fallopian tubes: attached to the upper, outer section of the uterus.
   a. Distal tubules are fimbriated (fringed) and bell shaped.
   b. By their peristaltic and ciliary action, they move the ovum (egg) into the uterine cavity.
5. Ovaries: located behind and below the fallopian tubes, produce ova, estrogen, and progesterone.
C. Breasts: divided into lobes and lobules arranged in a radial pattern, separated by fibrous tissue called Cooper’s ligaments.
D. Menstrual cycle.
   1. The cyclical hormonal changes occurring from menarche to menopause.
   2. Phases.
      a. Menstrual phase: shedding of the superficial two thirds of the endometrium; initiated by periodic vasoconstriction of the spiral arteries.
      b. Proliferative phase: a period of rapid growth; extends from day 5 to ovulation.
      c. Secretory phase: follows ovulation; large amounts of progesterone are produced; uterine lining is prepared to receive and nourish a fertilized ovum if one is present.
3. Fertilization: generally occurs in the outer third of the fallopian tube; a single ejaculation deposits 2.5 to 4.0 mL of semen, containing approximately 200 to 400 million spermatozoa.
4. Implantation: The zygote (fertilized ovum) is propelled by ciliary action of the fallopian tube into the uterine cavity; implants in the endometrium about 7 to 10 days after fertilization.
**System Assessment**

A. External assessment.
   1. Assess vulvar area for discharge, erythema, swelling, or growths.
   2. Assess penis for growths, masses, erosions, ulcers, or vesicles.
   3. Inspect breasts for nipple inversion, retraction, secretions, nodules, lumps, color changes, erythema or masses.
   4. Determine whether there is any abdominal pain or tenderness on palpation.

B. History.
   1. Menstrual history.
      a. Age at onset.
      b. Last menstrual period.
      c. Duration of cycle, amount of flow, number of cycles per year, and use of birth control methods.
   2. Obstetrical history.
   3. Urinary system.
      a. Pattern of voiding: dysuria, urgency, nocturia, frequency.
      b. Difficulty starting stream, stopping stream, or changing the force of stream; a feeling of incomplete emptying of bladder.
      c. Hematuria, incontinence, color, odor.
   4. Sexual function.
      a. Ability to achieve erection and ejaculation.
      b. Problems with intercourse.
      c. Bleeding after intercourse.
      d. Exposure to sexually transmitted diseases (STDs).
      e. Change in sex drive, libido.
      f. Lubrication for estrogen status.

**Prostate Disorders**

\* Benign prostatic hypertrophy (BPH) or hyperplasia: enlargement of prostate gland tissue. (Figure 17-1)

\* Cancer of the prostate: a malignancy of the prostate gland.

Both conditions encroach on the urethra and decrease the diameter of the bladder opening. Both conditions can eventually cause bladder obstruction.

**Assessment**

A. Risk factors/etiology.
   1. BPH: very common in men older than 50 years.
   2. Prostatic carcinoma: rarely found in men younger than 60 years; usually found in the posterior lobe of the prostate gland.

B. Clinical manifestations.

**NURSING PRIORITY:** Prostate problems occur in the majority of men over 60 years of age.

1. Common to both disorders.
   a. Urinary hesitancy, frequency, urgency, and dribbling.
   b. Nocturia, hematuria, urinary retention, and a sensation of incomplete emptying of the bladder.
   c. Urinary retention may cause overflow urinary incontinence and dribbling after voiding.
   d. Acute retention may cause hydroureter and pressure in the kidney.
   e. Increased incidence of urinary tract infection due to residual urine.

2. Prostatic cancer.
   a. Tumor grows slowly and is confined to capsule; therefore prostate may appear normal, thus delaying the diagnosis.
   b. On digital rectal exam, unilateral prostatic enlargement; prostate is described as “stony hard” and fixed.
   c. Obstruction is rare unless BPH is also present.
   d. Pain in the hip or back may be presenting symptom as a result of metastasis.

C. Diagnostics.
   1. Digital rectal examination.
   2. Cystoscopy and bladder scan.
   3. Urinalysis with culture and sensitivity.
   4. Transrectal and/or transabdominal ultrasound.
   5. Rule out or diagnose cancer.
      a. Prostate-specific antigen (normal PSA 0-4 mcg/L) for cancer.
      b. Tumor markers for diagnosis, staging, and monitoring progress.
      c. Needle biopsy of prostate.

![Figure 17-1 Benign prostatic hyperplasia (BPH) grows inward, causing narrowing of the urethra](From Ignatavicius, DD, Workman, ML: Medical Surgical Nursing Patient-Centered Collaborative Care, ed 6, St Louis, 2010, Saunders).
Treatment
A. Medical
1. BPH: finasteride (Proscar) and alpha adrenergic blockers to shrink prostatic tissue.
2. Radiation, hormonal therapy, and chemotherapy for malignancy.
B. Surgical: size of prostate and general health dictate the type of surgery.
1. Transurethral resection of the prostate (TURP): removal of prostatic tissue via a resectoscope, which is passed through the urethra.
2. Transurethral incision of the prostate (TUIP): making transurethral slits or incisions into prostate to relieve obstruction; effective with minimally enlarged prostate (BPH).
3. Prostatectomy: removal of the prostate via supra pubic, retropubic, or perineal approach, may be done by incision or laproscopically; most often for removal of malignancy.
4. Transurethral microwave therapy (TUMT) and transurethral needle ablation (TUNA): microwaves are delivered directly to the prostate; heat causes necrosis of tissue; both procedures are done on an outpatient basis.
5. Internal radiation therapy (brachytherapy) involves the placement of tiny radioactive “seeds” into the prostate for treatment of cancer.
6. Hormone therapy (anti-androgen medications - Lupron): depriving the cancer cells of testosterone may help slow the growth of prostatic cancer.
7. Cryotherapy (cryablation) Liquid nitrogen is applied to the prostate via a transrectal ultrasound probe, dead cells are absorbed by the body.

Complications
A. BPH.
1. Preoperative.
   a. Urinary tract infection (UTI).
   b. Rupture of overstretched blood vessels in the bladder and hematuria.
   c. Hydroureter (distention of the ureter) and hydronephrosis (enlargement of kidney caused by postrenal obstruction) with resultant renal failure.
2. Postoperative.
   a. Hemorrhage: especially in the first 24 hours.
   b. Urinary incontinence.
   c. Bladder spasms.
   d. Retrograde ejaculation: semen passed into the bladder rather than out through the penis.
   e. Infection.
B. Prostatic cancer.
1. Preoperative.
   a. Complications are similar to BPH.
   b. Cancer may spread via the perineal lymphatic system to the regional lymph nodes; from the veins of the prostate, it may metastasize to the pelvic bones, bladder, lungs, and liver.
2. Postoperative.
   a. Increased problems with deep venous thrombosis caused by lithotomy position during open perineal resection.
   b. Change in sexual functioning: impotence and failure to ejaculate.
   c. Incontinence assessment.

Nursing Interventions

Goal: To promote elimination, to treat UTI, and to provide client education (Box 17-1)
A. Evaluate adequacy of voiding and presence of urinary retention and infection.
B. Teach client to avoid bladder distension, which results in loss of muscle tone.
   1. Do not postpone the urge to void; it is important to prevent overdistention of the bladder, which further complicates the problem.
   2. Avoid drinking a large amount of fluid in a short period of time.
   3. Avoid alcohol because of the diuretic effect.
C. Encourage annual digital rectal examination of the prostate for all men older than 40 years.
D. Examination is recommended every 6 months for clients who have BPH or who have had a prostatectomy.

Goal: To maintain closed irrigation after surgery in the client who has undergone TURP or suprapubic prostatectomy.
A. Continuous bladder irrigation (CBI) with sterile, anti bacterial, isotonic irrigating solution (Murphy drip, closed bladder irrigation). (Figure 17-2)

BOX 17-1 OLDER ADULT CARE FOCUS
Benign Prostatic Hypertrophy (BPH)

General
- All men over 50 years of age should be assessed for urinary retention and adequacy of bladder emptying.
- Increased problem with urinary stasis; increased strain- ing to urinate; increased incidence of infections.

After Surgery
- Closely evaluate for presence of infection, especially UTI, respiratory.
- Assess fluid balance; confusion and agitation may be symptoms of fluid overload.
- Help the client ambulate as soon as possible—increased risk for pooling of blood in pelvic cavity and pulmonary emboli from immobility.
- Client is at increased risk for falls.
- Determine psychologic response to physical stress (confusion, disorientation); orient to surroundings frequently.
1. Closed bladder irrigation is done with a triple-lumen catheter: one lumen for inflating the balloon (30 to 50 mL of water), one for maintaining outflow of urine, and one for the instillation of the continuous irrigating solution.

2. Provides continuous irrigation to prevent infection and to flush the bladder of tissue and clots after TURP.

3. If clots occur, the catheter may be irrigated, or the rate of flow may be increased until the drainage outflow clears.

4. Calculate intake and output carefully; a large amount of bladder irrigation fluid must be subtracted from total output to determine client’s true urinary output.

5. Monitor/titrate CBI so the outflow is light pink without clots; notify surgeon of any increase in bleeding.

6. If catheter is occluded and does not drain properly, turn off the CBI until catheter patency is reestablished.

B. Blood clots and pieces of tissue are normal for the first 24 hours after TURP.

C. If client has excessive bleeding, the physician may increase the size of the balloon on the indwelling catheter and put traction on the catheter to compress the area of bleeding.

D. Client should void within 6 hours of removal of catheter.

E. Bladder spasms: belladonna and opium suppositories or antispasmodics are administered as needed; spasms often occur because of the presence of clots in the catheter – check the catheter for patency.

F. The sensation of a full bladder is common while the irrigating catheter is in place; explain (repeatedly) about the urinary catheter and advise the client to avoid bearing down in an attempt to void.

Goal: To provide postoperative care. (Figure 17-3)

A. After client is ambulatory, encourage walking, rather than sitting for prolonged periods.

B. Teach client exercises to control urinary stream and maintain continence.

1. Have client contract perineal muscles (Kegel exercises) by squeezing buttocks together.

2. Instruct client to practice starting and stopping the stream several times while voiding.

C. Assure client that TURP does not usually cause problems relating to sexual functioning; provide an opportunity for open discussion of sexual concerns.

D. Dribbling after voiding is a common problem, which often subsides within a few weeks.

E. Teach client to avoid straining during bowel movement; encourage diet high in fiber, and administer stool softeners as needed.

F. Discuss with the client the importance of maintaining a high fluid intake to prevent UTIs.

G. Encourage client to minimize use of caffeine-containing products, which may cause bladder spasms.

Goal: To provide postoperative care for a client after radical open prostatectomy.

A. Maintain adequate pain control, frequently with patient-controlled analgesia.

B. As a result of the surgical position and postoperative immobility, client is at high risk for deep venous thrombosis.

1. Monitor sequential compression devices.

2. Apply antiembolism stockings.

CHAPTER 17
Reproductive System

364

TURP
(Transurethral Resection of the Prostate)

• Continuous or intermittent Bladder Irrigation (C.B.I.)
• Close observation of drainage system:
  (↑Bladder Distention Pain & Bleeding).
• Maintain Catheter Patency
  • Bladder Spurs
  • Pain Control: Analgesics &
  ↓Activity first 24 hours.
  • Avoid straining with BM’s.
  ↑Fiber diet & Laxatives.

• Complications:
  • Hemorrhage - Bleeding should gradually ↓
    to light pink in 24 hrs.
  • Urinary Incontinence - Kegel Exercises
  • Infections - ↑ Fluids
  • Prevent deep vein thrombosis
    • Sequential compression stockings
    • Low dose heparin
    • Discourage sitting for prolonged periods

FIGURE 17-3 Transurethal resection of the prostate. (From Zerwekh J, Claborn J: Memory Notebook of Nursing, vol 1, ed 4, Ingram, Texas, 2008, Nursing Education Consultants).

Home Care

A. If client is discharged with urinary catheter in place, teach him how to care for the catheter and how to relieve an obstruction.
B. Client should avoid use of suppositories and enemas.
C. Primary care provider should be contacted if signs of UTI are noted.
D. After removal of urinary catheter, teach client Kegel exercises to increase urinary control (see BPH).
E. Instruct client to continue high fluid intake, avoid strenuous exercise, and avoid prolonged sitting; encourage walking.

Inflammatory Disorders

A. Prostatitis: inflammation of the prostate, usually caused by bacteria (Escherichia coli, Proteus spp.) or by a sudden decrease in sexual activity.
B. Epididymitis: inflammation of epididymis, often associated with prostatitis or a UTI; often develops as a complication of gonorrhea; in men younger than 35 years, the primary cause is infection with Chlamydia trachomatis.

Assessment

A. Clinical manifestations.
   1. Prostatitis.
      a. Fever, chills, dysuria, urethral discharge.
      b. Perineal, rectal, and/or back pain.
      c. Prostate is enlarged, firm, and tender when palpated.
      d. May be acute or chronic with exacerbations.
      e. Increased risk with catheterizations, bladder infection, or alternative sexual activity.
   2. Epididymitis.
      a. Pain and tenderness in the inguinal canal.
      b. Painful swelling in the scrotum and groin.
      c. Fever, chills, pyuria and bacteriuria.

B. Diagnostics.
   1. Rectal examination.
   2. Urine and semen culture and sensitivity.
   3. Screen for STDs.

Treatment

A. Prostatitis - antibiotics, analgesics, stool softeners, and sitz baths.
B. Epididymitis.
   1. Bed rest with elevation of the scrotum (scrotal support or scrotal bridge).
   2. Antibiotics, if indicated.
   3. Treatment of client’s sexual partners (for gonorrhea infection).
   4. Cold compresses; NSAIDs.

TEST ALERT: Identify symptoms of deep venous thrombosis.

C. Perineal prostatectomy and total prostatectomy for cancer frequently result in erectile dysfunction and urinary incontinence.
D. Record output from drains.
E. Emphasize importance of not straining against catheter to relieve bladder pressure.
F. Urinary retention.

TEST ALERT: Explain procedure to client and family. It is important to clarify for the client the information the doctor gives him; however, it is the doctor’s responsibility to advise the client regarding any complications he may experience with sexual functioning.
Complications
A. Chronic prostatitis can lead to recurrent UTIs and epididymitis.
B. May cause chronic reoccurring infections.

Nursing Interventions
❖ Goal: To assist client to understand measures to maintain health.
A. Encourage early treatment to prevent complications.
B. For chronic prostatitis, encourage activities that drain the prostate, including intercourse, masturbation, and prostatic massage.
C. Antibiotics may not be effective because it is difficult to obtain therapeutic levels in prostatic secretion.
D. Encourage treatment of sexual partners when epididymitis is caused by chlamydia or gonorrhea.

Undescended Testes (Cryptorchidism)
❖ Cryptorchidism is a condition of failure of one or both testes to descend into the scrotal sac.
Assessment
A. Inability to palpate the testes in the scrotal sac.
B. Testicle may be absent or small or may be located in the abdomen.
Treatment
A. Condition may be observed for a year, most cases descend spontaneously; if undescended by 1 year old, surgery may be required.
B. Surgical intervention— orchiopexy: testis is brought into the scrotal sac and secured.
   1. Prevents damage to the undescended testicle by body heat.
   2. Usually done between the ages of 6 and 24 months of age; fewer complications are encountered if repair is done before 5 years of age.

Nursing Interventions
❖ Goal: To detect any abnormality of the testes through self-examination by client (Box 17-2).
A. Teach clients, especially those between the ages 15 and 35 years, to self-examine monthly while showering or bathing to detect any abnormality of the testes.
B. Emphasize importance of follow-up for clients with a history of undescended testes or a previous testicular tumor.
❖ Goal: To assist the client to understand the implications of surgery.

Testicular Tumors (Cancer)
❖ Tumors of the testicles are often malignant and tend to metastasize quickly.

Assessment
A. Most common cancer in men ages 15 to 35 years.
B. More common in clients who have had cryptorchidism and infections.
C. A painless lump (typically, pea-sized) is palpated in the scrotum.
D. Most men experience “heaviness” in the scrotum.
E. A significant enlargement of or shrinking of one testicle.

Treatment
A. Surgical intervention: orchiectomy (removal of the testicle) is performed as soon as possible to remove the tumor and/or retroperitoneal lymph node dissections.
B. Medical.
   1. Radiation therapy.
   2. Multiple chemotherapy medications.

Nursing Interventions
❖ Goal: To detect any abnormality of the testes through self-examination by client (Box 17-2).
A. Examine the testicles at same time every month, to help you remember to do it.
B. Visually inspect scrotum in front of a mirror observing for swellings.
C. Perform the examination after a bath or shower because this is when the scrotal sac is relaxed.
D. Examine each testicle individually by placing index and middle fingers of both hands under one testicle at a time with thumbs on top of testicle. Roll the testicle between the thumbs and fingers. This should NOT cause pain. The tissue should feel smooth.
E. Locate the epididymis which is a tubular sac behind the testicle. This sac should not be confused with a lump.
F. Also assess for any “heaviness” or dull ache in the groin or abdomen or significant increase or decrease in size of either testicle.
G. If there is any lump or irregularity on either testicle, report it to the doctor as soon as possible.

BOX 17-2 TESTICULAR SELF-EXAMINATION
Hydrocele and Varicocele
A. *Hydrocele*: a collection of fluid around the testicle or along the spermatic cord. Client usually does not experience any pain. If circulation becomes impaired, then client experiences more discomfort.
B. *Varicocele*: a cluster of dilated veins in the scrotal sac, often just above the testes; occurs most often in young adults.
   1. Does not experience severe pain, but a chronic dull ache in the scrotal area.
   2. May contribute to infertility because sperm temperatures may be too high which affects sperm formation and motility.
C. Treatment.
   1. Hydrocele: needle aspiration or surgical aspiration and drainage.
   2. Varicocele: surgical intervention only if there are complications with fertility; otherwise, a scrotal support is used.
D. Nursing intervention: provide preoperative and postoperative care (see Chapter 3).

Erectile Dysfunction (ED)
Inability of to attain or maintain an erect penis.

Assessment
A. Risk factors/etiology.
B. Clinical manifestations.
   1. Inability to attain or maintain an erection.
   2. Gradual onset with physiologic ED and abrupt onset with psychologic ED.

Treatment
A. Medical: ED medications (Appendix 17-1).
B. Vacuum constriction devices (VCD): applying a suction device to the penis to pull blood up into the corporeal bodies, then placing a penile ring or constrictive band to trap the engorgement.
C. Intraurethral devices: medicated urethral system for erection (MUSE)—administration of medications as a topical gel, injection into penis, or insertion of medication pellet into urethra.
D. Penile implants: surgical insertion of an implant.

Nursing Interventions
   ✔ Goal: To help the client understand the implications of the medications or devices used to treat ED and assist to obtain counseling.
   A. Teach client about how ED medications can potentiate hypotensive effects of nitrates and should not be taken at the same time.
   B. Client should abstain from alcohol if taking ED medications.

Cystocele and Rectocele
* Cystocele is a weakened support between the vagina and bladder allowing the bladder to bulge into the vagina.
* Rectocele is a weakened support between the vagina and rectum allowing the rectum to bulge into the vagina.

Assessment
A. Risk factors/etiology.
   1. Obesity and childbearing.
   2. Genital atrophy caused by aging.
B. Clinical manifestations.
   1. *Cystocele*: protrusion of the bladder into the vagina.
      a. Stress incontinence: occurs during coughing, lifting, or sneezing.
      b. Frequency, urgency, difficulty emptying bladder.
   2. *Rectocele*: protrusion of the rectum through the vaginal wall.
      a. Constipation.
      b. Incontinence of gas or liquid feces.

Treatment
A. Medical: Kegel exercises for mild stress incontinence (tighten and release perineal muscles several times during the day); client can also practice stopping urination in midstream and holding it for a few seconds.
B. Surgical.
   2. Rectocele: posterior colporrhaphy.
   3. Procedure is usually called “A and P repair.”

Nursing Interventions
   ✔ Goal: To help the client understand the implications of, and be prepared for, surgery.
   A. Preoperative teaching.
   B. Postoperative period.
      1. Prevent wound infection.
      2. Warm compresses to abdomen may relieve discomfort.
      3. Assess for urinary retention and excessive vaginal bleeding.
   C. Frequent perineal care as well as after each voiding or defecation.

Home Care
A. Encourage the use of mild laxatives to prevent straining at stool.
B. Prevent constipation
C. Certain activities are restricted until area has healed: lifting objects heavier than 5 pounds; intercourse; prolonged standing, walking, and sitting.
D. Call the doctor if there is persistent pain or purulent, foul-smelling vaginal discharge.

**Vaginal Inflammatory Conditions**

**Common Predisposing Factors**

A. Excessive douching.
B. Oral contraceptives, steroids.
C. Antibiotics: especially broad-spectrum, which wipe out normal vaginal flora (vagina is protected by an acidic pH and the presence of *Döderlein's bacilli*).
D. Improper cleaning after voiding and defecating.
E. Assess for recurrent chronic infection; there may be an underlying condition (prediabetic state, HIV infection) that should be further evaluated.

**Bacterial Vaginosis**

A. Characteristics.
1. Causative organisms: *E. coli*, *Haemophilus vaginalis*, and *Gardnerella vaginalis*.
2. Profuse yellowish discharge, “fishy smell.”
3. Itching, redness, burning, and edema.
B. Treatment: antibacterial/antiprotozoal medication.
C. Complications: Bacterial vaginosis may increase susceptibility to STDs and HIV infection if woman is exposed to either.
D. Factors associated with bacterial vaginosis include multiple sex partners, douching, smoking but may occur in non-sexually active women.

**Candidiasis**

A. Characteristics.
2. Internal itching, beefy red irritation, inflammation of vaginal epithelium.
3. White, cheese-like, odorless discharge that clings to the vaginal mucosa.
4. Occurs frequently and is difficult to cure.
5. Increased risk in women with diabetes and women taking birth control pills, during pregnancy, and after treatment with antibiotics.
B. Treatment.
1. Antifungal vaginal medication.
2. Oral antifungals.

**Trichomoniasis**

A. Characteristics.
2. May be asymptomatic.
3. Itching, burning, dyspareunia (painful intercourse).
4. Frothy, green-yellow, copious, malodorous vaginal discharge; strawberry spot on cervix.
5. Sexual partners must be treated also because of cross-infection; men are usually asymptomatic.
B. Treatment: antibacterial/antiprotozoal medication.

C. Prevention: avoid extended time in synthetic or tight-fitting undergarments; use of condoms may reduce incidence of STDs.

**Postmenopausal Vaginitis (Atrophic Vaginitis)**

A. Characteristics.
1. Lack of estrogen (this is also the cause).
2. Itching and burning.
3. Loss of vaginal tissue folds and epithelial covering.
B. Treatment: estrogen vaginal cream.

**Nursing Interventions**

✧ **Goal:** To teach client to prevent infection by performing appropriate personal hygiene, to decrease inflammation, and to promote comfort.
A. Appropriate cleansing from front of vulva to back of perineal area.
B. Frequently a postmenopausal problem.
C. Client should not douche; douching removes normal protective bacteria from vaginal cavity, and other bacteria are introduced.
D. If infection is chronic, it may be necessary to have sexual partner tested; partner may be reinfecting the woman.
E. Discourage use of feminine hygiene sprays because they cause increased irritation.
F. Discourage client from wearing constricting clothing and synthetic underwear (encourage use of cotton underwear).

✧ **Goal:** To educate the woman regarding correct use of medication.
A. Vaginal suppositories, ointments, and creams are often used.
1. Handwashing before and after insertion of suppository or application of cream.
2. Remain recumbent for 30 minutes after application to promote absorption and prevent loss of the medication from the vaginal area.
3. Wear a perineal pad to prevent soiling of clothing with vaginal drainage.

**Dysfunctional Uterine Bleeding**

✧ Dysfunctional uterine bleeding is bleeding that is excessive or abnormal in amount or frequency without regard to systemic conditions; occurs when the hormonal events responsible for the balance of the cycle are interrupted.

**Amenorrhea**

A. Absence of menses.
1. Primary: no menstruation has occurred by age 16 years.
2. Secondary: woman previously had menses.
B. May be indicative of menopause.
C. May be first indication of pregnancy.
D. Occurs when woman has lost a critical fat percentage (e.g., athletes, clients with anorexia).

**Menorrhagia**
A. Excessive vaginal bleeding.
B. Single episode of heavy bleeding may indicate a spontaneous abortion.
C. May be associated with an intrauterine device (IUD).
D. Causes: hypothyroidism, uterine fibroids, hormone imbalance.

**Menorrhagia**
A. Vaginal bleeding between periods.
B. May be normal menopause.
C. Ectopic pregnancy.
D. Breakthrough bleeding from oral contraceptives.
E. Cervical polyps.

✔ **NURSING PRIORITY:** Vaginal bleeding after menopause or surgical hysterectomy is a symptom of a problem that needs to be evaluated.

**Nursing Interventions**
A. Help determine most likely cause of problem.
B. Report excessive bleeding, abdominal pain, fever.
C. Treatments.
1. Dilation and curettage (D&C) for diagnostic purposes in older women.
2. Endometrial ablation.
   a. Often done on outpatient basis with either general regional or local anesthesia.
   b. Spotting and vaginal drainage are common for several days; if amount is more than a normal period or if it lasts longer than 2 weeks, client should call the doctor.
   c. Client should report any signs of infection: fever; foul, purulent discharge; increasing abdominal pain.
   d. Nonsteroidal antiinflammatory drugs are often used for pain control.
   e. Client should avoid sexual intercourse and use of tampons for about 2 weeks.
D. Assess and treat for anemia.
1. Encourage diet high in iron.
2. Administer iron preparations, if required.

**Endometriosis**
* Endometriosis is the presence of endometrial tissue outside of the uterus. The tissue responds to hormonal stimulation by bleeding into areas within the pelvis, causing pain and adhesions.

**Assessment**
A. Risk factors/etiology.
   1. Small pieces of endometrial tissue back up through the fallopian tubes into the abdomen during menstruation.
   2. Most common in women in their late 20s and early 30s who have never been pregnant.
B. Clinical manifestations.
   1. Dysmenorrhea: deep-seated aching pain in the lower abdomen, vagina, posterior pelvis, and back occurring 1 to 2 days before menses.
   2. Abnormal excessive uterine bleeding and dyspareunia; painful defecation.

**Treatment**
A. Medical: androgenic agents may be given over a 6- to 8-month period; or oral contraceptives may be prescribed; if a woman desires more children, she is encouraged to get pregnant, because the condition recedes during pregnancy.
B. Surgical intervention.
   1. Laser treatment of endometrial tissue in the extraterine sites.
   2. Hysterectomy (usually carried out in women close to menopause).

**Nursing Interventions**
❖ **Goal:** To help client minimize the pain and discomfort associated with endometriosis.
A. Warm baths or moist heat packs may reduce discomfort.
B. Encourage client to explore alternative sexual positions that may minimize discomfort during intercourse.
C. Encourage client to discuss abstinence with partner if intercourse is painful.
❖ **Goal:** To assist client to understand measures to maintain health.
A. Teach client about disease process; clarify any false ideas.
B. Provide emotional reassurance; discuss potential for infertility.
C. Initiate preoperative and postoperative teaching if surgery is elected.

**Pelvic Inflammatory Disease**
* Pelvic inflammatory disease (PID) is an infectious condition of the pelvic cavity that involves the fallopian tubes, the ovaries, and/or the peritoneum.

**Assessment**
A. Risk factors/etiology.
   1. Complication of gonorrhea and Chlamydia trachomatis.
   2. IUDs are correlated with an increased incidence of PID.
3. Increased number of sexual partners increases incidence of PID.
4. Increases risk for repeat cases after previous episode of PID.

B. Clinical manifestations.
1. General malaise, fever, chills, nausea, and vomiting.
2. Leukocytosis and pain on urinating.
3. Dull tenderness or bilateral lower abdominal pain.
4. Vaginal discharge that is heavy and purulent.
5. Painful intercourse.

C. Complications.
1. Sterility.
2. Ectopic pregnancy.

Treatment
A. Medical: broad-spectrum antibiotics, analgesics.
B. Surgical: incision and drainage of abscesses with or without a laparotomy.

Nursing Interventions
❖ Goal: To prevent the spread and extension of the infection.
A. Maintain semi-Fowler’s position to promote drainage of the pelvic cavity by gravity.
B. Strict medical asepsis when in contact with discharge; wound and skin precautions.
C. Encourage oral fluids and maintain adequate nutrition.
D. Client should avoid sexual activity and douching.
E. Strongly encourage sexual partner(s) to seek medical treatment.
❖ Goal: To provide psychologic support.
A. Encourage expression of feelings related to guilt and possibility of sterility.
B. Explain factors relating to the long-term management of PID and the importance of medical supervision.

SEXUALLY TRANSMITTED DISEASES
❖ Infectious diseases transmitted most commonly through sexual contact.
A. Characteristics
1. Transmitted by sexual activity, including oral and rectal activities between people of the same or opposite sex.
2. One person can have more than one STD at a time.
3. All sexual partners need to be evaluated.
B. Nursing role is to recognize and provide factual information.
1. Mode of transmission.
2. Prevention of transmission.
3. Importance of contacts being identified and treated.
4. Information provided in accepting, nonjudgmental manner.

4. Oral contraceptives do not provide any protection.
6. Clients with STDs should be tested for HIV.
7. Hepatitis B and HPV are considered STDs (see Chapter 14).

❖ NURSING PRIORITY: Consider all oral, genital, and rectal lesions to contain pathologic organisms until documented otherwise.

Syphilis
❖ Syphilis is caused by the spirochete, Treponema pallidum that is transmitted by direct contact with primary chancre lesion, body secretions (saliva, blood, vaginal discharge, semen); also transmitted transplacentally to the fetus.

Data Collection
A. Primary stage.
1. Chancre: small, hard painless lesion found on the penis, vulva, lips, vagina, or rectum.
2. Usually heals spontaneously within 2 to 3 weeks, with or without treatment.
3. Regional lymphadenopathy.
5. Highly infectious during primary stage.
B. Secondary stage.
1. Client may be asymptomatic; secondary stage usually begins anywhere from 2 weeks to 6 months after the chancre has healed.
2. Maculopapular rash on the palms of the hands and soles of the feet, sore throat, and headache.
3. Lymphadenopathy; gray mucous patches in the mouth.
4. Condylomata lata: flat lesions that may appear in moist areas; are most infectious of any syphilitic lesion (not to be confused with condylomata acuminate in genital warts).
5. Symptoms will disappear within 2 to 6 weeks.
C. Latent stage.
1. Absence of clinical symptoms, noninfectious after 1 year during the latent stage
2. Results of serologic tests for syphilis remain positive.
3. Transmission can occur through blood contact.
4. The majority of clients remain in this stage without further symptoms.
D. Congenital syphilis.
1. Maculopapular rash over face, genital region, palms, and soles.
2. Snuffles: a mucopurulent nasal discharge indicative of some degree of respiratory obstruction.
3. After the age of 2 years: Hutchinson’s teeth (notched central incisors with deformed molars and cusps).
E. Diagnostics.
2. Rapid plasma reagin test (PRP and RPR): may produce false-negative results in early stages.
3. Fluorescent treponemal antibody absorption (FTA-ABS) test.
4. VDRL and fluorescent treponemal antibody absorption tests are based on presence of antibodies, and results are not positive until about 4 weeks after the appearance of the chancre.

F. Complications: development of late (tertiary) syphilis and the resultant systemic involvement of the cardiovascular and central nervous systems.

Nursing Interventions
A. Administration of parenteral penicillin is treatment of choice. Tetracycline or doxycycline is administered if client is allergic to penicillin.
B. If pregnant mother is treated before the 18 weeks’ gestation, the fetus will usually be born unaffected.
C. Preventive education regarding sexual exposure, adequate case finding, and treatment of contacts.
D. All cases are reported to local public health authorities.

Gonorrhea
* Gonorrhea is an STD that may also affect the rectum, pharynx, and eyes that is caused by the bacteria, Neisseria gonorrhoeae and is transmitted by direct contact with exudate via sexual contact or transmission to the neonate during passage through the birth canal.

Data Collection
A. Men.
1. Urethritis, epididymitis, dysuria, and purulent urethral discharge.
2. Increased evidence of asymptomatic disease or a chronic carrier state in males.
B. Women.
1. Initial urethritis or cervicitis that is often mild enough to remain undetected by client.
2. Vulvovaginitis, vaginal discharge, dysuria.
3. If untreated, may result in PID.
C. Both men and women; arthralgias, joint pain from disseminated gonococcus.
D. Neonate: ophthalmia neonatorum.
E. Diagnostics.
1. Positive Gram stain smear of discharge or secretion.
2. Positive culture.
F. Complications.
1. Men: prostatitis, urethral strictures, urethritis, and sterility.
2. Women: PID, Bartholin’s abscess, ectopic pregnancy, infertility.

Nursing Interventions
A. Prophylactic antibiotic treatment for gonorrhea eye infection in the neonate (ophthalmia neonatorum).
B. Encourage follow-up cultures in 4 to 7 days after treatment and again at 6 months.
C. Teach importance of abstinence from sexual intercourse until cultures are negative.
D. Urge client to inform sexual partner so that he or she may be treated for infection.
E. Important to take the full course of antibiotics.

Herpes Genitalis
* Herpes genitalis is an Infection caused primarily by herpes simplex virus 2 (HSV-2) that is characterized by recurrent outbreaks, which are usually less severe than the original outbreak of lesions.
  • HSV-1 causes infection above the waist, involving the gingivae, dermis, and upper respiratory tract.
  • HSV-2 lesions characteristically occur below the waist, generally in the genital area and perineum; however, it is possible for HSV-2 to cause oral lesions, and HSV-1 can cause genital lesions.
  • Virus enters a latent phase and may be harbored by the individual for an indefinite period of time; virus may be reactivated by stress, sunburn, sexual activity, and fever.
A. Transmission: by direct contact with the vesicles; asymptomatic shedding and transmission of virus is well documented.
B. Communicability: highly contagious.

Assessment
A. Initial sensation of tingling and itching before rupture of the lesion.
B. Signs of primary infection usually consist of local inflammation, pain, lymphadenopathy, and systemic symptoms.
C. Initial systemic malaise, fever, headache, and muscle aches.
D. Irritation of the genitals.
E. Genitals may become reddened with painful blisters, which burst into lesions that gradually heal.
F. During asymptomatic period when there are no lesions present, there may be virus shedding and client is infectious.

Nursing Interventions
A. Teach importance of genital hygiene and avoidance of unprotected sexual contact.
B. Teach good hygiene practices. Explain that the fluid inside the lesions contains the virus. If a lesion breaks open, the virus can be spread by contact with the fluid and cause a lesion in any area of the body.
C. If administration of oral antiviral agent is started at the first sign of a lesion, the duration of the outbreak may be decreased.
D. Symptomatic treatment: sitz baths, wet compresses, and analgesics for relief of pain.

CytoMEgalovirus

* CytoMEgalovirus is a virus belonging to the herpes family, which leads to very mild illnesses but can cause a wide range of serious congenital deformities in the fetus or newborn (known as congenital cytoMEgalovirus).

Data Collection
A. The mother is usually asymptomatic or has mononucleosis-type symptoms.
B. Effect on the neonate: serious hematologic and central nervous system consequences; high mortality rate in severely affected neonates.
C. Diagnostics.
   1. TORCH screening: ToxoPlasmosis, Other (hepatitis), Rubella, CytoMEgalovirus infection, Herpes simplex.
   2. Increased lymphocyte count and abnormal liver function test results.

Nursing Interventions
A. Prevention is the primary goal. Pregnant women should avoid being around affected individuals and congenitally infected infants.
B. Prevention of exposure is almost impossible, because the primary infection is asymptomatic.

Chlamydia Infection

* An infectious disease caused by Chlamydia trachoma-tis (most common STD).

Data Collection
A. Males.
   1. Urethritis, epididymitis, proctitis.
   2. Primary reservoir is the male urethra.
B. Females.
   1. Mucopurulent cervicitis, postpartal endometritis, salpingitis, vaginitis.
   2. Primary reservoir is the cervix.
C. Newborns.
   1. Inclusion conjunctivitis.
   2. Pneumonia.
   3. Hepatomegaly and splenomegaly.
D. Both males and females are frequently asymptomatic and often do not seek medical attention until a complica-tion arises (PID, epididymitis).
E. Diagnostics: isolation of the organism in a tissue culture or serologic complement fixation testing.
F. Complication: reactive arthritis (can also be a primary symptom).

Nursing Interventions
A. Urge client to have sexual partner treated.
B. Emphasize the importance of long-term drug therapy because of the pathogen’s unique life cycle, which makes it difficult to eliminate.
   1. Antibiotics: doxycycline and azithromycin are primary antibiotics for treatment.
   2. Penicillin and its derivatives are not effective against these organisms; consequently, this usually explains the persistence of infection in clients who are treated for gonorrhea and do not respond.

Genital Warts

* Genital warts is characterized by cluster of warts caused by the human papilloma virus (HPV): condylomata acuminata. It is continually shed from the surface, and re-infection may occur.

Data Collection
A. Warts are found in areas subject to trauma during sexual activity: penis, urethra, perianal area, anal canal, vulva, cervix, vaginal canal.
B. Diagnosed by observation and biopsy of lesions.
C. The cervix and anal canal may be involved if there are lesions on the vaginal or anal area.
D. Lesions are raised, skin-toned, damp, cauliflower-like growths.
E. Genital itching.
F. May cause nonmenstrual bleeding after intercourse.

Nursing Interventions
A. Education regarding transmission.
B. Close follow-up with Pap smears in women; genital warts are associated with an increased incidence of cervical cancer.
C. Increased incidence of squamous cell cancer of penis in men.
D. Podophyllin, applied topically once or twice a week, and antiMitothic preparations are the most common treatments.
E. Transmission is by direct contact with a person who has lesions present.
F. Vaccination with Gardasil may reduce or prevent geni-tal warts.
Cervical Cancer

Assessment
A. Risk factors/etiology.
   1. Multiple sex partners, first intercourse at early age.
   2. History of STDs, HSV-2.
   3. Genital warts (HPV-positive), abnormal Pap smears.
B. Clinical manifestations.
   1. Clients are asymptomatic until late in disease state.
   2. Thin and watery drainage that becomes dark and foul smelling as the disease progresses.
   3. Abnormal vaginal bleeding or discharge.
   4. Low back pain.
   5. Painful sexual intercourse.
C. Diagnostics.
   1. Pap smear.
      a. Initial Pap smear at age 21 or 2-3 years after first sexual intercourse.
      b. Pap smears are continued after menopause and hysterectomy.
   2. Classification of Pap test results: Bethesda Classification System (2001) replaced older system, which had 5 classes.
      a. The adequacy is assessed as satisfactory or unsatisfactory.
      b. The findings are described as negative or having epithelial cell abnormalities (either squamous cell or glandular cell).

NURSING PRIORITY: If cancer of the cervix is identified before it becomes invasive (or in the in situ stage), there is virtually a 100% cure rate.

3. Cervical biopsy (office procedure)—after the test, the client should:
   a. Avoid strenuous activity for 24 hours.
   b. Leave vaginal packing in for about 24 hours.
   c. Abstain from sexual intercourse for approximately 24 hours.
   d. Avoid using tampons and douching.

Treatment
A. Surgical intervention.
   2. As treatment for cervical cancer, the following procedures may be done:
      a. Vaginal hysterectomy: removal of the uterus; fallopian tubes and ovaries remain intact.
      b. Hysterectomy: total abdominal hysterectomy with bilateral salpingo-oophorectomy (TAH-BSO); includes removal of fallopian tubes and ovaries.
      c. Radical hysterectomy: a panhysterectomy plus a partial vaginectomy and removal of lymph nodes.
   3. Radiation therapy, either internal (radium implant) or external for invasive cancer.

Breast Carcinoma

Assessment
A. Risk factors/etiology.
   1. Leading cause of cancer death in women ages 14 to 54 years.
   2. Family history of breast cancer; however, 85% of women with breast cancer have a negative family history.
   3. Nulliparity or parity after the age of 30 years.
   4. Early menses, late menopause; removal of the ovaries before the age of 35 years significantly decreases the risk for breast cancer.
5. The incidence of recurrence of breast cancer is significant.

B. Clinical manifestations.
   1. Asymmetry of the breasts.
   2. Skin dimpling, flattening, and nipple deviation are suggestive of a lesion.
   3. Skin coloring and thickening, large pores, sometimes called peau d’orange (orange peel appearance).
   4. Changes in the nipple; discharge from the nipple.
   5. Mass is painless, non-tender, hard, irregular in shape, and nonmobile.
   6. Majority of malignant lesions are found in the upper outer quadrant of the breast (tail of Spence).

C. Diagnostics.
   1. Mammography; ultrasound.
   2. Breast biopsy.

D. Complications:
   1. Metastases via the lymphatic system to bone, lungs, brain, and liver.
   2. Postmastectomy pain syndrome: pain persisting past 3 months.
   3. Sentinel lymph node dissection (SLND).

Treatment
A. Surgical.
   1. Modified radical mastectomy (most common): removal of all breast tissue and axillary lymph nodes.
   2. Local excision (lumpectomy): removal of lump or tumor with preservation of the breast.
   3. Breast reconstruction: may be delayed until after radiation therapy is completed or may be done at the time of the mastectomy.

B. Radiation: combined with surgery and chemotherapy.

C. Hormonal therapy: breast cancers that are classified as “estrogen receptors” are less invasive tumors and respond to changes in estrogens; hormone therapy is being used in conjunction with surgical intervention to prevent/decrease recurrence.

D. Chemotherapy: a combination of drugs will be used to treat the malignancy.

Nursing Interventions

Goal: To promote early detection of breast cancer through mammography, clinical breast exam, and breast self-examination (BSE);
A. Screening mammography should begin at age 40.
B. Teach client how to perform breast self-examination. (see Box 17-3).
C. Clinical breast exam should begin with clients in their 20s and 30s, and every year for asymptomatic woman age 40 or older.

D. American Cancer Society recommends a yearly MRI and a mammography for women age 30 or older who have a family history of breast cancer.

Goal: To prepare the client physiologically and psychologically for surgery (normal preoperative and postoperative care; see Chapter 3).
A. Assist woman to decrease emotional stress and anxiety; encourage use of spiritual and social resources.
B. Provide emotional support; encourage verbalization.
C. Anticipate concerns related to sexuality and fear of rejection by husband or sex partner after the mastectomy (see the section on Body Image in Chapter 6).
D. Determine whether any plans for reconstructive surgery have been discussed.

**Goal:** To recognize and prevent postoperative complications (Figure 17-4).

A. There may be one or more drains in the incisional area. Jackson-Pratt drains are commonly used.

**Alert:** Empty and reestablish negative pressure of portable wound suction devices.

B. Assess wound for infection.

C. Position client in semi-Fowler’s and arm on affected side so that each joint is elevated and positioned higher than the more proximal joint; this promotes gravity drainage via the lymphatic and venous circulations.

D. Do not take blood pressure or perform any injections or venipuncture on the arm of the affected side.

E. Arm exercises are usually started on the first postoperative day.
   1. Assist/teach the woman to perform flexion and extension exercises with the wrist and elbow frequently throughout the day. Squeezing a ball is good exercise at this time.
   2. The affected arm should not be abducted or externally rotated in initial exercises. Encourage movement of the arm in activities of daily living (brushing her hair, eating, washing her face).

F. Active exercises are begun after wound healing is well established.

G. Approximately 2 to 3 weeks after surgery and with good wound healing, more active exercises are initiated.
   1. Pendulum arm swings.
   2. Pulley-type rope exercise to promote forward and lateral movement of the arms.
   3. “Wall climbing” with the fingers.

**Alert:** Identify factors interfering with wound healing. The arm on the affected side will be at increased risk for developing problems of edema and infection. The arm should be protected throughout rehabilitation and during activities of daily living for an indefinite period of time.

**Home Care**

**Goal:** To promote the client’s return to homeostasis and to help her understand implications of modified lifestyle; to identify measures to maintain health.

A. Discuss symptoms of recurrence and importance of making regular visits to the physician to monitor recovery and to detect changes.

B. Promote a positive self-image and reintegration with family and loved ones.

C. Discuss with client plans for obtaining a breast prosthesis.

D. Encourage the woman to participate in the Reach to Recovery program through the American Cancer Society. Check with the physician to see whether representatives may visit with the client before the surgery.

E. Compression arm sleeves used to minimize swelling from lymphedema.

**Post Mastectomy Nursing Care**

- Elevate affected side with distal joint higher than proximal joint.
- No BP, injections or venipunctures on affected side.
- Watch for S & S of edema on affected arm. (edema may occur post op or years later)
- Lymphedema can occur any time after axillary node dissection.
- Limited arm exercises 24 hrs post op.
- Abduction and external rotation arm exercises after wound has healed.
- Assess dressing for drainage.
- Assess wound drain for amount and color.
- Provide privacy when client looks at incision.
- Chemotherapy.
- Radiation therapy.
- Psychological concerns:
  - Altered body image
  - Altered sexuality
  - Fear of disease outcome

**FIGURE 17-4 Postmastectomy nursing care.** (From Zerwekh J, Claborn J: Memory Notebook of Nursing, vol 1, ed 4, Ingram, Texas, 2008, Nursing Education Consultants).
### Study Questions  Reproductive System

1. A client is 1-day postoperative from a suprapubic prostatectomy. The nurse notices pink-tinged urine in the client’s urine bag. What is the best nursing interpretation of this finding?
   1. This is a normal occurrence at this time after this type of surgery.
   2. There is increased bleeding and the client should be kept on bed rest.
   3. This is probably due to an infection; a urinalysis needs to be performed.
   4. The continuous bladder irrigation should be increased to flush the bladder.

2. The nurse is evaluating her teaching with a client who has herpes genitalis (HVH II). How would the nurse know her teaching was effective?
   1. Client understands that after blisters break, she is no longer contagious.
   2. Client understands the importance of washing her hands after touching her perineal area.
   3. Client understands the need to take Zovirax for the rest of her life to prevent additional outbreaks.
   4. Client understands that after the initial outbreak she will be immune and have no further lesions.

3. Why are all sexually transmitted diseases (STDs) reported to the public health department?
   1. To slow transmission by informing all who may have had contact with the client.
   2. To help the bureau of statistics study characteristics and decrease the incidence.
   3. So the public health department will know whom to treat.
   4. To develop educational programs for the infected client and their sexual partners.

4. A client is 48 hours after surgery for a left mastectomy. What would be included in a teaching plan for this client? Select all that apply:
   __ 1  Massage the wound site with essentials oils once incision has healed.
   __ 2  Avoid needle sticks in the left arm.
   __ 3  Begin active exercises immediately, such as pendulum arm swings.
   __ 4  Keep affected arm close to the body.
   __ 5  Elevate the arm on pillows to prevent edema.
   __ 6  Take blood pressure measurements from the right arm.

5. A client has a painless lesion on the side of his penis. What is the nurse’s best interpretation of this finding?
   1. The presence of a chancre lesion is characteristic of syphilis.
   2. The lesion is characteristic in clients with long-term gonorrhea.
   3. The lesion may indicate the outbreak of herpes simplex virus.
   4. The area should be cultured for the presence of papilloma virus.

6. The nurse is preparing a client for a pelvic examination. What is important for the nurse to do before the examination?
   1. Make sure the client had a bowel prep and cleansing enema.
   2. Carefully document the menstrual cycle; client should not be in last third of cycle.
   3. Question the client regarding her last period and the possibility of pregnancy.
   4. Make sure the client voids before the procedure.

7. The nurse is caring for a client the first postoperative day after a left-sided mastectomy. What observations would cause the nurse the most concern?
   1. Temperature of 100.6˚F, pulse of 110 beats per minute.
   2. Moderate amount of serosanguineous drainage on dressing.
   3. Left forearm and hand swollen, palpable radial pulse.
   4. Urine output of 40 ml per hour, slight increase in blood glucose level.

8. An older adult client complains of vaginal itching and burning. What would be the best nursing management?
   1. Douche daily with a weak vinegar solution.
   2. Apply estrogen vaginal cream.
   3. Wash the perineal area well with soap and water.
   4. Encourage the use of petroleum jelly during intercourse.

9. The nursing assessment of a client with prostatic hyper trophy would identify which symptom?
   1. Pain when voiding.
   2. Urinary frequency.
   3. Distended bladder.
   4. Scrotal edema.

10. What equipment will be needed by the primary care provider to check a client’s prostate?
    1. Straight catheter tray.
    2. Urethral stints and gloves.
    3. A lubricant and gloves.
    4. A stethoscope and a rectal tube.

11. A client is postoperative after a transurethral resection of the prostate (TURP). He is receiving a continuous bladder irrigation. The nurse notices that the fluid is not draining into the urinary catheter bag. The nurse attempts to irrigate to clear the catheter line, but is unsuccessful. What action should the practical nurse take next?
    1. Notify the primary care provider.
    2. Irrigate again, increasing the pressure.
    3. Observe for 30 minutes before irrigating again.
    4. Replace the current catheter.

Answers and rationales to these questions are in the section at the end of the book titled Chapter Study Questions: Answers and Rationales.
### Medications Used in Reproductive System Disorders

#### Antiemetics

<table>
<thead>
<tr>
<th>Medications</th>
<th>Side Effects</th>
<th>Nursing Implications</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Benign Prostatic Hyperplasia Medications:</strong> that decrease the size of the prostate, therefore decreasing pressure on the urinary tract in clients with BPH or by promoting smooth muscle relaxation (alpha adrenergic blockers).</td>
<td></td>
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</tr>
<tr>
<td>Alpha Adrenergic Blocker (Nonselective)</td>
<td>Dizziness, fatigue, orthostatic hypotension, dyspnea, headache.</td>
<td>1. Advise client of possible problems of decreased blood pressure and orthostatic hypotension. 2. Prostatic cancer should be ruled out before medications are started. 3. Medication should decrease problems of urination associated with BPH. 4. Monitor blood pressure closely if taking antihypertensive medications.</td>
</tr>
<tr>
<td>Doxazosin (Cardura): PO</td>
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<tr>
<td>Tamsulosin (Flomax): PO</td>
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<td></td>
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<tr>
<td>Terazosin (Hytrin): PO</td>
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<td></td>
</tr>
<tr>
<td>Finasteride (Proscar): PO</td>
<td>Erectile dysfunction, decreased libido</td>
<td>1. Client should take contraceptive precautions or not have sexual intercourse with women who could become pregnant. 2. Women who may be or are pregnant should not handle the tablets.</td>
</tr>
</tbody>
</table>

#### Antifungal/Protozoal Medications: Used to treat vaginal fungal infections.

<table>
<thead>
<tr>
<th>Medications</th>
<th>Side Effects</th>
<th>Nursing Implications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clotrimazole (Gyne-Lotrimin): intravaginally (OTC)</td>
<td>Nausea, vomiting, headache, vaginal irritation</td>
<td>1. Creams are not recommended to be used with tampons or diaphragms. 2. Not recommended for use during pregnancy or lactation. 3. Flagyl is used to treat trichomoniasis; instruct client to avoid alcohol because it can lead to serious side effects of throbbing headaches, nausea, excessive vomiting, hyperventilation, and tachycardia. 4. Suppositories or applicators are used to place medication in the vagina. 5. If client does not see improvement within 3 days, she should return to her health care provider. 6. Diflucan can be given as a single dose for vaginal candidiasis.</td>
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<tr>
<td>Miconazole (Monistat 3): intravaginally</td>
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<tr>
<td>Fluconazole (Diflucan): PO</td>
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<tr>
<td>Terconazole (Terazol): intravaginally</td>
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<td></td>
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<tr>
<td>Metronidazole (Flagyl): PO</td>
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#### Erectile Dysfunction Medications: Promote an increase in arterial pressure and inflow of blood into the penis and reduce the venous outflow causing engorgement and producing an erection.

<table>
<thead>
<tr>
<th>Medications</th>
<th>Side Effects</th>
<th>Nursing Implications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sildenafil (Viagra): PO</td>
<td>Hypotension can be a serious SE</td>
<td>1. Should not be taken concurrently with nitrates.</td>
</tr>
<tr>
<td>Vardenafil (Levitra): PO</td>
<td>Headache, flushing, visual changes</td>
<td>2. Alpha blockers (used for treatment of BPH) are contraindicated in the client taking tadalafil and vardenafil, should be used with caution in client taking Viagra. 3. Vardenafil can cause prolonged QT interval on ECG, should not be used in combination with antidysrhythmic medications. 4. Primary differences in the medications is the onset and duration of action. 5. Priapism, painful erection, or erection lasting over 4 hours may require medical intervention to prevent penile damage.</td>
</tr>
<tr>
<td>Tadalafil (Cialis): PO</td>
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*BPH,* Benign prostatic hypertrophy; *IV,* intravenous; *OTC,* over the counter; *PO,* by mouth (oral).
### Appendix 17-2  HORMONE REPLACEMENT

<table>
<thead>
<tr>
<th>Medications</th>
<th>Side Effects</th>
<th>Nursing Implications</th>
</tr>
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</table>
| Conjugated estrogen (Premarin, Ortho-est, Prempro): PO, intravaginally | Nausea, vomiting, breakthrough bleeding, weight gain, swollen tender breasts, increased blood pressure | 1. Important for menopausal women to continue with 1200 to 1500 mg/day calcium intake and weight-bearing exercises along with estrogen replacement to prevent osteoporosis.  
2. Should not be used by women who have known or suspected cancer of the breast, undiagnosed vaginal bleeding, or possible pregnancy.  
3. Used with precaution—or not at all—in women with clotting disorders or history of DVT/PE.  
4. Report any unusual bleeding to primary care provider.  
5. Research data changed the practice of treating perimenopausal women’s symptoms with HRT. It is their decision to take it or not, but use should be short-term and lowest effective dose with risks outlined.  
6. Use: Replacement hormone to treat symptoms associated with menopause—hot flashes, atopic vaginitis (local vaginal application of low-dose estrogen—Vagifem) prevention of postmenopausal osteoporosis. |
| Micronized estradiol (Estrace): PO, IM, intravaginally | Increased risk for uterine cancer                  |                                                                                                                                                     |
| Estradiol (Estraderm, Ortho Tri-Cyclen Lo): transdermal patches | Menses may become more irregular                  | 1. Use: Provera—for menopausal women who still have a uterus, significantly decreased risk for uterine cancer when used with estrogen therapy, Depo-Provera—birth control injection given every 3 months.  
2. Women should continue with increased calcium intake and weight-bearing exercises to prevent osteoporosis; should have yearly Pap smears, mammograms, and cholesterol test. |
| Medroxyprogesterone acetate (Provera, Depo-Provera): PO, IM       |                                                                                                         |                                                                                                                                                     |

*IM*, intramuscular; *IV*, intravenous; *PO*, by mouth (oral).