

# CHAPTER Nursing Care 52 of Clients with Sexually Transmitted Infections

## LEARNING OUTCOMES

- Explain the incidence, prevalence, characteristics, and prevention/control of sexually transmitted infections (STIs).
- Compare and contrast the pathophysiology, manifestations, interdisciplinary care, and nursing care of genital herpes, genital warts, vaginitis, chlamydia, gonorrhea, syphilis, and pelvic inflammatory disease.
- Explain the risk factors for and complications of STIs.
- Discuss the effects and nursing implications of medications and treatments used to treat STIs.

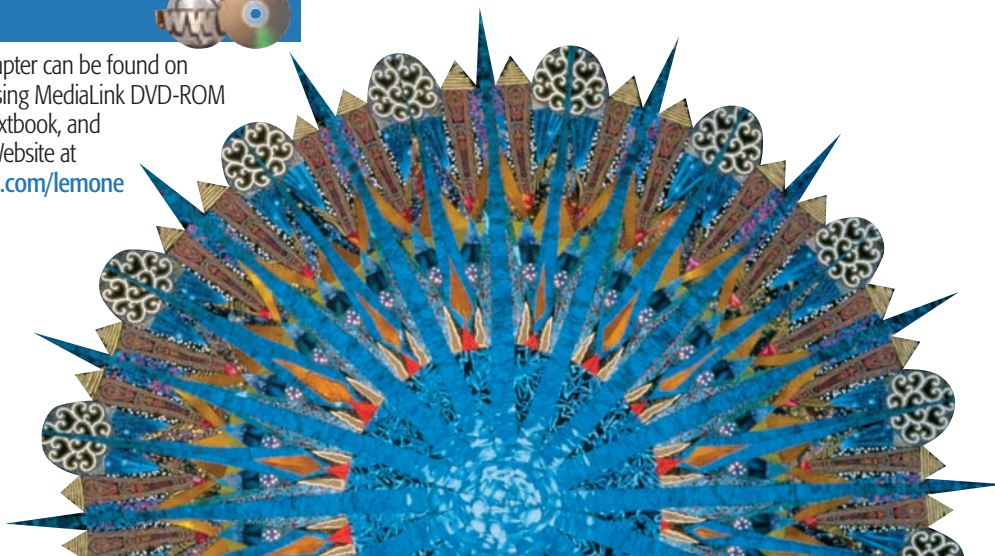
## CLINICAL COMPETENCIES

- Assess functional health status of clients with STIs and monitor, document, and report abnormal manifestations.
- Determine priority nursing diagnoses and select and implement individualized nursing interventions for clients with STIs.
- Administer topical, oral, and injectable medications knowledgeably and safely.
- Integrate interdisciplinary care into care of clients with STIs.
- Provide teaching appropriate for prevention, control, and self-care of STIs.
- Revise plan of care as needed to provide effective interventions to promote, maintain, or restore functional health status to clients with STIs.

### MEDIA LINK



Resources for this chapter can be found on the Prentice Hall Nursing MediaLink DVD-ROM accompanying this textbook, and on the Companion Website at <http://www.prenhall.com/lemone>

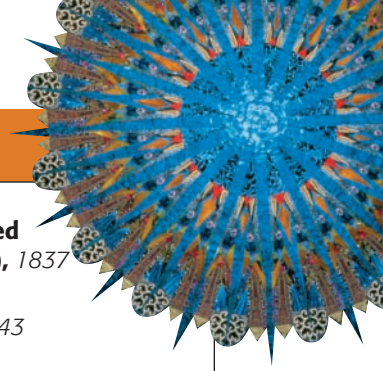


## KEY TERMS

**bacterial vaginosis**, 1842  
**candidiasis**, 1842  
**chancere**, 1847  
**chlamydia**, 1844  
**dyspareunia**, 1844

**genital herpes**, 1838  
**genital warts**, 1840  
**gonorrhea**, 1845  
**pelvic inflammatory disease (PID)**, 1850

**sexually transmitted infections (STIs)**, 1837  
**syphilis**, 1846  
**trichomoniasis**, 1843



Infections transmitted by vaginal, oral, and anal intimate contact and intercourse are referred to as **sexually transmitted infections (STIs)**. Infections transmitted by sexual intercourse are also labeled as *sexually transmitted diseases (STDs)* or *venereal diseases*. STIs also include systemic diseases (such as

tuberculosis, hepatitis, and HIV/AIDS) that can be transmitted from an infected person to a partner. This chapter discusses STIs that involve the urogenital system. Vaginal infections are included in this chapter because they are also included in the CDC (2006) treatment guidelines.

## OVERVIEW OF SEXUALLY TRANSMITTED INFECTIONS

Sexually transmitted infections include those caused by bacteria, *Chlamydiae*, viruses, fungi, protozoa, and parasites. Portals of entry for these agents of transmission include the mouth, genitalia, urinary meatus, anus, rectum, and skin. STIs have many consequences, and nurses have the responsibility of teaching sexually active clients how to prevent STIs, regardless of their gender, age, or sexual orientation. Nurses have a critical role in the prevention of STIs by teaching clients about these diseases, their prevention, treatment, and potential complications.

### Incidence and Prevalence

STIs have reached epidemic proportions in the United States and are on the increase worldwide. They are the most frequent infections encountered by professionals in the field of reproductive health, and occur in more than half of all people at some point in their life (American Social Health Association [ASHA], 2005).

### FAST FACTS

#### STIs

- More than 65 million people in the United States are estimated to have a viral STI; with 15 million new cases occurring each year.
- One in two sexually active persons will contract an STI by age 25.
- More than \$8 billion is spent each year to diagnose and treat STIs and their complications. This figure does not include HIV.

Source: American Social Health Association (2005).

Women and infants are disproportionately affected by STIs. Many STIs are more easily transmitted from a man to a woman than from a woman to a man. Women often experience few early manifestations of the infection, delaying diagnosis and treatment. Furthermore, women are at greater risk for complications of STIs such as pelvic inflammatory disease (PID) and genital cancers.

Several factors help explain the escalating incidence of STIs. The so-called sexual revolution of the 1960s and 1970s, fueled by “the pill” and the freedom from unplanned pregnancy, led to a more permissive attitude about sexuality and increases in sexual activity and the number of sexual partners. In

addition, since oral contraceptives were introduced to American women in 1961, they have replaced the condom as a birth control method for many couples. However, oral contraceptives do not protect against STIs, a fact of increasing importance.

STIs affect men and women of all ages, backgrounds, and socioeconomic levels. The incidence of STIs is highest in young adults ages 15 to 24 and in minorities. Drug abuse, unprotected sexual activity, and sexual activity with multiple partners also are associated with increased incidence of STIs (Blair, 2004). A further factor in the increasing incidence is that young people are becoming sexually active at an earlier age, marrying later, and divorce is more common. As a result, sexually active people today are more likely to have multiple sex partners in their lifetime and are potentially at risk for STIs (National Institute of Allergy and Infectious Diseases, 2003).


The emergence of HIV/AIDS has created a kind of “epidemiologic synergy” among all STIs. Other STIs, such as syphilis, herpes simplex virus (HSV), and chancroid, facilitate the transmission of HIV/AIDS, and the immune suppression caused by HIV potentiates the infectious process of other STIs. In fact, individuals who are infected with STIs are at greater risk of acquiring HIV if they are exposed to the virus. This is the result of several factors: Genital ulcers create a portal of entry for HIV, nonulcerative STIs increase the concentration of cells in genital secretions that can be targets for HIV, and infection with both an STI and HIV results in an increased likelihood of having HIV in genital secretions and semen.

### Characteristics

Although STIs are caused by various organisms, they have several characteristics in common:

- Most can be prevented by the use of latex condoms.
- They can be transmitted during both heterosexual and homosexual activities, including non-penetrating intimate exposure.
- For treatment to be effective, sexual partners of the infected person must also be treated.
- Two or more STIs frequently coexist in the same client.

The complications of STIs in women include PID, ectopic pregnancy, infertility, chronic pelvic pain, neonatal illness and

death, and genital cancer. Some bacterial STIs can be cured through appropriate early treatment with antibiotics. Others, such as genital herpes, are chronic conditions that can be managed but not cured because they are caused by viruses. The most serious STI is AIDS, which at this time is incurable. HIV/AIDS is discussed in Chapter 13 . Treatment guidelines for STIs are updated regularly and are available from the Centers for Disease Control and Prevention.

## Prevention and Control

The prevention and control of STIs is based on the principles of education, detection, effective diagnosis, and treatment of infected persons; and evaluation, treatment, and counseling of sex partners of people who are infected. The ability of the healthcare provider to obtain an accurate sexual history is essential to prevention and control efforts. One approach to collecting accurate information about key areas of interest has been summarized by the CDC (2006). They include the Five Ps: Partners, Prevention of Pregnancy, Protection from STIs, Practice, and Past History of STIs. Suggested questions to use are found on the CDC website.

The most effective way to prevent sexual transmission of HIV and other STIs is to avoid sexual intercourse with an infected partner. It is recommended that both partners be tested for STIs, including HIV, before beginning to have sexual intercourse. If a person chooses to have intercourse with an infected partner or one whose infection status is unknown, a new condom should be used for each act of intercourse. See Meeting Individualized Needs below for recommended STI barrier guidelines (CDC, 2006).

Prevention teaching for the person who is an injecting-drug user includes:

- Enroll or continue in a drug treatment program.
- Do not use injection equipment that has been used by another person. If equipment is shared, first clean the syringe and

needle with bleach and water (to reduce the rate of HIV transmission).

- If needles can legally be obtained in the community, obtain and use clean needles.

Eliminating further transmission and reinfection of STIs is critical to control. For treatable STIs, this means that referral of sex partners for diagnosis, treatment, and counseling is essential. Gonorrhea, syphilis, and AIDS are reportable diseases in every state, and chlamydial infections are reportable in most states. When a healthcare professional refers infected clients to a local or state department of health, every effort is made to identify and contact sex partners. Reports of STI and HIV infections are maintained in strictest confidence, and are protected by law from subpoena. Suggested resources for people with STIs are listed in Box 52–1.

## THE CLIENT WITH GENITAL HERPES

**Genital herpes** are caused by the herpes simplex viruses HSV-1 and HSV-2. Like most STIs, genital herpes are most commonly found in young, sexually active adults and are associated with early onset of sexual activity and multiple sexual partners. Approximately 50 million people ages 12 and older, or 1 out of every 5 teens and adults, have had genital HSV infections (CDC, 2006). There is no cure, and the treatments are primarily symptomatic.

### BOX 52–1 Resources for Clients with STIs

- CDC National STD Hotline
- CDC National Prevention Information Network
- National Center for HIV, STD, and TB Prevention
- National HPV and Cervical Cancer Resource Center and Hotline
- National Herpes Hotline
- American Social Health Association



## MEETING INDIVIDUALIZED NEEDS STI Barrier Guidelines

### Barrier Protection

- Male condoms
- Female condoms
- Vaginal spermicides, sponges, diaphragms

### Teaching Topics

- ✓ Use a new condom with each act of sexual intercourse.
- ✓ Handle carefully to avoid damaging the condom.
- ✓ Be sure no air is trapped in the end of the condom.
- ✓ Put the condom on when the penis is erect and before genital contact with partner.
- ✓ Ensure adequate lubrication exists during intercourse, using only water-based lubricants (e.g., K-y® Jelly, Astroglide®, AquaLube, and glycerine) and latex condoms. Oil-based lubricants, such as petroleum jelly, massage oil, mineral oil, or body lotions can weaken latex.
- ✓ Ensure adequate lubrication during vaginal and anal sex.
- ✓ Withdraw while the penis is erect and hold the condom firmly against the base of the penis during withdrawal.
- ✓ The female condom (Reality®) is a lubricated polyurethane sheath with a ring on each end that is inserted into the vagina. It is an effective mechanical barrier to viruses.
- ✓ Vaginal spermicides used alone without condoms do not reduce the risk for cervical gonorrhea, chlamydia, or HIV infection.
- ✓ The diaphragm protects against cervical gonorrhea, chlamydia, and trichomoniasis, but not HIV.

## Pathophysiology

One hundred types of HSV viruses have been identified, with more than 30 affecting the urogenital area. HSV-1 is associated with cold sores, but may be transmitted to the genital area by oral intercourse or by self-inoculation through poor hand washing practices. HSV-2 is transmitted by sexual activity or during childbirth from an infected woman, and is the virus that causes genital herpes. HSV infections begin with an exposure to the virus by contact with infectious lesions or secretions. The virus then moves into the stratified squamous epithelium, stimulating the replication of the epithelium and infecting the neurons that innervate the area. HSV viruses are neurotropic viruses, meaning that they grow in neurons and can maintain their disease potential even when there are no manifestations. The virus ascends through the peripheral nerves to the dorsal root ganglia, where it can remain dormant. For unknown reasons, the virus may reactivate and return to the nerve root of the skin, causing lesions. During dormancy, the virus is impervious to treatment. The incubation period ranges from 6 weeks to 8 months (Porth, 2005). Genital HSV-2 infection is more common in women (approximately one in four women) than it is in men (almost one of five) (CDC, 2004).

## Manifestations

Within 2 to 10 days after exposure to the herpes virus, painful red papules appear in the genital area. In men, the lesions generally occur on the glans or shaft of the penis. In women, the lesions commonly occur on the labia, vagina, and cervix. Anal intercourse or oral-anal sexual contact may result in lesions in and around the anus.

Soon after the papules appear, they form small painful blisters filled with clear fluid containing virus particles (Figure 52–1 ■). The blisters break, shedding the highly infectious virus and creating patches of painful ulcers that last 6 weeks (or longer if they become infected). Touching these blisters and then rubbing or scratching in another place can spread the infection to other areas of the body (*autoinoculation*).

The first outbreak of herpes lesions is called *first episode infection*, with an average duration of 12 days. Subsequent oc-



**Figure 52–1** ■ Genital herpes blisters as they appear on the labia.

Source: Biophoto Associates/Photo Researchers, Inc.

currences, usually less severe, are termed *recurrent infections* (average duration of 4 to 5 days). The period between episodes is called *latency*, during which time the person remains infectious even though no symptoms are present. During latency, the virus withdraws into the nerve fibers that lead from the infected site to the lower spine, remaining dormant until recurrence, at which time it retraces its path to the genital area.

The manifestations of genital herpes are presented below. Prodromal symptoms of recurrent outbreaks of genital herpes can include burning, itching, tingling, or throbbing at the sites where lesions commonly appear. These sensations may be accompanied by pain in the legs, groin, or buttocks. Some authorities believe that prodromal symptoms signal increased levels of infectiousness, during which sexual contact should be avoided.

## INTERDISCIPLINARY CARE



Presumptive diagnosis of genital herpes is based on history and physical examination of the client, including lesions and patterns of recurrence. Because there is no cure for genital herpes, treatment focuses on relieving symptoms and preventing spread of the infection. Client education is essential to prevent further transmission of the disease and to help clients integrate management of a chronic disease into their lifestyles.

### Diagnosis

Definitive diagnosis requires isolation of the virus in tissue culture. Ideally, tissue specimens should be obtained within 48 hours of the appearance of the blisters. Diagnostic tests are described in Chapter 49 ∞.

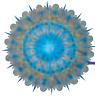
### Medications

Acyclovir (Zovirax) helps reduce the length and severity of the first episode and is the treatment of choice for genital herpes. The oral form is considered most effective for first episode as well as recurrences and is given for 7 to 10 days or until lesions heal. It may also be administered intravenously. Evidence shows that some strains of HSV are becoming resistant to acyclovir, particularly in HIV-positive people. In those cases, foscarnet (Foscavir) is used. Other antivirals used for treatment and prevention are valacyclovir (Valtrex) and famciclovir (Famvir).



### MANIFESTATIONS of Genital Herpes

- Herpetic lesions
- Regional lymphadenopathy
- Headache
- Fever
- General malaise
- Dysuria
- Urinary retention
- Vaginal discharge
- Urethral discharge (men)



## NURSING CARE

In planning and implementing nursing care for the client with genital herpes, the nurse needs to consider both short-term and long-term implications. Although the immediate priority is symptom relief and prevention of further transmission, the client needs assistance to deal with the life-changing diagnosis of a chronic disease.

### Nursing Diagnoses and Interventions

Nursing diagnoses discussed in this section focus on pain and sexual dysfunction.

#### Acute Pain

Herpetic lesions are very painful and can become infected. Because the virus resides in the nerve ganglia, pain may also occur in the legs, thighs, groin, or buttocks. Although acyclovir diminishes the pain of herpes and accelerates the healing process, additional measures can relieve the discomfort further.

- Teach how to keep herpes blisters clean and dry. A solution of warm water, soap, and hydrogen peroxide (if lesions are not open) can be used to cleanse the lesions two or three times daily. Burrow's solution (a liquid containing aluminum sulfate, acetic acid, precipitated calcium carbonate, and water) can also be used. Lesions should be dried using a hair dryer turned to a cool setting. It is important to wear loose cotton clothing that will not trap moisture; and to avoid wearing panty hose and tight jeans. *Keeping the lesions clean and dry reduces the possibility of secondary infection and speeds the healing process.*
- For dysuria, suggest pouring water over the genitals while urinating. Drinking additional fluids also helps dilute the acidity of the urine; however, fluids that increase acidity, such as cranberry juice, should be avoided. *These measures dilute the acid content of urine and thereby reduce the burning sensation.*
- Suggest the use of sitz baths (with tepid water) for 15 to 30 minutes several times a day. *The warm water is soothing and decreases pain from ulcers and an irritated urethral meatus. It also facilitates wound healing.*

#### Sexual Dysfunction

Clients who learn that they are infected with an incurable STI may believe they can no longer have a normal sex life. Fortunately, many people have learned to live with and manage genital herpes without infecting their partners or their children.

- Provide a supportive, nonjudgmental environment for the client to discuss feelings and ask questions about what this diagnosis means to future sexual relationships. *Feelings of guilt, shame, and anger are natural responses to such a diagnosis and can lead to a total avoidance of sexual intimacy.*
- Offer information about support groups and other resources for people with herpes such as the National Herpes Information Hotline. *Information about how others cope with this disease can offset feelings of shame and hopelessness.*

### Community-Based Care

Health teaching for clients with genital herpes involves helping them manage this chronic disease with the least possible dis-

ruption in lifestyle and relationships. Understanding the disease process and factors that affect it helps the client regain a sense of control and see the potential for future sexual intimacy without transmission of infection. The following topics should be addressed:

- How to recognize prodromal symptoms of recurrence and factors that seem to trigger recurrences (such as emotional stress, acidic food, sun exposure)
- The need for abstinence from sexual contact from the time prodromal symptoms appear until 10 days after all lesions have healed
- If lesions become infected, use of topical acyclovir (Painful lesions can be protected with sterile petroleum jelly or aloe vera gel.)
- Use of latex condoms due to viral shedding at any time and careful hygiene practices (such as not sharing towels or other personal items) even during latency periods.

## THE CLIENT WITH GENITAL WARTS

**Genital warts** (*condylomata acuminata*), caused by the human papillomavirus (HPV) are the most common infectious genital infections in the United States, and are considered epidemic. Genital warts are chronic and, in many people, largely asymptomatic. Currently, they are incurable.

Women are at greater risk for HPV genital infections because they have a larger mucosal surface area exposed in the genital area. Most HPV infections are asymptomatic or unrecognized. An estimated 20 million Americans are infected with the virus, and up to 6.2 million new cases are diagnosed annually (CDC, 2006).

### FAST FACTS

#### Genital HPV Infection

- At least 50% of sexually active men and women acquire genital HPV infection at some point in their lives.
- By age 50, at least 80% of women will have acquired genital HPV infection.
- Most people with a genital HPV infection do not know they are infected; most women are diagnosed by abnormal Pap tests.

Source: CDC (2004).

Although the majority of infected people are asymptomatic, others experience frequent recurrences. Other than recurrences, men are not likely to experience serious physical complications of genital warts. Women, however, face concerns about the increased risk of cervical cancer, with HPV DNA having been identified in almost all cervical cancers worldwide and in approximately 50% to 80% of vaginal, vulvar, and anogenital cancers (Porth, 2005).

### Pathophysiology

Genital warts are caused by HPV and are transmitted by vaginal, anal, or oral-genital contact. The incubation period is 6 weeks to 8 months (Porth, 2005).

## Manifestations

Although some people with HPV may not have manifestations, others exhibit characteristic lesions: single or multiple painless, soft, moist, pink or flesh-colored swellings in the vulvovaginal area, perineum, penis, urethra, anus, groin, or thigh (Figure 52–2 ■). In women, the growths may be in the vagina or on the cervix and be apparent only during a pelvic examination.

The four types of genital warts are as follows:

- *Condyloma acuminata*: cauliflower-shaped lesions that appear on moist skin surfaces such as the vagina or anus
- *Keratotic warts*: thick, hard lesions that develop on keratinized skin such as the labia major, penis, or scrotum
- *Papular warts*: smooth lesions that also develop on keratinized skin
- *Flat warts*: slightly raised lesions, often invisible to the naked eye, that also develop on keratinized skin.

## INTERDISCIPLINARY CARE

Treatment is directed at removal of the warts, relief of symptoms, and health teaching to reduce the risk of recurrence and future transmission. Infection with HPV is considered chronic; however, research has shown that for about 90% of women, cervical HPV becomes undetectable within 2 years (CDC, 2004).

Genital and anal warts are diagnosed primarily by clinical appearance. A HPV DNA test is specific for diagnosis in women. There are no HPV tests for men.

## Medications

Topical agents used to treat genital warts include podofilox and imiquimod (both can be applied by the client) or podophyllin and trichloroacetic acid (provider-administered treatments). Podophyllin (Condylox, Podofin) is contraindicated during pregnancy and can have side effects in any client, ranging from nausea, diarrhea, and lethargy to paralysis and coma (see the Medication Administration box on the next page). Gardasil is a vaccine developed to prevent genital warts, precancerous geni-

tal lesions, and cervical cancer due to HPV. It is administered by 3 intramuscular injections given over a 6-month period. As HPV is so closely associated with cervical cancer, a federal advisory panel has recommended that the vaccine be targeted for females, aged 9 to 26. The vaccine does not protect against an existing HPV infection.

## Other Treatments

Genital warts may also be removed by cryotherapy, electrocautery, laser vaporization, or surgical excision. Carbon dioxide laser surgery is becoming increasingly common for removal of extensive warts.



## NURSING CARE

Health promotion activities for adults of all ages should include information about the causes, treatments, and prevention of HPV infections.

## Nursing Diagnoses and Interventions

Nursing interventions are primarily directed toward problems with deficient knowledge, fear, and anxiety.

### Deficient Knowledge

HPV is spread by contact with infectious lesions or secretions, with up to 70% of genital warts spread by people who do not know they have the infection. Although there is no known cure, it is essential to prevent secondary infections.

- Discuss the need for prompt treatment and the necessity for sexual abstinence until lesions have healed, or using a condom while lesions are present. *This reduces the risk of reinfection and further transmission of the disease. Some studies have found that using condoms promotes the regression of HPV lesions in both men and women (ASHA, 2005).*
- Discuss the increased risk of cervical cancer and the importance of an annual Pap smear. *Understanding the risk, the client will be more motivated to seek annual screening.*
- Stress the importance of thorough handwashing. *Handwashing is essential to prevent the spread of HPV.*



A



B

**Figure 52–2 ■** Genital warts (condyloma acuminatum) on the A, vulva and B, penis.

Source: Kenneth Greer/Visuals Unlimited; National AV Center



## MEDICATION ADMINISTRATION The Client with Genital Warts

### TOPICAL APPLICATIONS

#### Podophyllin

#### Trichloroacetic acid

Although cryotherapy using liquid nitrogen or a cryoprobe is more commonly used to treat genital warts, podophyllum preparations are sometimes used. Podophyllin is applied topically to the warts by the physician once weekly for 3 to 5 weeks.

Podophyllin is contraindicated during pregnancy; the alternative is cryotherapy. Podophyllin is also contraindicated in cervical, urethral, oral, or anorectal warts. It is important to avoid contact of podophyllin resin with the eyes.

Adverse effects of podophyllin include local irritation, severe ulceration of surrounding tissue, nausea, diarrhea, lethargy, paralysis, and coma.

#### Nursing Responsibilities

- Establish baseline data, including mental status, vital signs, and weight.

- Document and report any existing lesions (genital, anal, or oral).
- Cover the tissue surrounding the warts with petrolatum or a paste of baking soda and water to protect the tissue from the caustic treatment solution.

#### Health Education for the Client and Family

- Wash off the treated area thoroughly within 1 to 4 hours after the first application; gradually increase this period to 6 to 8 hours after the second and subsequent applications.
- Return for regular treatment until warts are gone.
- Refer partners for examination and any necessary treatment.
- Report any adverse effects (nausea, diarrhea, local irritation, lethargy, numbness)
- Avoid sexual activity until you and your partners have been free of disease for 1 month.
- Use condoms to prevent future infections.
- Return for an annual Pap smear.

### Fear

Surgery engenders some degree of fear in most clients: fear of the procedure itself and of pain and possible complications. Surgery or cryotherapy in the genital area involves all of these fears plus fear of possible impaired sexual function.

- Allow the client to express specific fears and feelings about the procedure. Explain the procedure, approximate recovery time, possible complications and ways to avoid them, and ways to cope with complications that do occur. *Knowing what to expect reduces the client's fear and helps the client feel a greater sense of control.*
- Explain that the procedure is performed with a local anesthesia. *Being awake during surgery gives the client a greater sense of participation in the treatment process.*

### Anxiety

The woman with an HPV infection faces an increased risk of infection of her neonate during delivery. The neonatal infection can range from asymptomatic to widely disseminated fatal disease. Transmission occurs during passage through the birth canal. The risk is highest during the first episode of infection.

- Discuss with women of childbearing age that cesarean delivery can prevent transmission of infection to the neonate. In women without manifestations of recurrence, vaginal delivery is possible. *Understanding that infection of the neonate can be prevented helps relieve anxiety.*

### Community-Based Care

Health teaching emphasizes the need for the client and infected partners to return for regular treatment until lesions have resolved, and to use condoms to prevent reinfection. Because of the increased risk of cervical cancer, annual Pap smears are essential for female clients.

## THE CLIENT WITH A VAGINAL INFECTION

The vagina may be infected by yeasts, protozoa, or bacteria. These infections can be sexually transmitted, but the male partner does not usually have manifestations of the infection. Risk factors include the use of hormonal contraceptives or broad-spectrum antibiotics, obesity, diabetes, pregnancy, unprotected sexual activity, and multiple sexual partners. Manifestations of vaginal infections are outlined in Table 52–1.

Preventive measures include educating women about personal hygiene practices and safer sex. Women need to avoid frequent douching and wearing nylon underwear and/or tight pants. Unprotected sexual activity, particularly with multiple partners, increases the risk of vaginal infections.

### Pathophysiology and Manifestations

Alterations in pH, changes in the normal flora, and low estrogen levels are conducive to the development of vaginal infections. When conditions are favorable, microorganisms invade the vulva and vagina.

#### Bacterial Vaginosis

**Bacterial vaginosis** (nonspecific vaginitis) is the most common cause of vaginal infection in women of reproductive age. *Gardnerella vaginalis* is one of the causative organisms, but others are also implicated. The relationship of sexual activity to this infection is not clear. The primary manifestation is a vaginal discharge that is thin and grayish-white, and has a foul, fishy odor. Complications include PID, preterm labor, premature rupture of the membranes, and postpartum endometritis (Porth, 2005). The infection is treated with oral or intravaginal antibacterial agents.

#### Candidiasis

**Candidiasis** (moniliasis or yeast infection) is caused by the organism *Candida albicans*, which has several strains of dif-

TABLE 52–1 Vaginal Infections

INFECTION	TYPE OF DISCHARGE	TYPICAL MANIFESTATIONS	NURSING CARE
Candidiasis ( <i>Monilia</i> , yeast)	Thick white patches adhering to cervix and vaginal wall, resembling cottage cheese; little odor	Itching of vulva and vaginal area, redness, painful intercourse	Teach perineal hygiene and proper use of vaginal applicators. Instruct the client to complete the entire treatment.
Simple vaginalis (bacterial vaginosis, <i>Gardnerella vaginalis</i> )	Thin, white, "milklike," or gray with fishy odor, especially when mixed with potassium hydroxide	None to mild itching or burning in vulvar area; clue cells on microscopic examination	Teach proper perineal hygiene. Instruct client to complete treatment. Teach client relationship of infection to PID.
Trichomoniasis Atrophic vaginitis (senile vaginitis)	Frothy, yellow or white, foul odor Thin, opaque discharge, occasionally blood tinged, odorless; pale, smooth, thin, dry vaginal walls	Burning and itching of vulva Painful intercourse, itching, vaginal dryness	Teach perineal hygiene. Counsel client on symptoms of menopause and sexual techniques to minimize trauma.

ferent virulence. *Candida* organisms are part of the normal vaginal environment in up to 50% of women (Porth, 2005), causing problems only when they multiply rapidly. When increased estrogen levels, antibiotics, diabetes mellitus, fecal contamination, or other factors alter the normal vaginal flora, the organism proliferates, resulting in a yeast infection. The manifestations include an odorless, thick, cheesy vaginal discharge. This is often accompanied by itching and irritation of the vulva and vaginadysuria, and dyspareunia (Figure 52–3 ■). Uncircumcised men may develop a yeast infection over the glans penis, manifested by itching and dysuria. The infection is treated with oral or intravaginal antifungal agents.



Figure 52–3 ■ Yeast infection on female genitalia.

### Trichomoniasis

**Trichomoniasis** is caused by *Trichomonas vaginalis*, a protozoan parasite. It is the most common curable STI in young, sexually active women. An estimated 7.4 million new cases occur each year in both men and women (CDC, 2004). Symptoms usually appear in 5 to 28 days of exposure. It most commonly infects the vagina in women and the urethra in men. Most men are asymptomatic, but when symptomatic may complain of dysuria and urethral discomfort. Women have a frothy, green-yellow vaginal discharge with a strong fishy odor, often accompanied by itching and irritation of the genitalia. A woman with HIV who becomes infected has an increased risk of transmitting HIV to her sex partner. Trichomoniasis is treated with a single oral dose of metronidazole or tinidazole.

## INTERDISCIPLINARY CARE

Interdisciplinary care focuses on identifying and eliminating the infection and preventing recurrence.

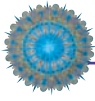
### Diagnosis

Diagnostic tests vary with the suspected organism. Cervical cultures are examined to diagnose the causative organism. *Trichomonas* is identified by microscopically examining a specimen of vaginal discharge in saline. Ten percent potassium hydroxide is used to identify spores and filaments of *Candida*. Diagnostic tests are described in Chapter 49 ∞.

### Medications

The pharmacologic treatment varies with the organism as previously described. The sexual partner of a woman with a trichomonas infection must also be treated to prevent reinfection. Some antifungal agents are available without prescription, which can lead to self-medication with the incorrect agent or allow repeated infections to go unreported.





## NURSING CARE

Nursing care focuses on teaching the client and, if necessary, her sexual partner to comply with the treatment regimen, use safer sex practices, and prevent future transmission of the infection. Careful history taking may also reveal high-risk sexual practices that require intervention, particularly if the client has had repeated infections. The initial presenting symptom for many HIV-positive women is vaginal candidiasis, which may not respond to over-the-counter treatments. Treatment with some antibiotics destroys normal vaginal flora, resulting in superinfection with yeast.

### Nursing Diagnoses and Interventions

Although each nursing care plan must be individualized, nursing diagnoses that often apply to clients with vaginal infections are deficient knowledge and acute pain.

#### Deficient Knowledge

Many women are unaware of the causes of vaginal infections and the self-care measures to prevent and treat these infections. If possible, both the woman and her sexual partner should be taught the information.

- Explain the transmission of the infection. Many infections are transmitted most easily during menstruation; some can also be transmitted by towels or other inanimate objects, or by certain types of sexual activity. *A frank discussion of disease transmission and prevention with the woman and her partner can reduce the risk of reinfection.*
- The need to complete the course of treatment. *Many infections are asymptomatic in one partner. Incomplete treatment allows for recurrence of the infection and reinfection of the partner.*

#### Acute Pain

The symptoms of vaginitis can include dysuria, painful excoriation or ulceration of tissue, and painful intercourse (**dyspareunia**). Often these symptoms can be relieved by relatively simple self-care measures. See Box 52–2 for additional comfort measures.

- Suggest the use of cool compresses. *Cool compresses relieve itching.*
- Recommend sitz baths to alleviate discomfort. *Sitz baths cleanse the perineal area and the warmth is soothing to inflamed, irritated skin and membranes.*
- Wear cotton underwear. *Cotton absorbs moisture and allows better air circulation than other types of material.*
- If infected with trichomonas avoid sexual contact until treatment is completed. *Treatment of the infected woman and her partner as well as sexual abstinence are necessary to facilitate healing and to prevent reinfection.*

### Community-Based Care

Teaching focuses on eradicating the infection, preventing further disease transmission, and relieving discomfort associated with the condition. Educating the client and her partner(s) about safer sex and improved genital hygiene practices can reduce the incidence of recurrence.

#### BOX 52–2 Self-Care Comfort Measures

- Do not wear panty hose; wear loose fitting pants or skirts.
- Double-rinse underwear; do not use fabric softener on underwear.
- Do not use bubble bath, perfumed soaps, or feminine hygiene products.
- Use 100% cotton menstrual pads and tampons.
- Use white, unscented toilet paper.
- Use a water-soluble lubricant for intercourse.
- Apply ice or a frozen blue gel pack wrapped in a towel to the vulva after intercourse to relieve burning.
- Rinse vulva with cool water after voiding and intercourse.

## THE CLIENT WITH CHLAMYDIA

**Chlamydia** are a group of STIs, caused by *Chlamydia trachomatis*, a bacterium that behaves like a virus, reproducing only within the host cell. The bacterium is spread by any sexual contact and to the neonate by passage through the birth canal of an infected mother. The infections caused by chlamydia include acute urethral syndrome, nongonococcal urethritis, mucopurulent cervicitis, and PID.

Chlamydia is the most commonly reported bacterial STI in the United States, affecting an estimated 2 to 3 million people each year (CDC, 2004). Of that number, three of every four reported cases occurred in people under age 25. Risk factors for chlamydia are listed in Box 52–3.

Because chlamydia is asymptomatic in most women until the uterus and fallopian tubes have been invaded, treatment may be delayed, resulting in devastating long-term complications. Nearly a third of men with urethral chlamydia are also asymptomatic. Chlamydia is a leading cause of preventable blindness in the newborn.

### Pathophysiology

*Chlamydia trachomatis* is an intracellular bacterial pathogen that resembles both a virus and a bacteria. The organism enters the body as an elementary body, a form in which it is capable of entering uninfected cells. The infection begins when the organism enters a cell and changes into a reticulate body. The reticulate body divides within the cell, bursting the cell and infecting adjoining cells.

### Manifestations

The incubation period is from 1 to 3 weeks; however, chlamydia may be present for months or years without producing no-

#### BOX 52–3 Risk Factors for Chlamydial Infection

- Personal or partner history of STI
- Pregnancy
- Adolescent sexual activity
- Oral contraceptive use
- Unprotected sexual activity
- Multiple sexual partners

ticeable symptoms in women. Chlamydia typically invades the same target organs as gonorrhea (cervix and male urethra) and results in similar manifestations (dysuria, urinary frequency, and discharge). Clients may be asymptomatic; however, they are still potentially infectious.

## Complications

If a chlamydial infection in women is not treated, it ascends into the upper reproductive tract, causing such complications as PID, which includes endometritis and salpingitis. Chronic pelvic pain may result. These infections are a major cause of infertility and ectopic pregnancy, a potentially life-threatening disorder in women. Complications of chlamydial infections in men include epididymitis, prostatitis, sterility, and Reiter's syndrome. Routine screening for sexually active adolescents and young adults has been suggested by the CDC to minimize these serious complications in asymptomatic people (Porth, 2005).

## INTERDISCIPLINARY CARE



*C. trachomatis* is treated with medications to eradicate the infection. Its prevalence, particularly in younger populations, makes widespread screening necessary if the disease is to be controlled. Because chlamydia is often asymptomatic, treatment is often begun on a presumptive basis.

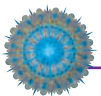
### Diagnosis

The diagnostic tests that may be ordered include Gram stain of discharge from the female endocervix and urethra or from the male urethra to look for poly-morphonuclear leukocytes (considered evidence of infection).

Tests for antibodies to chlamydia such as the direct fluorescent antibody (DFA) test and an enzyme-linked immunosorbent assay (ELISA), as well as polymerase chain reaction (PCR) or ligase chain reaction (LCR) tests, are highly sensitive and specific tests performed on cervical and urethral swab specimens. However, nucleic acid amplification tests (NAATs), also performed on cervical and urethral swab specimens, have become the diagnostic method of choice (Porth, 2005).

### Medications

The antibiotic recommended by the CDC for chlamydial infections in men and nonpregnant women is azithromycin (Zithromax), orally in a single dose, or doxycycline (Adoxa, Apo-Doxy), orally for 7 days. Both sexual partners must be treated at the same time or prior to resuming sexual intercourse.



## NURSING CARE

Nursing care of the client with chlamydia focuses on eradication of the infection, prevention of future infections, and management of any chronic complications. Nursing diagnoses for the client with chlamydia are the same as for clients with any STI. Interventions are similar to those discussed later in the chapter for gonorrhea and previously for genital herpes.

## Community-Based Care

Health teaching for the client with chlamydia centers on the need to comply with the treatment regimen, refer partners for examination and necessary treatment, and the use of condoms to avoid reinfection. If the infection has progressed to PID (discussed later), the client needs additional information on self-care and health promotion. The CDC recommends annual screening for chlamydia for clients who are young, sexually active, and do not use condoms correctly with every act of sexual intercourse.

## THE CLIENT WITH GONORRHEA

**Gonorrhea**, also known as “GC” or “the clap,” is caused by *Neisseria gonorrhoeae*, a gram-negative diplococcus. Gonorrhea is the most common *reportable* communicable disease in the United States. The CDC (2004) estimates that approximately 700,000 new cases occur annually, with the rate of reported gonorrhea increasing.

Gonorrhea rates for African Americans are 30% higher than for non-Hispanic whites. Other risk factors include residence in large urban areas, being transients, early onset of sexual activity, multiple serial or consecutive sex partners, drug use, prostitution, and previous gonorrheal or concurrent STI infection.

### Pathophysiology

The causative organism of gonorrhea is a pyogenic (pus-forming) bacteria that causes inflammation characterized by purulent exudate. Humans are the only host for the organism. Gonorrhea is transmitted by direct hetero- and homosexual intercourse and during delivery as the neonate passes through the birth canal. The portal of entry can be the genitourinary tract, eyes, oropharynx, anorectum, or skin. The incubation period is 2 to 7 days after exposure. The organism initially targets the female cervix and the male urethra. Without treatment, the disease ultimately disseminates (spreads widely) to other organs. In men, gonorrhea can cause acute, painful inflammation of the prostate, epididymis, and periurethral glands and can lead to sterility. In women, it can cause PID, endometritis, salpingitis, and pelvic peritonitis.

### Manifestations

Manifestations of gonorrhea in men include dysuria and serous, milky, or purulent discharge from the penis. Some men also experience regional lymphadenopathy. About 20% of men and 80% of women remain asymptomatic until the disease is advanced. Women with symptoms experience dysuria, urinary frequency, abnormal menses (increased flow or dysmenorrhea), increased vaginal discharge, and dyspareunia.

Anorectal gonorrhea is seen most often in homosexual men. The manifestations include pruritus, mucopurulent rectal discharge, rectal bleeding and pain, and constipation. Gonococcal pharyngitis occurs primarily in homosexual or bisexual men or heterosexual women after oral sexual contact (fellatio) with an infected partner. The manifestations include fever, sore throat, and enlarged lymph glands.



## Complications

The complications of untreated gonorrhea in both men and women may be permanent and serious. They include:

- PID in women, leading to internal abscesses, chronic pain, ectopic pregnancy, and infertility
- Blindness, infection of joints, and potentially lethal infections of the blood in the newborn, contracted during delivery
- Epididymitis and prostatitis in men, resulting in infertility and dysuria
- Spread of the infection to the blood and joints
- Increased susceptibility to and transmission of HIV.

## INTERDISCIPLINARY CARE



The goals of treatment for the client with gonorrhea include eradication of the organism and any coexisting disease, and prevention of reinfection or transmission. It is important to emphasize the importance of taking all medications as prescribed and abstaining from sexual contact until the infection is cured in both client and partners. Condom use to prevent future infections is essential, particularly for pregnant women whose partners may be infected.

### Diagnosis

Diagnosis of gonorrhea is based on cultures from the infected mucous membranes (cervix, urethra, rectum, or throat), examination of urine from an infected person, and a Gram stain to visualize the bacteria under the microscope. Testing for other STIs (especially chlamydia and syphilis) at the same time is recommended. Pregnant women are routinely screened during their first prenatal visit. Diagnostic tests are described in Chapter 49 ∞.

### Medications

Because of the many penicillin-resistant strains of *N. gonorrhoeae*, an alternative antibiotic, such as ciprofloxacin (Cipro) or ofloxacin (Floxin), is used to treat gonorrhea. Fluoroquinolone therapy (such as with ciprofloxacin or levofloxacin) is often prescribed because it is inexpensive, oral, and single dose. However, because of increased prevalence of fluoroquinolone-resistant *N. gonorrhoeae* in Asia, the Pacific Islands, and California, this therapy is no longer recommended for use in treating gonorrhea in those areas. A single dose of oral azithromycin (Zithromax) or a 7-day course of oral doxycycline (Vibramycin, Vivox) usually is added to treat any coexisting chlamydial infection. All sexual partners within 60 days before diagnosis of the infection also need to be treated.



## NURSING CARE

In planning and implementing care for the client with gonorrhea, the nurse considers the possible coexistence of other STIs such as syphilis and HIV, the impact of the disease and its treatment on the client's lifestyle, and the likelihood of noncompliance. A Nursing Care Plan for the client with gonorrhea is on page 1847.

## Nursing Diagnoses and Interventions

Nursing diagnoses discussed in this section focus on noncompliance and impaired social interaction.

### Noncompliance

Although one-time treatment with the recommended antibiotic is highly effective in curing gonorrhea, noncompliance with the doxycycline regimen may leave any coexisting chlamydial infection unresolved. Noncompliance with recommendations for abstinence, follow-up, or condom use fosters a high rate of reinfection. Failure to refer partners for examination and treatment also leads to reinfection.

- Reinforce the need to take all medications as directed and keep follow-up appointments to be sure no reinfection has occurred. Discuss the prevalence of gonorrhea and the potential complications if it is not cured. *The client who understands the complications of incomplete or failed treatment is more likely to comply with the medication regimen.*
- Discuss the importance of sexual abstinence until the infection is cured, referral of partners, and condom use to prevent reinfection. *Understanding that cure is possible and reinfection is avoidable helps the client cope with the disease and its treatment and is likely to increase compliance*
- Explain to women that condoms must be used during treatment, even if other methods of birth control are used. *Oral contraceptives increase the alkalinity of the vaginal pH, facilitating the growth of the gonococcal bacteria, and intrauterine devices alter the endometrial barrier, favoring persistent gonococcal infections (Blair, 2004).*

### Impaired Social Interaction

Diagnosis of any STI can make clients feel “dirty,” ashamed, and guilty about their sexual behaviors, and unworthy to be with others.

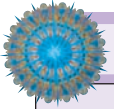
- Provide privacy, confidentiality, and a safe, nonjudgmental environment for expression of concerns. Help the client understand that gonorrhea is a consequence of sexual behavior, not a punishment, and that it can be avoided in the future. *Being treated with respect and privacy helps the client realize that the disease does not change an individual's worth as a person. This knowledge enhances the client's ability to relate to others.*

## Community-Based Care

Health teaching focuses on helping clients understand the importance of (1) taking any and all prescribed medication, (2) referring sexual partners for evaluation and treatment, (3) abstaining from all sexual contact until the client and partners are cured, and (4) using a condom to avoid transmitting or contracting infections in the future. Clients also need to understand the need for a follow-up visit 4 to 7 days after treatment is completed.

## THE CLIENT WITH SYPHILIS

**Syphilis** is a complex systemic STI caused by the spirochete *Treponema pallidum*, and it can infect almost any body tissue or organ. It is transmitted from open lesions during any sexual



## NURSING CARE PLAN A Client with Gonorrhea

Janet Cirit, a 33-year-old legal secretary, lives in a suburban Midwestern community. She is unmarried but dating a man named Jim Adkins, who lives in an adjacent suburb. Ms. Cirit visits her gynecologist because her periods have become irregular and she is experiencing pelvic pain and an abnormal amount of vaginal discharge. Recently she has developed a sore throat. The pelvic pain has begun to disrupt her sleeping pattern, and she is concerned that she might have cancer because her mother recently died of ovarian cancer.

### ASSESSMENT

When Ms. Cirit arrives for her appointment at the gynecologist's office, Marsha Davidson, the nurse practitioner, interviews her. Ms. Davidson completes a thorough medical and sexual history, including questions about her menstrual periods, pain associated with urination or sexual intercourse, urinary frequency, most recent Pap smear, birth control method, history of STI and drug use, and types of sexual activity. Ms. Cirit reports her symptoms and her concern about ovarian cancer. She also indicates that she is taking oral contraceptives and therefore sees no need for her boyfriend to use a condom because she believes their relationship is monogamous.

Physical examination reveals both pharyngeal and cervical inflammation, and lower abdominal tenderness. Her temperature is 98.5°F (37.0°C). There are no signs or symptoms of pregnancy.

The gynecologist orders a Pap smear and cultures of the cervix, urethra, and pharynx to evaluate for gonorrhea and chlamydial infection. Blood is drawn for WBC. Test results are positive for gonorrhea and negative for chlamydia. The WBC is slightly elevated, indicating possible salpingitis. Because Mr. Adkins has been Ms. Cirit's only sexual partner, it is clear that he is the source of infection and needs to be treated as well.

### DIAGNOSES

- *Acute Pain* related to the infectious process
- *Anxiety* related to fear about possible cancer
- *Situational Low Self-Esteem* related to shame and guilt because of having an STI

- *Ineffective Sexuality Patterns* related to the impaired relationship and fear of reinfection

### EXPECTED OUTCOMES

- Experience relief of pain, indicating that the infection has been eradicated.
- Verbalize that she has nothing to be ashamed of and that she has been wise to seek treatment as soon as symptoms occurred.
- Verbalize that she will insist her partner use condoms during future sexual activity.

### PLANNING AND IMPLEMENTATION

- Administer ceftriaxone IM as ordered.
- Emphasize the need for regular Pap smears and pelvic examinations because of the family history of ovarian cancer.
- Discuss feelings and concerns about the diagnosis of gonorrhea. Stress that such a diagnosis does not reflect on one's self-worth as a person.
- Teach how to talk with a future sexual partner about condom use.

### EVALUATION

A week later during her follow-up visit. Ms. Cirit states that she is feeling much better and sleeping well at night since the pain has ended. She has terminated her relationship with Mr. Adkins and is considering joining a health club in the hope of increasing her level of fitness and perhaps meeting someone new.

### CRITICAL THINKING IN THE NURSING PROCESS

1. How are Ms. Cirit's manifestations related to the infectious process of gonorrhea?
2. Should the nurse have suggested that Ms. Cirit also be tested for HIV? Why or why not?
3. Develop a care plan for Ms. Cirit for the nursing diagnosis *Impaired Social Interaction*.

*See Evaluating Your Response in Appendix C.*

contact (genital, oral–genital, or anal–genital). The organism is highly susceptible to heat and drying, but can survive for days in fluids; thus, it may also be transmitted by infected blood or other body fluid such as saliva. The incubation period ranges from 10 to 90 days, averaging 21 days. If not treated appropriately, syphilis can lead to blindness, paralysis, mental illness, cardiovascular damage, and death. Syphilis often occurs with one or more other STIs, such as HIV/AIDS or chlamydial infection.

Although in 1996 the rate of syphilis infection reached its lowest level in many years, it remains a significant problem in certain geographic regions, and among specific populations such as African Americans. Rates also remain high in many urban centers, with higher infection rates found in drug users, transients, and the homeless. The incidence of primary and secondary syphilis is highest in people 20 to 39 years of age, with the incidence in women decreasing. However, the rate of syphilis among men having sex with men (MSM) is increasing (CDC, 2004).

## Pathophysiology

Any break in the skin or mucous membrane is vulnerable to invasion by the spirochete. Once it has entered the system, the spirochete is spread through the blood and lymphatic system. Congenital syphilis is transferred to the fetus through the placental circulation.

## Manifestations

Syphilis is generally characterized by three clinical stages: primary, secondary, and tertiary. Each stage has characteristic manifestations (see the box on page 1848). The client with syphilis also may experience a latency period when no signs of the disease are evident.

### Primary Syphilis

The primary stage of syphilis is characterized by the appearance of a **chancre** (Figure 52–4 ■) and by regional enlargement of lymph nodes; little or no pain accompanies these warning signs. The chancre appears at the site of inoculation (such as the genitals,

## MANIFESTATIONS of Syphilis

### REPRODUCTIVE

#### Primary

- Genital chancre (may be internal in female)

#### Secondary

- Condyloma lata

### INTEGUMENTARY SYSTEM

#### Secondary

- Rash on palms of hands and soles of feet

#### Tertiary

- Granulomatous lesions involving mucous membranes and skin

### GASTROINTESTINAL SYSTEM

#### Secondary

- Anorexia
- Oral mucous patches

### NEUROLOGIC SYSTEM

#### Secondary

- Asymptomatic
- Meningitis
- Headache
- Cranial neuropathies

#### Tertiary

- Asymptomatic
- Tabes dorsalis
- Neurosyphilis
- Seizures, hemiparesis, hemiplegia
- Personality changes, hyperactive reflexes, Argyll Robertson pupil, decreased memory, slurred speech, optic atrophy

### MUSCULOSKELETAL SYSTEM

#### Secondary

- Arthralgia
- Myalgia
- Bone and joint arthritis
- Periostitis

#### Tertiary

- Gummas

### CARDIOVASCULAR SYSTEM

#### Tertiary

- Aortic insufficiency
- Aortic aneurysm
- Stenosis of openings to coronary arteries

### RENAL SYSTEM

#### Secondary

- Glomerulonephritis
- Nephrotic syndrome

### OTHER

#### Primary

- Regional lymphadenopathy

#### Secondary

- Generalized lymphadenopathy
- Fever
- Malaise
- Hepatitis
- Alopecia

anus, mouth, breast, fingers) 3 to 4 weeks after the infectious contact. In women, a genital chancre may go unnoticed, disappearing within 4 to 6 weeks. In both primary and secondary stages, syphilis remains highly infectious, even if no symptoms are evident.

### Secondary Syphilis

Manifestations of secondary syphilis may appear any time from 2 weeks to 6 months after the initial chancre disappears. These symptoms can include a skin rash, especially on the palms of the hands or soles of the feet, mucous patches in the oral cavity; sore throat; generalized lymphadenopathy; condyloma lata (flat, broad-based papules, unlike the pedunculated structure of geni-



**Figure 52–4** ■ Chancre of primary syphilis on the penis.

Source: Biophoto Associates/Photo Researchers, Inc.

tal warts) on the labia, anus or corner of the mouth; flulike symptoms; and alopecia. These manifestations generally disappear within 2 to 6 weeks, and an asymptomatic latency period begins.

### Latent and Tertiary Syphilis

The latent stage of syphilis begins 2 or more years after the initial infection and can last up to 50 years. During this stage, no symptoms of syphilis are apparent, and the disease is not transmissible by sexual contact. It can be transmitted by infected blood, however; thus, all prospective blood donors must be screened for syphilis. In two-thirds of all cases, the latent stage persists without further complications. Unless treated, the remaining one-third of infected people progress to late-stage or tertiary syphilis. In the presence of HIV infection, disease progression seems to be more rapid.

Two types of late-stage syphilis occur. Benign late syphilis, of rapid onset, is characterized by localized development of infiltrating tumors (*gummas*) in skin, bones, and liver, generally responding promptly to treatment. Of more insidious onset is a diffuse inflammatory response that involves the central nervous system and the cardiovascular system. Though the disease can still be treated at this stage, much of the cardiovascular and central nervous system damage is irreversible.

### INTERDISCIPLINARY CARE

The goals of treatment are to inactivate the spirochete and educate the client about how to prevent reinfection or further transmission. Treatment includes antibiotic therapy and identi-

fication and referral of partners for testing and treatment if necessary, follow-up testing, and education about condom use to prevent reinfection of self and transmission of disease to partners. In addition, clients should be screened for chlamydial infection and advised to have an HIV test.

## Diagnosis

Diagnosis of syphilis is complex because it mimics many other diseases. A careful history and physical examination are obtained, as well as laboratory evaluations of lesions and blood. Diagnostic tests are described in Chapter 49 ∞.

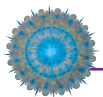
The VDRL (Venereal Disease Research Laboratory) and RPR (rapid plasma reagin) blood tests measure antibody production. People with syphilis become positive about 4 to 6 weeks after infection. However, these tests are not specific for syphilis, and other diseases may also cause positive results. Additional tests are required for definitive diagnosis.

The FTA-ABS (fluorescent treponemal antibody absorption) test is specific for *T. pallidum* and can be used to confirm VDRL and RPR findings. It may be used for clients whose clinical picture indicates syphilis but who have negative VDRL results. In immunofluorescent staining a specimen is obtained from early lesions or aspiration of lymph nodes and is specially treated and examined microscopically for the presence of *T. pallidum*. Darkfield microscopy involves examining a specimen from the chancre for the presence of *T. pallidum* using a darkfield microscope.

## Medications

The treatment of choice for all stages of syphilis in adults is penicillin G, given intramuscularly (IM) in a single dose. Clients allergic to penicillin are given oral doxycycline or tetracycline for 28 days.

Treatment of syphilis may result in a severe reaction called the *Jarisch-Herxheimer reaction*, involving fever, musculoskeletal pain, tachycardia, and sometimes hypotension. This is not a reaction to the penicillin itself, but to the sudden and massive destruction of spirochetes by the penicillin and the resulting release of toxins into the bloodstream. The Jarisch-Herxheimer reaction generally begins within 24 hours of treatment and subsides in another 24 hours. Treatment should not be discontinued unless symptoms become life threatening.



## NURSING CARE

In planning and implementing nursing care for the client with syphilis, the nurse needs to consider the client's age, lifestyle, access to health care, and educational level. Although each client has individualized needs, nursing diagnoses for the client with syphilis would be the same as for any client with an STI. A Nursing Care Plan for a client with syphilis is on the next page.

## Nursing Diagnoses and Interventions

Nursing diagnoses discussed in this section focus on risk for injury, anxiety, and self-esteem.

## Risk for Injury

If syphilis is not diagnosed and treated promptly and effectively, it can have devastating effects on all body systems, particularly the neurologic and cardiovascular systems, eventually leading to a painful death.

- Teach the importance of taking any prescribed medication. *Taking the prescribed antibiotic is important to ensure eradication of the infecting organism.*
- Encourage referral of any sexual partners for evaluation and any necessary treatment. *Without treatment of both partners, reinfection can occur or the disease may be transmitted to other people through sexual activity.*
- Teach abstinence from sexual contact until client and partners are cured and to use condoms to prevent future infections. *Abstinence until the organism is eradicated prevents reinfection. Condoms provide barrier protection, reducing the risk of infection during sexual activity.*
- Emphasize the importance of returning for follow-up testing at 3- and 6-month intervals for early syphilis, and 6- and 12-month intervals for late latent syphilis. *Follow-up testing is performed to ensure eradication of the disease.*
- Provide information about manifestations of reinfection. *Successful treatment of the disease does not prevent possible subsequent infections.*

## Anxiety

The diagnosis of syphilis understandably causes the client anxiety, not only about personal well-being but about the well-being of partners and, in the expectant woman, her fetus.

- Emphasize that syphilis can be effectively treated, preventing the serious complications of late-stage disease. *This information provides a sense of control and helps decrease anxiety.*
- Teach the pregnant client that taking medications as directed and returning each month for follow-up testing will help ensure the well-being of her baby. *Knowing that treatment can reduce the risk to her baby relieves anxiety and possibly increases compliance.*

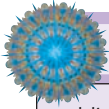
## Low Self-Esteem

Living with any chronic disease can be damaging to a person's self-esteem. However, the client with syphilis needs additional support to cope with the stigma of this kind of infection. Unfortunately, the populations most affected by STIs often lack family and other social support networks.

- Create an environment where the client feels respected and safe to discuss questions and concerns about the disease and its effect on the client's life. *Being treated with respect helps enhance self-esteem.*
- Provide privacy and confidentiality. *Clients are often embarrassed to discuss the intimate details of their sex lives.*
- Let clients know that the nurse and other healthcare providers care about them and the successful treatment of their disease. *Feeling valued enhances self-esteem.*

## Community-Based Care

Education is an essential part of nursing care for the client with any STI, and syphilis is no exception. The nurse emphasizes that



## NURSING CARE PLAN A Client with Syphilis

Eddie Kratz, age 22, works as bellman at a large hotel. For the past year, he has shared a small apartment with Maria Jones, who is 5 months pregnant with his child. Although he intends to marry Ms. Jones before the baby is born, he has continued a previous relationship with a woman named Justine Simpson. His sexual activities with Ms. Simpson have increased in frequency as Ms. Jones's pregnancy has advanced. Recently Mr. Kratz has noticed a swelling in his groin and a sore on his penis.

### ASSESSMENT

When Mr. Kratz comes to the community clinic, he is interviewed by the NP, Sally Morovitz. She takes a thorough medical and sexual history, including questions about drug use, allergies, difficulty with urination, urinary frequency, itching or discharge from the penis, recent sexual activities, precautions taken against infection, history of STIs, and sexual function. She determines that Mr. Kratz has been having unprotected sex with both Ms. Jones and Ms. Simpson. He believes that Ms. Jones is not having sex with anyone except him, but he is not sure.

Physical assessment reveals a classic syphilitic chancre on the shaft of the penis and regional lymphadenopathy. A specimen of exudates from the chancre is sent for darkfield examination. Ms. Morovitz discusses with Mr. Kratz the likelihood that he has syphilis and the need to tell both Ms. Jones and Ms. Simpson so that they can be tested and, if necessary, treated. Ms. Morovitz also suggests that Mr. Kratz be tested for HIV since he has been having unprotected sex with two women, at least one of whom may be sexually active with other partners. He agrees, and blood is drawn for an ELISA test. Darkfield analysis of the chancre exudate confirms the diagnosis of syphilis; the ELISA results are negative for HIV.

### DIAGNOSES

- *Risk for Injury* to the client, his partners, and the infant, related to the disease process
- *Ineffective Health Maintenance* related to a lack of knowledge about the disease process, its transmission, and the need for treatment
- *Interrupted Family Processes* related to the effects of the diagnosis of syphilis on the couple's relationship
- *Anxiety* related to the effects of the infection on the unborn child

### EXPECTED OUTCOMES

- Prompt treatment will cure the syphilis.

- Verbalize understanding for the need to abstain from sexual contact during treatment, complete all medications, return for follow-up visits, and use condoms to prevent reinfection.
- Verbalize ability to cope with the effect of diagnosis and treatment on the relationship.
- Verbalize decreased anxiety following education and treatment.

### PLANNING AND IMPLEMENTATION

- Administer IM injection of penicillin G as ordered.
- Discuss the importance of abstaining from sexual activity until he and his partners are cured, and of using condoms to prevent reinfection.
- Explain the need to return for follow-up testing in 3 months and again at 6 months. Provide a copy of the STI prevention checklist, and document that reminders need to be sent at 3- and 6-month intervals.
- Notify sexual partners that they need to come to the clinic for testing.
- Refer to a social worker for counseling about the effect of the disease on their relationship.
- Teach the couple about the importance of treatment to the health of their infant.

### EVALUATION

At the 3-month follow-up visit, the chancre on Mr. Kratz's penis has healed, and he reports that he is using a condom any time he has sex. Ms. Jones has also tested positive for syphilis and negative for HIV, so she, too, is given penicillin G, and verbal and written follow-up instructions, including follow-up until the infant is born. The couple is meeting every other week with the social worker and say that their relationship is improving. Ms. Simpson has received similar test results and is given a prescription for doxycycline because she is allergic to penicillin.

### CRITICAL THINKING IN THE NURSING PROCESS

1. What manifestations might a client with early syphilis experience?
2. List some appropriate questions for taking a sexual history when you suspect the presence of one or more STIs.
3. How might you counsel Mr. Kratz to help him break the news of the diagnosis to Ms. Jones?

*See Evaluating Your Response in Appendix C.*

syphilis is a chronic disease that can be spread to others even though no symptoms are evident. Address the following topics:

- Taking all prescribed medication
- Referring sexual partners for evaluation and treatment
- Abstaining from all sexual contact as recommended by CDC guidelines
- Using a condom to avoid transmitting or contracting infections in the future
- The need for follow-up testing (at 3 and 6 months for clients with primary or secondary syphilis, and at 6 and 12 months for those with late-stage disease). If clients are HIV positive,

follow-up visits are recommended 1, 2, 3, 6, 9, and 12 months after treatment.

## THE CLIENT WITH PELVIC INFLAMMATORY DISEASE

**Pelvic inflammatory disease (PID)** is a term used to describe infection of the pelvic organs, including the fallopian tubes (*salpingitis*), ovaries (*oophoritis*), cervix (*cervicitis*), endometrium (*endometritis*), pelvic peritoneum, and the pelvic vas-

cular system. PID can be caused by one or more infectious agents, including *Neisseria gonorrhoeae*, *Chlamydia trachomatis*, *Escherichia coli*, and *Mycoplasma hominis*. *N. gonorrhoeae* and *C. trachomatis* are responsible for as much as 80% of PID; dual infection with both agents is common.

PID is not a reportable disease in the United States; however, it is estimated that about 1 million women experience PID each year. As a result of the infection, more than 100,000 women become infertile and a large proportion of the ectopic pregnancies occurring each year are the result of PID (CDC, 2004). The disease may also cause pelvic abscesses and chronic abdominal pain.

Sexually active women ages 16 to 24 years are most at risk. Risk factors include a history of sexually transmitted infection (especially gonorrhea and chlamydia), bacterial vaginosis, multiple sexual partners, douching, and previous PID. Barrier contraceptive devices such as condoms reduce the risk of PID.

The prognosis depends on the number of episodes, promptness of treatment, and modification of risk-taking behaviors. Prevention includes educating women, especially young women, regarding the causes and transmission of infection and methods of self-protection, such as avoiding unprotected sexual activity.

## Pathophysiology

Pelvic inflammatory disease is usually polymicrobial (caused by more than one microbe) in origin, with gonorrhea and chlamydia being common causative organisms. Pathogenic microorganisms enter the vagina and travel to the uterus during intercourse or other sexual activity. They can also gain direct access to the uterus during childbirth, abortion, or surgery of the reproductive tract. The organisms ascend from the endocervical canal to the fallopian tubes and ovaries.

## Manifestations

Manifestations of PID include fever, purulent vaginal discharge, severe lower abdominal pain, and painful cervical movement. However, the manifestations may be so mild that the infection is not recognized.

## Complications

Complications include pelvic abscess, infertility, ectopic pregnancy, chronic pelvic pain, pelvic adhesions, dyspareunia, and chronic pelvic pain. Abscess formation is common.

## INTERDISCIPLINARY CARE

The goals of treatment are to eliminate the infection and prevent complications and recurrence. The physical examination may reveal abdominal, adnexal, and cervical pain.

### Diagnosis

Tests used in the diagnosis of PID may include a CBC with differential, which will show a markedly elevated WBC, and an increased sedimentation rate. If a laparoscopy or laparotomy is done, it may reveal inflammation, edema, or hyperemia of the

fallopian tubes, or tubal discharge and, possibly, generalized pelvic involvement, abscesses, and scarring.

### Medications

Combination antibiotic therapy with at least two broad-spectrum antibiotics administered IV or orally is the typical treatment for PID. If PID is not acute, outpatient antibiotic therapy is prescribed. In acute cases, however, the client may be hospitalized. Analgesics are given, and antibiotics and fluids are administered intravenously. Commonly prescribed antibiotics include parental cefoxitin (Mefoxin), or clindamycin (Cleocin), plus gentamicin (Garamycin) or doxycycline (Vibramcin). Nursing implications for antibiotics are discussed in Chapter 12 ∞.

### Surgery

The surgeon may insert a drain into an abscess, if present, and remove any adhesions. If the client does not respond to conservative therapy, surgical removal of the uterus, fallopian tubes, and ovaries may be necessary.



## NURSING CARE

The goals of nursing care are to treat the infection and to prevent complications, such as scarring and infertility. The client who is hospitalized maintains bed rest in the semi-Fowler's position to promote drainage and to localize the infectious process in the pelvic cavity.

## Nursing Diagnoses and Interventions

Nursing diagnoses that apply to the client with PID include a risk for injury and deficient knowledge.

### Risk for Injury

PID can have severe, even life-threatening, complications. Scarring of fallopian tubes can lead to ectopic pregnancy or pelvic abscess. Infertility is a common complication, as are recurrent or chronic PID, chronic abdominal pain, pelvic adhesions, premature hysterectomy, and depression. The woman who has severe infection and manifestations may be hospitalized for treatment.

- Administer antibiotic therapy as ordered, and monitor closely for adverse effects. *Antibiotics used in acute PID are potent agents; some can have serious side effects.*
- Practice thorough hand washing and strict adherence to universal precautions when handling perineal pads and linens. Appropriate disinfection of bedpans, toilet seats, linens, and utensils is also important. *These practices help avoid disseminating the infection to others.*

### Deficient Knowledge

PID is most common in young women, who often do not understand their own anatomy and physiology or sexually transmitted infections. Diagnosis and treatment of PID offer an opportunity to increase that understanding, thereby preventing complications and recurrent infection.

- Explain how infection is spread and what measures to take to prevent future infection. *Understanding can improve compliance with treatment regimens and perhaps change high-risk behavior.*



- Explain the need to complete the treatment regimen and the importance of follow-up visits. If the client or partner fails to take all of the medication as prescribed, the infection may not be completely cured. *Noncompliance and recurrence are common, particularly if follow-up appointments are not kept.*
- Teach proper perineal care, especially wiping from front to back. *This reduces transmission of fecal organisms to reproductive tissues and reduces the incidence of urinary tract infections.*
- Caution the client about using tampons. Instruct the client to change tampons or pads at least every 4 hours. *Menstrual flow and other discharges provide a favorable environment for microorganisms to multiply.*
- Provide information about safer sex practices and family planning. Instruct the client to remove diaphragms within 6

hours after use. IUDs are contraindicated. Latex condoms offer the most effective protection against infection. *These measures help prevent recurrence of infection.*

- Teach the client to report any unusual vaginal discharge or odor to the healthcare provider. *Treatment is most effective early in the disease process.*

## Community-Based Care

Provide general information related to sexually transmitted infections. Teach measures to eradicate the infection and prevent recurrence, and help the client deal with the physical and psychosocial implications of treatment, including possible infertility. Inform the client that the patency of the fallopian tubes can be evaluated after several menstrual cycles; this delay allows for complete resolution of the inflammatory process.

## EXPLORE MEDIA LINK

### Prentice Hall Nursing MediaLink DVD-ROM



Audio Glossary  
NCLEX-RN® Review

#### Animation

Gonorrhea

### COMPANION WEBSITE [www.prenhall.com/lemone](http://www.prenhall.com/lemone)



Audio Glossary  
NCLEX-RN® Review  
Care Plan Activity: Gonorrhea  
Case Studies  
*Pelvic Inflammatory Disease*  
*Syphilis*  
Teaching Plans  
*Risk of Cancer with HPV*  
*Singles and Safer Sex*  
MediaLink Applications  
*HPV*  
*HPV Prevention*  
Links to Resources



## CHAPTER HIGHLIGHTS

- Sexually transmitted infections (STIs) are infections transmitted by sexual contact, including vaginal, oral, and anal intercourse. STIs affect women and infants more than men, and are more common in people who have multiple sex partners, abuse drugs, and are of lower socioeconomic status.
- STIs can coexist in the same person and can be transmitted by either heterosexual or homosexual sexual contact. Effective treatment mandates that both sex partners be treated. Most STIs can be prevented by using latex condoms.
- Genital herpes, caused by an infection with an HSV virus, is a commonly occurring STI in teens and young adults. There is no cure and treatment is primarily symptomatic. Nursing care is directed toward relieving the pain of the lesions, mitigating sexual dysfunction, and relieving anxiety.
- Genital warts, caused by the human papilloma virus (HPV), are a chronic, incurable STI. They are manifested by warts of various forms, or may be present without manifestations. Infection with

HPV poses a major risk for cervical cancer. A vaccine against the virus is recommended.

- Urogenital infections include vaginal infections (bacterial vaginosis, candidiasis, and trichomoniasis), chlamydia, gonorrhea, syphilis, and pelvic inflammatory disease (PID).
- Chlamydia, occurring most in young adults under age 25, is a bacterial infection that can spread to the uterus and fallopian tubes in women, causing PID, infertility, and ectopic pregnancy. Untreated chlamydia in men may result in epididymitis, prostatitis, sterility, and Reiter's syndrome.
- Gonorrhea (caused by a bacteria) and syphilis (caused by a spirochete) affect both men and women, and may infect the newborn as it moves through the birth canal in an untreated woman. Syphilis, if untreated, exists in the body in three stages, with the third stage lasting up to 50 years. Both of these STIs are treated with antibiotics. Nursing care focuses on education, preventing injury from complications, relieving anxiety, and supporting self-esteem.

- PID is an infection of the female pelvic organs, and may be caused by one or more infectious agents. Sexually active young women between the ages of 16 and 24 are most at risk. The prognosis

depends on the number of episodes, promptness of treatment, and modification of risk-taking behaviors. The goals of nursing care are to treat the infection and prevent complications.

## TEST YOURSELF NCLEX-RN® REVIEW

- 1 Which population is most often affected by STIs?
  1. men
  2. women and infants
  3. adolescent males
  4. older adults
- 2 Which of the following statements would indicate a client understands teaching to treat an STI?
  1. "My sex partner and I must both take medications."
  2. "I know I can never have sex again."
  3. "I will douche after every sexual encounter with my partner."
  4. "My sex partner does not have an infection, so won't need medications."
- 3 You are teaching a male client information about using condoms to prevent STI. What topics would you include? (Select all that apply.)
  1. Use a new condom with each sex act.
  2. Ensure a small amount of air in the tip.
  3. Use oil-based lubricants, such as petroleum jelly.
  4. Handle carefully to ensure no damage.
  5. Withdraw when the penis is erect.
- 4 You are assessing a young male. He has both blisters and ulcerations on the shaft of his penis. What is his most likely medical diagnosis?
  1. chlamydia
  2. gonorrhea
  3. genital warts
  4. genital herpes
- 5 Of the following statements about genital warts, which one is **not** true?
  1. The infection is caused by a yeast organism.
  2. The infection can be spread by any type of intercourse.
  3. The infection may be transmitted to the fetus.
  4. The infection cannot be cured.
- 6 You are counseling a young woman with an HPV genital infection. What screening test would you recommend she have every year?
  1. breast exam and mammogram
  2. stool for occult blood
  3. CBC to detect anemia and infection
  4. pelvic exam and Pap smear
- 7 Which of the following manifestations would most commonly be elicited during a health history for a woman with a vaginal infection?
  1. pain
  2. itching
  3. nausea
  4. diarrhea
- 8 You are teaching a woman with an STI who has severe genital discomfort. What is one simple recommendation that may relieve the discomfort?
  1. Wear nylon panty hose.
  2. Cut fingernails short.
  3. Wear cotton underwear.
  4. Have sex more frequently.
- 9 The infective organism responsible for gonorrhea *initially* targets what body parts?
  1. male urethra and female cervix
  2. female vulva and vagina
  3. male prostate
  4. male and female external genitalia
- 10 Which of the following would you teach a client about syphilis?
  1. Syphilis is caused by a virus.
  2. Syphilis is a local genital infection.
  3. Syphilis is a systemic infection.
  4. Syphilis has no effect on the developing fetus.

See *Test Yourself answers in Appendix C.*

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# UNIT 15 BUILDING CLINICAL COMPETENCE

## Responses to Altered Reproductive Function

### Functional Health Pattern: Sexuality-Reproductive

- Think about clients with altered sexuality-reproductive patterns for whom you have cared in your clinical experiences.
  - What were the clients' major medical diagnoses (e.g., ED, cancer, epididymitis, prostatitis, BPH, PMS, dysmenorrhea, uterine displacement, endometriosis, STI)?
  - What manifestations did each of these clients have? Were these manifestations similar or different?
  - *For men:* Were there any changes in men in the ability to urinate or achieve or maintain an erection? Did they take any medications to facilitate sexual ability? Did the client have any family history of testicular or prostate cancer? Had they had more than one sexual partner? Had they ever had any sexually transmitted infections? Had the clients ever had surgery on the reproductive organs? Did they perform testicular self-examination?
  - *For women:* At what age did they start or end having menstrual periods? Did they complain of menstrual difficulties, vaginal itching, discharge, or bleeding between menstrual periods? Did they take prescribed medication or herbals for menopause? Did they have a family history of endometrial, ovarian, or breast cancer? When were the clients' last mammogram and gynecologic examination? Does the client perform breast self-examination? Had they had more than one sexual partner? Had they ever had any sexually transmitted infections? Had they ever had surgery on the reproductive organs?
- Male disorders may be inflammatory, structural, benign, or malignant. As men age, benign and malignant conditions of the prostate gland become common. Many of the disorders and treatments pose significant risks to fertility, sexual function, urinary function erection and ejaculation. Disorders of the male reproductive system lead to manifestations such as:
  - Phimosis (infection of the glans penis and prepuce ► causes tightness of prepuce ► resulting in prevention of retraction of foreskin).
  - Erectile dysfunction (aging, illness, injury, or medications ► cause a decrease in blood flow to the penis ► resulting in inability to attain or maintain an erection).
- Female disorders range from the minor discomfort of menstrual cramps to life-threatening diseases such as cancer. The disorders may affect sexual function and the sense of well-being as a woman. Disorders of the female reproductive system lead to manifestations such as:
  - Dysmenorrhea (excessive production of prostaglandins ► stimulates uterine muscle fibers to contract ► which compromises uterine blood flow ► resulting in uterine ischemia and pain)
  - PMS (hormonal changes involving estrogen, progesterone, prolactin, and aldosterone along with neurotransmitter changes involving monoamine oxidase and serotonin ► cause manifestations prior to the beginning of the menstrual period ► resulting in mood swings, breast tenderness, fatigue, irritability, food cravings, and depression).
- Clients who experience reproductive system changes and disorders require a holistic approach to meet their physical, emotional, and educational needs. Priority nursing diagnoses within the Sexuality-Reproductive Pattern that may be appropriate for clients include:
  - *Sexual Dysfunction* as evidenced by loss of sexual function, dyspareunia, vaginismus, inability to achieve or alterations in achieving desired sexual satisfaction
  - *Ineffective Sexuality Patterns* evidenced by difficulties or limitations in sexual behaviors, changes in sexual activities, expression of loss
- Two nursing diagnoses from other functional health patterns often are of high priority for the client with altered reproductive function:
  - *Disturbed Body Image* (Self-Perception-Self-Concept)
  - *Powerlessness* (Coping-Stress-Tolerance)

**Directions:** Read the clinical scenarios below and answer the questions that follow. To complete this exercise successfully, you will use not only knowledge of the content in this unit, but also principles related to setting priorities and maintaining client safety.

## CLINICAL SCENARIO

You have been assigned to work with the following four clients for the 0700 shift on a medical-surgical hospital unit. Significant data obtained during report are as follows:

- Daryl Foster, a 22-year-old, is admitted with a diagnosis of sickle cell crisis. Vital signs are T 99.6°F, P 84, R 10 and shallow, BP 140/86. He is complaining of chest pain, back pain, and priapism. He has a PCA with morphine sulfate for pain.
- Barney Green, a 76-year-old, is 3 days postoperative for transurethral resection of the prostate (TURP). Vital signs are T 98.7°F, P 82, R 16, BP 158/82. His urinary catheter was removed at 0600. He is complaining of dribbling of urine after attempting to void.

- Tara Morris is a 21-year-old newly admitted from the ED with complaints of severe lower abdominal pain, purulent vaginal discharge, and cervical pain on pelvic exam. Her vital signs are T 102.6°F, P 88, R 20, BP 110/70. She is to be started on ceftriaxone (Rocephin) and gentamicin (Garamycin) IV as soon as possible.
- Regina Perkins, a 36-year-old, has a history of uterine fibroids. She had a uterine fibroid embolization yesterday. Her vital signs have remained stable throughout the night. Her discharge is written and she is in a hurry to be discharged so her husband can get to work.

## Questions

- 1 In what order would you visit these clients after report?
  1. \_\_\_\_\_
  2. \_\_\_\_\_
  3. \_\_\_\_\_
  4. \_\_\_\_\_
- 2 What top two priority nursing diagnoses would you choose for each of the clients presented above? Can you explain, if asked, the rationale for your choices?
 

	Priority Nursing Diagnosis #1	Priority Nursing Diagnosis #2
Daryl Foster		
Barney Green		
Tara Morris		
Regina Perkins		
- 3 Mr. Foster asks the nurse about complications due to priapism because he often has this problem with sickle cell crises. Which complication does the nurse discuss with the client?
  1. severe phimosis
  2. erectile dysfunction
  3. penile cancer
  4. urinary retention
- 4 Mr. Green suddenly develops nausea and vomiting, BP is 170/100, P is 58, and he is confused. What is the probable cause of these manifestations?
  1. allergic reaction to the bladder irrigating fluid solution
  2. anxiety reaction to having prostate surgery
  3. absorption of isotonic bladder irrigating fluids
  4. hypovolemic shock complication of the surgery
- 5 Which of the following is most important to teach Ms. Morris about pelvic inflammatory disease?
  1. Take all medication as prescribed.
  2. Wipe from front to back after urinating.
  3. Use latex condoms when having sex.
  4. Change tampons or pads every 4 hours.
- 6 Prior to surgery, Ms. Perkins' hematocrit was 34% and hemoglobin was 10 g/dL. She was instructed to increase iron foods in her diet. Which foods are high in iron?
  1. beef, eggs, brown rice
  2. green, leafy vegetables, chicken
  3. fish, broccoli, kidney beans
  4. liver, cheese, asparagus
- 7 Which is a priority nursing diagnosis for a young female client with endometriosis?
  1. *Acute pain* as manifested by severe abdominal cramping
  2. *Deficient knowledge*: Complications of endometriosis
  3. *Decisional conflict*: Treatment plan options
  4. *Risk for Anxiety* related to loss of reproductive function
- 8 A prescription for tadalafil (Cialis) is ordered for a man with erectile dysfunction. The client indicates understanding of teaching instructions when he makes which statement?
  1. "I will take Cialis just before intercourse to increase my sex drive."
  2. "I will consult with the doctor before taking other medications."
  3. "I can take a second pill the same day if the first one doesn't work."
  4. "This pill will relieve all of my sex problems."
- 9 Which laboratory studies would you expect to be conducted to diagnose syphilis? (Select all that apply).
  1. VDRL
  2. Gram stain
  3. RPR
  4. DFA
  5. tissue culture
  6. FTA-ABS
- 10 Which instructions should be taught to the client who is receiving radiation therapy for prostate cancer?
  1. Eat more red meat to maintain protein for healing.
  2. Avoid close contact with pregnant women, infants, and children.
  3. Avoid sexual contact to prevent stress from dysfunction.
  4. Sleep alone for the first night after radiation therapy.
- 11 Which symptom would be most significant when assessing a client with possible cervical cancer?
  1. vaginal discharge
  2. weight loss
  3. pain in back and thighs
  4. vaginal bleeding
- 12 A sexually active woman is being treated for gonorrhea. Which method of birth control does the nurse tell her is safest to use?
  1. oral contraceptives
  2. intrauterine device
  3. condom
  4. estrogen patch

## Case Study



Eva Gibson, a 43-year-old married housewife with two children, had a routine annual mammogram that revealed a mass in the left breast. She has a family history of breast cancer with her mother and a maternal aunt having breast cancer. She was admitted to outpatient surgery for an incisional biopsy, with results of invasive lobular carcinoma. An MRI was performed, which indicated that four axillary glands have been infiltrated with cancer. She was admitted to the hospital and a modified radical mastectomy on the left side is performed. Postoperatively, she is admitted to the chemotherapy unit. Vital signs are T 98.5°F, P 65, R 14, BP 110/68. She has a dressing on the left chest that is dry and intact and the JP drain is intact for suction. Her left arm is elevated on two pillows. The decision has been made to start radiation and chemotherapy treatments as soon as possible.

The pathophysiology of breast cancer is a mutation of breast tissue cells related to hormones and mutations of tumor suppressor genes. Abnormal cell growth occurs. Cancer cells create a factor that stimulates blood vessels to grow into the tumor. Cancer cells invade the blood vessels and travel through the bloodstream or through the lymphatic system to other sites. Manifestations of breast cancer include nontender lump in the breast, abnormal nipple discharge, rash around the nipple area, nipple retraction, edema, dimpling of the skin, or change in position of the nipple. Some women report a burning or stinging sensation in the breast or nipple pain. Complications of breast cancer are metastasis to bone, brain, lung, liver, skin, and lymph nodes, and death.

Based on the client's surgery of modified radical mastectomy and treatment with radiation and chemotherapy, the nursing diagnosis of *Risk for Infection* is appropriate for planning care for Mrs. Gibson.

