ESSENTIALS of Maternity, Newborn, & Women's Health Nursing - **THIRD EDITION**

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7: Benign Disorders of the Female Reproductive Tract

Learning Objectives

Upon completion of the chapter, you will be able to:

- **1.** Define the key terms used in this chapter.
- **2.** Identify the major pelvic relaxation disorders in terms of etiology, management, and nursing interventions.
- **3.** Outline the nursing management needed for the most common benign reproductive disorders in women.
- **4.** Evaluate urinary incontinence in terms of pathology, clinical manifestations, treatment options, and effect on quality of life.
- **5.** Compare the various benign growths in terms of their symptoms and management.
- **6.** Analyze the emotional impact of polycystic ovarian syndrome and the nurse's role as a counselor, educator, and advocate.

KEY TERMS

cystocele

enterocele

Kegel exercises

ovarian cyst

pelvic organ prolapse (POP)

pessary

polycystic ovary syndrome (PCOS)

polyps

rectocele

urinary incontinence (UI)

uterine fibroids

uterine prolapse

Liz, a 26-year-old, overweight woman, presented to the clinic with hirsutism and facial acne and told the nurse she was concerned about her irregular menstrual periods. She also said that recently the hair on top of her head seemed to be falling out. What diagnostic tests might the nurse anticipate with this client? How can the nurse prepare Liz for them?

WOW: *Words of Wisdom*

Women can influence their aging process by making wise lifestyle choices early on.

The incidence of several benign pelvic disorders increases as women age. For instance, women may experience pelvic support disorders related to pelvic relaxation or urinary incontinence. These disorders generally develop after years of wear and tear on the muscles and tissues that support the pelvic floor—such as that which occurs with childbearing, chronic coughing, straining, surgery, or simply aging. In addition to pelvic support disorders, woman may also experience various benign neoplasms of the reproductive tract, such as cervical polyps, uterine leiomyomas (fibroids), ovarian cysts, genital fistulas, and Bartholin's cysts. This chapter provides an overview of various pelvic support disorders and benign neoplasms, discussing the assessment, treatment, and prevention strategies for each. It also addresses female genital cutting in the context of it being a harmful practice that affects girls' and women's health.

PELVIC SUPPORT DISORDERS

Pelvic support disorders such as pelvic organ prolapse or genital prolapse and urinary and fecal incontinence are common in aging women. Researchers funded by the National Institutes of Health (NIH) (2011) reported that nearly 24% of U.S. women are affected with one or more pelvic floor disorders. The study reported that the frequency of pelvic floor disorders increases with age, affecting more than 40% of women from 60 to 79 years of age, and about 50% of women 80 years and older. The NIH analysis is the first to document in a nationally representative sample the extent of pelvic floor disorders, a cluster of health problems that causes physical discomfort and limits activity.

Pelvic support disorders cause significant physical and psychological morbidity and can diminish women's social interactions, emotional well-being, and overall quality of life. Because pelvic support disorders increase with age, the problem will grow worse as our population ages. These disorders occur as a result of weakness of the connective tissue and muscular support of pelvic organs due to a number of factors: vaginal childbirth, obesity, lifting, chronic cough, straining at defecation secondary to constipation, and estrogen deficiency (American College of Obstetricians and Gynecologists [ACOG], 2010b).

The female anatomy is susceptible to the development of pelvic floor disorders because of its vertical structures placement. The bony pelvis has an exaggerated lumbar spinal curve and downward tilt to it. The bladder rests on the symphysis and the posterior organs rest on the sacrum and coccyx. The pelvis holds the organs, but a woman's erect posture causes a funneling effect and constant downward pressure.

Pelvic Organ Prolapse

Pelvic organ prolapse (POP) (from the Latin *prolapsus*, "a slipping forth") refers to the abnormal descent or herniation of the pelvic organs from their original attachment sites or their normal position in the pelvis. POP occurs when structures of the pelvis shift and protrude into or outside of the vaginal canal. The Egyptians were the first to describe prolapse of the genital organs. Hippocrates in 400 BC made reference to placing a pomegranate half into the vagina to treat organ prolapse. A disorder exclusive to women, POP rarely results in severe morbidity or mortality but can affect a woman's daily activities and quality of life (Lazarou & Grigorescu, 2011). It is difficult to determine the incidence of POP, because the disorder is often asymptomatic and many women do not seek treatment. It has been estimated, however, that up to 75% of all women who have had a vaginal birth experience POP (ACOG, 2010b). Each year, over 250,000 women undergo surgery to repair the prolapse at a cost of over $1 billion for hospitalization and physician fees alone (Hullfish, Trowbridge, & Stukenborg, 2011). With the aging of the population, POP and its associated symptoms are becoming increasingly common (Tinelli et al., 2010).

Obesity can also aggravate symptoms of pelvic organ prolapse and stress urinary incontinence and increase the risk of endometrial polyps and symptomatic fibroids. Weight reduction enhances reproductive outcomes, diminishes symptoms of urinary incontinence, and reduces morbidity following gynecologic surgery. Sustained and substantial weight loss, however, is difficult to achieve for many women with their current lifestyle and dietary choices (Pandey & Bhattacharya, 2010).

The treatment and diagnosis of POP is challenging and problematic.

Types of Pelvic Organ Prolapse

The four most common types of pelvic or genital prolapse are cystocele, rectocele, enterocele, and uterine prolapse (Fig. 7.1):

- **Cystocele** occurs when the posterior bladder wall protrudes downward through the anterior vaginal wall.
- **Rectocele** occurs when the rectum sags and pushes against or into the posterior vaginal wall.
- **Enterocele** occurs when the small intestine bulges through the posterior vaginal wall (especially common when straining).
- **Uterine prolapse** occurs when the uterus descends through the pelvic floor and into the vaginal canal. Multiparous women are at particular risk for uterine prolapse.

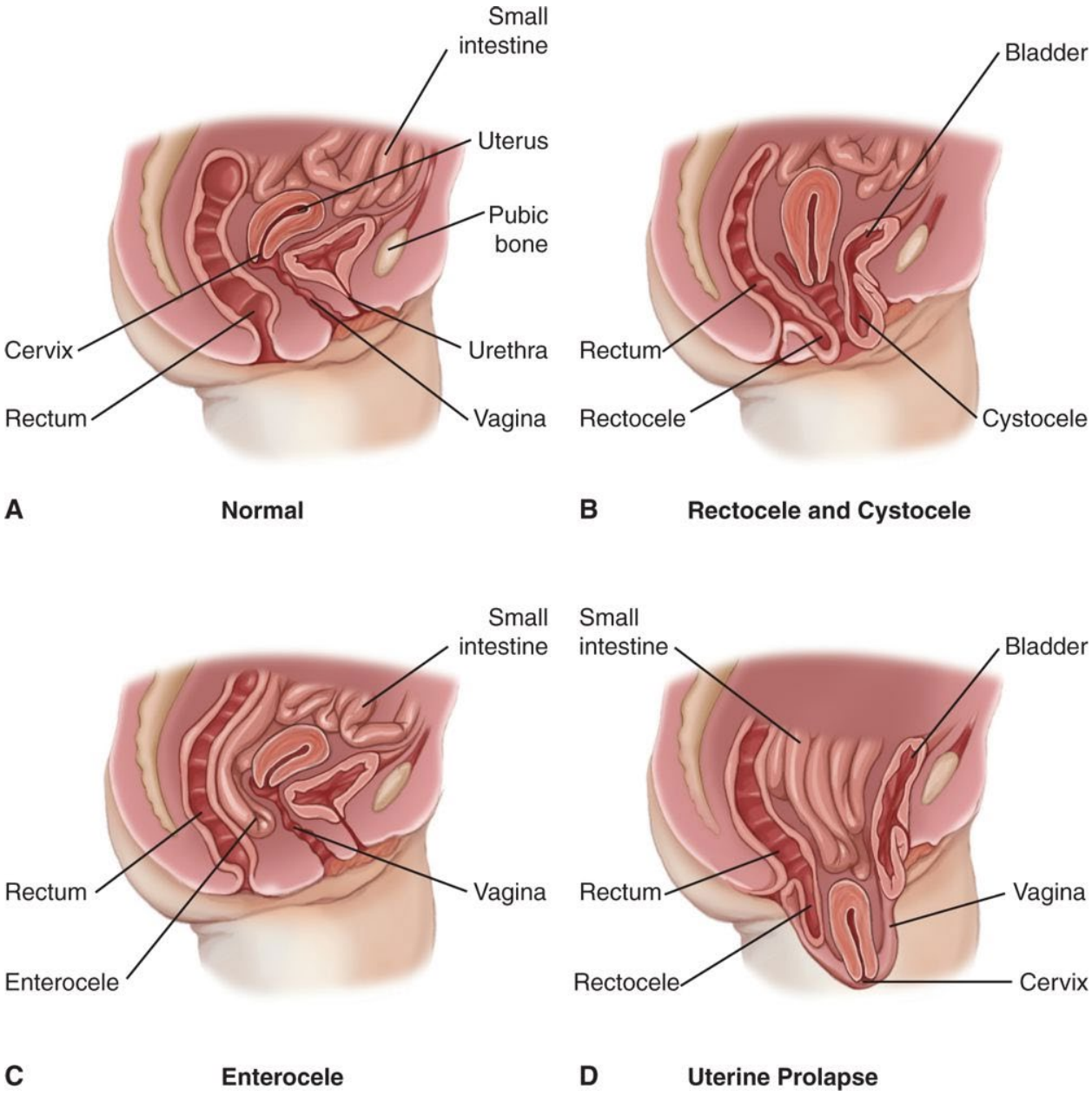


FIGURE 7.1

Types of pelvic prolapses. (**A**) Normal. (**B**) Rectocele and cystocele. (**C**) Enterocele. (**D**) Uterine prolapse.

The extent of uterine prolapse is classified in terms of stages:

- *Stage 0:* No descent of pelvic structure during straining.
- *Stage I:* The prolapsed descending organ is >1 cm above the hymenal ring.
- *Stage II:* The prolapsed organ extends ~1 cm below the hymenal ring.
- *Stage III:* The prolapsed organ extends 2–3 cm below the hymenal ring.
- *Stage IV:* The vagina is completely everted or the prolapsed organ is >3 cm below the hymenal ring (Manonai et al., 2011).

Etiology

Anatomic support of the pelvic organs is mainly provided by the levator ani muscle complex and the connective tissue attachments of the pelvic organ fascia. Dysfunction of one or both of these components can lead to loss of support and eventually POP. Weakened pelvic floor muscles also prevent complete closure of the urethra, resulting in urine leakage during physical stress. This problem is not limited to older women: urinary incontinence has been documented in women of varying ages, including young (<25 years old) women (Brubaker et al., 2010).

Many risk factors for POP have been suggested, but the true cause is likely to be multifactorial. Causes might include:

- Constant downward gravity because of erect human posture
- Atrophy of supporting tissues with aging and decline of estrogen levels
- Weakening of pelvic support related to childbirth trauma
- Reproductive surgery
- Family history of POP
- Young age at first birth
- Connective tissue disorders
- Infant birth weight of more than 4,500 g
- Pelvic radiation
- Increased abdominal pressure secondary to:
  - Lifting of children or heavy objects
  - Straining due to chronic constipation
  - Respiratory problems or chronic coughing
  - Obesity (Tinelli et al., 2010)

Therapeutic Management

Treatment options for POP depend on the symptoms and their effect on the woman's quality of life. Important considerations when deciding on nonsurgical or surgical options include the severity of symptoms, the woman's preferences, the woman's health status, age, and suitability for surgery, and the presence of other pelvic conditions (urinary or fecal incontinence). When surgery is being considered, the nature of the procedure and the likely outcome must be fully explained and discussed with the woman and her partner. Treatment options for POP include Kegel exercises, estrogen replacement therapy, dietary and lifestyle modifications, use of pessaries or the Colpexin Sphere, and surgery (see **Evidence-Based Practice 7.1**).

EVIDENCE-BASED PRACTICE 7.1: PELVIC FLOOR MUSCLE TRAINING VERSUS NO TREATMENT OR INACTIVE CONTROL TREATMENTS FOR URINARY INCONTINENCE IN WOMEN

STUDY

Pelvic floor muscle training is the most commonly used physical therapy treatment for women with stress urinary incontinence. It is sometimes recommended for mixed incontinence and less commonly urge urinary incontinence. A wide range of treatments has been used in the management of urinary incontinence, including conservative interventions (e.g., physical therapies including pelvic floor muscle training, cones, lifestyle interventions), behavioral training (e.g., bladder training), anti-incontinence devices, pharmaceutical interventions (e.g., anticholinergics), and surgery (e.g., minimally invasive sling operations or absorbent products).

This study was done to determine the effects of pelvic floor muscle training for women with urinary incontinence in comparison to no treatment, placebo or sham treatments, or other inactive control treatments.

Findings

Randomized or quasi-randomized trials in women with stress, urge, or mixed urinary incontinence (based on symptoms, signs, or urodynamics) were selected for this arm of the study. One arm of the trial included pelvic floor muscle training (PFMT). Another arm was no treatment, placebo, sham, or other inactive control treatment.

Fourteen trials involving 836 women (435 PFMT, 401 controls) met the inclusion criteria; but only data from 12 trials which included 672 women were studied 12 trials (672) contributed data to the analysis. Many studies were at moderate to high risk of bias, based on the trial reports. There was considerable variation in interventions used, study populations, and outcome measures. Women who did PFMT were more likely to report they were cured or improved than women who did not. Women who did PFMT also reported better continence-specific quality of life than women who did not. PFMT women also experienced fewer incontinence episodes per day and less leakage on a short office-based pad test. Of the few adverse effects reported, none were serious. The trials in stress urinary incontinent women that suggested greater benefit recommended a longer training period than the one trial in women with detrusor overactivity (urge) incontinence.

Overall, the results found in this study indicated that PFMT is better than no treatment, placebo drug, or inactive control treatments for women with stress, urge, or mixed incontinence. Women with PFMT were more likely to report cure or improvement, report better quality of life, have fewer leakage episodes per day, and have less urine leakage on short pad tests than controls.

The study suggested that the treatment effect (especially self-reported cure/improvement) might be greater in women with stress urinary incontinence participating in a supervised PFMT program for at least 3 months. It seems older age may not decrease the effect of PFMT in stress urinary incontinent women: in trials with stress urinary incontinent older women, both primary and secondary outcome measures appeared to be comparable to outcomes in trials in younger women.

Nursing Implications

Overall, there is support for the widespread recommendation that PFMT be included in a first-line conservative management program for women with stress, urge, or mixed urinary incontinence. Nurses should continue to instruct women with incontinence to perform pelvic floor muscle training daily to improve their urinary incontinence and their quality of life.

Adapted from Dumoulin, C., & Hay-Smith, J. (2010). Pelvic floor muscle training versus no treatment, or inactive control treatments, for urinary incontinence in women. Cochrane *Database of Systematic Reviews, 2010*(1). doi:10.1002/14651858.CD005654.pub2.

Kegel Exercises

Kegel exercises strengthen the pelvic floor muscles to support the inner organs and prevent further prolapse. Pelvic floor muscle exercises are generally accepted as first-line treatment for stress and urge urinary incontinence and they are also widely used for anal incontinence. Reasonable evidence indicates that pelvic floor muscle exercises work for urinary incontinence because the uterus itself does not play any role in the pathogenesis of uterine prolapse (Hefni & El-Toucky, 2011). The purpose of pelvic floor exercises is to increase the muscle volume, which will result in a stronger muscular contraction. Kegel exercises might limit the progression of mild prolapse and alleviate mild prolapse symptoms, including low back pain and pelvic pressure. They will not, however, help severe uterine prolapse.

Hormone Replacement Therapy

Hormone replacement therapy (orally, transdermally, or vaginally) may improve the tone and vascularity of the supporting tissue in perimenopausal and menopausal women by increasing blood perfusion and the elasticity of the vaginal wall.

Take Note!

Before hormone therapy is considered, a thorough medical history must be taken to assess a woman's risk for complications (e.g., endometrial cancer, myocardial infarction, stroke, breast cancer, pulmonary emboli, and deep vein thrombosis). Because of these risks, estrogens, with or without progestins, should be given at the lowest effective dose and for the shortest duration consistent with the treatment goals and risks for the individual woman (ACOG, 2010a).

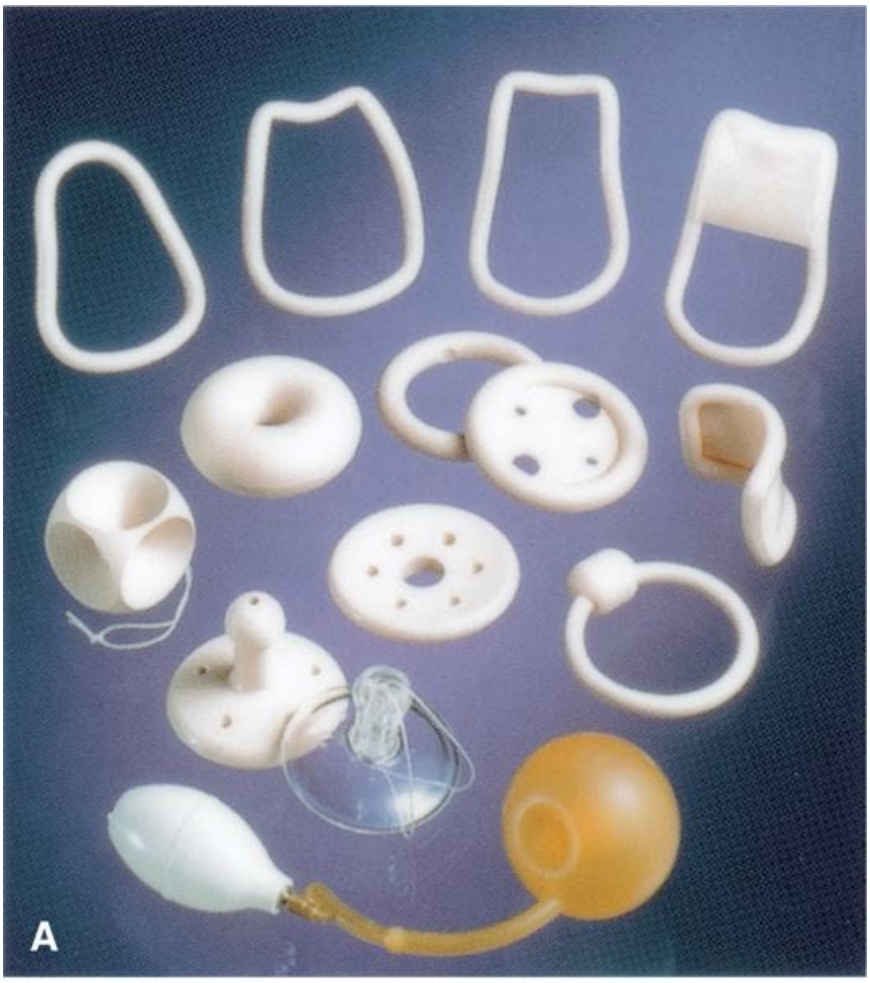
Dietary and Lifestyle Modifications

Dietary and lifestyle modifications may help prevent pelvic relaxation and chronic problems later in life. Dietary habits can exacerbate the prolapse by causing constipation and consequently chronic straining. The stools of a constipated woman are hard and dry, and typically she must strain while bearing down to defecate. This straining to pass a hard stool increases intra-abdominal pressure, which over time causes the pelvic organs to prolapse. Dietary modifications can help to establish regular bowel movements without discomfort and eliminate flatus and bloating. A weight loss regimen might also need to be instituted if the woman is overweight.

Pessaries

Vaginal **pessaries** are synthetic devices inserted in the vagina to provide support to the bladder and other pelvic organs as a corrective measure for urinary incontinence and/or pelvic organ prolapse (Fig. 7.2). In the past, multiple materials including fruit, metal, porcelain, rubber, and acrylic have been used to manufacture pessaries. Fortunately, today almost all pessaries are made of medical-grade silicone, which provides many advantages. Silicone pessaries are pliable and have a long shelf life; lack odor and secretion absorption; are biologically inert, nonallergenic, and noncarcinogenic; and they can be boiled or autoclaved for sterilization. Because most pessaries are made of silicone, pessary style and size are the main considerations when selecting a pessary (Manchana, 2011). Although many types and shapes are available, the most commonly used pessary is a firm ring that presses against the wall of the vagina and urethra to help decrease leakage and support a prolapsed vagina or uterus. Pessaries are of two main types:

- Support pessaries, which rest under the symphysis and sacrum and elevate the vagina (e.g., ring, Gehrung, and Hodge pessaries)
- Space-occupying pessaries, which are designed to manage severe prolapse by supporting the uterus even with a lack of vaginal tone (e.g., cube, doughnut, and inflatable Gellhorn pessaries)



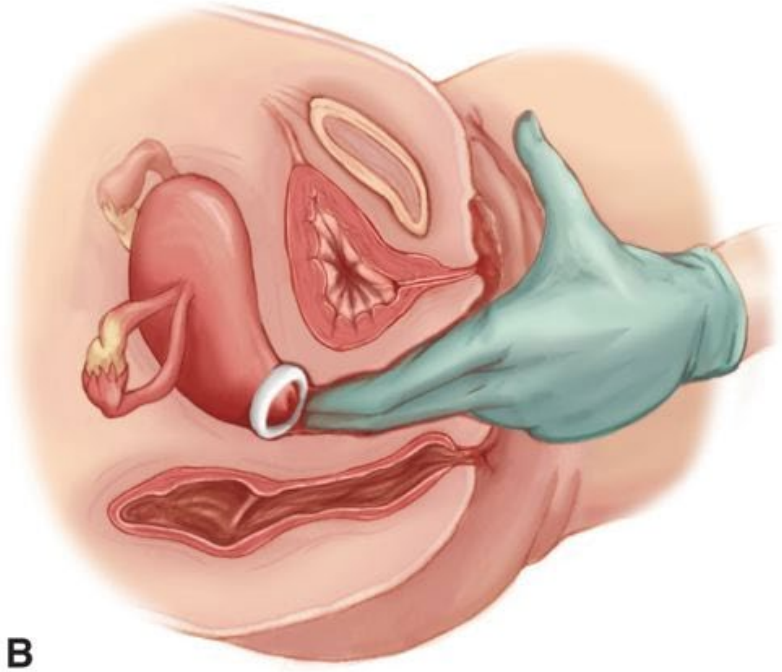


FIGURE 7.2

Examples of pessaries. (**A**) Various shapes and sizes of pessaries available. (**B**) Insertion of one type of pessary.

Indications for pessary use include uterine prolapse or cystocele, especially among elderly clients for whom surgery is contraindicated; younger women with prolapse who plan to have additional children; and women with marked prolapse who prefer to use a pessary rather than undergo surgery (Lamers, Broekman, & Milani, 2011). Many women use pessaries for only a short period of time and become free of symptoms. Long-term use can lead to pressure necrosis in some women; in this situation other methods of support should be explored. Nurses need to be aware of the personal isolation and embarrassment and social and cultural implications that urinary incontinence may cause as well as the subjective experiences of using a pessary. With appropriate support, vaginal pessaries can provide women with the freedom to lead active, engaged social lives.

Pessaries are fitted by trial and error; the woman often needs to try several sizes or styles. The largest pessary that the woman can wear comfortably is generally the most effective. The woman should be instructed to report any discomfort or difficulty with urination or defecation while wearing the pessary.

Colpexin Sphere

An intravaginal device, the Colpexin Sphere supports the pelvic floor muscles and facilitates rehabilitation of those muscles. Although pessaries may support a prolapsed pelvic organ, they do not allow for concomitant strengthening of pelvic floor musculature and they do not reduce urine leakage (Harnsomboon et al., 2011). The Colpexin Sphere is a polycarbonate sphere with a locator string that is fitted above the hymenal ring to support the pelvic floor muscles. The sphere is used in conjunction with pelvic floor muscle exercises, which should be performed daily.

Surgical Interventions

Surgical interventions for pelvic or genital organ prolapse are designed to correct specific defects, with the goals being to restore normal anatomy and to preserve function (Gomelsky, Penson, & Dmochowski, 2011). Surgery is not an option for all women. Women who are at high risk of suffering recurrent prolapse after a surgical repair or who have morbid obesity, chronic obstructive pulmonary disease, or medical conditions in which general anesthesia would be risky are not good candidates for surgical repair (Borstad, Abdelnoor, Staff, & Kulseng-Hanssen, 2010), and noninvasive treatment strategies should be discussed with them.

Surgical interventions might include anterior or posterior colporrhaphy (to repair a cystocele or rectocele) and vaginal hysterectomy (for uterine prolapse).

An anterior and posterior colporrhaphy may be effective for a first-degree prolapse. This surgical procedure tightens the anterior and posterior vaginal wall, thus repairing a cystocele or rectocele. The pubocervical fascia (supportive tissue between the vagina and bladder) is folded and sutured to bring the bladder and urethra in proper position (Lazarou & Grigorescu, 2011).

A vaginal hysterectomy is the treatment of choice for uterine prolapse because it removes the prolapsed organ that is bringing down the bladder and rectum with it. It can be combined with an anterior and posterior repair if a cystocele or rectocele is present.

Nursing Assessment

Nursing assessment for women with POP includes a thorough health history, a physical examination, and several laboratory and diagnostic tests.

Health History and Clinical Manifestations

The cause of prolapse is multifactorial, with vaginal childbirth, advancing age, heavy work, poor nutrition, and increasing body mass index being the most consistent risk factors (Walker & Gunasekera, 2011). Assessment of risk factors (chronic straining, hysterectomy, normal aging, and abnormalities of connective tissue) in the woman's history will assist the health care provider in the diagnosis and treatment of POP. The history should include questions about:

- The woman's obstetrical history (number of pregnancies, weight of newborns, pregnancy spacing)
- Chronic respiratory condition (chronic coughing)
- Menopausal status
- Weight history (loss or gain)
- Constipation (frequency and chronicity)
- Age
- Work history (e.g., physical labor or light office work)
- Nutritional assessment
- Family history (family member with POP)
- Urinary incontinence
- Previous pelvic surgeries

Assess for clinical manifestations of POP. POP is often asymptomatic, but when symptoms do occur, they are often related to the site and type of prolapse. Symptoms common to all types of prolapses are a feeling of dragging, a lump in the vagina, or something "coming down." Women with POP can present either with one symptom, such as vaginal bulging or pelvic pressure, or with several complaints, including many bladder, bowel, and pelvic symptoms. Symptoms associated with POP are summarized in **Box 7.1**.

BOX 7.1: SYMPTOMS ASSOCIATED WITH PELVIC ORGAN PROLAPSE

- Urinary symptoms
  - Stress incontinence
  - Frequency (diurnal and nocturnal)
  - Urgency and urge incontinence

- Hesitancy
- Poor or prolonged stream
- Feeling of incomplete emptying

- Bowel symptoms
  - Difficulty with defecation
  - Incontinence of flatus or liquid or solid stool
  - Urgency of defecation
  - Feeling of incomplete evacuation
  - Rectal protrusion or prolapse after defecation
- Sexual symptoms
  - Inability to have frequent intercourse
  - Dyspareunia
  - Lack of satisfaction or orgasm
  - Incontinence during sexual activity
- Other local symptoms
  - Pressure or heaviness in the vagina
  - Pain in the vagina or perineum
  - Low back pain after long periods of standing
  - Palpable bulge in the vaginal vault
  - Difficulty walking due to a protrusion from the vagina
  - Difficulty inserting or keeping a tampon in place
  - Vaginal-cervical mucosa hypertrophy, excoriation, ulceration, and bleeding
  - Abdominal pressure or pain

Adapted from Brubaker, L., Rickey, L., Xu, Y., Markland, A., Lemack, G., Ghetti, C., … Stoddard, A. (2010). Symptoms of combined prolapse and urinary incontinence in large surgical cohorts. *Obstetrics and Gynecology*, *115*(2, Pt 1), 310–316; and Lazarou, G., & Grigorescu, B. A. (2011). Pelvic organ prolapse. *eMedicine.* Retrieved from **http://emedicine.medscape.com/article/276259-overview**.

Women present with varying degrees of uterine descent. Uterine prolapse is the most troubling type of pelvic relaxation because it is often associated with concomitant defects of the vagina in the anterior, posterior, and lateral compartments (Lazarou & Grigorescu, 2011).

Physical Examination

The pelvic examination performed by the health care provider includes an external genital inspection to visualize any obvious protrusion of the uterus, bladder, urethra, or vaginal wall occurring at the vaginal opening. Usually the woman is asked to perform the Valsalva maneuver (bearing down) while the examiner notes which organ prolapses first and the degree to which it occurs. Any urine leakage during the examination is important to note. The woman is asked to contract the pubococcygeal muscles (Kegel exercise); the health care provider inserts two fingers into the vagina to assess the strength and symmetry of the contraction. Because pelvic or genital organ prolapse can cause urinary symptoms such as incontinence, bladder function should be assessed by determining postvoid residual with a catheter. If the woman has more than 100 mL of retained urine, she should be referred for further urodynamic evaluation and testing.

Laboratory and Diagnostic Tests

Common laboratory tests that may be ordered to determine the cause of POP include a urinalysis to rule out a bacterial infection, urine culture to identify the specific organism if present, visualization of urine loss during the pelvic examination, and measurement of postvoid urine volume.

Nursing Management

Help the woman understand the nature of the condition, the treatment options, and the likely outcomes. Nursing considerations might include the following:

- Describe normal anatomy and causes of pelvic prolapse.
- Assess how this condition has affected the woman's life.
- Outline the options, with the advantages and disadvantages of each.
- Allow the client to make the decision that is right for her.
- Provide education.
- Schedule preoperative activities needed for surgery.
- Reassure the client that there is a solution for her symptoms.
- Provide community education about genital prolapse.

Nursing Care Plan 7.1 provides an overview of care for a woman with POP.

NURSING CARE PLAN 7.1: Overview of a Woman with Pelvic Organ Prolapse (POP)

Katherine, a 62-year-old multiparous woman, came to her gynecologist with complaints of a chronic dragging or heavy painful feeling in her pelvis, lower backache, constipation, and urine leakage. Her symptoms increase when she stands for long periods. She has not had menstrual cycles for at least a decade. She tells you, "I'm not taking any of those menopausal hormones."

NURSING DIAGNOSIS: Pain related to relaxation of pelvic support and elimination difficulties

Outcome Identification and Evaluation

The client will report an acceptable level of discomfort within 1 to 2 hours of intervention as evidenced by a rating of less than 4 on a 0-to-10 pain scale.

Interventions: *Providing Pain Management*

- Obtain a thorough pain history, including ongoing pain experiences, methods of pain control used, what worked, what didn't, any allergies to pain medications, and the effect of pain on her activities of daily living *to provide a baseline and enable a systematic approach to pain management.*

- Assess the location, frequency, severity, duration, precipitating factors, and aggravating/alleviating factors *to identify characteristics of the client's pain to plan appropriate interventions.*
- Educate client about any medications prescribed (correct dosage, route, side effects, and precautions) *to increase the client's understanding of the therapy and promote compliance.*
- Assess problematic elimination patterns *to identify underlying factors from which to plan appropriate prevention strategies.*
- Encourage client to increase fluids and fiber in diet and increase physical activity daily *to promote peristalsis.*
- Assist client with establishing regular toileting patterns by setting aside time daily for bowel elimination *to promote regular bowel function and evacuation.*
- Urge client to avoid the routine use of laxatives *to reduce risk of compounding constipation.*

NURSING DIAGNOSIS: Knowledge deficit related to causes of structural disorders and treatment options

Outcome Identification and Evaluation

The client will demonstrate an understanding of current condition and treatments as evidenced by identifying treatment options, making health-promoting lifestyle choices, verbalizing appropriate health care practices, and adhering to treatment plan.

Interventions: *Providing Client Education*

- Assess client's understanding of pelvic organ prolapse and its treatment options *to provide a baseline for teaching.*
- Review information provided about surgical procedures and recommendations for healthy lifestyle, obtaining feedback frequently, *to validate client's understanding of instructions.*
- Discuss association between uterine, bladder, and rectal prolapse and symptoms *to help client understand the etiology of her symptoms and pain.*
- Have client verbalize and discuss information related to diagnosis, surgical procedure, preoperative routine, and postoperative regimen *to ensure adequate understanding and provide time for correcting or clarifying any misinformation or misconceptions.*
- Provide written material with pictures *to promote learning and help client visualize what has occurred to her body secondary to aging, weight gain, childbirth, and gravity.*
- Discuss pros and cons of hormone replacement therapy, osteoporosis prevention, and cardiovascular events common in postmenopausal women *to promote informed decision making by the client about available menopausal therapies.*
- Inform client about the availability of community resources and make appropriate referrals as needed *to provide additional education and support.*
- Document details of teaching and learning *to allow for continuity of care and further education, if needed.*

Encourage Pelvic Floor Muscle Training

Encourage the woman to perform Kegel exercises daily (Teaching Guidelines 7.1). Discuss current research findings and educate the woman about estrogen therapy, allowing the woman to make her own decision on whether to use hormones. Controversy still exists regarding the benefits versus the risks of taking hormones, so the woman must weigh this option carefully (Mac Bride, Rhodes, & Shuster, 2010).

Teaching Guidelines 7.1: PERFORMING KEGEL EXERCISES

- Squeeze the muscles in your rectum as if you are trying to prevent passing flatus.
- Stop and start urinary flow to help identify the pubococcygeus muscle.
- Tighten the pubococcygeus muscle for a count of three, and then relax it.
- Contract and relax the pubococcygeus muscle rapidly 10 times.
- Try to bring up the entire pelvic floor and bear down 10 times.
- Repeat Kegel exercises at least five times daily.

Encourage Dietary and Lifestyle Modifications

Instruct clients to increase dietary fiber and fluids to prevent constipation. A high-fiber diet with an increase in fluid intake alleviates constipation by increasing stool bulk and stimulating peristalsis. It is accomplished by replacing refined, low-fiber foods with high-fiber foods. The recommended daily intake of fiber for women is 25 g (Dudek, 2010). In addition to increasing the amount of fiber in her diet, also encourage the woman to drink eight 8-oz glasses of fluid daily and to engage in regular low-impact aerobic exercise, which promotes muscle tone and stimulates peristalsis.

Educate the client about other lifestyle changes that will assist with prolapse, such as:

- Achieve ideal weight to reduce intra-abdominal pressure and strain on pelvic organs, including pressure on the bladder.
- Wear a girdle or abdominal support to support the muscles surrounding the pelvic organs.
- Avoid lifting heavy objects to reduce the risk of increasing intra-abdominal pressure, which can push the pelvic organs downward.
- Avoid high-impact aerobics, jogging, or jumping repeatedly to minimize the risk of increasing intra-abdominal pressure, which places downward pressure on the organs.
- Give up smoking to minimize the risk for a chronic "smoker's cough," which increases intra-abdominal pressure and forces the pelvic organs downward.

Provide Teaching for Pessary Use

Educate the woman about pessary use. Discuss complications as part of the instruction. Although the pessary is a safe device, it is still a foreign body in the vagina. Because of this, the most common side effects of the pessary are increased vaginal discharge, urinary tract infections, vaginitis, and odor. Odors can be reduced by douching with dilute vinegar or hydrogen peroxide. Postmenopausal women with thin vaginal mucosa are susceptible to vaginal ulceration with the use of a pessary. Advise the woman to use estrogen cream to make the vaginal mucosa more resistant to erosion and to strengthen the vaginal walls.

The woman must be capable of managing use of the pessary, either alone or with the help of a caretaker. The most common recommendations for pessary care include removing the pessary twice weekly and cleaning it with soap and water; using a lubricant for insertion; and having regular follow-up examinations every 6 to 12 months after an initial period of adjustment.

Besides cleaning, clients must properly reinsert the device into their vaginal cavity, and the woman must also be willing to participate in all aspects of care of the pessary for this treatment option to be successful. All women choosing this option must be instructed in the care of her pessary so she feels comfortable with all aspects of it before leaving the health care facility. Health care visits should allow adequate time for women to share their concerns, anxieties, and fears surrounding the transition to life with a pessary.

Provide Perioperative Care

Prepare the woman for surgery by reinforcing the risks and benefits of surgery and describing the postoperative course. Explain that a Foley catheter will be in place for up to 1 week, and that she might not be able to urinate due to the swelling after the catheter has been removed. Provide home care instructions for the Foley catheter. She should cleanse the perineal area daily with mild soap and water, especially around where the catheter enters the urinary meatus. If the woman is provided with a leg bag to be worn during waking hours, instruct her to empty it frequently and keep it below the level of the bladder to prevent backflow. The same principles are applied to the primary Foley bag when emptying it.

During the recovery period, instruct the client to avoid for several weeks activities that cause an increase in abdominal pressure, such as straining, sneezing, and coughing. In addition, advise her to avoid lifting anything heavy or straining to push anything. Explain to the woman that stool softeners and gentle laxatives might be prescribed to prevent constipation and straining with bowel movements. Pelvic rest will be prescribed until the operative area is healed in 6 weeks.

Promote Prevention Strategies

Limited data are available on ways to prevent POP. Approaches include lifestyle changes that reduce modifiable risk factors, such as losing weight, avoiding heavy lifting, and relieving constipation. Explore with the woman what factors in her lifestyle might be modified to reduce her risk of developing POP (primary prevention) or to improve her quality of life after receiving treatment (secondary prevention).

Urinary Incontinence

Urinary incontinence (UI) is defined by the International Continence Society (2011) as the involuntary loss of urine that represents a hygienic or social problem to the individual. This disorder affects approximately 15 million women in the United States (Townsend, Curhan, Resnick, & Grodstein, 2010). It has been estimated that 50% of all women experience urinary incontinence at some time in their life, varying in severity from mild to severe (DuBeau, 2011). The psychosocial costs and morbidities are even more difficult to quantify. Embarrassment and depression are common. The affected individual may experience a decrease in social interactions, excursions out of the home, and sexual activity (Vasavada, Carmel, & Rackley, 2011). It is more common than diabetes and Alzheimer's disease, both of which receive a great deal of press attention. Despite the considerable impact of incontinence on quality of life, many women are unlikely to bring up the subject of their lack of bladder control and very few women seek help or treatment for incontinence concerns. The following are several possible explanations for why clients do not talk about their bladder control issues:

- The client may feel that UI is inevitable and not amenable to treatment.
- The client may feel that UI is a "normal" part of aging.
- The client may believe that UI is part of being "female." Women tend to "accept" urinary symptoms such as UI more so than men.
- The client may consider a UI a hygiene problem and not a medical condition.

Take Note!

Incontinence is preventable, treatable, and often curable. However, many women believe that loss of bladder function is a normal and expected part of aging.

Incontinence can have far-reaching effects. Some women experience anxiety, depression, social isolation, and disruptions in their self-esteem and dignity. UI can cause the woman to stop working, traveling, socializing, and enjoying sexual relationships. In addition, incontinence can create a tremendous burden for caretakers and is a common reason for admission to a long-term care facility (Tamanini, Santos, Lebrão, Duarte, & Laurenti, 2011).

Women often try to cope with urinary incontinence through lifestyle modifications such as wearing protective pads, avoiding certain activities, emptying the bladder frequently, and modifying diet/fluid intake. Women who experience urinary incontinence are generally most distressed by the social implications and many go to great efforts to hide their symptoms. In some cultures, UI is abhorred to the point where women are shunned by their communities. A sense of control, normality, and self-esteem are central issues in living with UI. Generally with time and a worsening of symptoms, women pursue medical evaluation and treatment (Vasavada et al., 2011).

The three most common types of incontinence are urge incontinence (overactive bladder caused by detrusor muscle contractions), stress incontinence (inadequate urinary sphincter function), and mixed incontinence (involves both stress and urge incontinence) (Botlero, Davis, Urquhart, & Bell, 2011). **Comparison Chart 7.1** details these types of UI.

COMPARISON CHART 7.1: URGE INCONTINENCE VS. STRESS INCONTINENCE

	Urge Incontinence	Stress Incontinence
Description	Precipitous loss of urine, preceded by a strong urge to void, with increased bladder pressure and detrusor contraction	Accidental leakage of urine that occurs with increased pressure on the bladder from coughing, sneezing, laughing, or physical exertion
Etiology	Causes might be neurologic, idiopathic, or infectious	Develops commonly in women in their 40s and 50s, usually as the result of weakened muscles and ligaments in the pelvis following childbirth
Signs and Symptoms	Urgency, frequency, nocturia, and a large amount of urine loss	Involuntary loss of a small amount of urine in response to physical activity that raises intra-abdominal pressure

Pathophysiology and Etiology

Urinary continence requires several factors, including effective functioning of the bladder, adequate pelvic floor muscles, neural control from the brain, and integrity of the neural connections that facilitate voluntary control. The bladder neck and proximal urethra function as a sphincter. During urination the sphincter relaxes and the bladder empties. The ability to control urination requires the integrated function of numerous components of the lower urinary tract, which must be structurally sound and functioning normally. Incontinence can develop if the bladder muscles become overactive due to weakened sphincter muscles, if the bladder muscles become too weak to contract properly, or if signals from the nervous system to the urinary structures are interrupted. A major factor in women that contributes to urinary continence is the estrogen level, because this hormone helps maintain bladder sphincter tone. In perimenopausal or menopausal women, incontinence can be a problem as estrogen levels begin to decline and genitourinary changes occur. In simple terms, the bladder is the reservoir, the urethra is the seal, and the levator ani muscle is the gate that holds pressure against the outflow of

urine by supporting the urethra and bladder from below. When any of these three structures is not functioning normally, incontinence occurs.

Contributing factors in urinary incontinence include:

- Fluid intake, especially alcohol, carbonated drinks, and caffeinated beverages
- Constipation: alters the position of the pelvic organs and puts pressure on the bladder
- Habitual "preventive" emptying: may result in training the bladder to hold only small amounts of urine
- Menopause and depletion of estrogen
- Chronic disease such as stroke, multiple sclerosis or diabetes
- Smoking: nicotine increases detrusor muscle contractions
- Advancing age: age-related anatomic changes provide less pelvic support
- Pregnancy and childbirth: damage to pelvic structures during childbirth
- Obesity: increases abdominal pressure (Schuiling & Likis, 2011)

Therapeutic Management

Treatment options depend on the type of urinary incontinence. In general, the least invasive procedure with the fewest risks is the first choice for treatment. Surgery is used only if other methods have failed. There is a widespread belief that urinary incontinence is an inevitable problem of getting older and that little or nothing can be done to relieve symptoms or reverse it. Nothing is further from the truth, and attitudes must change so that women will feel comfortable seeking help for this embarrassing condition.

For many women with urge incontinence, simple reassurance and lifestyle interventions might help. However, if more than simple lifestyle measures are needed, effective treatments might include:

- Bladder training to establish normal voiding intervals (every 3 to 5 hours)
- Kegel exercises to strengthen the pelvic floor musculature
- Pessary ring to support pelvic structures that have weakened
- Pharmacotherapy to reduce the urge to void. Anticholinergic agents such as oxybutynin (Ditropan) or tolterodine (Detrol) might be prescribed. The most common side effects of anticholinergic agents are dry mouth, blurred vision, constipation, nausea, dizziness, and headaches (Kuhn, 2010).

For women with stress incontinence, treatment is not always a cure, but it can minimize the impact of this condition on the woman's quality of life. Some treatment options for stress incontinence might include:

- Weight loss if needed
- Avoidance of constipation
- Smoking cessation
- Kegel exercises to strengthen the pelvic floor
- Pessaries
- Weighted vaginal cones to improve the tone of pelvic floor muscles
- Periurethral injection (injecting a bulking agent [collagen] to form a bulge that brings the urethral walls closer together to achieve a better closure)

- Medications such as duloxetine (Cymbalta, Yentreve) to increase urethral sphincter contractions during the storage phase of the urination cycle
- Estrogen replacement therapy to improve bladder sphincter tone
- Surgery to correct genital prolapse and improve urethral and bladder tone

Consider This

Life can be complicated and embarrassing at times when we least expect it. I met a man in church who seemed interested in me, and he asked me out for coffee after Sunday services. I have been alone for 10 years and this prospect seemed exciting to me. We talked for hours over coffee and seemed to have a great deal in common, especially since both of us had lost our spouses to cancer. He asked me to go square dancing with him, since that was an activity we both had enjoyed in the past with our spouses. I hadn't been out or physically active for ages and didn't realize how my body had changed with age.

It was during the first dance that I noticed a wet sensation between my legs, which I was unable to control. I managed to continue on and pretend that all was fine, but then realized what many of my friends were talking about—stress incontinence. Not being able to control one's urine is very embarrassing and it complicates your life, but I made up my mind that it wasn't going to control me!

Thoughts: Gravity and childbirth take a toll on women's reproductive organs by pushing them downward. This woman is not going to let stress incontinence curtail her outside activity, which demonstrates a good attitude. What can be done about her embarrassing accidents? Were there any preventive strategies she could have used at an earlier age?

Nursing Assessment

The assessment of the woman experiencing urinary incontinence includes a history, physical examination, laboratory tests, and possibly urodynamic testing. The onset, frequency, severity, and pattern of incontinence should be determined, as well as any associated symptoms such as frequency, dysuria, urgency, and nocturia. Incontinence may be quantified by asking the woman if she wears a pad and how often the pad is changed. A review of the woman's current medications, including over-the-counter medications, should be included in the history.

A complete physical examination should be carried out by the health care provider; it should include a neurologic assessment and pelvic and rectal examinations. The presence of associated POP should be noted because it can contribute to the woman's voiding problems and may have an impact on diagnosis and treatment. A rectal examination is done to evaluate sphincter tone and perineal sensation.

A urinalysis is performed to look for hematuria, pyuria, glucosuria, or proteinuria. A urine culture is done if there is pyuria or bacteriuria. Postvoid residual should be measured either with pelvic ultrasound or

directly with a catheter. If the residual exceeds the limit set, urodynamic testing is then used to diagnose the incontinence.

Nursing Management

Incontinence can be devastating and can cause psychosocial concerns and isolation. Nurses can encourage women with troublesome symptoms to seek help. Discuss the treatment options with the client, including benefits and potential outcomes, and encourage her to select the continence treatment best for her lifestyle. Provide education about good bladder habits and strategies to reduce the incidence or severity of incontinence (**Teaching Guidelines 7.2**). Provide support and encouragement to ensure compliance. Remember that aging can increase the risk of incontinence, but incontinence is not an inevitable part of aging. Review the anatomy and physiology of the urinary system and offer simple explanations to help the woman cope with urinary alterations. Therapeutic listening is important. Be aware of the courage it takes for a woman to disclose an embarrassing condition.

Teaching Guidelines 7.2: MANAGING URINARY INCONTINENCE

- Avoid drinking too much fluid (i.e., 1.5 L total daily limit), but do not decrease your intake of fluids.
- Reduce intake of fluids and foods that are bladder irritants and precipitate urgency, such as chocolate, caffeine, sodas, alcohol, artificial sweetener, hot spicy foods, orange juice, tomatoes, and watermelon.
- Increase fiber and fluids in your diet to reduce constipation.
- Control blood glucose levels to prevent polyuria.
- Treat chronic cough.
- Remove any barriers that delay you from reaching the toilet.
- Practice good perineal hygiene by using mild soap and water. Wipe from front to back to prevent urinary tract infections.
- Become aware of adverse drug effects.
- Take your medications as prescribed.
- Continue to do pelvic floor (Kegel) exercises.

Adapted from Gomelsky, A., & Dmochowski, R. (2011). Treatment of mixed urinary incontinence in women. *Current Opinion in Obstetrics & Gynecology*, *23*(5), 371–375; and Vasavada, S. P., Carmel, M. E., & Rackley, R. (2011). Urinary incontinence. *eMedicine*. Retrieved from **http://emedicine.medscape.com/article/452289-overview**.

BENIGN GROWTHS

The most common benign growths of the reproductive tract include cervical, endocervical, and endometrial polyps; uterine fibroids (leiomyomas); genital fistulas; Bartholin's cysts; and ovarian cysts.

Polyps

Polyps are small, usually benign growths. The incidence of malignancy in cervical polyps is 1 in 1,000. Malignancy is more common in perimenopausal or postmenopausal women (Casey, Long, & Marnach, 2011). The cause of polyp growth is not well understood, but they are frequently the result of infection. Polyps might be associated with chronic inflammation, an abnormal local response to increased levels of estrogen, or local congestion of the cervical vasculature (Avolio, 2011). Single or multiple polyps might occur. They are most common in multiparous women. Polyps can appear anywhere but are most common on the cervix and in the uterus (Fig. 7.3).

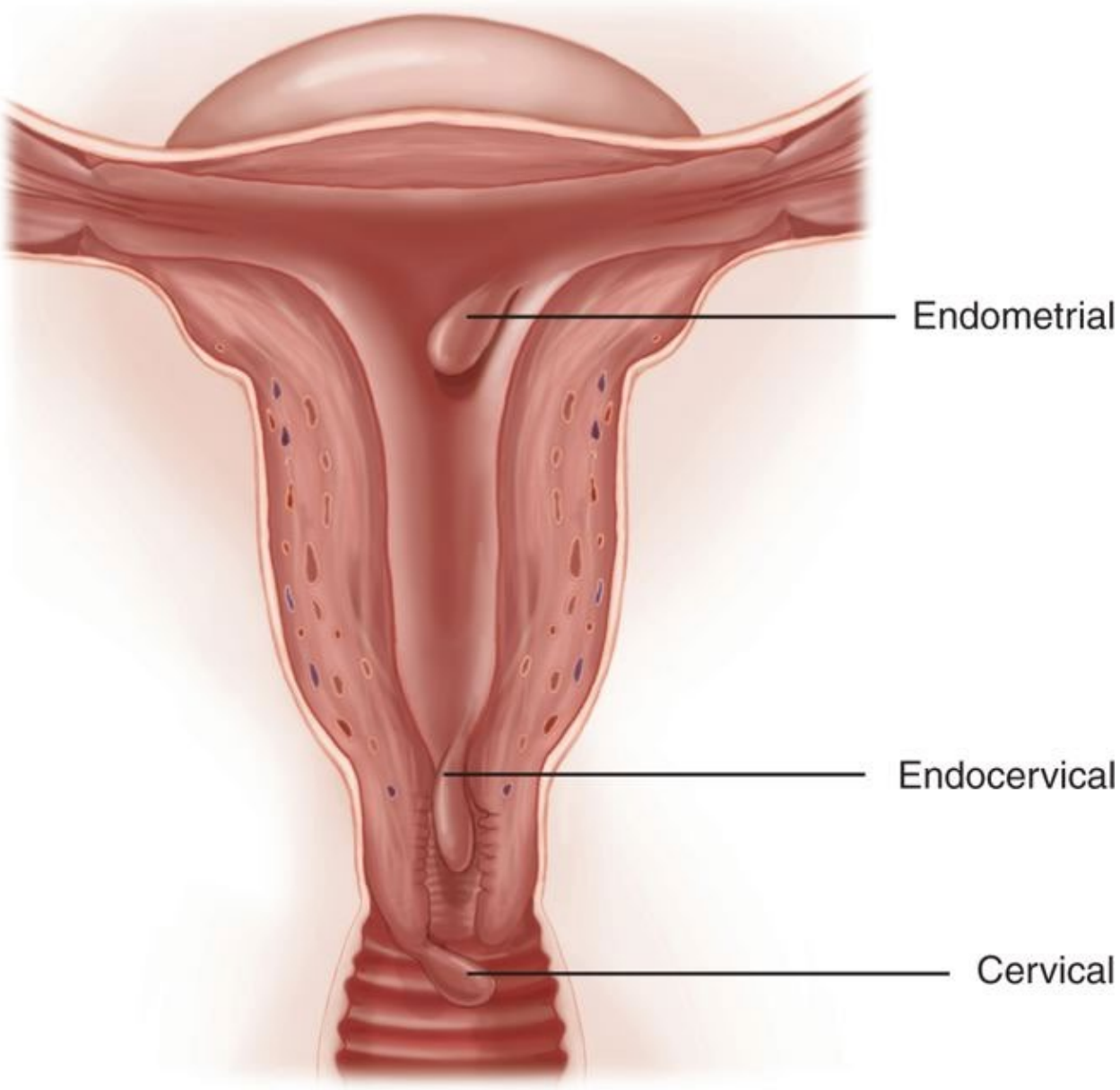


FIGURE 7.3

Cervical, endocervical, and endometrial polyps.

Cervical polyps often appear after menarche. They occur in 2% to 5% of women, and approximately 2% of these polyps have cancerous changes (Schuiling & Likis, 2011). Endocervical polyps are commonly found in multiparous women ages 40 to 60. Endocervical polyps are more common than cervical polyps, with a stalk of varied width and length. Endometrial polyps are benign tumors or localized overgrowths of the endometrium. Most endometrial polyps are solitary, and they rarely occur in women younger than 20 years of age. The incidence of these polyps rises steadily with increasing age, peaks in the fifth decade of life, and gradually declines after menopause. They are present in up to 25% of women being seen for abnormal bleeding (Nguyen, 2011).

Therapeutic Management

Treatment of polyps usually consists of simple removal with small forceps done on an outpatient basis, removal during hysteroscopy, or dilation and curettage (D&C). The polyp base can be removed by laser vaporization. Because many polyps are infected, an antibiotic may be ordered after removal as a preventive measure or to treat early signs of infection.

Although polyps are rarely cancerous, a specimen should be sent after surgery to a pathology laboratory to exclude malignancy. A cervical biopsy typically reveals mildly atypical cells and signs of infection. Polyps rarely return after they are removed. Regularly scheduled Pap smears are suggested for women with cervical polyps to detect any future abnormal growths that may be malignant.

Nursing Assessment

Nursing assessment for a woman with polyps includes assisting with the physical examination and preparing the collected specimen to be sent to the cytologist.

Clinical Manifestations

Assess for clinical manifestations of polyps. Most endocervical polyps are cherry red, whereas most cervical polyps are grayish-white (Nguyen, 2011). Cervical and endocervical polyps are often asymptomatic, but they can produce mild symptoms such as abnormal vaginal bleeding (after intercourse or douching, between menses) or discharge. The most common clinical manifestation of endometrial polyps is metrorrhagia (irregular, acyclic uterine bleeding).

Physical Examination and Laboratory and Diagnostic Studies

Typically, cervical polyps are diagnosed when the cervix is visualized through a speculum during the woman's annual gynecologic examination (Casey et al., 2011). Endometrial polyps are not detected on physical examination, but rather with ultrasound or hysteroscopy (introduction of a small camera through the cervix to visualize the uterine cavity).

Nursing Management

Nursing management of polyps involves explaining the condition and the rationale for removal and giving follow-up care instructions. The nurse also assists the health care provider with the removal procedure.

Uterine Fibroids

Uterine fibroids, or leiomyomas, are benign tumors composed of smooth muscle and fibrous connective tissue in the uterus. Unlike cancerous tumors, fibroids usually grow slowly and their cells do not break away and invade other parts of the body. Fibroids are classified according to their position in the uterus (**Fig. 7.4**):

- *Subserosol fibroids:* lie underneath the outermost "peritoneal" layer of the uterus and grow out toward the pelvic cavity
- *Intramural fibroids:* grow within the wall of the uterus and are the most common type
- *Submucosal fibroids:* grow from immediately below the inner uterine surface into the uterine cavity (Wilson, 2011)

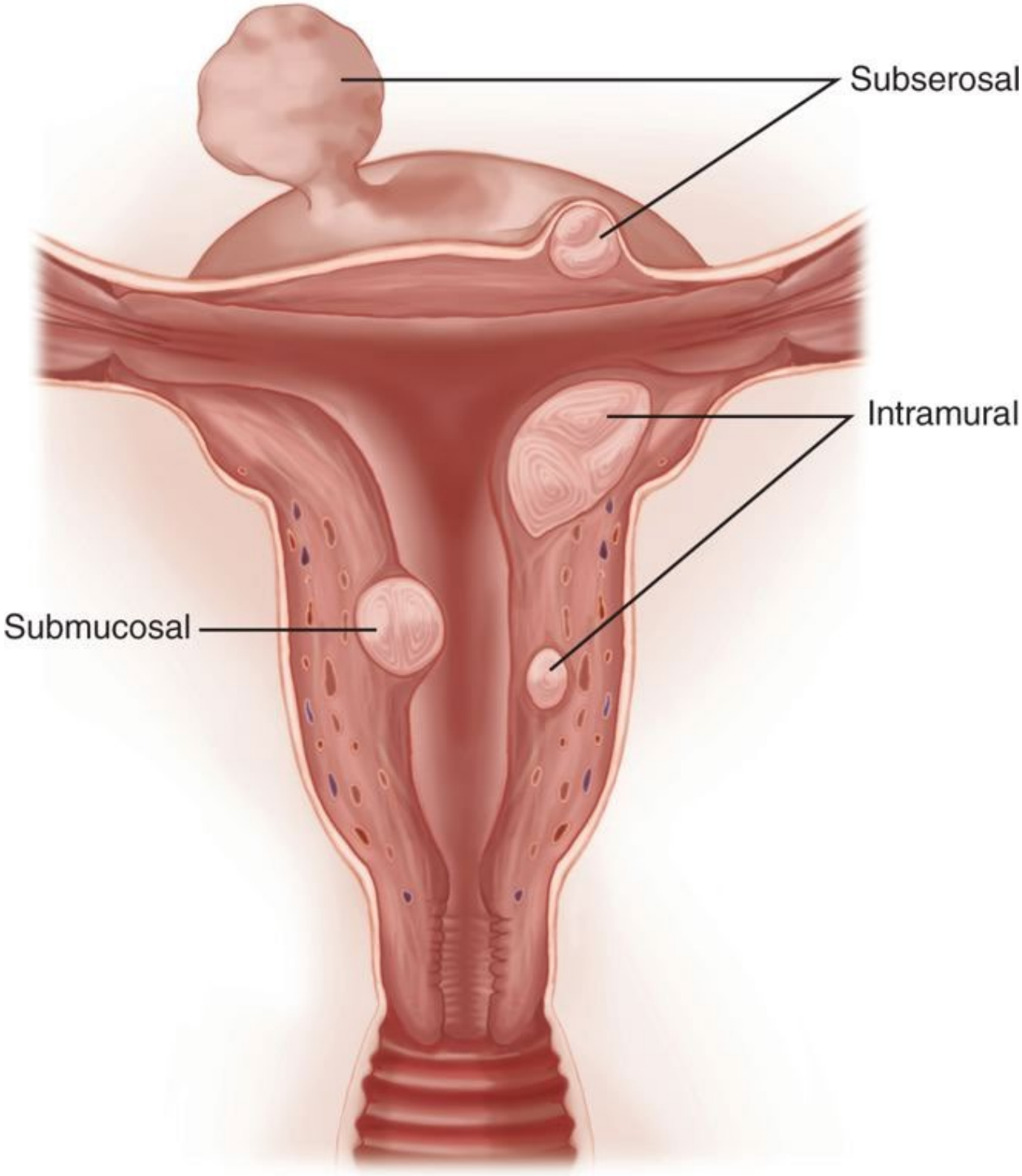


FIGURE 7.4

Submucosal, intramural, and subserosal fibroids.

Fibroids are estrogen dependent and thus grow rapidly during the childbearing years, when estrogen is plentiful, but they shrink during menopause, when estrogen levels decline. It is believed that these

benign tumors develop in up to 70% of all women over 30 years of age, but up to 50% are asymptomatic (Laughlin & Stewart, 2011). It is difficult to be precise because fibroids may cause no symptoms, and thus many women do not know they have them. Fibroids are the most common indication for hysterectomy in the United States. The peak incidence occurs around age 45, and they are three times more prevalent in African American women than Caucasian women (Laughlin & Stewart, 2011).

Etiology

Although the cause of fibroids is unknown, several predisposing factors have been identified, including:

- Age (late reproductive years)
- Genetic predisposition
- African American ethnicity
- Hypertension
- Nulliparity
- Obesity (Alexander, LaRosa, Bader, & Garfield, 2010)

Therapeutic Management

Treatment depends on the size of the fibroids and the woman's symptoms. Several treatment options exist, ranging from watchful waiting to surgery.

Medical Management

The goals of medical therapy are to reduce symptoms and to reduce the tumor size. This can be accomplished with gonadotropin-releasing hormone (GnRH) agonists such as leuprolide (Lupron), nafarelin (Synarel), or goserelin (Zoladex), which stop ovulation and the production of estrogen, or low-dose mifepristone, a progestin antagonist. Both have produced regression and reduced the size of the tumors without surgery, but long-term therapy is expensive and not tolerated by most women. The side effects of GnRH medications include hot flashes, headaches, mood changes, vaginal dryness, musculoskeletal malaise, bone loss, and depression (King & Brucker, 2011). Long-term mifepristone therapy can result in endometrial hyperplasia, which increases the risk of endometrial malignancy. Once either therapy is stopped, the fibroids typically recur.

Uterine artery embolization (UAE) is an option in which polyvinyl alcohol pellets are injected into selected blood vessels via a catheter to block circulation to the fibroid, causing it to shrink and producing symptom resolution. The procedure is carried out by a radiologist who makes a tiny incision in the groin, introduces a fine catheter into the main artery leading to the uterus, and injects tiny particles of plastic or gelatin sponge into the artery that supplies blood to the fibroid. These particles stop the flow of blood, causing the fibroid to shrink or disappear completely over time. UAE has short-term advantages over surgery. Over the mid and long term, the benefits were similar, except for a higher reintervention rate after UAE (van der Kooij, Bipat, Hehenkamp, Ankum, & Reekers, 2011). There remains a need for a treatment that is noninvasive and that preserves fertility.

Surgical Management

For women with large fibroids or severe menorrhagia, surgery is preferred over medical treatment. Surgical management might involve myomectomy, laser surgery, or hysterectomy.

Myomectomy involves removing the fibroid alone. A myomectomy is performed via laparoscopy, through an abdominal incision or through a vaginal approach. The advantage is that only the fibroid is removed; fertility is not jeopardized because this procedure leaves the uterine muscle walls intact. Myomectomy relieves symptoms but does not affect the underlying process; thus, fibroids grow back and further treatment will be needed in the future.

Laser surgery (or electrocauterization) involves destroying small fibroids with lasers. Laser therapy can be done using a vaginal approach or laparoscopically. The laser treatment preserves the uterus, but the process may cause scarring and adhesions, thus impairing fertility (Uterine Fibroids, 2012). Fibroids can return after this procedure. Controversy remains as to whether laser treatment weakens the uterine wall and thus may contribute to uterine rupture in the future.

A hysterectomy is the surgical removal of the uterus. After cesarean section, it is the second most frequently performed surgical procedure for women in the United States. Approximately 600,000 hysterectomies are performed annually in the United States (Centers for Disease Control and Prevention [CDC], 2010). The top three conditions associated with hysterectomies are fibroids, endometriosis, and uterine prolapse (CDC, 2010). A hysterectomy to remove fibroids eliminates both the symptoms and the risk of recurrence, but it also terminates the woman's ability to bear children. Three types of hysterectomy surgeries are available: vaginal hysterectomy, laparoscopically assisted vaginal hysterectomy, and abdominal hysterectomy.

In a vaginal hysterectomy, the uterus is removed through an incision in the posterior vagina. Advantages include a shorter hospital stay and recovery time and no abdominal scars. Disadvantages include a limited operating space and poor visualization of other pelvic organs.

In a laparoscopically assisted vaginal hysterectomy, the uterus is removed through a laparoscope, through which structures within the abdomen and pelvis are visualized. Small incisions are made in the abdominal wall to permit the laparoscope to enter the surgical site. Advantages include a better surgical field, less pain, lower cost, and a shorter recovery time. Disadvantages include potential injury to the bladder and the inability to remove enlarged uteruses and scar tissue.

In an abdominal hysterectomy, the uterus and other pelvic organs are removed through an incision in the abdomen. This procedure allows the surgeon to visualize all pelvic organs and is typically used when a malignancy is suspected or a very large uterus is present. Disadvantages include the need for general anesthesia, a longer hospital stay and recovery period, more pain, higher cost, and a visible scar on the abdomen.

A summary of treatment options for uterine fibroids is presented in **Table 7.1**.

TABLE 7.1: SUMMARY OF TREATMENT OPTIONS FOR UTERINE FIBROIDS

Method	Advantages	Disadvantages
Hormones	Noninvasive Reduces size of fibroids Symptom improvement	Serious side effects with long-term use Fibroids regrow when meds stopped
Uterine artery embolization	Minimally invasive Dramatic decrease in symptoms Future fertility possible	Procedure frequently painful Requires radiation and contrast dye Permanently implanted material Possible negative fertility impact
Myomectomy	Performed as minor surgery Uterus is preserved	Requires general anesthesia New growth of fibroids occurs
Hysterectomy	Complete removal of fibroids Immediate symptom relief	Requires general anesthesia Major surgery with associated risks Fertility not preserved
Laser surgery	Can be done as an outpatient procedure to destroy small fibroids.	Vaporization process can cause scarring and adhesions, affecting future fertility.

Nursing Assessment

Nursing assessment for the woman with uterine fibroids includes a thorough health history, physical examination, and laboratory and diagnostic studies.

Health History and Clinical Manifestations

The history should include questions about the woman's menstrual cycle, including alterations in the menstrual pattern (e.g., pain or pressure, aggravating and alleviating factors), history of infertility, and any history of spontaneous abortion, which might indicate a space-occupying uterine lesion. Ask if any female relatives have had fibroids, because there is a familial predisposition. Assess for clinical

manifestations of uterine fibroids. Symptoms of fibroids depend on their size and location and may include:

- Chronic pelvic pain
- Low back pain
- Iron-deficiency anemia secondary to bleeding
- Bloating
- Constipation
- Infertility (with large tumors)
- Dysmenorrhea
- Miscarriage
- Sciatica
- Dyspareunia
- Urinary frequency, urgency, incontinence
- Irregular vaginal bleeding (menorrhagia)
- Feeling of heaviness in the pelvic region

Physical Examination and Laboratory and Diagnostic Studies

The bimanual examination performed by the health care provider typically shows an enlarged, irregular uterus. The uterus may be palpable abdominally if the fibroid is very large. Ultrasound may be used to confirm the diagnosis.

Nursing Management

The level of support that nurses can provide women with fibroids depends on the type of treatment offered and her choice of them. Nurses should be able to explain any current treatment options and the implications of a diagnosis of fibroids. Many women have not heard of fibroids previously and need reassurance that they are both common and benign. If medication is prescribed, it is essential to explain the possible side effects and why medication can only be taken for a limited duration. If surgery is selected, verbal and written information about it and the aftercare should be addressed (**Box 7.2**). A woman undergoing a hysterectomy for the treatment of fibroids often needs special care.

BOX 7.2: NURSING INTERVENTIONS FOR A WOMAN UNDERGOING A HYSTERECTOMY

Preoperative Care

- Instruct the client and her family about the procedure and aftercare.
- Provide interventions to reduce anxiety (due to perceived threats to the woman's self-concept and role functioning) and fear of alteration in body image, complications, and pain. Prepare the woman so she knows what to expect throughout her perioperative experience.

Explain postoperative pain management procedures that will be used. Identify the high-risk woman early to reduce her stress.

- Teach turning, deep breathing, and coughing before surgery to prevent postoperative atelectasis and respiratory complications such as pneumonia.
- Encourage the woman to discuss her feelings. Some women equate their femaleness with their reproductive capability, and loss of the uterus could evoke grieving.
- Complete all preoperative orders in a timely manner to allow for rest.

Postoperative Care

- Provide comfort measures.
- Administer analgesics promptly or use a PCA pump.
- Administer antiemetics to control nausea and vomiting per order.
- Change the client's linens and gown frequently to promote hygiene.
- Change the client's position frequently and use pillows for support to promote comfort and pain management.
- Assess the incision, the dressing, and vaginal bleeding and report if bleeding is excessive (soaking perineal pad within an hour).
- Monitor elimination and provide increased fluids and fiber to prevent constipation and straining.
- Encourage ambulation and active range-of-motion exercises when in bed to prevent thrombophlebitis and venous stasis.
- Monitor vital signs to detect early complications.
- Be comfortable discussing sexual concerns with the client.

Discharge Planning

- Advise the client to reduce her activity level to avoid fatigue, which might inhibit healing.
- Advise the client to rest when she is tired and to increase her activity level slowly.
- Educate the client on the need for pelvic rest (nothing in the vagina) for 6 weeks.
- Instruct the client to avoid heavy lifting or straining for about 6 weeks to prevent an increase in intra-abdominal pressure, which could weaken her sutures.
- Teach the client the signs and symptoms of infection.
- Advise the woman to take showers instead of tub baths to reduce the risk for infection.
- Encourage the client to eat a healthy diet with increased intake of fluids to prevent dehydration and fluid and electrolyte imbalance.
- Instruct the client to change her perineal pad frequently to prevent infection.
- Explain and schedule follow-up care appointments as needed.
- Provide information about community resources for support/help.

Genital Fistulas

Genital fistulas are abnormal openings between a genital tract organ and another organ, such as the urinary tract or the gastrointestinal tract. A fistula can result from a congenital

anomaly, surgical complications, Bartholin's gland abscesses, radiation, or malignancy, but the majority of fistulas that occur worldwide are related to obstetric trauma and female genital cutting (Vasavada & Rackley, 2011). During normal labor, the bladder is displaced upward into the abdomen, and the anterior vaginal wall, the base of the bladder, and the urethra are compressed between the fetal head and the posterior pubis. When labor is obstructed or prolonged, this unrelieved compression causes ischemia, which causes pressure necrosis and subsequent fistula formation.

Common types of fistulas include:

- *Vesicovaginal:* communication between the bladder and genital tract
- *Urethrovaginal:* communication between the urethra and the vagina
- *Rectovaginal:* communication between the rectum or sigmoid colon and the vagina

The direct consequences of this damage include urinary incontinence and fecal incontinence if the rectum is involved. This tragic condition has plagued women since the beginning of history (De Ridder, 2011). Another major cause of genital trauma leading to the development of genital fistulas is female genital cutting. This cultural practice is beginning to receive worldwide attention as part of the international public health agenda to move toward reducing its incidence (Sandy, 2011). This cultural practice will be addressed in detail in **Chapter 9**.

Therapeutic Management

Many small fistulas will heal without treatment, but large fistulas often require surgical repair; surgery may be postponed until the edema or inflammation in the surrounding tissues has dissipated. Surgical repair of fistulas is associated with a high success rate if it is done in a timely manner, but larger fistulas and those of long duration have a poorer prognosis (Vasavada & Rackley, 2011).

Nursing Assessment

The history should include questions about any changes in the woman's urinary and bowel patterns. Assess for common signs and symptoms of fistulas, which are related to the type of fistula. If the opening involves the rectum, feces and flatus will leak through the vagina. If it involves the bladder, urine will leak from the vagina. Depending on the location and size of the fistula, the woman may or may not experience discomfort. The health care provider can detect these abnormal openings through inspection and palpation during the pelvic examination. Diagnostic or laboratory tests are generally not ordered once this condition is found.

Nursing Management

Provide guidance and support. Offer information to help the woman learn about her condition and, with appropriate intervention, to improve her quality of life. Begin by making sure the woman understands her anatomy and why she is having such symptoms. Provide a thorough explanation of the treatment options so that she can make an informed decision. Be sensitive to

the woman's feeling of shame and fear about her incontinence; these feelings may be why she delayed seeking treatment. Address all of the woman's needs, both physical and emotional.

Bartholin's Cysts

A Bartholin's cyst is a swollen, fluid-filled, sac-like structure that results when one of the ducts of the Bartholin's gland becomes blocked. The cyst may become infected and an abscess may develop in the gland. The Bartholin's glands are two mucus-secreting glandular structures with duct openings bilaterally at the base of the labia minora near the opening of the vagina that provide lubrication during sexual arousal. Bartholin's cysts are the most common cystic growths in the vulva, affecting approximately 2% of women at some time in their life (Wechter, Wu, Marzano, & Haefner, 2011).

Therapeutic Management

Treatment can be conservative or surgical depending on the symptoms, the size of the cyst, and whether it is infected or not. Small asymptomatic cysts do not require treatment. Sitz baths along with analgesics are used to reduce discomfort. Antibiotics are prescribed if the gland is infected. The aim of treatment for a cyst or abscess is to create a fistulous tract from the dilated duct to the outside vulva by incision and drainage (I&D). However, cysts or abscesses tend to return if this option is used.

Other treatment options beyond I&D include placement of a Word catheter or a small loop of plastic tubing secured in place to prevent closure and to allow drainage. The use of a carbon dioxide laser to remove the cyst is also possible. After the Word catheter is inserted, the balloon tip is inflated and it is left in place for 4 to 6 weeks. The follow-up of the plastic tubing for removal is in approximately 3 weeks. Both procedures are safe and effective alternatives to surgery (Scott, 2011). Treatment for a pregnant woman with a Bartholin's cyst depends on the severity of the symptoms and whether an infection is present. Surgery may be delayed until after the woman gives birth if there are no symptoms.

Nursing Assessment

Nursing assessment for the woman with a Bartholin's cyst includes a thorough health history, physical examination, and laboratory and diagnostic tests.

Health History

The history should include questions about the woman's sexual practices and protective measures used. Assess for common signs and symptoms of Bartholin's cysts. The woman may be asymptomatic if the cyst is small (less than 5 cm) and not infected. If infection is present, symptoms include varying degrees of pain, especially when walking or sitting; unilateral edema; redness around the gland; and dyspareunia. Extensive inflammation may cause systemic

symptoms. Abscess formation occurs when the cystic fluid becomes infected. An abscess usually develops rapidly over a 2- to 3-day period and may spontaneously rupture. A history of sudden relief of pain following profuse discharge is highly suggestive of spontaneous rupture (Schuiling & Likis, 2011).

Physical Examination and Laboratory and Diagnostic Studies

The diagnosis of Bartholin's cysts or abscesses is primarily made during a physical examination when a protruding tender labial mass is located. In women over the age of 40, there is an increased risk of malignancy, accounting for 1% to 2% of all invasive vulvar malignancies (Schecter & Quinn, 2010). Cultures of the purulent abscess fluid and of the cervix should be obtained for *Neisseria gonorrhoeae* and *Chlamydia trachomatis* to rule out a sexually transmitted infection.

Nursing Management

Nurses must be aware of and knowledgeable about vulvar cysts and treatment options. The woman may be aware of a vulvar cyst secondary to the pain or may be unaware of it if it is asymptomatic. A Bartholin's cyst may be an incidental finding during a routine pelvic examination. Explain the cause of the cyst and assist with cultures if needed. Provide reassurance and support.

Ovarian Cysts

An **ovarian cyst** is a fluid-filled sac that forms on the ovary (Fig. 7.5). These very common growths are benign 90% of the time and are asymptomatic in many women. Ovarian cysts occur in 30% of women with regular menses, 50% of women with irregular menses, and 7% of postmenopausal women (Helm, 2011). When the cysts grow large and exert pressure on surrounding structures, women often seek medical help.

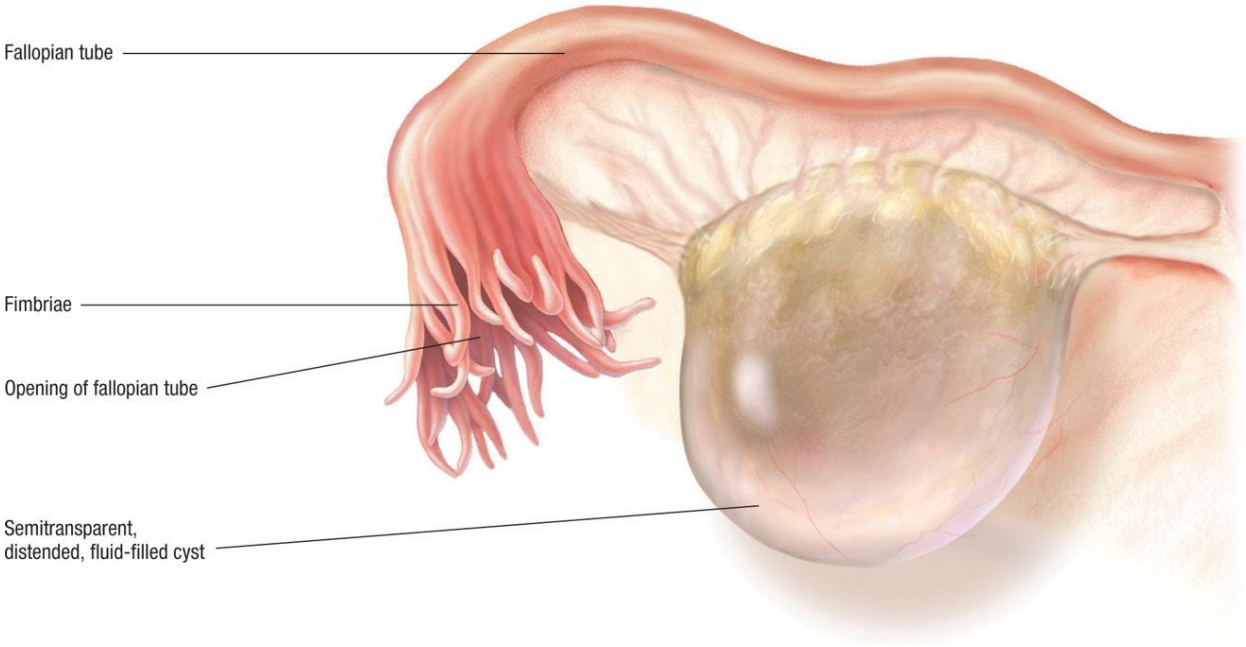


FIGURE 7.5

Ovarian cyst. (Asset provided by Anatomical Chart Co.)

Types of Ovarian Cysts

The most common benign ovarian cysts are follicular cysts, corpus luteum (lutein) cysts, theca-lutein cysts, and polycystic ovarian syndrome (PCOS).

Follicular Cysts

Follicular cysts are caused by the failure of the ovarian follicle to rupture at the time of ovulation. Follicular cysts seldom grow larger than 5 cm in diameter; most regress and require no treatment. They can occur at any age but are more common in reproductive-aged women and are rare after menopause. They are detected by vaginal ultrasound.

Corpus Luteum (Lutein) Cysts

A corpus luteum cyst forms when the corpus luteum becomes cystic or hemorrhagic and fails to degenerate after 14 days. These cysts might cause pain and delay the next menstrual period. A pelvic ultrasound helps to make this diagnosis. Typically these cysts appear after ovulation and resolve without intervention.

Theca-Lutein Cysts

Prolonged abnormally high levels of human chorionic gonadotropin (hCG) stimulate the development of theca-lutein cysts. Although rare, these cysts are associated with hydatidiform mole, choriocarcinoma, polycystic ovary syndrome, and Clomid therapy.

Polycystic Ovary Syndrome

Polycystic ovary syndrome (PCOS) involves the presence of multiple inactive follicle cysts within the ovary that interfere with ovarian function. It is a multifaceted disorder, and central to its pathogenesis are hyperandrogenemia and hyperinsulinemia, which are targets for treatment (King & Brucker, 2011). It is associated with obesity, hyperinsulinemia, elevated luteinizing hormone levels (linked to ovulation), elevated androgen levels (virilization), hirsutism (male-pattern hair growth), follicular atresia (ovarian growth failure), ovarian growth and cyst formation, anovulation (failure to ovulate), infertility, type 2 diabetes, sleep apnea, amenorrhea (absence of menstruation or irregular periods), metabolic syndrome, which is characterized by abdominal obesity (waist circumference >35 inches), dyslipidemia (triglyceride level >150 mg/dL, high-density lipoprotein cholesterol level <50 mg/dL), elevated blood pressure, a pro-inflammatory state characterized by an elevated C-reactive protein level, and a prothrombotic state characterized by elevated PAI-1 and fibrinogen levels. Recent studies also indicate that PCOS is associated with an increase in the risk of uterine fibroids (Rachon´ & Teede, 2010). PCOS is the most common endocrine disorder affecting reproductive-age women of all ethnic groups. With an estimated prevalence of 4% to 18%, PCOS is the most common cause of medically treatable infertility and is responsible for 70% of cases of anovulatory subfertility and up to 20% of couples' infertility cases (Montplaisir, 2011).

Take Note!

Careful attention should be given to this condition because affected women are at increased risk for long-term health problems such as cardiovascular disease, hypertension, dyslipidemia, type 2 diabetes (half of all women), infertility, and cancer (endometrial, breast, and ovarian) (Rachoń & Teede, 2010).

Initially PCOS was called Stein-Leventhal syndrome after its researchers, but it is now recognized to be an anabolic syndrome. Unfortunately, less than two thirds of women are aware of their diagnosis or the concomitant high risk for developing type 2 diabetes mellitus and cardiovascular disease related to metabolic syndrome. Its etiology is not clearly understood, but studies suggest a genetic (autosomal-dominant) component (Lucidi, Ferry, Levitsky, & Speiser, 2011).

Therapeutic Management

Treatment of ovarian cysts focuses on differentiating a benign cyst from a solid ovarian malignancy. Transvaginal ultrasound is useful in distinguishing fluid-filled cysts from solid masses. Laparoscopy may be needed to remove the cyst if it is large and pressing on surrounding structures. For smaller cysts, monitoring with repeat ultrasounds every 3 to 6 months might be in order (Helm, 2011). Oral contraceptives are often prescribed to suppress gonadotropin levels, which may help resolve the cysts. Pain medication is also prescribed if needed.

Medical management of PCOS is aimed at the treatment of metabolic derangements, anovulation, hirsutism, and menstrual irregularity. This includes both drug and nondrug therapy, along with lifestyle modifications. Goals of therapy focus on reducing the production and circulating levels of androgens, protecting the endometrium against the effects of unopposed estrogens, supporting lifestyle changes to achieve ideal body weight, lowering the risk of cardiovascular disease, avoiding the effects of hyperinsulinemia on the risk of cardiovascular disease and diabetes, and inducing ovulation to achieve pregnancy if desired (see **Evidence-Based Practice 7.2**). Treatment modalities for PCOS are highlighted in **Box 7.3**.

EVIDENCE-BASED PRACTICE 7.2: ARE INSULIN-SENSITIZING DRUGS MORE EFFECTIVE THAN THE COMBINED ORAL CONTRACEPTIVE PILL IN MINIMIZING HIRSUTISM, ACNE, RISK OF DIABETES, CARDIOVASCULAR DISEASE, AND ENDOMETRIAL CANCER IN PCOS?

STUDY

Women with polycystic ovary syndrome (PCOS) have excessive hairiness (hirsutism), irregular periods, and acne. They are also at greater risk of developing diabetes, cardiovascular disease, and endometrial cancer. Insulin-sensitizing drugs (ISDs) have recently been advocated as a safer and more effective long-term treatment than the oral contraceptive pill (OCP) in women with PCOS. A study was conducted to assess the effectiveness and safety of ISDs versus the OCP (alone or in combination) in improving clinical, hormonal, and metabolic features of PCOS.

Findings

Up to 12 months of treatment with the OCP is associated with an improvement in menstrual pattern and serum androgen levels compared with metformin; but metformin treatment results in a reduction in fasting insulin and lower triglyceride levels than with the OCP. Side effect profiles differ between the two drugs. The limited data available do not support the preferential use of either ISDs or the OCP (alone or in combination) for the long-term medical management of PCOS.

Nursing Implications

Oral contraceptives have been the mainstay of long-term management of PCOS because they decrease luteinizing hormone and follicle-stimulating hormone secretion and ovarian production of androgens to reduce symptoms. This study compared the ISD metformin to the traditional therapy without conclusive results. PCOS is associated with increased insulin resistance and increased unbound androgen levels. Since this study was inconclusive, nurses can continue to counsel women to improve their lifestyle (e.g., diet, exercise, weight management) to avoid health problems later in life related to diabetes and heart disease.

Adapted from Costello, M., Shrestha, B., Eden, J., Johnson, N., & Moran, L. J. (2010). Insulin-sensitizing drugs versus the combined oral contraceptive pill for hirsutism, acne and risk of diabetes, cardiovascular disease, and endometrial cancer in polycystic ovary syndrome. *Cochrane Database of Systematic Reviews, 2010*(11). doi:10.1002/14651858.CD005552.pub2.

BOX 7.3: TREATMENT MODALITIES FOR PCOS

- Oral contraceptives to treat menstrual irregularities and acne
- Mechanical hair removal (shaving, waxing, plucking, or electrolysis) to treat hirsutism
- Glucophage (metformin), which improves insulin uptake by fat and muscle cells, to treat hyperinsulinemia; thiazolinediones (Actos, Avandia) to decrease insulin resistance
- Ovulation induction agents (Clomid) to treat infertility
- Lifestyle changes (e.g., weight loss, exercise, balanced low-fat diet)
- Referral to support groups to help improve emotional state and build self-esteem

Adapted from Montplaisir, P. (2011). Is metformin a multifunctional medication for inducing ovulation and improving pregnancy outcomes in PCOS? *Journal of the American Academy of Nurse Practitioners*, *23*(10), 537–541; Moran, L. J., Hutchison, S. K., Norman, R. J., & Teede, H. J. (2011). Lifestyle changes in women with polycystic ovary syndrome. *Cochrane Database of Systematic Reviews, 2011*(7). doi:10.1002/14651858.CD007506. pub3; and Rachoń, D., & Teede, H. (2010). Ovarian function and obesity—Interrelationship, impact on women's reproductive lifespan and treatment options. *Molecular & Cellular Endocrinology*, *316*(2), 172–179.

Nursing Assessment

Nursing assessment for the woman with PCOS includes a thorough health history, physical examination, and laboratory and diagnostic tests.

Health History

The history should include questions about the woman's symptoms, including onset, location, frequency, quality, intensity, and aggravating and alleviating factors of her discomfort. Note the last menstrual period and whether or not her cycles are regular. Ask about her overall