Postpartum Care

COURSE OBJECTIVE: The purpose of this course is to provide healthcare professionals with a review of postpartum physiology, psychology, assessment, normal adaptation, complications, and teaching of the postpartum patient.

LEARNING OBJECTIVES
Upon completion of this course, you will be able to:

• Describe the normal physiologic and psychological adaptations to the postpartum period.
• Explain how to perform a postpartum nursing assessment.
• Identify the teaching topics that are relevant to postpartum patients.
• Identify indicators of intimate partner violence.
• Summarize the treatment of maternal complications seen during the postpartum period.
• List the symptoms that postpartum patients should report to their healthcare providers after discharge.

The postpartum period covers the time period from birth until approximately six weeks after delivery. This is a time of healing and rejuvenation as the mother’s body returns to pre-pregnancy states. Nurses need to be aware of the normal physiologic and psychological changes that take place in women’s bodies and minds in order to provide comprehensive care during this period. In addition to patient and family teaching, one of the most significant responsibilities of the postpartum nurse is to recognize potential medical complications after delivery.
NORMAL POSTPARTUM ADAPTATIONS: PHYSIOLOGIC

Reproductive System

UTERUS

Immediately after delivering, women experience massive shifting as the body returns to its pre-pregnant state. This process, known as *involution*, begins immediately after the delivery of the placenta. The uterus, with the assistance of the uterine muscles, contracts the blood vessels at the site of placental attachment to control bleeding.

A process known as *exfoliation* also occurs at this time. Exfoliation is the sloughing off of dead tissue at the site where the placenta attached to the uterine wall. Exfoliation leaves the site smooth and without scar tissue to allow for the implantation of fertilized ova in subsequent pregnancies.

The uterus continues to contract after delivery, and its size decreases rapidly as estrogen and progesterone levels diminish. Immediately after delivery, the upper portion of the uterus, known as the *fundus*, is midline and palpable halfway between the symphysis pubis and the umbilicus. By approximately one hour post delivery, the fundus is firm and at the level of the umbilicus. The fundus continues to descend into the pelvis at the rate of approximately one centimeter (finger-breadth) per day and should be nonpalpable by 10 days postpartum. Uterine involution can be impeded by anything that would cause distention of the uterus, including an unusually large (macrosomic) infant, multiple pregnancies, multiple births, or excessive amniotic fluid.

*Afterpains*, or intermittent uterine contractions, are a normal occurrence during the postpartum period. Afterpains are caused by the release of the hormone oxytocin and the subsequent relaxation and contraction of the uterine muscles. Afterpains can be quite intense for postpartum women and are particularly painful for women who have given birth previously (multiparous). Afterpains are caused by the loss of uterine muscle tone following numerous pregnancies. Women may also experience afterpains while breastfeeding as a result of nipple stimulation and the subsequent release of oxytocin. Afterpains generally last for a few days and can be alleviated by relaxation techniques and, if necessary, analgesics.

After delivery, the endometrial surface of the uterus is shed via the vagina. The shedding endometrium is known as *lochia*. Lochia occurs in three successive stages that include lochia rubra, lochia serosa, and lochia alba. Lochia rubra is bright red and is noted on postpartum days 1 to 3. Lochia serosa is pink to brown in color and occurs after day 3. By 10 days postpartum, lochia is yellow to white in color and is referred to as lochia alba.

CERVIX

As with all other reproductive organs and structures, the cervix also changes as the body returns to a pre-pregnancy state. After delivery, the cervix is edematous and may appear bruised. The
external os resembles a slit as compared to the circular, dimpled opening prior to the first pregnancy. The internal os closes almost completely within 2 weeks of delivery.

**VAGINA**

The vaginal walls are smooth after delivery, and the vaginal folds, known as rugae, do not return until approximately 4 weeks postpartum. The vagina itself will never return to the pre-pregnant size but will decrease in size and return to a near pre-pregnancy state as the postpartum period progresses. The vagina usually appears edematous and may have small lacerations incurred during the delivery. Vaginal dryness and painful intercourse, known as dyspareunia, may be noted during the postpartum period due to decreased estrogen levels. Mucous production should return with ovulation, and women are frequently encouraged to use water-based lubricants (e.g., K-Y Jelly) with intercourse to ease discomfort.

**PERINEUM**

This area between the posterior portion of the labia majora and the anus stretches and thins during birth to accommodate delivery of the infant. Lacerations of the perineum may occur during delivery, or an episiotomy (surgical incision) may be performed in this area to accommodate the infant during delivery.

Lacerations of the perineum are identified as first-, second-, third-, or fourth-degree. First-degree lacerations extend through the skin and superficial layers of the perineum. Second-degree lacerations extend through the perineal muscles, while third-degree lacerations extend through the anal sphincter muscles. Fourth-degree lacerations extend through the anterior rectal wall and can be damaging to the perineum.

According to the National Hospital Discharge Survey, “About 26% of all procedures performed on females were obstetrical. Cesarean section and repair of current obstetric laceration were the most frequent obstetrical procedures performed [in 2007]” (Hall et al., 2010). In 2007, there were 1,261 repairs of current obstetrical lacerations in the United States (Hall et al., 2010). Ideally, the perineum should be protected from trauma during labor and birth. Hastings-Tolsma and colleagues (2007) postulate that factors “protective against perineal trauma (i.e., lacerations) included massage, warm compress use, manual support, and birthing in the lateral position.”

Regardless of the presence of lacerations or an episiotomy, the perineum is generally edematous and often bruised immediately following delivery. The muscle tone of this area is weakened as a result of delivery and never completely returns to the state it was prior to the first pregnancy.

**EPISIOTOMY**

An episiotomy to aid in the delivery of the infant should be performed only when necessary. There is much debate regarding the maternal benefits of episiotomies, and researchers continue to denounce its usage, except under extenuating circumstances. “An episiotomy
was performed during a majority of vaginal deliveries in 1980 (64%), but by 2005, it was performed during less than one of every five vaginal deliveries (19%)” (DeFrances et al., 2007).

**BREASTS**

After delivery there is a significant decrease in estrogen and progesterone levels. Before milk production begins, the breasts secrete colostrum, a thin, yellowish fluid that helps maintain the blood glucose level in the breastfeeding infant. Nipple stimulation by the infant causes the release of the hormone oxytocin from the posterior pituitary gland, which triggers the release of the hormone prolactin from the anterior pituitary. Prolactin initiates milk production, and the breasts become full (engorged), as well as warm and tender, between postpartum days 3 and 4. Mothers often refer to this as having their milk “come in.” There may be a slight elevation in body temperature during this time.

Women who choose not to breastfeed will also experience their milk coming in; however, lactation can be suppressed through the use of a well-fitted bra. Non-breastfeeding mothers should also avoid any type of nipple stimulation or heat to the breasts, such as warm or hot showers in which the water is allowed to run continuously over the breasts. These mothers can use ice packs or cool cabbage leaves to ease breast discomfort until milk production ceases. It generally takes 5 to 7 days for the breasts to stop producing milk. Healthcare providers may consider prescribing mild analgesics if a woman has significant discomfort.

**Endocrine System**

With the sharp decrease of estrogen and progesterone levels following delivery of the placenta, lactation begins and menstruation returns. Estrogen is a prolactin-inhibiting hormone. When mothers choose to bottle-feed, prolactin levels diminish and estrogen levels begin to rise. Menstruation returns in approximately 6 to 8 weeks for these women. However, ovulation can return within 4 weeks.

When women breastfeed, prolactin levels increase as breastfeeding continues. Therefore, menstruation does not return until 12 weeks or later. Because ovulation can return prior to menses, it is important for healthcare providers to discuss family planning with patients during the early postpartum period in order to prevent undesired pregnancies.

**Cardiovascular System**

As the pregnant body prepares for blood loss at birth, there is an increase in circulating blood volume during pregnancy. Women may lose up to 500 mL of blood during a vaginal delivery and between 800 and 1000 mL of blood during a cesarean (C-section) delivery. However, due to the increase in circulating blood volume that occurs during pregnancy, blood loss at delivery can easily be managed by the postpartum woman who does not have cardiovascular or clotting problems.
At delivery, there are fluid changes within the body to accommodate postpartum blood loss and to prevent hypovolemia. “These changes include 1) elimination of the placenta, which diverts 500 to 750 mL of blood flow into the maternal systemic circulation; 2) rapid reduction of the size of the uterus, which puts more blood in the systemic circulation; 3) increase of blood flow to the vena cava from elimination of compression by the gravid uterus; and 4) mobilization of body fluids accumulated during pregnancy” (Leifer, 2005).

The postpartum body removes excess fluid accumulated during pregnancy by diuresis. Women may excrete up to 3000 mL of fluid per day during the postpartum period. In addition, women frequently experience excessive perspiration (diaphoresis), which also releases accumulated fluid during the postpartum period. Patients should be educated about increased urination and perspiration during this period.

During the early postpartum period there is a loss of plasma blood volume that is greater than that of red blood cells. Thus, there is a temporary rise in hemoglobin and hematocrit levels. It is difficult to measure hemoglobin and hematocrit levels accurately at this time. However, these levels do eventually return to normal.

Due to the inflammation, pain, and the stress of birth, neutrophils, a type of white blood cell, are increased and are responsible for a marked increase in the white blood cell count during the postpartum period. White blood cell counts may increase to levels as high as 30,000/mm³ (Murray & McKinney, 2010). As a result of this normal increase in the white blood cell count, it is important for healthcare providers to monitor patients closely for indications of infection during the postpartum period.

Fibrinogen is a protein that, along with other clotting factors, is responsible for the clotting of blood. In addition to the increase in circulating blood volume during pregnancy, plasma fibrinogen levels increase and remain increased for several days after delivery. Postpartum women have an increased risk of developing blood clots. Therefore, early ambulation is imperative.

Respiratory System

During pregnancy, the diaphragm is slightly elevated as the fetus nears term. This, along with other respiratory changes, causes thoracic versus abdominal breathing in the third trimester (Murray & McKinney, 2010). After delivery, the diaphragm descends and postpartum women’s respirations normally return to the pre-pregnant state.

Gastrointestinal System

Women are generally hungry and thirsty after delivery due to the amount of energy expended during labor. Food and fluid intake is usually restricted during labor, and many women may not have eaten for a number of hours prior to delivery. The diaphoresis that occurs during the postpartum period may also lead to increased thirst. It is important for nurses to provide nourishment and hydration upon delivery.
Many women experience constipation from the lack of fluid and food intake during labor. Furthermore, bowel tone is sluggish as a result of elevated progesterone levels. Often women are hesitant to have a bowel movement in the postpartum period due to pain in the perineal area resulting from an episiotomy, lacerations, or hemorrhoids. Some women are also fearful that they will rip their stitches should they have a bowel movement. Healthcare providers may prescribe stool softeners and/or laxatives to treat constipation and provide perineal comfort during defecation.

**Urinary System**

The bladder, urethra, and urinary meatus are edematous after delivery as a result of the fetal head passing through the birth canal. Bladder tone is diminished, and many women are unable to feel the need to void, despite the rapid diuresis that occurs following delivery. In this situation, the bladder can become distended and displace the uterus upward and to the side, which prevents the uterine muscles from contracting properly and can lead to a postpartum hemorrhage. Therefore, healthcare providers must carefully monitor bladder distention, the firmness of the fundus, and bleeding during the postpartum period.

Urinary retention as a result of decreased bladder tone and emptying can lead to urinary tract infections (UTIs). It is imperative that nurses monitor postpartum patients for signs of urinary tract infection, including tenderness over the costovertebral angle, fever, urinary frequency and/or urgency, and difficult or painful urination.

According to Varney and colleagues (2004), 40% of postpartum women have protein in their urine that can be noted up to the second postpartum day. **Proteinuria** during this time is considered benign unless there are signs of a urinary tract infection or preeclampsia.

**Musculoskeletal System**

As with all other body systems, the musculoskeletal system undergoes changes during the postpartum period. **Relaxin** is the hormone responsible for the relaxation of the pelvic ligaments and joints during pregnancy. After delivery, relaxin levels subside and the pelvic ligaments and joints return to their pre-pregnant state. However, the joints of the feet remain altered, and many women notice a permanent increase in shoe size.

The abdominal wall is weakened and the muscle tone of the abdomen is diminished after pregnancy. Some women have a separation between the abdominal wall muscles, called **diastasis recti**. This separation can often be corrected with certain abdominal exercises performed during the postpartum period. Patients should be instructed to begin abdominal exercises anytime following a vaginal delivery and after abdominal tenderness resolves following a cesarean section, generally in 4 weeks (Murray & McKinney, 2010). Patients should also be instructed to avoid overexertion during the first few weeks after delivery.
**Integumentary System**

Melanocyte-stimulating hormone (MSH) is responsible for the hyperpigmentation that occurs during pregnancy. MSH levels rapidly decrease after delivery, and the skin changes that occurred as a result of pregnancy revert to the pre-pregnant state or are permanently altered. More specifically, the mask of pregnancy (chloasma) usually disappears, while stretch marks (striae gravidarum) and linea nigra fade but generally do not go away. Hair loss may occur during the postpartum period but usually resolves without the need for intervention. As previously mentioned, diaphoresis is common during the postpartum period, and patients should be informed that they may need to change clothes and bed linens more frequently than usual.

**Immune System**

There are few changes in the immune system during the postpartum period. However, it is important for Rh-negative patients to receive Rh immune globulin within 72 hours of delivery to prevent maternal antibody production in response to the Rh-positive antigen received from infants during pregnancy or birth.

The rubella vaccine should also be administered to postpartum patients who tested nonimmune or had a rubella titer less than 1:10 prior to delivery. Patients should be informed that the vaccination is given to prevent fetal anomalies in subsequent pregnancies. Additionally, the rubella vaccine is a live virus and is contraindicated during pregnancy. Therefore, all women should be instructed to avoid becoming pregnant for the 4 weeks following the administration of the vaccine (CDC, 2013a).

**NORMAL POSTPARTUM ADAPTATIONS: PSYCHOLOGICAL**

The postpartum period is a time of immense change for the new mother and her family. Roles and expectations often shift as families adjust to their newest addition and women learn to “become mothers” (Mercer, 2004).

**Attachment**

Bonding, sometimes referred to as attachment, between mothers and infants is affected by a multitude of factors, including socioeconomic status, family history, role models, support systems, cultural factors, and birth experiences. Nurses are encouraged to consider these variables when assessing the attachment process between mothers and infants. It is also important to note that women begin to show attachment behaviors not only in the postpartum period but also during pregnancy. Therefore, healthcare providers have multiple opportunities to assess how pregnant patients will likely bond with their infants after delivery. Various tools, such as the Postpartum Bonding Questionnaire (see next page), can be helpful in assessing bonding.
## POSTPARTUM BONDING QUESTIONNAIRE

Please indicate how often the following are true for you. There are no “right” or “wrong” answers. Choose the answer which seems right in your recent experience.

<table>
<thead>
<tr>
<th>Factor</th>
<th>Scoring</th>
<th>Statement</th>
<th>Always</th>
<th>Very often</th>
<th>Quite often</th>
<th>Sometimes</th>
<th>Rarely</th>
<th>Never</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0→5</td>
<td>I feel close to my baby</td>
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<tr>
<td>1</td>
<td>5→0</td>
<td>I wish the old days when I had no baby would come back</td>
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<tr>
<td>2</td>
<td>5→0</td>
<td>I feel distant from my baby</td>
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<tr>
<td>2</td>
<td>0→5</td>
<td>I love to cuddle my baby</td>
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<tr>
<td>2</td>
<td>5→0</td>
<td>I regret having this baby</td>
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<td>1</td>
<td>5→0</td>
<td>The baby does not seem to be mine</td>
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<tr>
<td>1</td>
<td>5→0</td>
<td>My baby winds me up</td>
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<tr>
<td>1</td>
<td>0→5</td>
<td>I love my baby to bits</td>
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<tr>
<td>1</td>
<td>0→5</td>
<td>I feel happy when my baby smiles or laughs</td>
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<tr>
<td>1</td>
<td>5→0</td>
<td>My baby irritates me</td>
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<td>2</td>
<td>0→5</td>
<td>I enjoy playing with my baby</td>
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<tr>
<td>1</td>
<td>5→0</td>
<td>My baby cries too much</td>
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<td>1</td>
<td>5→0</td>
<td>I feel trapped as a mother</td>
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<td>2</td>
<td>5→0</td>
<td>I feel angry with my baby</td>
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<tr>
<td>1</td>
<td>5→0</td>
<td>I resent my baby</td>
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<tr>
<td>1</td>
<td>0→5</td>
<td>My baby is the most beautiful baby in the world</td>
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<tr>
<td>1</td>
<td>5→0</td>
<td>I wish my baby would somehow go away</td>
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<tr>
<td>4</td>
<td>5→0</td>
<td>I have done harmful things to my baby</td>
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<td>3</td>
<td>5→0</td>
<td>My baby makes me feel anxious</td>
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<tr>
<td>3</td>
<td>5→0</td>
<td>I am afraid of my baby</td>
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<tr>
<td>2</td>
<td>5→0</td>
<td>My baby annoys me</td>
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<tr>
<td>3</td>
<td>0→5</td>
<td>I feel confident when caring for my baby</td>
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<td>2</td>
<td>5→0</td>
<td>I feel the only solution is for someone else to look after my baby</td>
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<tr>
<td>4</td>
<td>5→0</td>
<td>I feel like hurting my baby</td>
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<tr>
<td>3</td>
<td>0→5</td>
<td>My baby is easily comforted</td>
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A high score on factor 1 (the general factor) indicates that an interview is necessary to explore the quality of the mother-infant relationship and the presence of infant-centered anxiety, anger, or obsessions. A high score on factor 2 suggests that rejection of the infant is at least threatened, and focused treatment may be required. A high score on factor 4 signals the need for urgent investigation. But there is room for improvement in this questionnaire. Some of the twelve questions used for scale 1 may be superfluous. They could be replaced by more discriminating anxiety questions, and/or questions concerned with obsessional and post-traumatic symptoms, thus constructing a broad spectrum postpartum screening questionnaire.

Source: Brockington et al., 2006; Brockington et al., 2001. Used with permission.
In maternal-newborn healthcare, attachment refers to the emotional connection between a mother and her infant. This attachment is reciprocal; both the mother and the infant exhibit attachment behaviors. The infant responds to the mother by cooing, grasping, smiling, and crying. However, these behaviors are nondiscriminatory before approximately 8 weeks. Nurses can assess for attachment behaviors by observing the interactions between mothers and their infants. Behaviors exhibited by mothers that indicate positive attachment include:

- Touching
- Holding
- Kissing
- Cuddling
- Talking and singing
- Choosing the “en face” position
- Expressing pride in the infant

Postpartum assessment of attachment should begin immediately after delivery and continue throughout the infant’s first year of life. Most women positively attach to their newborn infants. However, there are some who do not form attachments appropriately. Mal-attachment behaviors vary, but can include:

- Refusing to look at the infant
- Refusing to touch or hold the infant
- Refusing to name the infant
- Negative comments about the infant
- Refusing to respond or responding negatively to infant cues (e.g., crying, smiling)

It is important to note that during the early postpartum period many factors can affect attachment, including anesthesia after a cesarean section, pain, or a traumatic birthing experience. Healthcare providers should consider these factors when assessing attachment. If mal-attachment is noted, providers should immediately report the observation and continue to monitor both the mother and infant.

**Paternal/Domestic Partner Adjustment**

The postpartum period is a time of great change within the family unit. Just as postpartum women are required to adjust to the new role of mother, fathers and domestic partners also face a period of adjustment upon the arrival of the newborn. All partners, if possible, should be assessed for attachment behaviors when interacting with their infants.
CASE

Elizabeth is 25 years old and gave birth to her first child, Jacob, approximately 24 hours ago. She had an extended labor and eventually delivered vaginally with the assistance of forceps and anesthesia. Her birth plan was to deliver naturally, but she was unable to do so. Elizabeth complains frequently of pain and of feeling very tired. You notice that she repeatedly sends Jacob to the nursery. She is reluctant to hold him but is sometimes seen gently stroking his face.

What is most likely happening with Elizabeth and how can you assist her?

Discussion

Elizabeth probably had a traumatic experience during labor and birth. Being unable to follow their birth plan and deliver naturally often affects women during the immediate postpartum period—and sometimes longer. She also complains of pain frequently. The healthcare provider should consider Elizabeth’s recent birthing experiences and pain level when assessing for attachment behaviors. Since she shows signs of positive attachment with Jacob, as evidenced by stroking his face, she is most likely not suffering from mal-attachment at this time.

It is important that healthcare providers continue to monitor Elizabeth and her interaction with her baby prior to discharge. It would also be helpful to discuss with Elizabeth her pain as well as her feelings surrounding labor and birth.

POSTPARTUM ASSESSMENT AND PATIENT EDUCATION

Primary responsibilities of nurses in postpartum settings are to assess postpartum patients, provide care and teaching, and if necessary, report any significant findings. Postpartum nurses are essentially detectives searching for findings that might lead to negative outcomes for patients if left unattended. Thus, it is imperative for nurses to distinguish between normal and abnormal findings and to have a clear understanding of the nursing care necessary to promote patients’ health and well-being.

Many nurses find it useful to use the acronym BUBBLE-LE to remember the necessary components of the postpartum assessment and teaching topics. These include:

- Breasts
- Uterus
- Bowel function
- Bladder
- Lochia
- Episiotomy/perineum
- Lower extremities, and
- Emotions

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Breasts

Assess the breasts for:

- Signs of engorgement, including fullness, around postpartum days 3 and 4
- Hot, red, painful, and edematous areas, which could indicate mastitis
- Nipple condition and latch-on technique of mothers who are breastfeeding

Breastfeeding women should wear a comfortable, well-fitted support bra. Instruct them to gently rub colostrum or breast milk into their nipples and allow the nipples to air dry after each feeding to “condition” the nipples. Mothers can prevent drying by avoiding soap when washing the nipples.

It is also extremely important to teach patients proper breastfeeding techniques to ensure a positive experience for mothers and their infants. Teaching proper latch-on techniques and how to break the infant’s suction after feeding can have a positive and lasting effect upon mothers’ breastfeeding experiences. Otherwise, mothers may develop sore, cracked, and sometimes bleeding nipples, which can discourage the continuation of breastfeeding.

According to the Joanna Briggs Institute (2009), “Among the options of applying warm-water compresses, breast milk, or teabags, the placement of a warm-water compress was found to be the most effective intervention in controlling nipple pain and trauma.”

Instruct bottle-feeding patients to wear a well-fitting support bra and to avoid any type of nipple stimulation until lactation is discontinued.

Uterus

Assess the fundus:

- By approximately one hour post delivery, the fundus is firm and at the level of the umbilicus.
- The fundus continues to descend into the pelvis at the rate of approximately 1 cm or finger-breadth per day and should be nonpalpable by 10 days postpartum.

In addition, assess patients for uterine cramping and treat for pain as needed.

Patients or a family member can be taught to assess the firmness of the fundus and to provide massage in the event of a boggy uterus or excessive bleeding. Encourage patients to void before palpation of the uterine fundus because a full bladder displaces the uterus and can lead to excessive bleeding.
Bowel Function

Assessment of the bowel is important in all postpartum patients. It is especially vital for patients following C-sections. Assess for the following:

- Bowel sounds
- Return of bowel function
- Flatus
- Color and consistency of stool

Administer prescribed stool softeners or laxatives as needed to treat constipation and ease perineal discomfort during defecation.

Encourage patients to ambulate soon after delivery. Teach the need to eat fruits, vegetables, and other high-fiber foods daily. Postpartum patients should consume at least 2,000 mL/day of fluid. While patients may consider 2,000 mL a lot to drink in one day, consumption can be spread out throughout the day.

Bladder

Assess urination and bladder function for the following:

- Return of urination, which should occur within 6 to 8 hours of delivery
- For approximately 8 hours after delivery, amount of urine at each void. Patients should void a minimum of 150 mL per void; less than 150 mL per void could indicate urinary retention due to decreased bladder tone post delivery (in the absence of preeclampsia or other significant health problems).
- Signs and symptoms of a urinary tract infection (UTI)

The bladder should be nonpalpable above the symphysis pubis.

Encourage patients to drink adequate fluid each day and to report signs and symptoms of a urinary tract infection, including frequency, urgency, painful urination, and hematuria.

Lochia

Assess lochia during the postpartum period:

- Saturating one pad in less than an hour, a constant trickle of lochia, or the presence of large (i.e., golf-ball sized) blood clots is indicative of more serious complications (e.g., retained placenta fragments, hemorrhage) and should be investigated immediately. A significant amount of lochia despite a firm fundus may indicate a laceration in the birth canal, which should be addressed immediately.
• Foul-smelling lochia typically indicates an infection and needs to be addressed as soon as possible.

• Lochia should progress from rubra to serosa to alba. Any changes in this progression could be considered abnormal and should be reported. Lochia rubra is present on days 1–3, lochia serosa on days 4–10, and lochia alba on days 11–21.

It is important to note that patients who had a C-section will typically have less lochia than patients who delivered vaginally; however, some lochia should be present.

After discharge, patients should report any abnormal progressions of lochia, excessive bleeding, foul-smelling lochia, or large blood clots to their physician immediately. Instruct patients to avoid sexual activity until lochial flow has ceased.

**Episiotomy/Perineum**

The acronym **REEDA** is often used to assess an episiotomy or laceration of the perineum. REEDA stands for:

- **Redness**
- **Edema**
- **Ecchymosis**
- **Discharge**
- **Approximation**

Redness is considered normal with episiotomies and lacerations; however, if there is significant pain present, further assessment is necessary. Furthermore, excessive edema can delay wound healing. The use of ice packs during the immediate postpartum period is generally indicated.

There should be an absence of discharge from the episiotomy or laceration, and the wound edges should be well approximated. Perineal pain must be assessed and treated. Nurses are encouraged to assess the rectal area for hemorrhoids and, if present, should instruct patients to discuss hemorrhoidal treatments (e.g., witch hazel pads or other over-the-counter hemorrhoid medications) with their certified nurse-midwife or physician.

Various actions can aid in perineal healing. To avoid infection, teach patients to pat from front to back and to use a peri-bottle for gentle cleansing of the perineum after a bowel movement or urination. Many certified nurse-midwives and physicians prescribe topical ointments and sprays to ease the discomfort of a sore perineum. If one of these has been prescribed, instruct patients to use a sitz bath and then apply the suggested topical agent for best results.

Analgesics are often prescribed for pain. Patients are generally instructed to apply ice packs to the perineum immediately after delivery. Inform patients with lacerations and episiotomies that, as sutures dissolve, the perineum may itch and that this is normal in the absence of any other
perineal abnormalities. Instruct patients to avoid tampons and sexual activity until the perineum has healed.

Performing Kegel exercises are an important component of strengthening the perineal muscles after delivery and may be begun as soon as it is comfortable to do so.

**Lower Extremities**

To assess for **deep vein thrombosis** (DVT), the lower extremities should be examined for the presence of hot, red, painful, and/or edematous areas.

Assess the legs for adequate **circulation** by checking the pedal pulses and noting temperature and color. In addition, the lower extremities should be assessed for edema. Pedal edema is normally present for several days after delivery as fluids in the body shift. However, lasting edema should be reported for further assessment.

To improve circulation and prevent the development of thrombi, encourage patients to ambulate shortly after delivery. Also teach them to avoid crossing the legs for long periods of time and to keep the legs elevated while sitting. Many certified nurse-midwives and physicians seek to combat the development of thrombi by encouraging patients to wear TED hose and/or sequential compression devices (SCDs) after delivery.

**ASSESSING FOR DVT**

In the past, postpartum nurses assessed for DVTs by eliciting a Homan’s sign (dorsiflexion of the foot). The presence of pain when eliciting the Homan’s sign indicated the probable presence of a DVT. However, it is now contraindicated to use the Homan’s sign to assess for DVTs, as this action may dislodge a clot. Massage of the legs should also be avoided.

**Emotions**

Emotions are an essential element of the postpartum assessment. Postpartum women typically exhibit symptoms of the “baby blues” or “postpartum blues,” demonstrated by tearfulness, irritability, and sometimes insomnia. The postpartum blues are caused by a multitude of factors, including hormonal fluctuations, physical exhaustion, and maternal role adjustment. This is a normal part of the postpartum experience.

If symptoms last longer than a few weeks or if the postpartum patient becomes nonfunctional or expresses a desire to harm herself or her infant, she should be instructed to report this to her certified nurse-midwife or physician immediately. Appropriate interventions should be implemented to protect the mother and her infant; this behavior is indicative of postpartum depression (discussed below under “Postpartum Complications”).

Postpartum mothers and their families should be taught to understand that the baby blues are a normal part of the postpartum experience. Encourage patients to rest regularly and to allow
family members to care for them as needed. Instruct patients to get plenty of fresh air and gentle exercise. Acquaint patients with groups for new mothers that provide the support of others experiencing postpartum blues. Finally, teach postpartum mothers and their families about the signs and symptoms of postpartum depression.

OTHER ASSESSMENTS

Vital Signs

During the postpartum period, women may exhibit a slight temperature elevation due to dehydration following delivery or as a result of breast milk coming in around day 3 or 4. Immediately after delivery, the blood pressure should remain the same as during delivery. An increase in blood pressure could indicate gestational hypertension (previously referred to as pregnancy-induced hypertension), while a decrease could indicate shock or orthostatic hypotension. Slight bradycardia is normal immediately after delivery; however, tachycardia could indicate hemorrhage or infection and should be monitored carefully. Respirations are usually within the normal range for an adult.

Pain

During the postpartum period, it is very important that healthcare providers continually assess a patient for pain, taking into account the patient’s acceptable pain levels. They should look for pain in all areas of the body, including the head, chest, breast, back, limbs, abdomen, uterus, perineum, and extremities. Positioning during labor may cause muscular discomfort, and headaches can indicate gestational hypertension. Patients should also be assessed for emotional pain and treated accordingly.

Mild analgesics or narcotics may be prescribed. Providers can also teach nonpharmacologic methods of pain relief to the patient and her family. Some of these methods include the application of hot or cold packs, massage, progressive relaxation, and meditation.

Cesarean Section Issues

Women who deliver via C-section have some additional assessment needs during the postpartum period, including incision status, pain, respirations, and lung and bowel sounds.

C-section patients may have vertical or horizontal incisions that will need to be assessed throughout the postpartum period. The REEDA method (redness, edema, ecchymosis, discharge, and approximation) can be used to assess these incisions. Incisions should be well approximated and without signs and symptoms of infection, including significant redness, edema, and drainage. There should be minimal to no drainage from the incision. If minimal drainage is present, it should not have a foul odor.
It is important to teach patients to examine their incision each day with a mirror or have a family member monitor the incision for them. Instruct patients to immediately report any abnormal findings, such as hematomas, abnormal drainage, odors, or significant pain, to their healthcare provider.

Providers should also monitor pain levels in patients who experienced a C-section. To manage pain during the initial postoperative period, these patients generally have either an epidural or a continuous intravenous infusion of pain medication via a patient-controlled anesthesia (PCA) pump.

When patients receive narcotics for pain relief, there is a possibility of respiratory depression. Therefore, the monitoring of respirations is imperative. If a patient exhibits respirations below 12 breaths per minute, immediate intervention is necessary. The anesthesiologist or other physician (per hospital policy) should be notified immediately, oxygen should be administered, pulse oximetry levels must be monitored, and the head of the bed should be elevated. Naloxone hydrochloride (Narcan), a narcotic antagonist, should be available for administration per hospital policy or as ordered.

Assessment of patients delivering via C-section should also include the auscultation of lung sounds because respiratory depression and prolonged periods of immobility may cause secretions to accumulate in the lungs, leading to further complications. Patients should be taught to turn, cough, and deep-breathe while splinting the incision and to use an incentive spirometer to aid in clearing the lungs. Bowel sounds and the presence of flatus are assessed regularly to ensure proper GI functioning prior to discharge.

**Intimate Partner Violence**

In addition to the typical assessments deemed necessary during the postpartum period, it is vital to assess for signs and symptoms of intimate partner violence (IPV), formally known as domestic violence. IPV touches the lives of countless families around the world, and healthcare providers can help to remedy this problem.

According to the National Center for Prevention Injury and Control and the Centers for Disease Control and Prevention (CDC, 2011), more than 1 in 3 women (35.6%) in the United States have experienced rape, physical violence, and/or stalking by an intimate partner in their lifetime. The American Nurses Association (ANA) *Position Statement on Violence Against Clients* (2000) indicates that the ANA supports the “assessment of clients in healthcare institutions and community settings [for IPV].” Abusive behaviors are often exacerbated during pregnancy and after delivery. Therefore, the maternal-child nurse has a special opportunity to assess and assist women suffering from IPV. It is essential that nurses have a clear understanding of the tools and techniques necessary to assess this population during the postpartum period.
SIGNS AND SYMPTOMS

Intimate partner violence is abuse that occurs between two people who are in a close or intimate relationship. It can manifest as physical, verbal/emotional, or sexual abuse, or as threatened abuse. Symptoms of IPV include:

- Chronic pain
- Migraine
- Depression
- Anxiety
- Bruises at various stages of healing
- Bruises resembling cords or belts
- Pelvic inflammatory disease (PID)
- Urinary tract infections (UTI)

An abusive partner may exhibit hostile or demanding behavior or may refuse to leave the patient’s side. Abusers may also answer for the patient and find ways to alienate the patient from her family and friends.

ASSESSMENT

In assessing patients for IPV, nurses should provide a private space for the assessment and ensure confidentiality. Since IPV occurs between husband and wife, boyfriend and girlfriend, domestic partners, and other family members, nurses should avoid questions such as “Do you feel safe at home?” or “Is anyone abusive to you?” in the presence of others, including family members and friends.

Furthermore, it is essential that nurses ask questions in a nonjudgmental manner because victims of IPV are often afraid and may feel ashamed. Judgmental questions like “Why don’t you just leave?” or “Why do you continue to go back?” are not likely to be helpful. Hathaway and colleagues (as cited in Watts, 2004) determined that if a patient felt the questioner was rushed when completing the IPV assessment, she was less likely to disclose her abuse. It is essential for nurses to assess patients in an unhurried and supportive manner.

Various tools are available to screen and assess patients for IPV, and many healthcare organizations have agreed to follow the ANA recommendation of screening all patients who enter healthcare facilities for IPV. The CDC has published *Measuring Intimate Partner Violence—Victimization and Perpetration: A Compendium of Assessment Tools*, which lists and evaluates IPV screening tools that can be used by healthcare providers to assess patients for IPV (Thompson et al., 2006). With the assistance of such tools, nurses are able to refer patients to the appropriate resources within healthcare facilities and the community.
CASE

As a home health nurse, you visit newlyweds Maria and William during the postpartum period. They had their first baby 4 days ago. Maria appears very tired and does not speak much. When asked any questions about herself or the baby, she looks at William and he answers for her. You notice that William will not leave Maria alone with you, even to calm the crying baby during the verbal portion of the assessment. The Edinburgh Postnatal Depression Scale indicates that Maria is severely depressed, and upon examination you notice bruises on her left shin. William quickly states, “Maria is clumsy and bumps into things a lot,” while Maria says nothing.

You leave the home and decide to follow up with Maria later in the day when William is not present. You speak with Maria several hours later, and she indicates that William is very abusive and that she wants to leave the home but is unsure how to do so. You assess that Maria and the newborn are not in any immediate danger and that there are no weapons in the home. Maria indicates that he is not abusive to the newborn.

Discussion

Women being abused are often unwilling to leave the abusive relationship because they are afraid the abusive partner will retaliate. Sometimes women are unable to leave the relationship because they have been isolated from family members and friends and do not have a strong support system in place. Additionally, abusive partners often have control of the finances, and many women are not able to care for themselves and/or their children if they leave the relationship.

Healthcare providers can encourage women to prepare in advance to leave by performing the following:

• Packing and hiding a bag with needed items
• Having personal documents (Social Security card, driver’s license, medical cards, etc.) available
• Hiding extra sets of house and car keys
• Establishing an emergency code with family and friends
• Having a plan for where to go after leaving

Nurses can also refer patients who are experiencing IPV to women’s shelters and provide a list of other resources, such as legal aid clinics, free clinics, mental health services, and local hotlines (CDC, 2013b).
POSTPARTUM COMPLICATIONS

Despite the normalcy of childbirth, complications may arise that will have detrimental effects on the postpartum patient. These include postpartum hemorrhage, thrombophlebitis, infections (including mastitis, endometritis, and urinary tract infections), and postpartum depression. Healthcare professionals working with postpartum patients must have a clear understanding of these complications, including the symptoms, nursing interventions, and treatment.

Postpartum Hemorrhage (PPH)

Postpartum hemorrhage is one of the leading causes of death among postpartum women. PPH refers to a blood loss of more than 500 mL after a vaginal birth and more than 1000 mL after a C-section. Postpartum hemorrhage is categorized as early or late. Early refers to a hemorrhage occurring within the first 24 hours after birth, while late refers to a hemorrhage occurring after 24 hours.

RISK FACTORS

Every postpartum woman has the potential to hemorrhage after delivery. However, some patients have attributes that place them at higher risk for postpartum hemorrhage. These risk factors include:

- Multiple parity
- Multi-fetal pregnancy
- Macrosomia
- Prolonged or precipitous labor
- Labor induction
- Vacuum or forceps delivery
- Lacerations
- Stillbirth
- Placenta previa
- Use of certain medications (e.g., magnesium sulfate)
- Mechanical factors, such as a full bladder

CAUSES AND INTERVENTIONS

Early postpartum hemorrhage is often caused by uterine atony. With uterine atony, there is a failure of the uterine muscles to contract properly, thereby inhibiting the healing of blood vessels at the site of placental attachment. The blood vessels continue to bleed until the uterine muscles contract. Signs of uterine atony include a boggy uterus, a fundus that is higher than expected upon palpation, and excessive lochia.
If the fundus is not firm (boggy), there are several nursing interventions that can alleviate the problem:

1. Massage the uterine fundus.
2. Express blood clots only if the uterus is firmly contracted, otherwise, uterine inversion and severe hemorrhage can occur.
3. Encourage the patient to void, or catheterize as needed.
4. Administer prescribed medications, such as Pitocin, Ergonovine, Methergine, or Hemabate, to assist the uterus in contracting. (Methergine can cause an elevation in blood pressure and should not be used with hypertensive women.)

The nurse must report a PPH immediately and prepare for the insertion of a large-bore intravenous catheter, if one is not already present, and the administration of intravenous fluids and oxygen. A large-bore intravenous catheter is inserted to allow possible administration of blood products. The nurse should assess continually for bleeding, changes in vital signs, and oxygen saturation. The patient’s legs may also be elevated. Patients and their families will need nursing support during a PPH, as it can be quite a disconcerting experience.

Early postpartum hemorrhage can also be caused by damage to the birth canal during labor and birth. If an early PPH is due to trauma to the birth canal, such as a hematoma, an extension of a perineal incision, or an improperly sutured laceration, patients may exhibit one or more of the following symptoms:

- Contracted uterus with excessive lochia
- Bright red lochia
- Constant trickle of blood from the vagina
- Severe pain (possibly from a hematoma)
- Shock

In the case of an early PPH caused by damage to the birth canal, surgical repair is usually necessary. In the case of hematoma formation, surgical incision, evacuation of blood clots, and ligation of the bleeding blood vessel may be necessary. However, in the case of a small hematoma, observation and application of ice or alternating hot and cold applications may be all that is necessary (Murray & McKinney, 2010).

Late postpartum hemorrhage is often caused by subinvolution of the uterus or by retained placental fragments that prevent the uterus from contracting. In the case of retained placental fragments, clots develop around the retained fragments and hemorrhaging can occur days later when the clots are shed. The certified nurse-midwife or physician is responsible for examining the placenta after delivery and ensuring that it is intact; therefore, a late PPH is usually preventable. Women with placenta accreta (an abnormally deep attachment of the placenta) or when providers attempt to extract the placenta prior to uterine wall separation are at higher risk for a late PPH.
Assessment and manual expression of placental fragments by the physician or nurse-midwife can often alleviate the problem; however, surgical intervention, such as a dilation and evacuation (D&E), may be necessary. With subinvolution and a late PPH, fundal massage, in addition to medications (Pitocin, Ergonovine) and the previously mentioned interventions for early PPH, may be used to minimize bleeding.

**HYPOVOLEMIC SHOCK**

A sequelae of PPH is hypovolemic shock. Under normal circumstances, postpartal women are able to withstand blood loss during the postpartum period as a result of increased blood volume during pregnancy. However, in the presence of a PPH, hypovolemic shock can occur and cause severe organ damage and even death if untreated.

Often tachycardia is the first sign of hypovolemic shock. The blood pressure usually decreases and the respiratory rate increases. The skin becomes cool and pale initially and then cold and clammy. Patients may also become anxious, agitated, and restless as blood loss starts to affect the brain. Hypovolemic shock can be stopped by stopping blood loss.

These patients will also require oxygen (usually 8–10 L via face mask), IV fluids, and possibly blood products. This is a very serious situation and nurses must be prepared to assist in this life-threatening emergency.

**Thrombophlebitis**

Women can suffer from thrombophlebitis as a result of venous stasis and the normal hypercoagulability state of the postpartum period. Thrombophlebitis is an inflammation of the blood vessel wall in which a blood clot forms and causes problems in the superficial or deep veins of the lower extremities or pelvis. All postpartum women are at risk. However, certain risk factors predispose some women to developing thrombophlebitis. These **risk factors** include:

- Varicose veins
- Clotting disorders
- Delivering via C-section
- Diabetes mellitus
- Smoking
- Obesity
- Prolonged sitting or standing
- Advanced maternal age

The blood clot that develops in thrombophlebitis can lead to a life-threatening pulmonary embolism as a result of the clot detaching from the vein wall and blocking the pulmonary artery. The major signs of pulmonary embolism include dyspnea and chest pain.
In monitoring postpartum patients for the development or presence of thrombophlebitis, nurses should assess for the presence of hot, red, painful, or edematous areas on the lower extremities or groin area. An elevated temperature may also be present. As previously mentioned, it is currently contraindicated to assess for a thrombophlebitis by eliciting a Homan’s sign.

Interventions to treat thrombophlebitis depend on the severity of the thrombosis. Usually, for superficial thrombosis, analgesics, bed rest, and elevation of the affected limb is enough to alleviate the problem. However, in the presence of a DVT, anticoagulants may be necessary. In addition to use of compression stockings and warm, moist heat applications, patients should be instructed to keep their legs elevated and uncrossed. These patients are typically allowed to ambulate only after symptoms subside.

Infections

Postpartum infections are infections accompanied by a temperature of 38 °C or higher on two separate occasions where no other explanation is responsible for the elevation in temperature. Postpartum patients should be carefully monitored for signs and symptoms of infection during this period. Common infections that may occur during the postpartum period include mastitis, endometritis, wound infections, and urinary tract infections.

**MASTITIS**

Mastitis is a breast infection caused by *Staphylococcus aureus*. *S. aureus* is found on the hands and can also be in the mouths of infants. Bacteria can enter through cracked nipples caused by improper latch-on during breastfeeding. Mastitis can develop due to blocked milk ducts and milk stasis in breastfeeding women. Blocked milk ducts and milk stasis occurs as a result of improper latching and inadequate breast emptying.

It is crucial that postpartum nurses teach breastfeeding patients proper latch techniques. Additionally, nurses must stress that patients feed infants regularly and allow the breast to empty completely. Breastfeeding patients should also be encouraged to avoid missing feedings and allowing the breast to become engorged.

The classic symptom of mastitis is a unilateral mass in the breast accompanied by pain and redness. Often these patients experience a low-grade fever, chills, and general malaise. If untreated, a breast abscess may develop. Treatment for mastitis typically involves antibiotic therapy and regular breastfeeding or pumping the breast. Nurses can encourage these patients to apply cold or warm compresses to ease discomfort and to take analgesics as needed. Mastitis usually resolves quickly as long as patients continue to breastfeed or pump regularly.

**ENDOMETRITIS**

Endometritis is an infection of the uterus characterized by uterine subinvolution, infection, abdominal cramps, and purulent, foul-smelling lochia. It is caused by the bacteria normally present in the uterus and cervix, such as *E. coli* and group B streptococcus. Manual removal of
the placenta, multiple vaginal examinations during labor, C-sections, premature rupture of membranes, and internal fetal and/or uterine monitoring predispose women to developing endometritis.

In addition to cramping and foul-smelling lochia, women with endometritis typically have a fever, chills, general malaise, and may exhibit tachycardia. Blood cultures to identify the causative organism are typically done and white blood cell (WBC) counts are monitored. However, it is important to remember that the white blood cell count is normally elevated after delivery for a short period; continued monitoring of the WBC count is required in identifying endometritis. Endometritis is usually treated with intravenous antibiotics and rest.

**WOUNDS**

Wound infections are infections that occur at wound sites. Commonly affected wound sites during the postpartum period include the perineum, where lacerations and episiotomies occur, and C-section incisions. As with all infections, every patient is at risk.

Postpartum patients with wound infections typically have wounds that exhibit redness, warmth, poor wound approximation, tenderness, and pain. If untreated, these patients may develop a fever and other symptoms of an infection, such as malaise. As with endometritis, blood cultures may be obtained to isolate the causative organism. Antibiotics will typically be administered and drainage of the wound may be necessary.

Dressing changes using normal saline will aid in the healing process. Patients should be taught about proper handwashing and encouraged to maintain adequate fluid intake and increase protein intake to assist in wound healing. Wound infections can be intensely painful, especially in the perineum. Therefore, the nurse should assist these patients in managing pain through the use of analgesics and positioning.

**URINARY TRACT INFECTIONS (UTIs)**

Urinary tract infections are common during the postpartum period. A woman’s urethra and bladder are often traumatized during labor and birth due to intermittent catheterizations and the pressure of the infant as it passes through the birth canal. Additionally, the bladder and urethra lose tone after delivery, making the retention of urine and urinary stasis common. The risk of developing a UTI is high. Women may also develop a UTI due to frequent catheterization while in labor or the placement of a Foley catheter, which frequently remains in place for several hours or days after delivery.

Patients with urinary tract infections often complain of frequent and/or painful urination as well as flank pain. A low-grade fever and hematuria may also be present. Urinary tract infections are treated with antibiotics, but it is important that these patients drink adequate fluids to flush bacteria out of the system. (Additionally, it has been suggested that cranberry juice is useful in preventing urinary tract infections due to acidifying the urine and preventing bacteria from attaching to the bladder walls; however, there is great debate over this issue.)


Postpartum Depression

Postpartum depression is a serious and debilitating depression that affects many women throughout the world. “Postpartum depression occurs in 10% to 15% of women after delivery” (Moldenhauer, 2013). Symptoms are generally noted within the first 3 months but may occur up to a year after delivery. Symptoms typically include sadness, crying, insomnia, decreased appetite, withdrawal, and sometimes suicidal ideation or the desire to harm the infant. Additionally, patients may present with somatic symptoms, such as “headaches, diarrhea, constipation, severe anxiety, feeling as though they are jumping out of their skin, and/or just not feeling like themselves” (Driscoll, 2006).

It is the responsibility of nurses to assess postpartum patients for signs and symptoms of postpartum depression. Various assessment tools are available, including the Edinburgh Postnatal Depression Scale (EPDS) and the Postpartum Depression Screening Scale (PDSS). These tools are quick and provide a simple way to assess patients while at the hospital, at home during postpartum home visits, and during postpartum follow-up visits. These tools can also be used to assess mothers at pediatric follow-up visits. (See “Resources” at the end of this course.)

After screening and assessment, women who are at risk for developing (or who are suffering from) postpartum depression can be referred to the appropriate healthcare professional for follow-up and treatment. According to Murray & McKinney (2010), “Depression responds best to a combination of psychotherapy, social support, and medication.”

Postpartum depression is usually treated with counseling and medication. Nurses can support these patients in the healing process at follow-up appointments and during home visits. Driscoll (2006) recommends that nurses help mothers and their families understand postpartum depression and assist them in exploring the spiritual aspects of their suffering as an aid in the healing process. Additionally, nurses should encourage these patients to get adequate nutrition, rest, relaxation, and exercise.

DISCHARGE INSTRUCTIONS

Postpartum patients and their families should be instructed to call the healthcare provider if the patient has any of the following:

- Fever
- Foul-smelling lochia
- Large blood clots or bleeding that saturates a pad in one hour
- Discharge or severe pain from incisions
- Hot, red, painful areas on the breasts or legs
- Bleeding and/or severe pain in the nipples
- Severe headaches and/or blurred vision
• Chest pain and/or dyspnea without exertion
• Frequent, painful urination
• Signs of depression

CONCLUSION

The postpartum period is a time of joy and satisfaction for women and their families. In order to ensure that these mothers are off to a healthy and happy start with their newborns, nurses must be prepared to assess, intervene, and teach during this time. Most hospitals and birthing centers provide guidelines for nurses providing postpartum care. Nurses should remain up-to-date on postpartum care and are encouraged to follow their healthcare facility’s recommendations when providing patient care.

RESOURCES

American Medical Association Abuse Assessment Screen

Postpartum Depression Screening Tool Grid
mass.gov/eohhs/docs/dph/com-health/postpartum-depression/screening-tool-grid.pdf

REFERENCES


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ACCREDITATION INFORMATION FOR WILD IRIS MEDICAL EDUCATION
1. The nurse is palpating the patient’s fundus following the delivery of her newborn two days ago. The nurse should expect to locate the fundus:
   a. At the level of the umbilicus.
   b. Two finger-breadths below the umbilicus.
   c. Five finger-breadths below the umbilicus.
   d. Not at all; it should be nonpalpable by this time.

2. A woman delivered her third child approximately 24 hours ago. She begins to complain of severe uterine cramping while breastfeeding. Which is she most likely experiencing?
   a. Exfoliation of dead tissue
   b. Involution of the uterus
   c. Shedding of the endometrium
   d. Afterpains

3. Three days after delivering her first child, a new mother calls the 24-hour postpartum hotline. She is crying and states that her breasts suddenly became “bigger” and “really hurt.” She is mostly likely experiencing:
   a. Colostrum production.
   b. A breast tumor.
   c. Engorgement.
   d. Overproduction of breast milk.

4. A woman delivered via C-section two days ago. She is frustrated by constant perspiration and urination. This is most likely the result of:
   a. Changes in urine pH and possibly a urinary tract infection.
   b. Drinking too much fluid during the early postpartum period.
   c. The body’s removal of fluids accumulated during pregnancy.
   d. Receiving excessive amounts of intravenous fluid during labor.

5. While assessing the patient, a 32-year-old mother of three, the nurse notices uterine bleeding and finds that the patient’s uterus is displaced upward and to the right. This is probably caused by:
   a. Retained placental fragments.
   b. Rupture of the uterus.
   c. Distention of the bladder.
   d. Cervical bruising.
6. The nurse has just administered the rubella vaccine to a 38-year-old postpartum patient, who states that at her age she plans to get pregnant again right away. The nurse informs the patient that she should:
   a. Avoid pregnancy for at least 4 weeks following the rubella vaccination.
   b. Get pregnant as soon as possible given her age.
   c. Not get pregnant for at least a year after receiving the rubella vaccine.
   d. Abstain from sexual intercourse for at least 2 weeks after delivery.

7. A 17-year-old just delivered a healthy baby boy 6 hours ago. Whenever the nurse is in the room, she hears the new mother talking on her cell phone. She refuses to touch or hold her infant, even when he cries. The nurse overhears the patient tell someone that the baby “is ugly like his father.” The patient is most likely exhibiting signs of:
   a. Exhaustion.
   b. Mal-attachment.
   c. Normal attachment.
   d. Postpartum depression.

8. Recommended advice for breastfeeding mothers includes:
   a. Avoiding the use of a support bra.
   b. Washing the nipples with soap and water after each feeding.
   c. Applying a warm-water compress to ease nipple pain.
   d. “Conditioning” the nipples by gently rubbing them with moist teabags.

9. A patient has read in the discharge booklet that postpartum women are at risk for thrombophlebitis, and she asks the nurse how she can prevent this from happening. The nurse instructs her to:
   a. Remain on strict bed rest.
   b. Ambulate frequently.
   c. Cross her legs while sitting.
   d. Avoid elevating her legs.

10. The woman delivered vaginally 8 hours ago. She has uterine cramping and rates her pain as a “9” on a scale of 0 to 10 but refuses any pain medication. What is the best response regarding her pain?
    a. Tell her she should take the ibuprofen her physician prescribed.
    b. Encourage her to “fight through the pain” because it will make her stronger.
    c. Ask her to use the call button if she changes her mind about taking the prescribed pain medication.
    d. Offer her a non-drug option such as a hot pack or massage.
11. The nurse is caring for a patient she suspects may be suffering from intimate partner violence (IPV). Which assessment finding does not in and of itself indicate the possibility of IPV?
   a. Fatigue
   b. Urinary tract infection
   c. Chronic pain
   d. Migraines

12. A 28-year-old mother of three delivered vaginally 4 hours ago. She reports that she is “bleeding a lot,” and her perineal pad, changed 45 minutes earlier, is fully saturated with blood. Palpation reveals a boggy uterus. Which is the priority nursing action in this situation?
   a. Starting intravenous fluids
   b. Catheterizing her bladder
   c. Massaging her uterus until firm
   d. Calling her healthcare provider

13. The patient experienced premature rupture of membranes during her pregnancy and had internal fetal monitors placed during labor. She later delivered via C-section. Twelve hours after delivery, the patient’s heart rate is 104 and her lochia smells foul. The nurse suspect that she has:
   a. Endometriosis.
   b. Mastitis.
   c. Uterine cancer.
   d. Endometritis.

14. The nurse is preparing to discharge a patient from the birthing center, where she delivered a healthy baby boy. The nurse believes that the patient understands the discharge teaching instructions when the patient states:
   a. “It is acceptable for the first few days to have bleeding nipples after breastfeeding.”
   b. “I should not worry if I have a large red mass under my breast.”
   c. “I will call my nurse-midwife if I saturate a pad with blood in one hour.”
   d. “Suicidal thoughts are okay because the baby blues are normal.”