

Intrapartum Care: Placenta Delivery, Postpartum Hemorrhage, Laceration and Episiotomy

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The third stage of labor begins when the infant is delivered and ends when the placenta has delivered. At this time, the infant is in the hands of a pediatrician or labor/delivery nurse and the risk for operative delivery has ended. Now, the focus is on the safe delivery of an intact placenta and evidence of increased uterine tone, which will stop the intrauterine bleeding. This is the period of time when any lacerations of the cervix or perineum are evaluated and repaired.



Definition of the Third Stage of Labor

The third stage of labor is generally the fastest stage of labor, lasting **less than five minutes** in an uncomplicated delivery. The infant has been delivered and there is still some **minor bleeding**.

Inspection for perineal tears and their repair

Episiotomies and **lacerations** are evaluated and repaired before the separation of the placenta if possible to allow for visualization before blood gushes out due to placental separation.

There are several types of episiotomies. Most episiotomies are midline, meaning the cut is made straight down from the vaginal introitus toward the rectum. In cases where more room is needed, a mediolateral episiotomy can be done but this is more difficult to repair and causes more post-procedure pain.

In a **midline episiotomy**, the perineal tear/lacerations are classified as:

Laceration	Involves a tear into...
First-degree	Vulva and vaginal epithelium
Second-degree	Perineal muscles with an intact anal sphincter
Third-degree	Anal sphincter
Fourth-degree	Mucosa of the anus

These are repaired by repairing the anus and anal sphincter first, followed by repair of the perineal muscles. Absorbable sutures 2-0 or 3-0 are used. When these are approximated, the vulvar tissues and vaginal epithelium are approximated, and the episiotomy can heal with little risk of infection or secondary complications.

Delivery of the placenta

The uterus contracts to **expel the placenta**, which ideally is intact with no remaining placental tissue in the uterus. This should take two minutes but may take as long as 30 minutes.

Signs of placental separation include:

- There is a gush of fresh blood from the vagina.
- Umbilical cord lengthens.
- Fundus of the uterus rises.
- The uterus becomes firm and globular.

Symptoms and Signs of the Third Stage of Labor

The third stage of labor is marked by a **significant decline in pain**. The mother is generally distracted by the delivery of her infant and pays little attention to the third stage of labor. The woman will continue to have **cramping in the lower abdomen and pelvis** as the uterus contracts to expel the placenta. If the woman has had **epidural anesthesia**, this is continued so any lacerations or episiotomies can be repaired.

The third stage of labor presents with an **umbilical cord remaining in the vaginal opening**. The perineum may be intact or may have suffered some lacerations. Routine episiotomy is no longer recommended for normal vaginal deliveries but may be done when expeditious delivery is necessary for the third stage of labor. **Lacerations** or **episiotomies** can begin to be repaired before the placenta presents itself.

Signs that the placenta has detached include **elongation of the umbilical cord**, a **change in the shape of the uterus** so that it is more globular, and a sudden **gush of blood** that signals the detachment of the placenta from the uterine wall.

The doctor or midwife can facilitate the **expulsion of the placenta** by putting downward **pressure in the suprapubic area** and **gently tugging on the cord**. Failing to put downward pressure in the suprapubic area may cause **inversion of the uterus** if too much traction is applied to the placenta. In some cases, **manual extraction of the placenta** may happen before the placenta disengages.

Special Tests in the Third Stage of Labor

No special tests need to be done in a normal delivery. In cases of severe postpartum hemorrhage of unknown etiology, **tests of clotting function**, such as bleeding time, **prothrombin** time, and partial **thromboplastin** time may be ordered to identify an underlying bleeding pathology in the mother.

Complications in the Third Stage of Labor

The only complications of the third stage of labor are ;

- **Retained placenta or retained placental fragments**
- **Tears into the perineum or rectum** that need to be repaired to restore the anus and perineal tissues, so they are approximated with dissolvable sutures.
- **Postpartum hemorrhage**

If placental delivery and perineal tear repair are done correctly, hemorrhage rarely persists. Moreover, a labor and delivery nurse should continue massaging of the uterus to maximize the tone of the uterus. And encourage contraction and arrest of bleeding. Postpartum hemorrhage is seen in cases of retained placental fragments, atony of the uterus, laceration, and a preexisting bleeding disorder.

Primary postpartum hemorrhage occurs in the first 24 hours after delivery. Secondary postpartum hemorrhage occurs 24 hours to 12 weeks after delivery. **Postpartum hemorrhage is defined by blood loss:**

- > 500 cc for vaginal delivery
- > 1,000 cc for a cesarean delivery

Causes	
Primary postpartum hemorrhage	Late postpartum hemorrhage
<ul style="list-style-type: none"> • Tone • Tissue • Trauma • Thrombin Disorders 	<ul style="list-style-type: none"> • Infection • Retained products of conception • Subinvolution • Coagulation defects

Common indicators of a likely post-partum hemorrhage event include:

- Prolonged labor/previous C-S/ polyhydramnios
- Antepartum hemorrhage.
- Recent history of bleeding.
- Uterine fibroids.
- Multiparity.

Treatment in the Third Stage of Labor

There are **two main interventions** that need to be done in the third stage of labor. The first is the facilitation of the **evacuation of the placenta** described above. If this is done correctly, continued **massage of the uterus** is done by a labor and delivery nurse to

maximize the tone of the uterus.

If there is **ongoing uterine atony**, the patient may be given any one of four drugs to increase uterine tone. Additional intravenous oxytocin may be given to increase tone.

Methylergonovine can be given if there is no maternal hypertension. **PGF_{2a}** can be given if there is no maternal asthma. **Misoprostol** can be given without any contraindications.

If uterine massage and medications fail to stop the bleeding, **surgical interventions** may be considered. The patient may be taken to the operating room to have a **curettage** to remove placental fragments. The cervix and perineum need to be carefully examined for an extrauterine cause of the bleeding.

If the curettage fails and there is ongoing hemorrhage not caused by a bleeding disorder, a **uterine artery embolization** may be necessary. Packing of the uterus may stop the bleeding. **Arterial ligation** may control hemorrhage. In severe cases, where nothing is stopping the bleeding, the patient may need an **emergency hysterectomy**.

If there is evidence for a **bleeding disorder** as the cause of the bleeding, the patient may need blood products to replace lost blood. Packed red blood cells can be given along with fresh frozen plasma, platelets, and cryoprecipitate as the cause of the bleeding disorder may be unable to be ascertained in the short period of time necessary to control the bleeding.

Episiotomy repair is the second intervention that needs to happen. There are several types of episiotomies. Most episiotomies are midline, meaning the cut is made straight down from the vaginal introitus toward the rectum. In cases where more room is needed, a **mediolateral** episiotomy can be done but this is more difficult to repair and causes more postprocedure pain.

In a **midline episiotomy**, a **first-degree laceration** can happen, which involves a tear into the vulva and vaginal epithelium. A **second-degree laceration** involves a tear into the perineal muscles with an intact anal sphincter. A **third-degree laceration** involves a tear involving the anal sphincter. A **fourth-degree tear** involves a tear into the mucosa of the anus.

These are repaired by repairing the anus and anal sphincter first, followed by repair of the perineal muscles. When these are approximated, the vulvar tissues and vaginal epithelium are approximated and the episiotomy is allowed to heal with little risk of infection or secondary complications.

Prognosis of the Third Stage of Labor

The prognosis is **excellent** in the third stage of labor. The risk of **postpartum hemorrhage** when there is active management to control bleeding is about 5 %. Care must be taken to remove the placenta without causing **inversion of the uterus**, and the anus, perineum, and cervix must be examined for **lacerations** or **hematomas**.

If lacerations are present, these are sutured with absorbable sutures to control bleeding and restore function to the anal and perineal structures.

Review Questions

The correct answers can be found below the references.

1. You are treating a multiparous woman who has had two normal vaginal deliveries in the past. The third stage of labor is complicated by hemorrhaging after the removal of the placenta. What do you suspect is the cause of the bleeding?

- A. Bleeding diathesis in the mother
- B. Retained placental fragments
- C. Uterine atony
- D. Inverted uterus

2. You are caring for a primiparous woman who required an episiotomy and who sustained a fourth-degree laceration of her midline episiotomy. How do you go about repairing the tear?

- A. Repair the anal sphincter first and then repair the perineal muscles.
- B. Repair the anal epithelium first and then repair the anal sphincter before approximating the perineal tissues.
- C. Approximate the vaginal mucosa only as the muscles will approximate themselves.
- D. Repair the perineal muscles and then the anal sphincter. Follow this by repairing both the anal epithelium and the vaginal epithelium.

3. You are caring for a woman who has retained placental fragments. She is bleeding moderately but is hemodynamically stable. What is your next step?

- A. Manually remove the placental fragments at the bedside.
- B. Perform a uterine artery ligation.
- C. Do a dilatation and curettage in the operating room.
- D. Give misoprostol to increase uterine tone so the fragments can be expelled.

References

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Correct answers: 1B, 2B, 3C

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