OB Concepts

Stages Of Labor

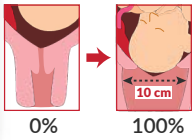
Maternity

	TRUE Labor	FALSE Labor
CONTRACTIONS	Regular (increasing frequency, duration, & intensity)	Irregular
PAIN	Does NOT decrease with rest	Alleviated with rest or changing position
CERVIX	*progressive change Dilation & effacement	NO change

Top Missed NCLEX Questions

Q1: Which signs are **most indicative of true labor**? Select all that apply.

- ✓ Pain in **lower back** that moves to **lower abdomen**
- ✓ Progressive **cervical effacement & dilation** **Regular &**
- ✓ **rhythmic** contractions that increase in frequency
- ✓ Contractions become **more intense with walking**



Top Missed NCLEX Questions

Q2: Which questions would **help determine** if the client is in **true labor**? Select all that apply.

- ✓ "Do you feel like the **contractions are getting stronger?"**
- ✓ "Does anything you do **make the pain better?"** "Do the
- ✓ contractions feel the same when **lying down?"**
- ✓ "How **frequent** are the contractions?" "Where do
- ✓ you **feel the contraction pain most?"**

SIDE NOTE

- **Back pain** **NCLEX TIP**
- *Occiput Posterior position (OP)*

Memory Trick:
OP - OhPoop not good!

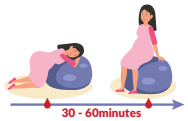
SLOW progression, **LONG** labor
BACK PAIN

2 Interventions

1. Reposition the mother on her **hands & knees with birth** urage to change position every 30 - 60 minutes
2. Apply **counterpressure to the sacrum** during contractions **NCLEX TIP**

NO position changes & remaining in bed during EARLY labor increases risk for persistent fetal malposition & will SLOW labor progression! Left lateral position will NOT alleviate the client's back pain - this position is good for fetal oxygenation & blood flow.

The **MOST** tested



HESI Question

Which supportive care measure ... **back labor pain**?

- **Lean over a birth ball** with her knees on the floor

Top Missed NCLEX Questions

Q1: [illegible] back pain ... fetal position is the back pain? Which [illegible] intervention would help alleviate

- ✓ "Applying **counterpressure** to the **sacrum during contractions**

Top Missed NCLEX Questions

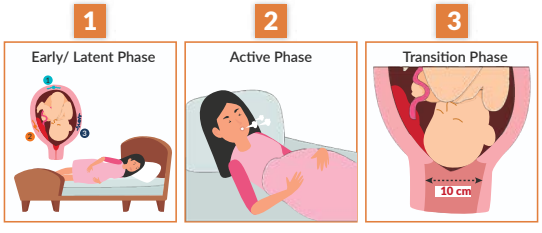
Q2: Appropriate task to **delegate to the unlicensed assistive personnel (UAP)**?

- ✓ [illegible] onto a birthing ball

1st Stage of Labor

Early/ Latent Phase - the client is relaxed & contractions are mild.
Active Phase - things are getting serious, breathing techniques are in full swing & irritable!
Transition Phase - is when the cervix dilates to that perfect 10! Stage 1 begins with the onset of labor & ends with FULL cervical dilation at **10 cm - the perfect 10**

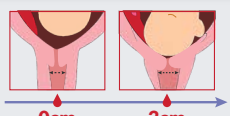
3 phases



Phase 1: Early/Latent Phase

- Early Education & Encouragement
- 0 - 3 cm cervix dilation
- **0 - 30% Effaced** (thinner cervix)
- Oxytocin stimulates uterine contractions! **Key Point**
- Irregular Contractions (Short & far apart)
  - *Frequency 5 - 30 min*
  - *Duration 30 seconds*
- Monitor fetal heart rate!

  Assess for late decelerations (not enough oxygen getting to the baby)



Stages Of Labor

Maternity

2nd Stage of Labor

2nd Stage of Labor (Delivery of baby) is also called the descent phase or the pushing stage, because the baby is pushed out of the birth canal.

4 Key Points

1. Cervix MUST be 100% effaced & 10 cm dilated
   Memory Trick Think perfect 10!

2. Signs:

- Increase in contractions & urge to push/ poop
- **Ferguson reflex:** Spontaneous urge to push during labor. It occurs when the presenting part of the fetus reaches the pelvic floor.

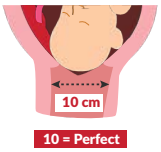
3. Interventions

- **P**ositioning of the mother is **P**riority:
  - High Fowlers, Lithotomy, Side lying
- **P**ush properly
  1. **AVOID** holding breath or tightening the abdomen
  2. Push when feeling the urge
  3. Breath IN deep
  4. **Breathe OUT slowly** through the **mouth**

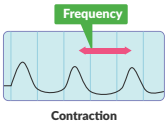
& keep mouth open while pushing down HESI 4.

Assessments

- **Fetal heart rate** before, during, & after the contraction
- **Frequency** of contractions
- **Duration** of contractions **Uterine**
- **tone** between contractions



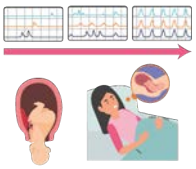
10 = Perfect



HESI Question

... second stage of labor?

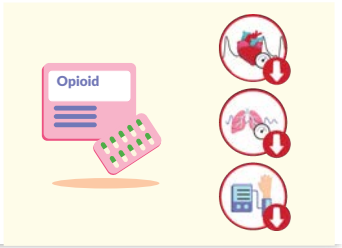
- significant **increase in contractions**
- **Ferguson reflex** activated
- The client experiences a **strong urge to bear down**



Top Missed NCLEX Question

A client presents to the emergency department **after her water broke**. She appears anxious and in pain, **bearing down with each contraction**. What **assessment questions** should the nurse ask immediately to prepare for birth & **potential newborn resuscitation**? **Select all that apply.**

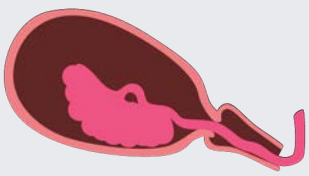
- ✓ When your water broke, what was **the color of the fluid?** What is your
- ✓ **expected due date (EDD)**?
- ✓ **How many babies** are you expecting?
- ✓ Do you have any **active sexually transmitted disease**?
- ✓ Recently have you taken any **medications, opioids, or illicit drugs**?

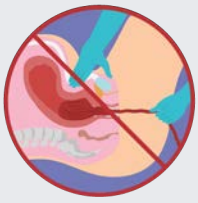


3rd Stage of Labor

In the **3rd Stage of Labor (Placenta Delivery)** - the Uterus contracts & the placenta spontaneously detaches from uterine wall. Placenta MUST BE delivered carefully.

NEVER pull on the cord to deliver the placenta!
There is a **HIGH risk** for tearing the placenta & leaving behind placenta parts & possible uterine inversion - this is when the uterus flips inside out, both of which put the client at risk for hemorrhage and infection.





High Risk for

- **Infection** - if placenta parts are not fully removed
- **Uterine inversion** (pulling on the cord)
- **Severe hemorrhaging** (bleeding)
  - Decreasing blood pressure
  - Increasing heart rate

- Pharmacology **AFTER placental delivery**
  - **P** - Placenta delivery
  - **P** - Pitocin (oxytocin): to prevent hemorrhage

Key point Oxytocin stimulates uterine contractions

ATI Question

... third stage of labor?

- The baby has been delivered & the mother is now **delivering the placenta**

4th Stage of Labor

4th Stage of Labor (Recovery) -
The Recovery Stage lasts around 2 - 4 hours after birth. At this point we encourage skin to skin & breastfeeding for multiple reasons.

Breastfeeding stimulates maternal oxytocin release (to help the uterus contract). It provides nourishment and supports blood sugar of the newborn.

Maternal Assessment

- **Infection**: temperature over 100.4
- **Hemorrhage**

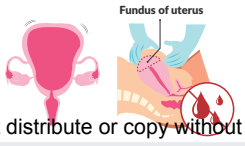
Priority Assessments:

- Peri pads
  - Fully saturated in less than 1 hour!
- **Decreasing** blood pressure
- **Increasing** heart rate

Interventions

- **F**undus check **F**irst
  - Soft & boggy → massage until firm (contract & stop bleeding)
- Void or use catheter (in & out)
- Pitocin (oxytocin): IV or IM control bleeding after childbirth
- Breastfeeding: stimulate release of natural oxytocin

- **Fundus Assessment**
  - Assess 3 times, every 5 minutes
    Then, every 15 minutes for an hour



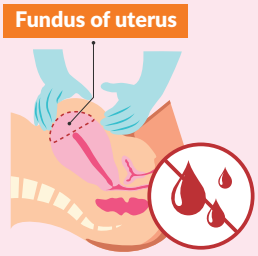
Stages Of Labor

Maternity

4th Stage of Labor

NORMAL Fundus

- Firm
- Midline
- Level with the umbilicus (belly button)



NOT Normal

- Displaced fundus above umbilicus or to one side = **bladder distension**

Intervention

- **VOID** every 2-3 hours (bed pan prefered)
- In & out catheter **NCLEX TIP**

- Soft or boggy (uterine atony) = increase risk for **hemorrhaging**

Intervention

- Oxytocin infusion
- Fundal massage **NCLEX TIP**

Top Missed NCLEX Questions

Q1: A client who gave birth vaginally with epidural anesthesia reports **no urge to urinate 3 hours after birth**. The client's fundus is **above the umbilicus, but 3 cm to the right**. What should the nurse do next?

- Perform **in and out catheterization**

Top Missed NCLEX Questions

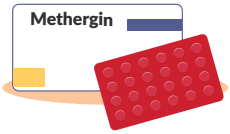
Q2: A client who had a vaginal birth 1 hour ago has a **boggy fundus that is deviated to the left and above the umbilicus**. Which intervention should the **nurse perform first**?

- Assist client to use the **bedpan to void**

ATI Question

... the client delivered a baby **8 hours ago**... the fundus is **boggy and soft**. Which interventions are **most appropriate**? **Select all that apply.**

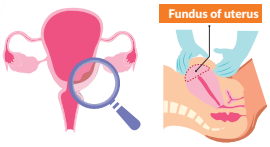
- **Firmly massage** the fundus
- Encourage the client to **void**
- Administer **Methergine** per orders



Kaplan Questions

Q1: ... six hours after a vaginal delivery ... the nurse notes the **perineal pad is soaked** and there is **blood underneath the client's buttocks.** Which **action** does the nurse **take first?**

- Assess the **fundus**



Kaplan Questions

Q2: ... after delivery the nurse **administers oxytocin....** this medication is used for which **purpose?**

- Simulate **firm contractions of the uterus**

HESI Questions

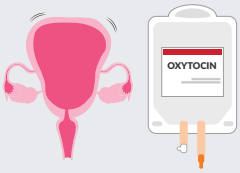
Q1: ... profuse bleeding in a postpartum client... priority intervention?

- **massage it if it is boggy**
- Palpate the uterus and

HESI Questions

Q2: Which drug is used for treating a client with **severe postpartum bleeding?**

- Oxytocin



Saunder's Questions

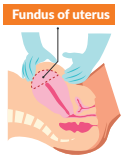
Q1: Fourth stage of labor ... Early sign of **excessive blood loss**?

- An **increased pulse** rate of 88 to 102 bpm

Saunder's Questions

Q2: Fourth stage of labor... client's **perineal pad saturated with blood** & blood soaked **into the bed linen.** Which is the **nurse's initial action?**

- Gently massage the **uterine fundus**



Notes

Stages Of Labor

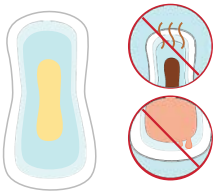
Maternity

Lochia Assessment

Lochia is the discharge after birth from the sloughing off of the inner lining of the uterus.

Lochia should become LIGHTER in COLOR and AMOUNT with each passing postpartum day, It's going to start out **heavy and red (rubra)**, then go **pink/brown (serosa)**, & finally return to **white/clear (alba)**.

	Color	It lasts...
RUBRA	Dark red	3 - 4 days
SEROSA	Pinkish brown	4 - 10 days
ALBA	Whitish yellow	10 - 28 days



Normal
3 Stages of Lochia

- Lochia **Rubra**: Bright red flow (3 - 4 days)
  - * Small clots are expected
- Lochia **Serosa**: Pink-brown (4-10 days)
- Lochia **Alba**: White-yellow (10-28 days)

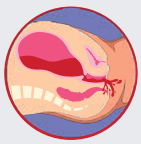
NOT Normal
Notify the provider

- Large clots!
- Malodorous "Foul odor"
- Excessive bleeding: 1 pad in 15 minutes
- Check under the client for **pooled lochia**

Kaplan Question

... client gave birth three hours ago... a **sudden gush of blood from the vagina while ambulating**. Which is the **most likely cause of the bleeding**?

- **Lochia has pooled** in the client's vagina



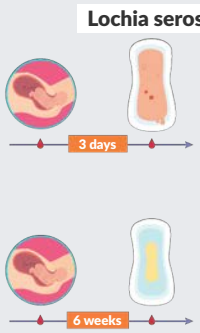
ATI Questions

Q1: The nurse is assessing a ... client who delivered a baby **3 days ago**. When **assessing for lochia**, the nurse notes **pink discharge with a serosanguinous consistency**. This is best described as:

- **Lochia serosa**

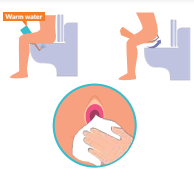
Q2: a client ... **6 weeks** postpartum. Which of the following findings is **normal** for this client?

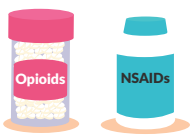
- **Creamy colored discharge** with a fleshy odor



Peri-care

- **Cleaning** ATI
  1. Squeeze bottle with warm water
  2. Wipe front to back
  3. Blot perineum dry
- **Pain**
  1. Sitz baths
  2. Ice packs
  3. Pharm: Opioids & NSAIDS
  4. Topical witch hazel
  5. Laxatives & stool softeners (prevent constipation)





ATI Question

... a client who has an **episiotomy** ... proper **perineal care**?

- Use a **squeeze bottle with warm water** to keep the site clean

HESI Question

Which **medication** is appropriate for a postpartum client with **perineal lacerations** ... now experiencing **constipation**?

- **Laxatives**

Notes

Stages Of Labor

Maternity

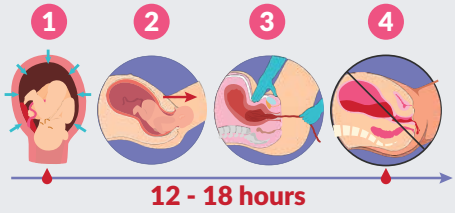
Labor is the **delivery of the baby** - from the mother & into the world.

- **Full Term:** 37 - 42 weeks
- Preterm Labor: before 37 weeks

4 Stages of Labor

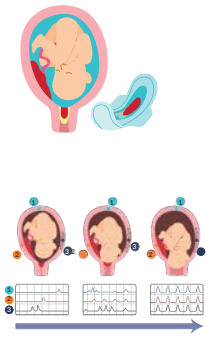
- **Stage 1:** Get to 10 cm
- **Stage 2:** Delivery of the baby
- **Stage 3:** Placenta delivery
- **Stage 4:** Don't let your client bleed to death!

The whole process typically takes around **12 - 18 hours**, but time can vary greatly.



4 Signs of TRUE Labor

1. **"Bloody show":** mucus & blood
2. **Water breaking:** Amniotic sac rupture
3. **True Labor Contractions**
   - ***Increased*** *Frequency (regular & rhythmic)*
   - ***Increased*** *Intensity & Duration*



4 Signs of TRUE Labor

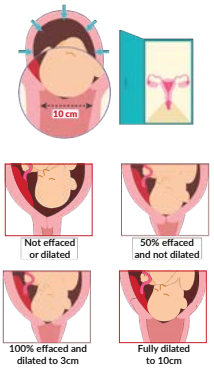
4. Cervix

1. Dilatation: how wide is the cervix (goal = 10cm)

Memory Trick
- D - Dilatation
- D - Door OPENING
- Measured in cm 0 - 10 cm
- 10 cm is the GOAL!

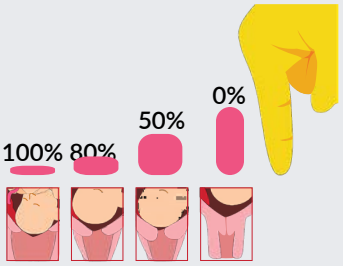
2. Effacement: cervix thinner & shorter gets

Memory Trick
- E - Effacement
- E - Elastic cervix gets thinner & shorter
- Measured in percentages from 0 to 100%



When you do a vaginal exam, you literally stick a sterile-gloved finger through the cervix. How thick is it?

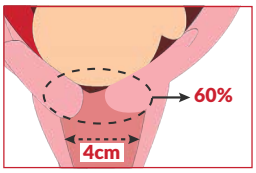
- As thick as your finger is 0%
- To your middle knuckle is 50%
- Half way between the tip and your first knuckle is 80%
- Paper thin: 100%



Kaplan Question

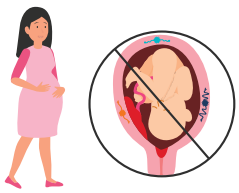
... 4 cm dilated and 60% effaced... explain the meaning of this information?

- The opening of the cervix is **4 cm wide** and the **cervical canal is 60% shorter** than normal



Braxton Hicks Contractions

- False labor contractions
- **Disappear with walking** or position change
- No dilatation of cervix



HESI question

false labor contractions?

- **Decrease in intensity** with ambulation

Notes

5 P's of Labor

Maternity

The 5 P's of labor occur in the first AND second stages of labor (when the baby is being delivered).

P PASSENGER (baby)

- Baby delivery: fetal head & body size

Fetal Attitude (Flexed = good & Extended = bad)

Best Fully flexed 1. Chin to chest 2. Rounded back 3. Flexed arms & legs	**Bad** Flaccid is indicative of a CNS problem

Fetal Lie: position of baby's back in relation to mom's back

BEST for Vaginal Delivery	High Risk for Breech - C-section Delivery
Longitudinal lie: both baby & mother's body are parallel	- Transverse: "sideways" baby - Oblique: baby is at an angle

P PASSENGER (baby)

- Baby delivery: fetal head & body size
  - **Presentation** "Presenting Part" - Cephalic Presentation: Head first **NCLEX TIP** ▫ Diamond

P PASSENGER (baby)

- Baby delivery: fetal head & body size
  - **Position** of the baby

BEST Position	• **ROA:** Right Occiput Anterior • **LOA:** Left Occiput Anterior **Memory Trick** - **OA** think **A**Okay :)
Bad Position	"sunny side up" • **OP:** Occiput Posterior (left or right) • **OT:** Occiput Transverse (left or right) **Memory Trick** - **OP** - OhPoop not good! - **OT** - Oh Trouble! Complication: BACK labor → possible C-section

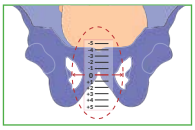
P PASSENGER (baby)

- Baby delivery: fetal head & body size
  - **Position** of the baby

Breech Presentation	- Complete Breech - Frank Breech - Footling Breech
Interventions	- External cephalic version (ECV) - C-section

P PASSENGER (baby)

- Baby delivery: fetal head & body size
  - **Fetal Station** degree of fetal descent into the pelvis



Fetal Station

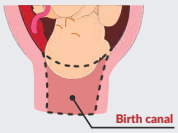
Station -1 to -5	**Pelvic Inlet** ▪ Baby's head is **ABOVE** mom's ischial spine (baby is deeper inside the pelvis)
Station 0	**Ischial Spine & Engagement** ▪ **Baby's head** is level with mom's ischial spine *Head is engaged & ready for labor!
Station +1 to +5	**Crowning & emerging from vagina** ▪ Baby's head is coming out! "Crowning" Start pushing!

P PASSENGER (baby)

- Placenta: placenta previa (blocks the cervix)

P PASSAGEWAY

- Birth canal: maternal pelvis & soft tissues



HESI Question

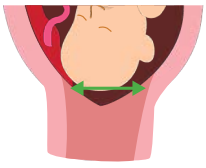
Which are factors that **accelerate dilation of the cervix**? Select all that apply.

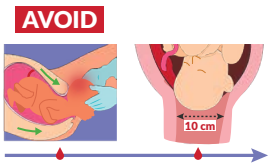
- Strong **uterine contractions**
- **Pressure** by amniotic fluid
- **Force** by fetal presenting part

P POWER ▪ C - Contractions to OPEN the cervix

- D - **Dilation**: 10 cm (fully open)
  AVOID pushing until 10cm dilated
- E - **Effacement**: 100% thin

3 Contraction Assessments:	Indications of Progressing Labor
1. Frequency (how often - minutes)	2 - 3 minutes apart
2. Duration (how long - seconds)	Lasting 60 seconds 60 seconds between contractions
3. Intensity (how strong)	Contractions increase closer to delivery





P POSITION

Mother: squat position makes labor easy
- Promotes fetal descent

P PSYCHOLOGICAL RESPONSE OF MOTHER

- Cultural considerations
- Coping mechanisms

Labor Complications

Maternity

Amniotic Fluid Embolism

This is a **deadly condition** that occurs when amniotic fluid inside the uterus leaks out & enters the mother's blood stream, leading to very high risk for mortality in both the mother & baby! Most do not survive. It occurs most often during delivery or in the immediate recovery period.

Pathophysiology

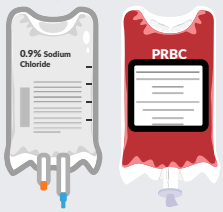
Amniotic fluid inside the uterus leaks out & enters the mother's blood stream

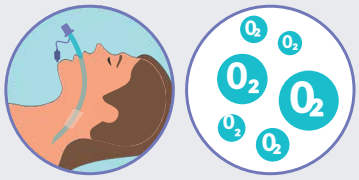
Symptoms

- Sudden **chest pain**
- **Hypo**tension (low BP)
- **Tachy**cardia (fast HR)
- Dyspnea (difficulty breathing)
- Cyanosis (blue, pale skin)

Interventions

- Notify the provider!
- IV fluids & blood transfusion
- Assist with intubation
- Oxygen





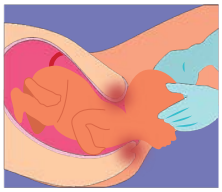
Dystocia

Pathophysiology

Slow or difficult labor or delivery

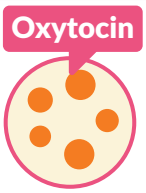
Memory trick

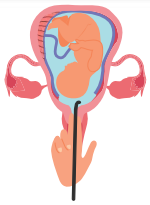
D - Dystocia
D - Difficult Labor



Interventions

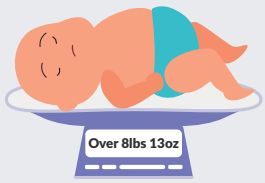
- Reposition or ambulate the mother
- Oxytocin: induce labor
- **Amniotomy:** the provider manually breaks the water

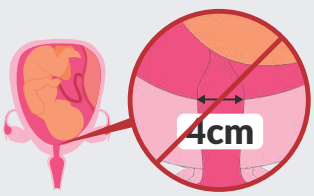




Causes & Risk Factors

- **Macrosomia** (big baby over 8lbs 13 oz)
- Overweight **(BMI over 25)**
- **Older** age
- Previous **difficulty with fertility**
- **Failure** of the uterus and cervix to contract
- **Insufficient** cervix dilation, effacement, & descent of the baby

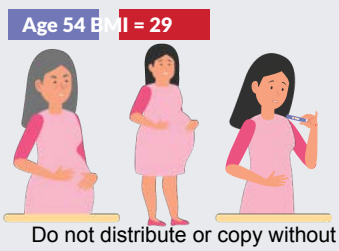




Saunders Question

... **labor dystocia**... which **risk factors** in the client's history placed her at risk for this complication? Select all that apply.

- Age **54**
- Body mass index of **29**
- Previous **difficulty with fertility**



Labor Complications

Maternity

DIC

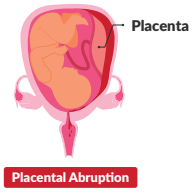
Pathophysiology

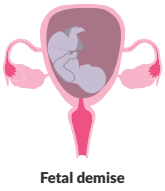
DIC = disseminated intravascular coagulation

This is **severe bleeding inside & outside the mother's body**.
As the body uses up all clotting factors & platelets, it makes little clots all over the body & uses up all means to stop bleeding elsewhere in the body, leaving the mother with no means to stop bleeding anywhere!

Causes & Risks

- **Placental abruption:** placenta separates from uterine wall
- Intrauterine **fetal demise** (stillbirth)





HESI Question

... **high risk** for disseminated intravascular coagulation (**DIC**)?

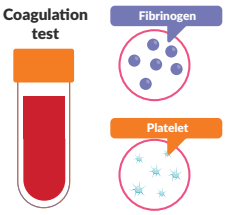
- Placental abruption

Signs & Symptoms

- External bleeding: venipuncture site
- Internal bleeding: petechiae & ecchymosis
- Organ damage:
  - Respiratory distress
  - Renal failure

Interventions

- **Priority!** Draw coagulation tests, fibrinogen, & platelet count
- Administer **blood products**, volume **expanders** & oxygen
- Monitor for bleeding which is sudden & deadly



Meconium Stained Amniotic Fluid

Pathophysiology

Fetus has defecated in the amniotic fluid.

When the mother's water breaks, we expect it to be clear, but with meconium stained, the fluid changes color to various shades of **green**, **yellow** or **brownish** & it often even smells foul.

Signs

- Amniotic fluid color: green, yellow, or brown
- Foul smelling odor

Key Points

- **Common in:**
  - **Breech** position
  - After events of fetal distress
  - Term/ post term infants
- Indicates fetal **hypoxia**
- Prep for neonatal **resuscitation**
  - Endotracheal tube & ventilation

HESI Question

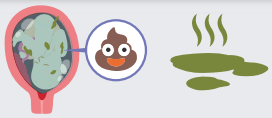
... **amniotic** fluid was **meconium stained during labor**. Which further assistance would the nurse provide to the newborn?

- Provide **endotracheal tube suction assistance** with ventilation

ATI Question

... **warning signs** of potential **complications**? Select all that apply.

- **Meconium stained** amniotic fluid
- **Foul-smelling** vaginal discharge



Meconium Aspiration Syndrome

Pathophysiology

Newborn breathes a mixture of meconium & amniotic fluid into the lungs

Newborn breathes a mixture of meconium & amniotic fluid into the lungs around the time of delivery. It's like coating the inside of the lungs with tar! Gas exchange is nearly impossible, making it the leading cause of **severe illness & death in newborns**.

Risk Factors

- Over 40 weeks gestation
- Diabetes
- High blood pressure
- Long or difficult labor

Complications

- **Fetal distress**
- Pneumothorax
- Perinatal **asphyxia**

HESI Question

... **41 weeks** of gestation. Which complication?

- **Meconium aspiration syndrome**

ATI Question

... **meconium aspiration syndrome**. Which of the following is true?

- Pneumothorax may occur

KAPLAN Question

Meconium-stained amniotic fluid alerts the nurse to the possibility of which problem?

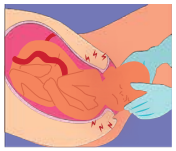
- Fetal **distress** and perinatal **asphyxia**

Labor Complications

Maternity

Fetal head delivers, but the top of the shoulder becomes wedged behind or under the mother's symphysis pubis.

Longer than 5 minutes → **HIGH RISK** for fetal asphyxia (hypoxia)

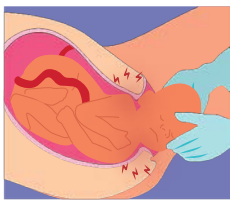


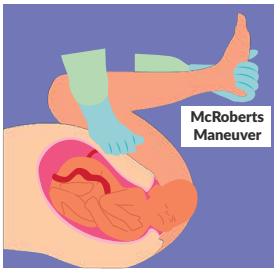
Shoulder Dystocia

Nursing Interventions

NCLEX TIPS

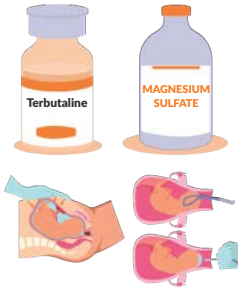
1. Document the time of events & position for example Fetal head position, should maneuvers
2. **Verbalize passing time** to guide provider for example "1 minute has passed"
3. Maneuvers to relieve shoulder impaction
   - **McRoberts maneuver:** Flex the client's legs back against the abdomen
   - **Suprapubic pressure:** Press downward on the symphysis pubis
4. Request **additional assistance** from other nurses & staff





AVOID NCLEX Traps

- Administering tocolytic agents (Terbutaline, Mag Sulfate)
- Fundal pressure
- Use of **forceps or vacuum**



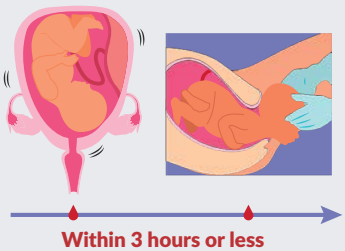
Precipitous Labor

This is quick labor - some professors call these "cannonball" babies, because they shoot out with impressive force and everything can get damaged - baby & mom included!

Pathophysiology

- Labor within **3 hours or less**!
- After the onset of contractions

Memory trick:
P - Precipitous Labor
P - Pretty Quick labor

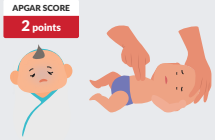


Risks

- Hypertonic uterine contractions
- Use of Oxytocin
- Multiparous mother (multiple previous births)

Complications

1. Mom:
   - Postpartum hemorrhage
   - Uterine rupture
     - Amniotic fluid embolism
2. Baby
   - Intracranial hemorrhage
   - Hypoxia

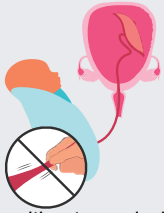


Interventions

- Prepare to assist with birth
- Keep the infant warm! **NCLEX TIP**
- **Dried** & placed **skin-to-skin** on the mothers abdomen

AVOID NCLEX Traps

- Do **NOT** pull on the cord! → Uterine inversion or cord avulsion
- Fundal massage **ONLY after placenta** is delivered



Labor Complications

Maternity

Umbilical Cord Prolapse & Compression

This is a **potentially deadly emergency for the fetus**!

Pathophysiology

Umbilical cord protrudes out of the mother's cervix or vagina **BEFORE the baby** → cuts off oxygen rich blood to the baby

So if the oxygen tube is compressed, it leads to **DEADLY** low oxygenation! This results in lifelong brain damage or death for the baby! Very serious!

HESI Question

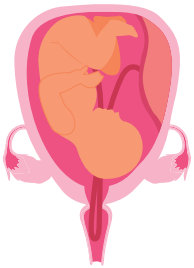
... cause of **variable fetal heart rate** (FHR) **deceleration** is which factor?

- Umbilical **cord compression**

Saunders Question

... **umbilical cord compression** if which is noted on the external monitor tracing during a contraction?

- **Variable decelerations**

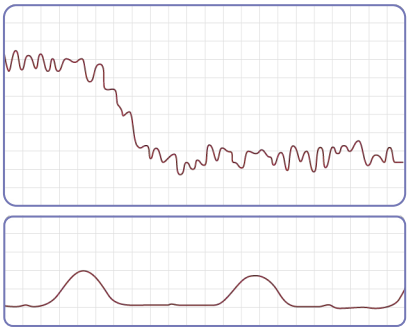


Signs

- Common after **spontaneous rupture of membrane** (water breaks) or amniotomy
- FHR - Fetal Heart Rate
  - Fetal bradycardia
  - **Abrupt** fetal heart rate **decelerations**

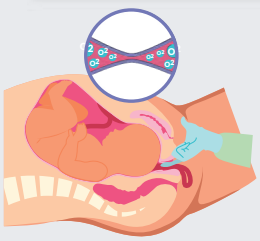
NCLEX TIP

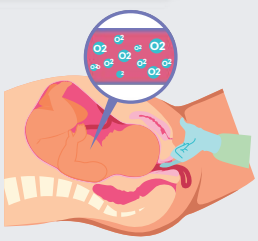
Abrupt fetal heart rate decelerations



Nursing Interventions

1. Call for **assistance**
2. Insert **sterile gloved** hand: 1 or 2 fingers into mother's vagina to relieve compression
3. **Reposition mother:**
   - Knee-chest position
   - Trendelenburg position
4. Wrap cord loosely with a **sterile towel** or gauze soaked with **sterile normal saline**
5. Prepare for **emergency C-section** (cesarean delivery)

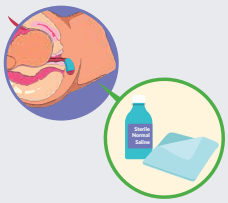




Saunders Question

... **umbilical cord protruding** from the vagina... **nursing action**?

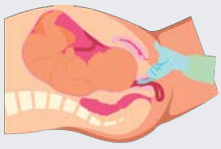
- Wrap the cord **loosely** in a **sterile towel** soaked with **warm sterile normal saline**



ATI Question

... extrusion of the umbilical cord ... **priority nursing intervention** after calling for assistance?

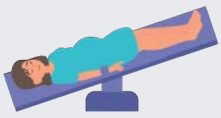
- Use a **sterile gloved hand** and **apply finger pressure** to elevate the presenting part of the fetus



HESI Questions

Q1: ... **umbilical cord protruding** from the client's vagina. The nurse immediately positions the client in the **Trendelenburg position** and inserts a finger into the client's vagina. Which additional care?

- Prepare for an **emergency cesarean delivery**



Q2: ... amniotic **membrane rupture**, and a **prolapsed cord is suspected**... **priority** intervention?

- **Knee-chest** position

Notes

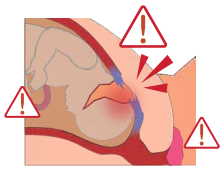
Labor Complications

Maternity

Uterine Rupture

Pathophysiology

Spontaneous **tearing of the uterus** that may result in the fetus being expelled into the peritoneal cavity



Uterine Rupture

Causes

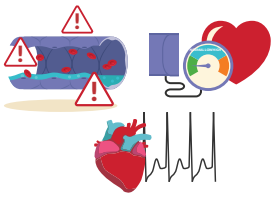
- Previous C-section attempting a vaginal delivery (weak spots in the uterus that can rupture)
- Forceps delivery
- Traumatic events (car accident or fall)
- **Overdistension** of uterus: Twins, triplets, or more
- Too much oxytocin

Saunders Question

... risk of **uterine rupture** if which occurred?
Forceps delivery

Symptoms

- **Severe sudden** abdominal pain! "Tearing or ripping"
- Fetal heart rate that is **non assuring** for example
  - Bradycardia
  - Variable or late decels
  - Decreased variability
- Fetal distress
- Mother s/s of bleeding
  - **Hypo**volemic **shock**
  - **Hypo**tension (low BP)
  - **Tachy**cardia (fast HR)



Interventions

- Immediate Cesarean delivery (C-section)
- Hysterectomy
- IV fluids & blood products

ATI Question

... 38 weeks gestation who reports **severe sudden abdominal "ripping"** pain when receiving an **oxytocin infusion during labor.** The client's heart rate is **130/min** and she is **tachypneic**. The fetal heart rate monitor reveals **minimal variability and bradycardia.** Which of the following tasks does the nurse anticipate?

- Prepare for immediate **cesarean delivery**

Uterine Inversion

Pathophysiology

Placenta **fails to detach** from the uterine wall and pulls the uterus inside-out

Causes

- **Excess cord traction** (pulling the umbilical cord)
- **Excess** fundal massage
- **Placenta accreta:** the **placenta** is too firmly attached to the uterus

Symptoms

- **Severe** abdominal pain
- Mother s/s of bleeding
  - **Hypo**volemic **shock**
  - **Hypo**tension (low BP)
  - **Tachy**cardia (fast HR)

Saunders

... immediately **after delivery of the placenta.** Which ... could indicate **uterine inversion**?
Complaints of **severe abdominal pain**

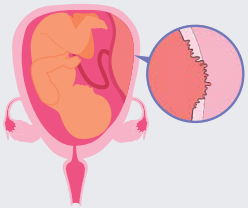
Interventions

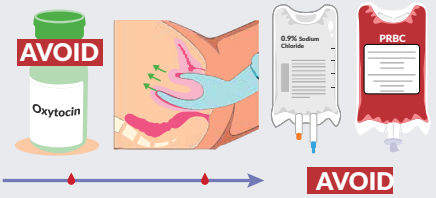
1. Relax the uterus: (Tocolytic)
   - Terbutaline
   - Magnesium sulfate
2. Provider repositions the uterus
3. **AFTER** the uterus is **repositioned**
   - Oxytocin

AVOID

IV oxytocin **before** the inverted uterus is corrected **NCLEX TIP**

4. IV fluids & blood products





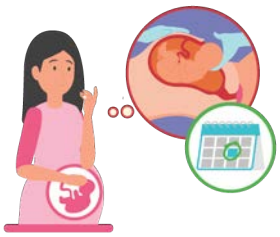
Cesarean Birth

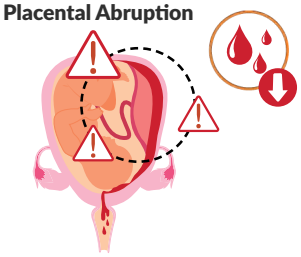
Maternity

Performed after 28 weeks of gestation. C-sections can either be planned or an unplanned emergency.

Top reasons

1. Planned C section
   - Previous C-sections
   - Large baby or a lot of babies (triplets or twins)
   - Genital herpes or other infections (mom)
   - Placenta previa (placenta blocks the cervix)
2. Emergency C-section
   - Fetal distress: if the baby's life is in danger
     - Placental abruption: *placenta separates from the wall of the uterus*
     - Prolapsed cord: *umbilical cord is compressed, limiting oxygen to the baby*
     - Long labor or contractions not strong enough
     - Breech birth: *baby is in an odd position. Transverse lie or oblique lie*





Common NCLEX Question

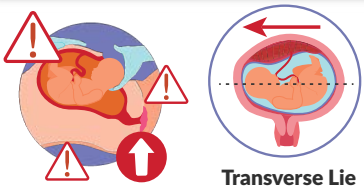
Which client statement should prompt the nurse to request **a primary cesarean birth** from the provider?

✓ "I lost my **acyclovir prescription** and **I've noticed lesions on my labia** that are **stinging and burning.**"

HESI Question

Which condition places the pregnant client at a **higher risk for a cesarean delivery?**

- A client with the **fetus in a transverse lie**



Surgical Procedure

- The client is put to sleep with anesthesia or awake with local anesthesia.
- Then Incisions are made on the abdomen through the uterus and the health care provider will rupture the amniotic sac to deliver the baby.
- The entire process typically takes only a few minutes to get the baby out. But can take longer in certain cases.

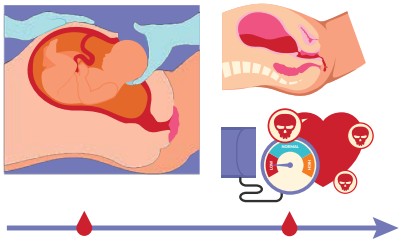
Complications

After a c-section, the highest priority is to monitor the client for hemorrhage & shock. This severe bleeding will lead to low blood pressure that will kill the client!

Complications

- Hemorrhage & shock **KAPLAN**
  - Placenta previa: *placenta attaches in the wrong location, over the cervical opening*
  - Placenta Accreta: *where the placenta attaches to the uterus too firmly*
  - Uterine rupture: *if the uterus is scarred from a previous C-section it has weak spots that can rupture.*

Hemorrhage & Shock



Kaplan Question

Cesarean delivery... The nurse places the **highest priority** on monitoring the client for which **potential complication?**

- Hemorrhage and shock

Post-Operative Care

Obviously the client will be in pain with a big incision that is healing.

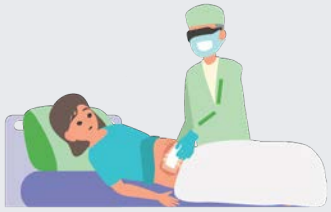
The key point is focused on removal of the surgical wound dressing.
The initial (first) dressing is **ONLY removed by the surgeon** ...
Not the nurse, not the aid, not the student, NOBODY but the surgeon!

Surgical Wound Dressing

ONLY the surgeon removes the initial (first) dressing!

If the surgical site is bleeding, do you remove the surgical dressing then?
No, **only the surgeon removes the initial dressing**.
If it's bleeding, just keep adding pads to the site & call the surgeon. DO NOT REMOVE!
Once the surgeon removes the initial dressing, then you can assess the wound like normal. Always assess for infection with any surgical site:

- Warm
- Red
- Draining



Postpartum Assessment

Maternity

Postpartum Assessment

POST-PARTUM ASSESSMENT
"BUBBLE HE"

- **B** Breast
- **U** Uterus (fundus)
- **B** Bladder
- **B** Bowel
- **L** Lochia
- **E** Episiotomy
- **H** Hemorrhoids
- **E** Extremity (DVT signs)

B Breast

This assessment includes examining the areolas for cracking, tenderness, or masses and also assessing breastfeeding technique.

U Uterus (fundus)

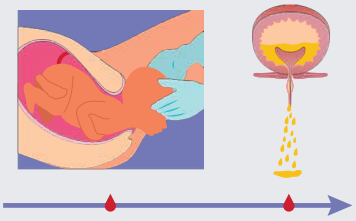
Postpartum hemorrhage can happen rapidly and the client can bleed out. Remember, we **DO NOT** want a soft or boggy fundus. This indicates an increased risk for postpartum hemorrhage.

Postpartum hermorrhage

B Bladder

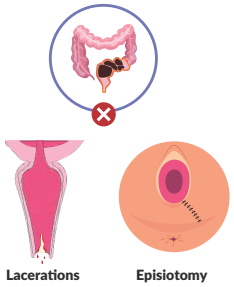
First, assess for bladder distension. Because a distended bladder can displace the fundus, making it more difficult for the uterus to get firm/contract, tell the client to empty their bladder shortly after delivery. A soft or boggy fundus increases the risk for hemorrhage.

Assess for Urinary Tract Infections (UTI) by asking about common symptoms including: dysuria, urinary urgency, and urinary frequency.



B Bowel

Auscultate bowel sounds and ask when the last bowel movement occurred. The main goal is to prevent postpartum constipation, as we want to prevent straining. Remember, the client may have stitches for lacerations or an episiotomy. Any pressure from bearing down can cause immense pain and even rip stitches. Teach clients to preventatively administer their stool softeners or laxatives and increase the 3 F's-Fluid, Fiber, and Freaking walk around man.



Lacerations Episiotomy

L Lochia

Lochia is the vaginal discharge after birth containing a mixture of blood, mucus, and uterine tissue. Assess amount, color, odor, and size of clots Normal signs include: a small-moderate amount of discharge that is Rubra (red). Abnormal findings that should be reported to the provider include:

- ~~Large~~ clots!
- Malodorous "Foul odor"
- Excessive bleeding: (soaking through 1 pad per hour)
- Check under the client for pooled lochia

Lochia Assessment

- Large clots!
- Malodorous "Foul odor"
- Excessive bleeding: 1 pad in 15 minutes
- Check under the client for **pooled lochia**

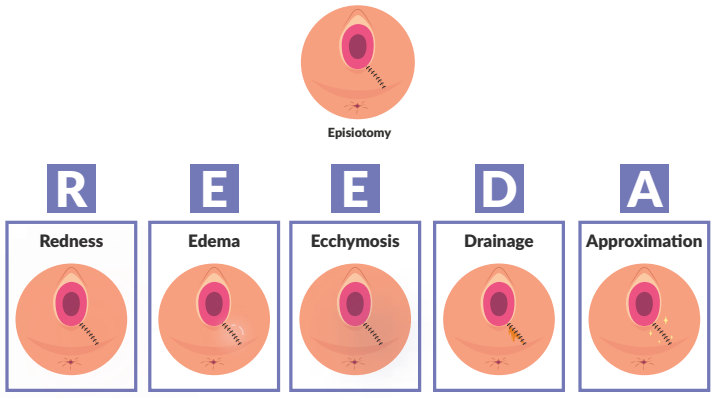
Postpartum Assessment

Maternity

E Episiotomy

Episiotomy as you know is a surgical incision of the perineum between the vagina to anus. It's typically performed during delivery to prevent tearing & help to quickly enlarge the opening for the baby to pass through.

Use the memory trick **REEDA** for quick assessment of this wound:



H Hemorrhoids

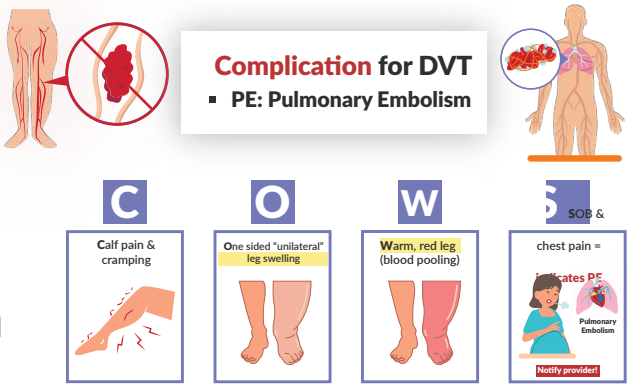
Hemorrhoids are swollen veins in the lower rectum area that result from the pressure in this area during pregnancy. It causes much discomfort & minor bleeding.
As mentioned before, topical witch hazel is good for inflammation. Side note - a few resources use this H for Homan's sign to assess for DVT risk.

E Extremity (DVT signs)

This is where a blood clot forms in a deep vein, typically 1 of the legs, due to the hypercoagulable state of pregnancy.

Three factors that contribute to DVTs in pregnant clients are:
Blood stasis - think of that HUGE uterus compressing vessels
Altered coagulation - thanks, hormones
Localized vascular damage from the recent birth!

In terms of assessment we use the acronym **cows** - since the affected leg beefs up like a little baby cow. All signs must be reported to the provider.

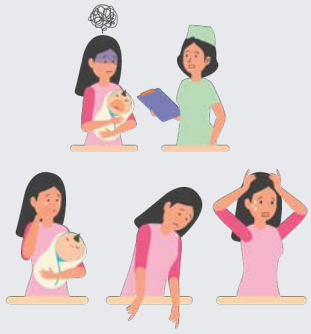


Emotional wellbeing

Assessments to include:

- Emotional & psychological status (mainly sadness)
- Attachment
- Fatigue
- Affect disorders

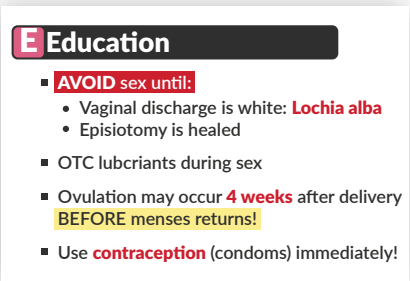
Sadness can turn into postpartum depression even though depression typically manifests when the client gets back home. Make sure the mother is bonding with the infant & participating in the care of the newborn and look at social issues concerning the child.



Education

The BIG focus is on sex after labor, but we want to educate the mother about nutrition/ fluids and balancing rest & activity.

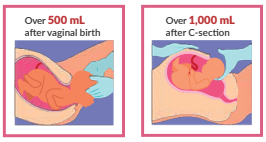
Teach the client to use condoms BEFORE menses returns NOT after, unless their goal is to **get pregnant again very soon!**



Postpartum Hemorrhage

Maternity

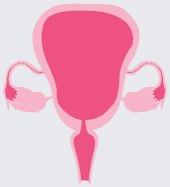
Massive bleeding after giving birth, defined as over 500mL blood loss after vaginal birth and over 1,000mL after C-section.



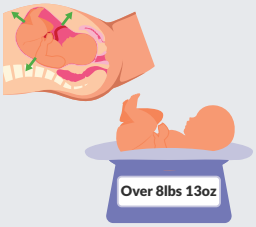
Causes & Risk Factors

Uterine Disorders

- Uterine atony:
  Boggy soft uterus that fails to contract after birth
  - #1 intervention = massage that fundus!
  - Every 15 minutes x 1 - 2 hours
- Overdistention of the uterus:
  - Macrosomia (big baby over 8lbs 13 oz) NCLEX TIP
  - Multiple gestation (Twins, triplets, or more)
  - Multiparity (many pregnancies)
  - Polyhydramnios (excess amniotic fluid)
- Uterine fatigue (labor lasting over 24 hours)
- Uterine rupture or inversion:
  uterus tears or turns inside out
- Precipitous Labor: quick labor in 3 hour or less



Uterine Atony

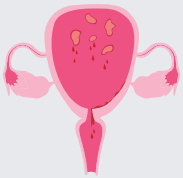


Medications

- Magnesium sulfate
- Terbutaline
- Inhaled anesthesia (general anesthesia)
- Prolonged use of oxytocin

Placental disorders:

- Placental abruption
- Placenta Accreta: placenta attaches to the uterus too firmly
- Retained placental fragments or fetal demise



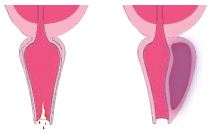
Retained placental fragments

Trauma & HTN

- Vaginal lacerations & hematoma:
  use of forceps or vacuum
- Preeclampsia (hypertension)

Thrombin Disorders

- DIC: Disseminated Intravascular Coagulation
- ITP: Idiopathic Thrombocytopenic Purpura



Vaginal lacerations Vaginal hematoma

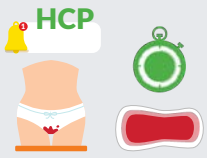
ATI Questions

Q2:... postpartum hemorrhage. Which of the following may have **increased the risk** of the client's condition? Select all that apply.

- **Magnesium sulfate** during labor
- **Large** for gestational age neonate

Interventions

- Boggy, soft fundus
- Saturated perineal pads
  within 15 min. - 1 hour Notify the HCP
- Heavy bleeding with blood clots (days after birth)
  Blood clots - BIGGER than a quarter
- Steady flow or "constant oozing of blood" from vagina
- H & H is decreased
  HgB less than 7 = Heaven NCLEX TIP
- Hemorrhagic shock from excess bleeding:
  Tachycardia & hypotension
  - Cold clammy skin
  - Long capillary refill time



HESI Question

Which is an early sign of **hemorrhagic shock**?

- **Capillary refill** time of 4 seconds

Start with fundal massage, then use meds to stop the bleeding. If that doesn't work, try a tamponade balloon next. A total or complete hysterectomy (removal of the entire uterus) can be performed as a last resort to stop postpartum hemorrhage.

- Firmly massage the fundus (every 15 min x 1-2 hours)
- Empty bladder
- IV fluids for hypotension &
  Start a secondary IV line for blood transfusion
- Pharmacology:
  1. Oxytocin bolus
  2. Methylergonovine (Methergine)
     NOT for clients with high blood pressure (preeclampsia & pre-existing HTN)
- Misoprostol: safe for clients with hypertension NCLEX TIP

ATI Question

postpartum client ... blood pressure of **146/94 mm Hg**. Which of the following **prescriptions should the nurse clarify** with the provider?

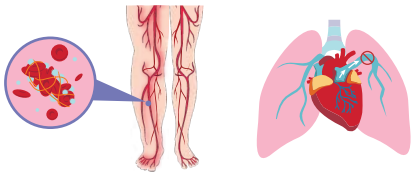
- **Methylergonovine** 0.2 mg IM now

Complications Postpartum

Maternity

PE - Pulmonary Embolism

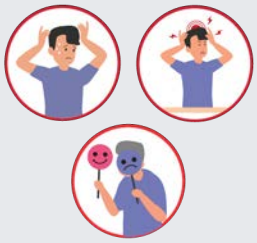
A major complication of a DVT is a **Pulmonary Embolism (PE)**.
The DVT clot breaks loose from the leg & travels to the lungs!
It can be very deadly, as it blocks blood flow to the lungs!



Signs & Symptoms

- #1 Sign = **Hypoxemia**
  1. Restlessness
  2. Agitation, anxiety
  3. Mental status changes

  Assessment NCLEX TIP
  Obtain oxygen saturation reading by **pulse oximeter**
- **Chest pain**
  "pleuritic chest pain"
- SOB & **Dyspnea**
- **Tachy**pnea
- **Tachy**cardia

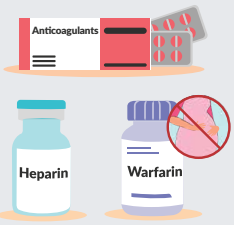


Nursing Interventions

- Assess respiratory status
- Oxygen
- Notify the HCP!

Pharmacology

- Anticoagulants
  - Heparin
  - Warfarin (contraindicated during pregnancy)
- Thrombolytics "clot busters"
  - tPA
  - Alteplase
  - Streptokinase



Top Missed NCLEX Questions

While assessing a postpartum client **after a cesarean section**, the client reports **anxiety**, **pain**, appears **restless**, and **breathing quickly** with a **heart rate of 122**. What action should the nurse take first?

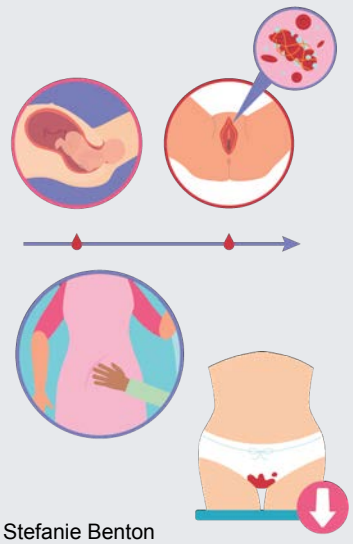
- **Obtain oxygen saturation** reading by pulse oximeter

ATI Question

... a client at **12 weeks gestation** for treatment of a **deep vein thrombosis**. Which of the following medications is **contraindicated during pregnancy**?

- **Warfarin**

Vaginal Hematoma



Pathophysiology

- A vaginal hematoma is formed when there is trauma to the tissues of the perineum

Causes & Risk Factors

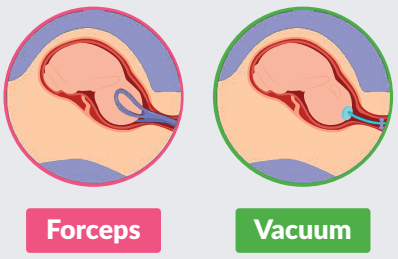
- Forceps or vacuum assisted vaginal birth
- Episiotomy

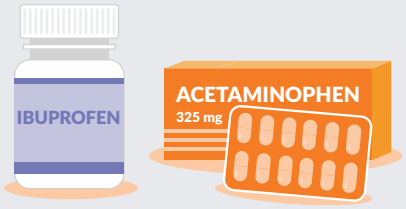
Signs & Symptoms

- Persistent **severe vaginal pain**
- Feeling of **fullness**
- Firm, midline uterus
- Large hematomas:
  - Decreased hemoglobin levels (Hgb)
  - Vital sign changes: low BP, fast HR

Interventions

- Cool compress
- Ibuprofen & acetaminophen





Complications Postpartum

Maternity

Infection

Infection is common postpartum. We already expect the mother to have elevated WBCs & a higher temperature after birth - this is normal.

Normally, WBCs are between **5,000-10,000**, but postpartum, we may see a **WBC** count up to **30,000**. This is expected after birth, but leukocyte counts that do not decrease require further evaluation.

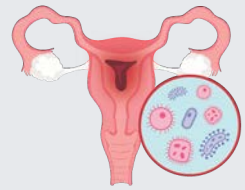
Endometritis

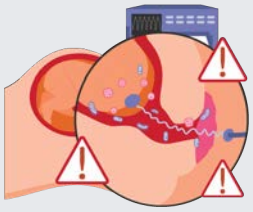
Pathophysiology

- Inflammation or irritation of the lining of the uterus caused by infection.

Causes & Risk Factors

- Prolonged labor **NCLEX TIP**
- Prolonged rupture of membranes (water broke) **over 24 hours**
- Cesarean section delivery
- Internal fetal monitoring
- Postpartum hemorrhaging
- Retained placenta fragments

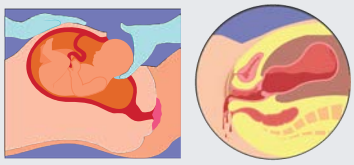




HESI Question

Which risk factors are associated with an **increased risk for postpartum infection**? Select all that apply.

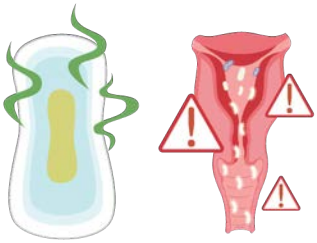
- **Hematoma**
- **Prolonged** labor
- **Cesarean** delivery
- Postpartum **hemorrhage**
- **Prolonged** rupture of membranes



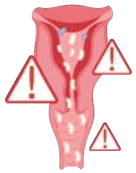
Endometritis

Signs & Symptoms

- Foul-smelling lochia "offensive" or "musty" **Report this!** **NCLEX TIP**
- Fever **(Over 100.4 F)** within the first 24 hours
- **Elevated WBC** over 10,000 (leukocytosis)
- Tachycardia
- Uterine pain & **tenderness**



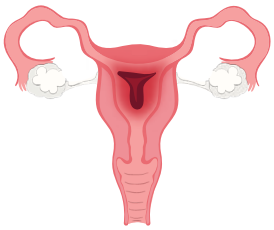
The **MOST** tested indicators of infection



HESI Question

... cesarean delivery reports **fever**, loss of appetite, **pelvic pain**, and **foul-smelling lochia... increased pulse** rate and **uterine tenderness**. Which clinical condition would the **nurse suspect**?

- Endometritis



Endometritis

Interventions

- Draw blood for culture & sensitivity (before antibiotics)
- Antibiotics: Clindamycin **NCLEX TIP**
- Good hand hygiene
- **Peri Care** (especially after an episiotomy)
  1. Squeeze bottle with warm water
  2. Wipe front to back
  3. Blot perineum dry

ATI Questions

Q1: Which of the following measures ... to **reduce the risk of infections**?

- **Wash your hands** before and after voiding
- Change the perineal pad from **front to back after voiding**

Q2: ... **episiotomy** after vaginal delivery ... proper **perineal care**?

- Use a **squeeze bottle with warm water** to keep the site clean

Q3: ... **heart rate of 100/min**, a temperature of 38.3 C (**101 F**), and dark **malodorous lochia**. The prescriber has entered orders to initiate antibiotics, obtain a blood specimen for culture and sensitivity, and administer a fluid bolus... most appropriate **initial intervention**? Draw blood for **culture and sensitivity**

Complications Postpartum

Maternity

Mastitis

Mastitis

Pathophysiology

- **Inflammation** of breast tissue that can result from **poor breastfeeding** technique, inadequate milk duct drainage & may include infection.

Causes & Risk Factors

- **Blocked milk** ducts
- Poor **breastfeeding** technique (only sucking nipple & not entire areola)
- Poor **hand hygiene**

Signs & Symptoms

- Flu like symptoms
  - **Fever**
  - Muscle aches
- Unilateral **breast swelling**, pain & **inflammation** (redness, warmth, edema)

Mastitis

Interventions **NCLEX TIPS**

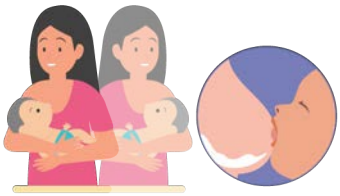
Breastfeeding

- Continue breastfeeding frequently (every 1-3 hrs)
  "ensure complete emptying of the breasts"
- Teach **proper technique**:
  Alternate feeding positions & proper latch
- Education:
  - Apply **warm compresses** to breast & massage
  - Increase oral fluid intake
  - **Wash hands** before & after feeding
  - **AVOID tight bras** or underwire bras
- Pharmacology:
  - **Antibiotics:** dicloxacillin, cephalexin
  - Ibuprofen or acetaminophen for pain

HESI Question

... **mastitis**. Which **instruction** should the nurse provide to this client?

- Breastfeed the infant, ensuring that **both breasts are completely emptied**



UTI - Urinary Tract Infection

UTI - Urinary Tract Infection

Pathophysiology

- Infection & inflammation of the urinary tract

Causes & Risk Factors

Urinary catheters
Cesarean section delivery
Frequent pelvic exams

Symptoms

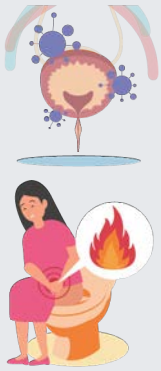
Burning pain upon urination
Urinary **urgency & frequency**

- Cloudy, foul odor in the urine

Fever

Diagnostics

- UA: Urinalysis
  - Elevated WBC
  - Nitrites



UTI - Urinary Tract Infection

Treatment

- Antibiotics: **Levofloxacin**
- **Increase fluid** intake
- Cranberry juice
- **AVOID:**
  - Wiping back to front

DVT - Deep Vein Thrombosis

Pathophysiology

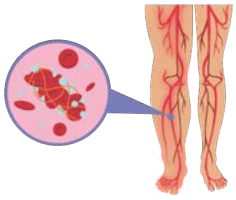
- **DVT** is a blood clot in the deep vein, typically 1 leg.
- Thrombophlebitis is an **inflammatory process** that causes a **blood clot to form** & block one or more veins.

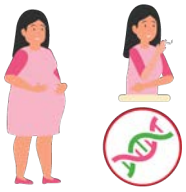
Causes & Risk Factors

- Cesarean section (C-section)
- Obesity
- Smoking

Complication

- PE: Pulmonary Embolism

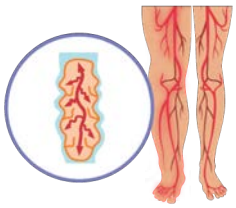




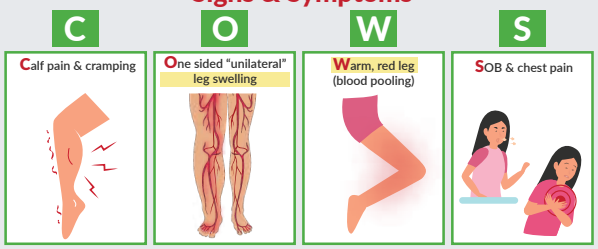
ATI Question

... **tenderness, warmth**, and **redness** of the **lower extremity**. Which of the following does this finding most likely represent?

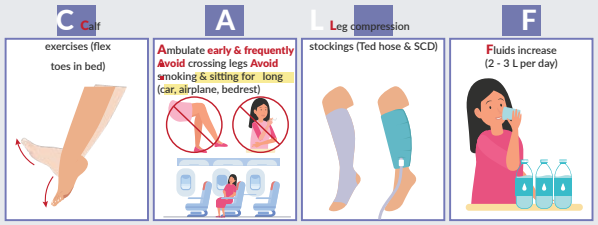
- Thrombophlebitis



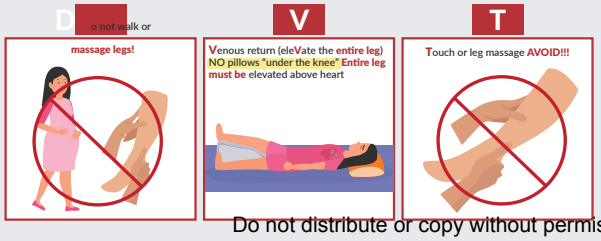
Signs & Symptoms



Treatments **Prevention of DVT**



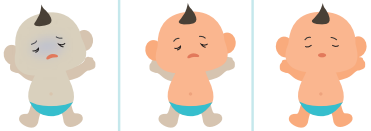
Treatments **During a DVT**



Apgar Score

Maternity

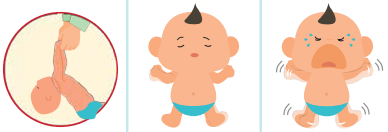
	Sign	0 points	1 points	2 points
A	Appearance (skin color)	Blue/ Pale Core	Blue arms & legs Pink Body	Completely Pink
P				
G				
A				
R				



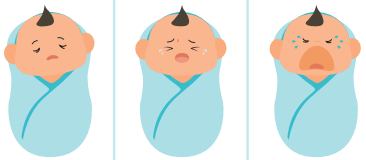
	Sign	0 points	1 points	2 points
A	Appearance (skin color)	Absent	Less than 100/ min.	OVER 100/ min.
P	Pulse (heart rate)			
G				
A				
R				

	Sign	0 points	1 points	2 points
A	Appearance (skin color)	Absent	Grimace	Cry & Pull away
P	Pulse (heart rate)			
G	Grimace (reaction & reflex)			
A				
R				

	Sign	0 points	1 points	2 points
A	Appearance (skin color)	Limp	Minor flexion	Active flexion & extension
P	Pulse (heart rate)			
G	Grimace (reaction & reflex)			
A	Activity (muscle tone)			
R				



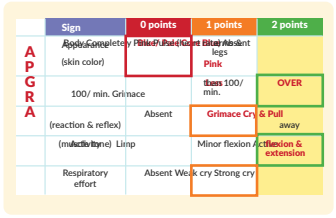
	Sign	0 points	1 points	2 points
A	Appearance (skin color)	Absent	Weak cry	Strong cry
P	Pulse (heart rate)			
G	Grimace (reaction & reflex)			
A	Activity (muscle tone)			
R	Respiratory effort			



Top Missed NCLEX Questions

While conducting an **Apgar assessment**, the nurse discovers the newborn is completely blue, has a heart rate of 115/min, **weak cry**, **active** movements, flexes extremities, and shows facial grimaces when nose is suctioned. The nurse should assign which **Apgar score** to the newborn?

- Apgar score of 6



nurse notes a **heart rate of 92, a weak cry, som**
flexion of extremities, **grimacing** with
stimulation, and a **pink body** with **blue**
extremities. On the basis of this score, **what**
should the nurse determine
resuscitative interventions

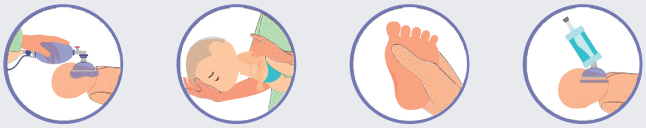
	Sign	0 points	1 points	
A	Appearance (skin color)	Blue/ Pale Core	Blue arms & legs Pink Body	Completely Pink
P	Pulse (heart rate)	Absent	Less than 100/ min.	OVER 100/ min.
G	(reaction & reflex)	Absent	Grimace	Cry & Pull away
A	(muscle tone)	Limp	Minor flexion	Active flexion & extension
R	Respiratory effort	Absent	Weak cry	Strong cry

ATI Question

... Apgar score. The infant is **crying lustily** and has a **heart rate of 130 bpm**; he has some **muscle tone** and his body is **pink** but his hands and feet are **blue**. Which of the following is the **most appropriate Apgar score**?

- 8

	Sign			
A	Appearance (skin color)	Blue/ Pale Core	Blue arms & legs Pink Body	Completely Pink
P	Pulse (heart rate)	Absent	Less than 100/ min.	OVER 100/ min.
G	Grimace (reaction & reflex)	Absent	Grimace	Cry & Pull away
A	Activity (muscle tone)	Limp	Minor flexion	Active flexion & extension
R	Respiratory effort	Absent	Weak cry	Strong cry



Saunders Question

When should the nurse plan to determine the Apgar score?

- At **1 minute after birth** and **5 minutes afterbirth**

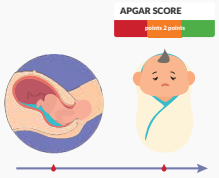
HESI Question

... **Apgar score of 10 at 1 minute** after birth?

- An infant having **no difficulty adjusting** to extrauterine life but who should be **assessed again 5 minutes after birth**

Apgar Score Maternity

The **APGAR** is a simple quick assessment tool used to rapidly describe a newborn's well-being immediately after birth & how they're adjusting to life outside the womb.

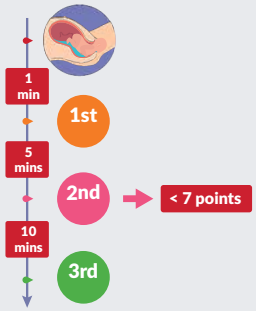


Infants are rated on a scoring system from 0 to 10. The higher the score the healthier the baby

It's important to note it is done twice - at 1 minute & at 5 minutes after delivery. & It may be reassessed for a 3rd time at 10 minutes if the score is less than 7.

NCLEX

7 or Less = Reassess



	Sign Appearance (skin			
A	color)	Blue/ Pale Core	Blue arms & legs Pink Body	Completely Pink
P	Pulse (heart rate)	Absent	Less than 100/ min.	OVER 100/ min.
G	Grimace (reaction & reflex)	Absent	Grimace	Cry & Pull away
A	Activity (muscle tone)	Limp	Minor flexion	Active flexion & extension
R	Respiratory effort	Absent	Weak cry	Strong cry

Interventions Based on Score

- 0 Severe Distress = Resuscitate Fully!
- 4 Moderate distress = Some resuscitation
- 7 Adequate = Provide post delivery

(Oxygen, Suction, Stimulate baby by rubbing back & feet)

Always remember to start with 10 points & then focus on what's BAD! Start subtracting bad signs so: **REALLY BAD** - subtract 2 points
KINDA BAD - subtract 1 point.

TEST TIP Be sure to write out this chart at least 10 - 15 times, every day the week of your exam.

It's vital to know these numbers & how to rate it. You need to spot lower ratings - as this means the newborn is in severe distress!

	Sign Appearance (skin		1 points	2 points
A	color)	Blue/ Pale Core	Blue arms & legs Pink Body	Completely Pink
P	Pulse (heart rate)	Absent	Less than 100/ min.	OVER 100/ min.
G	Grimace (reaction & reflex)	Absent	Grimace	Cry & Pull away
A	Activity (muscle tone)	Limp	Minor flexion	Active flexion & extension
R	Respiratory effort	Absent	Weak cry	Strong cry

Notes

NRP & NEC

Maternity

NRP - Neonatal Resuscitation Program

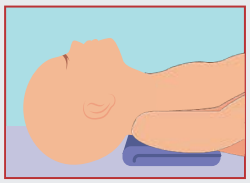
As you know, newborns are evaluated using APGAR immediately after birth. Any baby presenting unresponsive, or limp without spontaneous respirations should be immediately handled in the following way:

Indicator	0 Points	1 Point	2 Points
A Appearance (Skin color)	Blue; Pale	Pink Body; Blue Extremities	Pink
P Pulse	Absent	Below 100 bpm	Over 100 bpm
G Grimace (reflex irritability)	Floppy	Minimal Response to Stimulation	Prompt Response to Stimulation
A Activity (muscle tone)	Absent	Flexed Arms and Legs	Active
R Respiration	Absent	Slow and Irregular	Vigorous Cry

Critical Interventions

1. Place the newborn on the warmer
2. **Sniffing position** "appropriate for ventilating" **NCLEX TIP**
3. Suction airway
4. Dry & stimulate the newborn for **30 seconds**

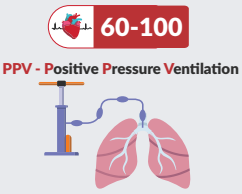
NCLEX TIP



Critical Interventions

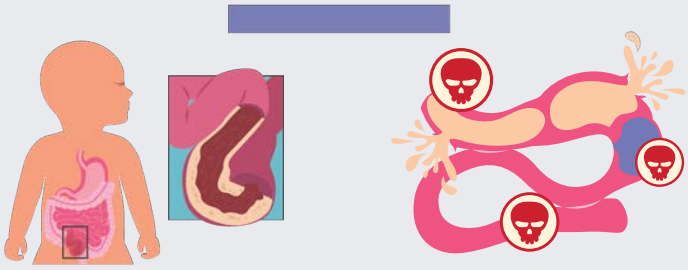
Infant's heart rate

- ~~160~~ ~~120~~ Positive Pressure Ventilation (PPV) **NCLEX TIP**
- Below 60/ minute
  - Epinephrine
  - ***Chest compression*** *seconds after quality PPV (heart rate remains less than 60)*



Necrotizing Enterocolitis

This is an inflammatory disease of the gastrointestinal mucosa due to ischemia (low oxygenation), resulting in necrosis (dead tissue within the GI tract), & perforation of the bowel (basically an explosion of the bowel).

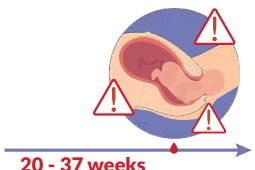


Signs & symptoms

- Feeding intolerance
- Abdominal distention
- Bloody stools

Risk Factors

- Prematurity
- Polycythemia
- Myelomenigocele



HESI Question

Which are **risk factors for necrotizing enterocolitis** (NEC) in **preterm** infants?
Select all that apply.

- Polycythemia
- Myelomenigocele

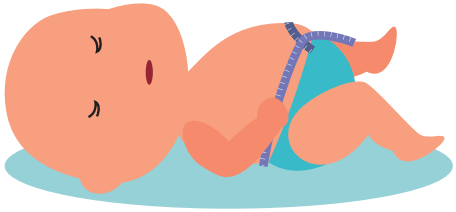
ATI Question

... necrotizing enterocolitis (NEC). Which of the following findings should the nurse recognize as a **risk factor**?

- Gestational age of 35 weeks

Nursing Interventions

- Daily abdominal girth measurements **NCLEX TIP**



NAS & RDS

Maternity

NAS - Neonatal Abstinence Syndrome

This results from habitual use of opioids or illicit drugs during pregnancy. Opioid abuse including those with the O's like HydrOcOdOne, MethadOne, mOrphine & even HerOin, but sedatives like benzOs can also contribute to this condition.

Symptoms typically present within 24-72 hours of birth, but can take days to weeks to appear.

Kaplan Question

... newborn delivered by a **client addicted to narcotics**. At which time is the nurse **most likely to observe symptoms** of narcotic withdrawal? Within **24-72 hours after birth**

Pathophysiology

Signs & Symptoms

- CNS findings: Irritability, restlessness, high-pitched cry abnormal sleep pattern (sleeping very short intervals)
- ANS findings: nasal congestion & frequent sneezing, tachypnea
- GI: **poor feeding** & diarrhea "loose stools"

Nursing Interventions:

- **Swaddle** and gently rock
- **Side-lying** position for feeding ATI
- **Small**, frequent feedings
- Skin protectants

ATI Question

... mother who used oxycodone daily during pregnancy. Which of the following is indicated in infants with **neonatal abstinence syndrome?**

- **Swaddling** the newborn and placing in a **side-lying position for feedings**

HESI Question

The nurse is caring for a newborn with a **high-pitched cry, tremors, diarrhea, poor feeding, tachypnea, nasal stuffiness**... What is the most **common reason** for these symptoms in a neonate?

- **Drug withdrawal**

RDS - Respiratory Distress Syndrome

This is a very **SERIOUS** respiratory disorder in newborns that is typically due to lung immaturity related to surfactant deficiency! As you know, surfactant helps the baby's lungs to be lubricated & expand in order to help get oxygen in!
Most full term babies can naturally produce surfactant, but is not always the case with premature infants.
Mature lungs in a baby have a 2 to 1 L:S ratio - the Lecithin Sphingomyelin ratio unless mom has diabetes - which delays surfactant production

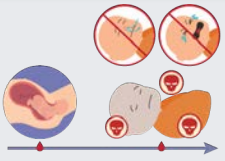
Pathophysiology

Risk Factors

- Preterm birth KAPLAN
- IUGR - Intrauterine growth restriction
- PPROM
- Maternal DM, HTN, or drug use
- Neonatal sepsis

Signs & Symptoms

- **Absent** breathing or crying at birth HESI
- Nasal **flaring**
- **Intercostal** retractions
- Audible grunting
- **Cyanosis** & Tachypnea



Saunders Question

... monitoring a **preterm newborn for respiratory distress syndrome**. Which **assessment finding** should alert the nurse to the possibility of this syndrome? Select all that apply.

- **Cyanosis**
- **Tachypnea**
- **Retractions**
- **Audible grunts**

HESI Question

Which infant behavior would the nurse recognize as **indicating respiratory distress**?

- **Absent cry after birth**

Diagnostics:

- Silverman-Anderson Index HESI

Nursing Interventions

- Steroids
- Betamethasone
- Surfactant (via ET tube) HESI
- Admit to **NICU** for stabilization

Feature	Score 1	Score 2	Score 3
Chest Movement	Equal	Respiratory Lag	Seesaw Respiratory
Intercostal Retraction	None	Minimal	Marked
Xiphoid Retraction	None	Minimal	Marked
Nasal Flaring	None	Minimal	Marked
Expiratory Grunt	None	Audible w/ stethoscope	Audible

Notes

Newborn Assessment

Maternity

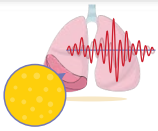
Chest

Normal

- **Heart:** Listen for murmurs
- **Lung Sounds:** Crackles (rales) indicate fluid in the lungs & are expected immediately AFTER birth

HESI Question

... expect to find while assessing a neonate during the first 30 minutes after birth?
Fine crackles



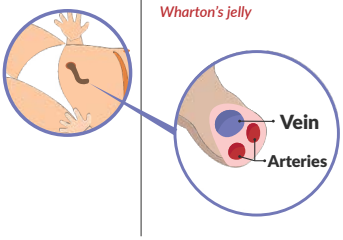
NOT normal

- **Lungs Sounds:** REPORT Wheezes, stridor, or persistent crackles after the first few hours of birth
- Respiratory Distress: REPORT
  - Chest wall retractions
  - Nasal flaring
  - Grunting
  - Tachypnea (over 60/min.)

Umbilical cord

Normal

- 1 vein, 2 arteries NCLEX TIP
- MEMORY TRICK: AVA: 2 Arteries 1 Vein
- **Normal Finding:** *opaque or whitish-blue & covered with Wharton's jelly*



NOT normal

REPORT TO HCP

- Only 1 artery or any other abnormal findings

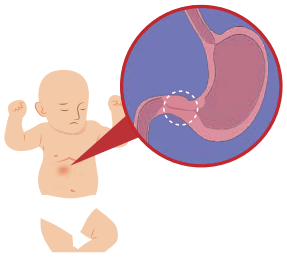
Abdomen

Normal

- Bowel sounds may be absent or hypoactive until the first feed
- Voiding & passing meconium is expected within 24 hours

NOT normal

- No voiding in 24 hours NCLEX TIP REPORT
- Abdominal distention
- Olive shaped mass - Pyloric stenosis



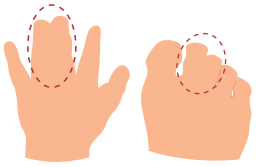
Hand & Feet

Normal

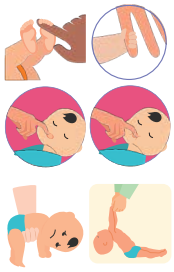
- Plantar creases up the entire sole of the foot
- Bluish discoloration on the hands & feet with a pink trunk

NOT normal

- Preterm: 20 - 37 weeks Very smooth soles of the feet Club foot: Talipes equinovarus
- Syndactyly: Fused fingers or toes



Reflexes & muscle tone

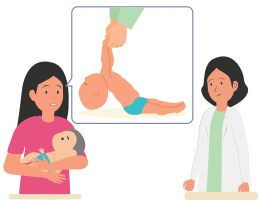


Normal

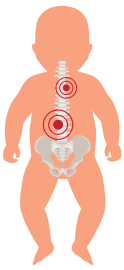
- Good muscle tone

NOT normal

Report to HCP Decreased muscle tone hypotonia "head lag" NCLEX TIP

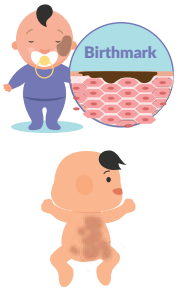


Back & Spine



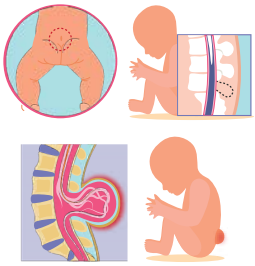
Normal

- Birthmarks & Mongolian spots

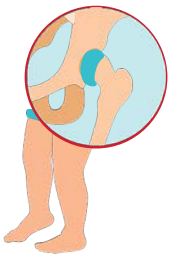


NOT normal

- Sacral dimples → Spina bifida occulta NCLEX TIP
- Myelomeningocele

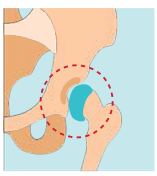


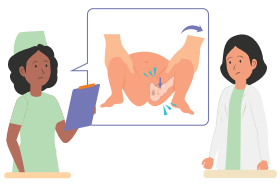
Hips



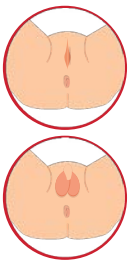
NOT normal

DDH - Developmental Dysplasia of the Hips



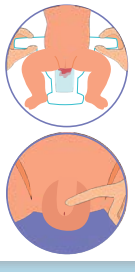


Genitalia & Anus



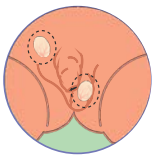
Normal

- **Female:** discharge of blood or mucus **Male:** descended testes into the scrotum



NOT normal

- Anus: Imperforate anus
- **Males:**
  - Hydrocele: fluid-filled sac around a testicle that swells within the scrotum.
  - Hypospadias: misplaced meatus - urinary opening.
  - Cryptorchidism: an undescended testicle that is since most will descend on their own by 6 months.



Notes

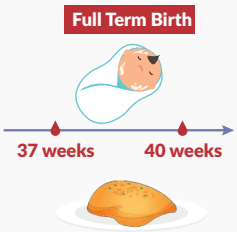
Newborn Assessment

Maternity

After the baby is stabilized & the APGAR score is assessed, a newborn head to toe assessment is completed. We mainly look for signs & symptoms of maturity and prematurity - in order to guide the care that will be delivered.

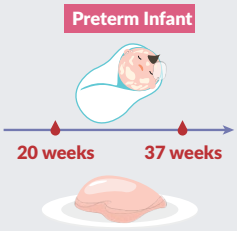
Think of the baby as a bun in the oven or in this case a chicken that just came out of the oven. A **Full Term infant** - born **37 weeks to 40 weeks** is like a perfectly baked chicken breast.

The skin is opaque, & presence of vernix - that white cheesy substance, predominantly located in the skins folds but the baby looks well balanced - not over or under - perfectly "done"!

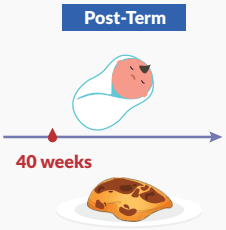


A **Preterm infant** - born between **20 to 37 weeks** - is like an undercooked raw chicken breast.

The baby's skin is smooth, shiny, gooey (lots of vernix), translucent, and extremely flexible - like undercooked dough!
This bun came out of the oven too soon! & is not done baking!



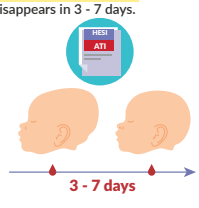
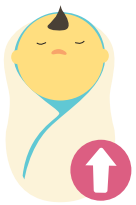
Post Term infant over 40 weeks gestation is like an over cooked, burned chicken breast. The baby will be larger, more chunky and not so flexible. The skin literally appears burned (dried, cracked & peeling). There are also deep creases on the hands/feet.

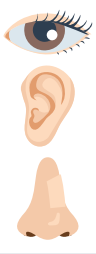
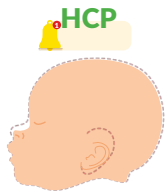


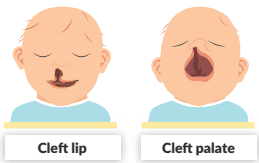
According to ATI - newborn assessment & care is broken down into 3 phases:

Phase 1 - Stabilization
- Infant physical exam
- Routine care

Assessment	Normal	NOT normal
Skin 	▪ **Vernix caseosa:** white cheesy substance, predominantly located in the skins folds ▪ **Lanugo:** fine hair all over the body to hold the vernix in place ▪ **Mongolian spots:** purple, brown, gray flat **discolorations** typically found on the back, buttocks & lower extremities ▪ **Acrocyanosis:** Bluish discoloration on the hands & feet with a pink trunk → Place the newborn **skin-to skin** with mother **NCLEX TIP** around the 3rd day	▪ **Preterm:** 20 - 37 weeks . Shiny, wrinkly skin 2. "Translucent", very fragile, Smooth, red/pink skin with visible veins 3. **Flat areolas** without palpable breast buds 4. Abundant lanugo on shoulders & back & gooey **(lots of vernix)** ▪ **Postterm:** Over 40 weeks Cracked, dried, peeling skin (desquamation) ▪ **Cyanosis:** blue, pale core ▪ **Jaundice** "yellowing of the skin" ▪ **Nevus vasculosus** (strawberry hemangioma): raised, red nodule. ▪ **Nevus flammeus** (port wine stain): pink, red, purple patch of skin, often on the face.

Assessment	Normal	NOT normal
Fontanelles & Head Shape 	▪ Anterior: Diamond shaped ▪ Posterior: Triangular **Molding:** ▪ mis-shapen head resulting from pressure in the birth canal; disappears in 3 - 7 days. 	▪ **Caput succedaneum:** localized edema of the scalp (like a cap) ▪ **Cephalhematoma:** localized hematoma beneath the periosteum caused by trauma 

Assessment	Normal	NOT normal
Eyes, Ears & Nose 	▪ Eyes open ▪ Ear stiff but pliable (more stiff is more mature) **Milia:** white papules ▪ "white heads" on the nose 	▪ Low-set ears & flat nose bridge REPORT TO HCP ▪ **Eyes:** • Ptosis of an eyelid REPORT • Cataract seen as red reflex • Jaundice Sclera **within the first 24 hours** • Coloboma - defect in the pupil **ATI Question** **neonate** after delivery.... Which of the following assessment is **most concerning? Ptosis** of the left eyelid

Assessment	Normal	NOT normal
Mouth 	▪ **Epstein's pearls:** white pearl-like cysts on gum margins & palate **NCLEX TIP** 	▪ Assess for cleft lip or palate 

Newborn Assessment

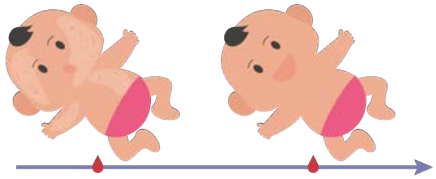
Maternity

Top Missed NCLEX Question

The nurse is performing assessments on several newborns. Which of the following **should be reported** to the health care provider (**HCP**)? **Select all that apply**

- ● **Chest wall retractions**
- ○ No bowel sounds immediately after birth
- ● **No voiding in 24 hours**
- ● **Decreased muscle tone**
- ● **Sacral dimple with a small skin tag**
- ● **Single artery in the umbilical cord**
- ○ Peeling skin in a 42 week newborn

Resolve on its own



Newborn Vital Signs

Assessed **every 30 min after birth** for 2 hours
Then every **4 - 8 hrs.** reassess

- **Heart rate** (resting - not crying)
  - 110 - 160 /min. We assess at the apical pulse listen for **1 full minute**
  - Put the **bell of the stethoscope** at the ● 4th intercostal space - left midclavicular line

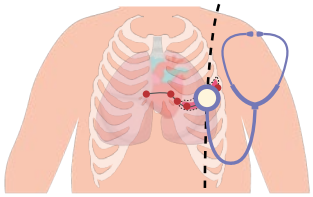
  Side note
  - 80/min during rest ● 180/min when crying or agitated
- **Respirations:**
  - 30 - 60 breaths/min - assess for 1 full minute
- **Axillary temperature:** (No rectal temp!)
  - 97.7-99.5 F (36.5-37.5 C)
- **Blood pressure:**
  - 73/55 mm Hg

Kaplan Question

... apical pulse on a 8 lb 4 oz **newborn infant.** The nurse takes which action?

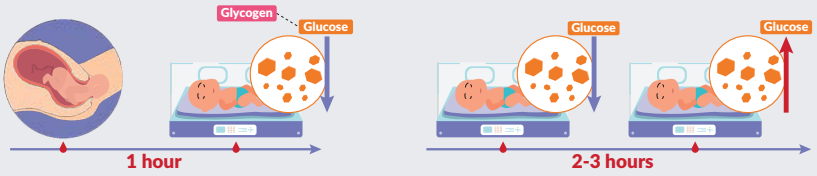
- Places the **bell of the stethoscope at the fourth intercostal space** at the **left midclavicular line**

4th intercostal space



Newborn Glucose Levels

During pregnancy the fetus stores large quantities of glycogen that are used during the transition to life outside the womb & into the world! As a result glucose levels are decreased 1 hour after birth, then stabilize within 2 to 3 hours.



- **Blood glucose 40 or more** mg/dL **1 hour after birth** is expected → **encourage breastfeeding!**

HESI Question

In most **healthy newborns**, blood glucose **levels stabilize** at ____mg/dL during the **first hours after birth.**

- **50 - 60**

Medications

Eyes: **E**rythromycin ointment (given within 1 hour of birth) Prevents Ophthalmia neonatorum (conjunctivitis) → **blindness** ESI
Thighs (Vastus Lateralis Muscle) ATI

- **Vitamin K:** helps produce clotting factors to prevent internal bleeding (given within 6 hours after birth)
- **Hep**atitis **B** vaccine: provides antibodies against Hep B (given within 24 hours after birth)

HESI Question

administer vitamin K ..

- **Vastus lateralis muscle**

ATI Question

vitamin K ...

- "The injection **prevents bleeding** as newborns have a higher risk."

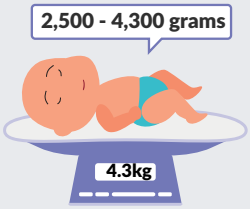
Interventions for LGA

1. Assess for **birth injuries**
cephalhematoma, or clavicular fracture

2. Monitor for **hypoglycemia**
   - Blood glucose < 40 - 45 mg/dL **Report to HCP**
   - Glucose checks **prior to feedings**
   - Encourage **breast feeding every 2-3 hours**
   - Discuss the need for **feeding supplementation** if s/s of **hypoglycemia** occur

Body Measurements

- Head circumference: 33 - 35 cm
- Chest circumference: 30 - 33 cm
- Length: 45 - 55 cm
- Weight: 2,500 - 4,300 grams (5.5 to 9.5 lb)
  - SGA: less than 10th percentile
  - AGA: between 10th & 90th percentile
  - LGA: **over the 90th percentile**
  - Macrosomia: more than 4000 grams



Saunders Question

... the infant's weight is 4400 g... may be at risk for which complications?

- **Hypoglycemia**
- **Fractured clavicle**
- Congenital **heart defect**

HESI Question

... low birth weight (LBW) based on which assessment finding?

- Weight is less than **2.5 lbs**

Newborn Complications

Maternity

Hyperbilirubinemia

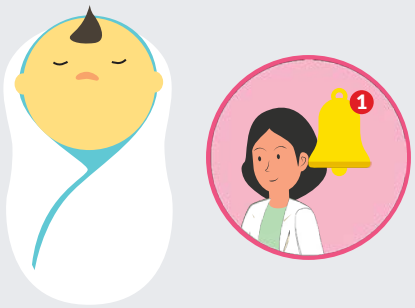
Hyperbilirubinemia, or **jaundice**, is the yellowing of skin from too much bilirubin - those dead RBCS in the blood.

Patho & Causes

- Pathologic
  - Structural defects in the liver → build up of bilirubin
- Physiologic
  - RBCs breakdown (from birth trauma) produces bilirubin
    - Immature & can't keep up hyperbilirubinemia → Jaundice
    - Can cause multisystem organ damage & irreparable brain damage

Signs & Symptoms

- Yellowish hues — Report to HCP
  - Face or eyes (sclera)
  - Trunk & extremities



HESI Question

... **highest priority** to which finding?

- Skin color that is **slightly** YES!
  Always report yellow skin! ~~jaundiced~~

Saunders Question

Which **assessment finding** should alert the nurse to suspect the **potential for jaundice** in this infant?

- Presence of **cephalhematoma**

Treatment

Phototherapy - In the hospital setting most commonly include fiberoptic phototherapy blankets & pads. Bili lights (lamps) - where the baby is placed under heat lamps like a food item at a buffet

Treatment: Phototherapy

Nursing Interventions

1. Skin Care
   - Monitor **skin temperature** closely
   - **Reposition** every 2 hours
2. Dehydration risk → Give **fluids** every 2 hours
3. Eye care → Cover infants eyes with **protective pads**

PRIORITY

ATI Question

... plan of care for an **infant receiving phototherapy**?

- Giving additional **fluids every two hours**

Hypothermia (cold stress)

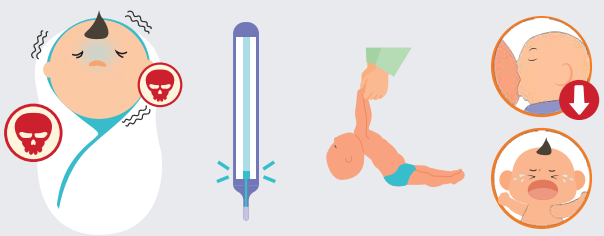
Cold babies with low body temperature, although easy to treat, it is VERY dangerous and can lead to hyperbilirubinemia, hypoxia (low oxygen), & hypoglycemia (low blood sugar)! This is because oxygen consumption and metabolism are increased leading to an unstable baby.

Signs & Symptoms — 5 NCLEX TIPS

1. Altered mental status
   "Irritability or lethargy"
2. Hypotonia, weak suck & cry
2. Bradycardia, tachypnea & **hypoxia**
3. **Hypoglycemia** & feed intolerance
5. NO shivering ability

Causes & Risk Factors

- Thin layer of subcutaneous fat
- Wet infant - Evaporation



HESI Question

Which signs indicate the need for placing the neonate in a **prewarmed radiant warmer**? Select all that apply.

- **Hypotonia**
- **Bradycardia**
- **Feeding intolerance**

ATI Question

Q1: Which of the following findings is **unexpected** when **assessing a preterm** newborn for **cold stress**?

Shivering Q2: ... cause of neonatal **hypoglycemia** in relation to **cold stress**?

- **Increased metabolic rate**

Notes

Newborn Complications

Maternity

Hypothermia (cold stress)

Interventions — 5 NCLEX TIPS

- **Skin-to-skin contact** newborn & mother
- Dry the newborn immediately after delivery & place hat
- Provide care under radiant warmers
- Cover scale with warmed blankets before weighing the newborn
- Use prewarmed incubator when transporting

Warm that baby up!
Remember a warm baby will decrease the risk for hypoglycemia, hypoxia, & hyperbilirubinemia!

ATI Question

The newborn infant is **pale and doesn't cry**... most appropriate **action**?

- Place the **infant in a radiant warmer** and **dry** him with a towel

Saunders Question

... **most effective in preventing heat loss** by evaporation?

- **Drying the infant** with a warm blanket

HESI Question

Which **nursing action** ... **immediately** following the vaginal birth?

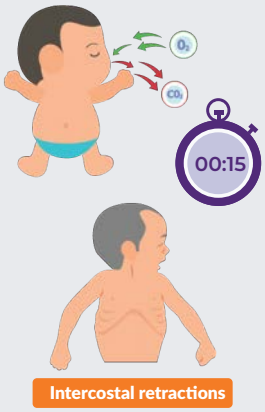
- **Drying the infant** on the mother's chest and then placing a hat on the infant

Hypoxia

As you know the newborn must transition quickly from a fluid-filled environment to an air-filled environment so the lungs must expand with the help of surfactant which prevents collapse of the alveoli within the lungs

Signs of Respiratory Distress

- Pathologic apnea
- **Intercostal retractions**
- Central **cyanosis**
- **Nasal flaring**
- Grunting, wheezing

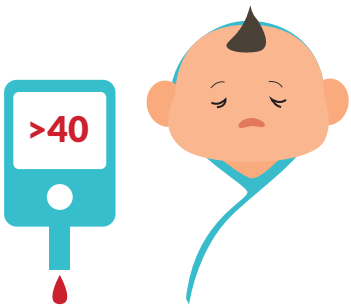


Causes	Interventions
Fluid or mucus obstruction	Dry, stimulate, suction
Prematurity (lack of surfactant)	Support ventilation Give surfactant (Betamethasone)
Cardiac Defect (PDA or PFO)	Monitor & Surgery

Hypoglycemia

Newborn blood glucose **should be kept above 40mg/dL at all times**.

Newborns are at risk for hypoglycemia because the placenta (the source of maternal glucose) is removed & the infant's pancreas is still producing insulin at a rate that matches the levels of maternal glucose during pregnancy.



Risk Factors

- Mom with **diabetes** (all types)
- **HYPOTHERMIA**
- Sepsis

Signs & Symptoms

- **Less than 40** mg/dL
- Shaking, sweating, & **irritability**
- **Lethargy**
- High-pitched or weak **cry**
- **Seizures**

Nursing Interventions

- **Breast feeding** is #1 !
- Identify high risk newborns
- Keep infant warm

Postpartum Depression & Baby Blues

Maternity

Postpartum mood disorders are classified into 3 buckets or classifications:

Postpartum Baby Blues — This is our small problem. It's the shortest in duration & typically resolved on its own.

Postpartum Depression (PPD) — Is the medium problem lasting longer & interventions are needed.

Postpartum Psychosis — Is the **BIG** problem, **VERY SEVERE**! Lasting the longest & early interventions are required for the safety, as mothers lose touch with reality.

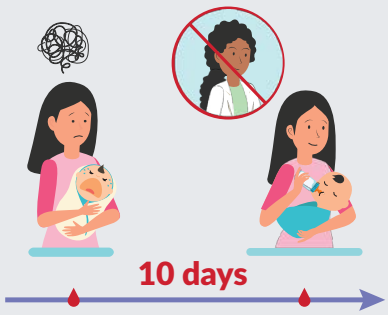
Postpartum Baby Blues

Postpartum Depression

Postpartum Psychosis

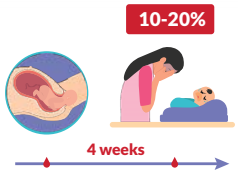
Postpartum Baby Blues

- 10 days or less &
- **Signs**: (not debilitating)
  - Crying & sadness but don't know why
  - Fatigue, exhaustion



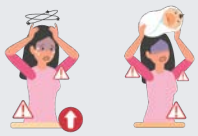
Postpartum Depression (PPD)

- **2 weeks** or more
- Onset within 4 weeks after delivery
- Signs: (**debilitating**)
  - **Anxiety**, panic
  - **Overwhelmed** & stressed
  - **Persistent** sadness & mood swings
  - Apathy (loss of interest)
  - Decreased appetite & **anorexia**
  - **Insomnia**: Inability to sleep
- **Requires interventions**
  - Longer maternity leave
  - Depression therapy
  - Medication
  - More frequent follow ups

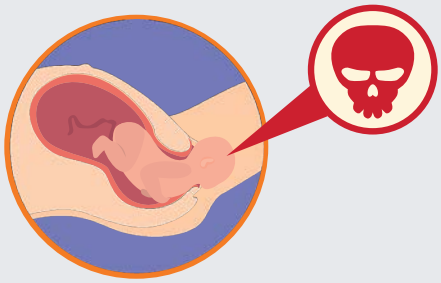


Postpartum Psychosis

- Within **2-3 weeks** of delivery
- Risk factor: History of **bipolar disorder**
- **Signs**: (extremely **debilitating**)
  - Confusion
  - Delusions & hallucinations
  - Paranoia
- **HIGH RISK** for harm "thought of harming self / baby" **Immediate Interventions**
  - Inpatient Hospitalization treatment: therapy & meds
  - Psychiatric care
  - Rule out other causes: **Hypothyroidism**
  - Counseling/ Talk therapy: "psychotherapy"
  - Meds:
    - Antidepressants
    - Antipsychotics
    - Mood stabilizers
  - ECT: Electroconvulsive therapy



- **Interventions:** Fetal Demise
  Stillborn infant who has died before or during delivery.



This is very traumatic for both the parents & family members. It requires specific therapeutic interventions.

4 NCLEX TIPS

1. Allow parents to **stay with the baby** as long as they want
2. Ask the **parents** if they would like to help bathe the infant
3. Encourage the **parents and family** members to hold the infant
4. Offer to obtain handprints, footprints, & photographs of the infant

HESI Question

Which **priority action** would be most beneficial in helping a couple cope with **fetal loss after the delivery of a stillborn**?

- Allow the parents to h**old and view the baby** after delivery if they so request

Adoption Interventions

4 NCLEX TIPS

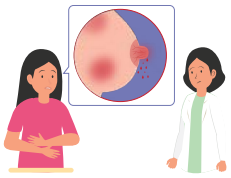
1. **Alert other staff** of the adoption plan
2. **Acknowledge adoption plan EARLY** (before birth)
   This encourages the client to express emotions & be involved in decision-making
3. **Encourage** the birth mother to **hold the newborn**, take **pictures**, & offer the **birth mother a chance to say goodbye**
4. Use phrases & words that portray adoption as a **decision of love, not abandonment**
   - **AVOID**: "giving up" "giving away" your baby
   - Use: "choosing adoption"

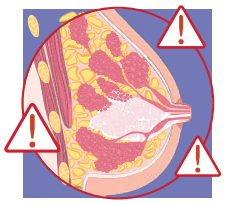
Breastfeeding

Maternity

Education

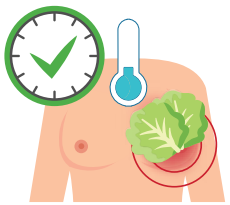
- **Encourage fluid intake** for adequate milk production
- Wear a supportive bra
- Mastitis signs **Report to HCP**
  - Flu like symptoms **Fever** & muscle aches
  - Unilateral **breast swelling**, pain & **inflammation** (redness, warmth, edema)
- Blocked milk duct
  - **Before** breastfeeding: Apply **warm compress** to breasts to open milk ducts & prevent blockage
  - **After:** Apply **cool** compresses

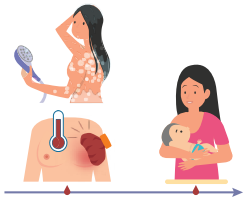




Education

- Breast engorgement
  - Feed or pump more regularly (at least every **1-3 hours**)
  - Recognize **feeding cues** from the baby: *rooting reflex, suckling motion, hand-to-mouth movements.*
  - Use chilled, fresh cabbage leaves on breasts throughout the day **NCLEX TIP**
  - **Before breastfeeding** or pumping: Warm compresses or a warm shower
  - Apply **breast milk to sore nipples** & allow to air dry after feeding

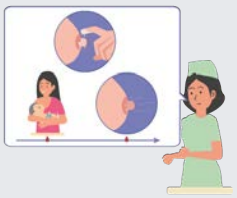




ATI Questions

Q1:... client is experiencing **engorgement**... most **appropriate response** from the nurse? "**Before you try to feed** your baby again, **take a warm shower**"

Q2:... breast discomfort and **engorgement**? The client should **apply a small amount of breast milk to sore nipples** and let them **air dry** after feeding



HESI Question

Which **early feeding-readiness** cues are exhibited for a breastfed newborn? Select all that apply.

Rooting reflex
- **Suckling** motions
- **Hand-to-mouth** movements

AVOID during breastfeeding

- Alcohol (wait **2 hours or more** after consumption to breastfeed) 1 drink per day
- Smoking
- Drugs

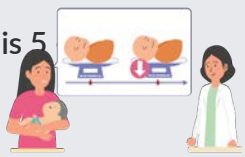
HESI Question

... taking **analgesics** ... and is anxious that the **medication may pass into her breast milk**

- Take the medication **immediately after breastfeeding**

Newborn weight loss during the first 3 to 4 days of life

-
-



Infant Formula 7 Rules & NCLEX TIPS

1. **Wash the top** of formula cans before opening
2. **Refrigerate** unused formula & **discard after 48 hours**
3. Throw away leftover formula after feeding
4. Boil or wash in a dishwasher: bottles, nipples, caps & other parts
5. Before feeding, **warm the formula & tes tthe temperature** on the inner wrist before serving. It should be lukewarm, not hot!
6. **NEVER over** dilute or **over** concentrate the formula

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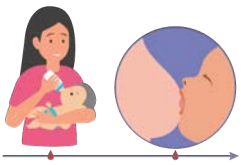

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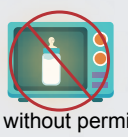
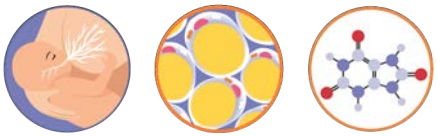
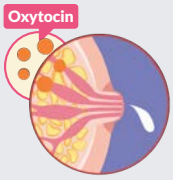


Breastfeeding Maternity

Breastfeeding is very important for both the mother & newborn. NOT ONLY does it contain powerful nutrients like fats, protein, & antibodies to which help strengthen the newborn's immune system to fight infection, as well as lowering rates of allergies, sudden infant death syndrome (SIDS), & other disorders! BUT, it also helps the mother & baby to bond with skin to skin - which should be done soon after birth.



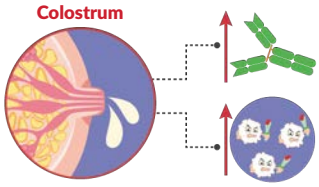
Prolactin helps to produce milk and oxytocin helps with the let down of the milk. Breastfeeding helps the mother, too, primarily in reducing uterine bleeding & preventing severe postpartum hemorrhage. The act produces natural oxytocin release in the mother, which stimulates uterine contractions to prevent postpartum hemorrhage.



Memory trick

Oxytocin helps to
Opens the nipple

Along with other added benefits like reduced risk of certain cancers, osteoporosis, arthritis, heart disease, & other disorders. Initially, the breast makes **colostrum** - a yellowish fluid that is rich in antibodies. Immune cells coat the newborn's GI tract, helping the baby to pass meconium - the baby's first stool.



Colostrum is secreted during pregnancy & for 2-3 days after delivery. Milk is produced 3-5 days after delivery & has higher fat content than colostrum.

Correct Breastfeeding Technique

Before

1. **Wash hands** prior to feeding

Correct Breastfeeding Technique

During 2.

ood Latch:

Baby's **mouth wide open** covering both the areola & the nipple

Ensure the bottom of the areola is in baby's mouth

- **Nipple up** against the roof of the mouth
- Baby's **tongue** against the bottom of the areola
- Reposition the baby's latch → always use **1 finger to break the suction first**

NCLEX TIP

Correct Breastfeeding Technique

Bad Latch: Shallow latch

- Only the **tip of the nipple** inside the baby's mouth!
- Causes **less milk flow** & nipple soreness, cracking & bleeding

- *Apply **breast milk to sore nipples** & allow to air dry*

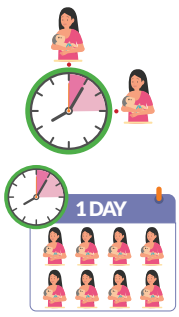
SIDE NOTE

If the mother is unsuccessful, the first intervention is **EDUCATION & demonstration**. Do not go to bottle feeding first! Teach the mother good latch technique FIRST & don't let the NCLEX trick you with offering formula feeding first. This is wrong!

Correct Breastfeeding Technique

After

3. **Fully empty** the breasts with each feeding
   Use a breast pump if needed
4. Initially: feed
   per day



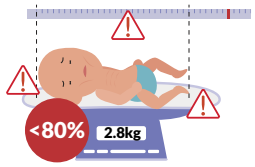
FTT & FAS

Maternity

FTT - Failure To Thrive

This growth failure is defined as a state of malnutrition, inadequate growth, or weight **less than 80%** ideal for age **within the first 3 years of life**.

The first **3 years** of life



Causes & Risk Factors

Socioeconomic

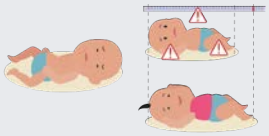
- Poverty: "unemployed"
- Primary caregiver cognitive disabilities
- Abuse: child or spousal
- Lack of nutritional knowledge
- Parents social or emotional isolation

Physiological

- Anorexia nervosa prior to having children
- Preterm birth
- Breast feeding difficulties
- Gastroesophageal reflux
- Cleft Palate

Signs & Symptoms:

- Signs of malnutrition
- Developmental delays
- Abnormal feeding behaviors
- Increased metabolism
- No eye contact



ATI Question

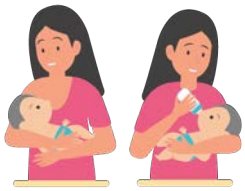
... **failure to thrive**. Which of the following **findings** should the nurse anticipate in this infant? The infant will avoid making eye contact

HESI Question

What **clinical manifestations** would the nurse expect in an infant diagnosed with **failure to thrive**? Malnutrition, developmental delays, feeding disorders

Nursing Interventions

- Observe the child feeding **NCLEX TIP**
- Develop a structured routine for bathing, sleeping, and playing
- Assess overall parenting skill



Kaplan Question

... **failure to thrive**... The nurse instructs the toddler's parents about mealtimes. Which **suggestion by the nurse is most appropriate**?

- Develop a **structured routine** for bathing, sleeping, and playing

FAS - Fetal Alcohol Syndrome

Fetal exposure to alcohol **(from maternal drinking)** is the leading cause of intellectual disability and developmental delay in the US.

Risk factors

NCLEX TIP

- ANY alcohol consumption in pregnancy

Signs & Symptoms

- Intellectual disability
- Developmental delay
  - **Hypotonia** (weak muscle tone)
  - **Poor sucking** reflex & feeding
  - Abnormal **palmar creases**
- Infant **irritability**
- **Minimal** response to stimuli
- Distinct facial characteristics **NCLEX TIPS**
  - Indistinct philtrum
  - Thin upper lip
  - Short palpebral fissures
  - Epicanthal folds
  - Flat midface

HESI Question

Prenatal exposure to which substance can result in **craniofacial anomalies in the newborn?**

- **Alcohol**

Saunders Question

Q1: ... hypotonia, irritability, and a poor sucking reflex in a full-term newborn ... The nurse suspects **fetal alcohol syndrome** and is aware that which additional sign would be consistent with this syndrome?

- **Abnormal palmar creases**

Q2: ... monitoring a **newborn born** to a client who abuses alcohol. Which findings should the nurse expect ...?

- **Irritability**
- **Minimal** response to **stimuli**

Diagnostics

- History of prenatal **alcohol exposure**
- Growth deficiency
- Neurological symptoms like **microcephaly**

Nursing Interventions

- Educate the mother on NO alcohol consumption during pregnancy
- Monitor the newborn's **response to feeding & weight gain pattern**

NCLEX TIP

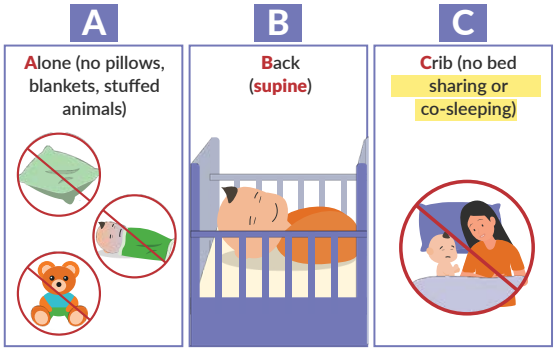
SIDS & Neonatal Sepsis

Maternity

SIDS - Sudden Infant Death Syndrome

Sudden Infant Death Syndrome is the unexpected death of an infant less than 1 year old. It occurs most frequently during sleeping in infants less than 6 months.

Memory Trick

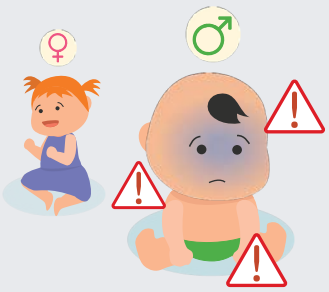


Educate Parents — 6 NCLEX TIPS

1. Place infants in **supine position during sleep**
   - "Put to sleep on their back" in a safe crib
   - Dress newborn in "wearable blanket" "sleep sack"
2. **Breastfeed** the infant
3. Have up to date **vaccinations**
4. Ensure a **smoke-free environment**
5. Provide a **firm sleep surface** for the infant
6. **NO NO list**
   - **Avoid** sleeping **with the infant** (**NO** bed sharing, **NO** cosleeping)
   - **NO pillows**
   - **NO loose** or **soft** items: blankets, toys, stuffed animals
   - **NO bumper pads** on the sides of the crib

Risk factors

- **Boys** are at higher risk than girls
- **Low apgar** score at birth
- Infants with a **caregiver that smoke**



HESI Question

... high risk of developing **sudden infant death syndrome (SIDS)?**

- An infant whose **mother smokes**
- Infant with an **Apgar score of 4**

ATI Question

... **reduce the risk of SIDS** in infants?

- Placing the infant in the **supine position**

Neonatal Sepsis

Infection contracted by the neonate before, during, or after delivery, due to the newborn's limited immunity and inability to localize infection, infections can spread quickly into the bloodstream.

Risk Factors

- **Premature** birth, **PROM**, prolonged labor
- Maternal **TORCH** infection
- **Meconium** aspiration

Signs & Symptoms

- **Lethargy**, irritability, poor muscle tone
- Respiratory distress: **Apnea or Tachypnea**
- Heart rate **instability**
- **Temperature** instability
- Vomiting/diarrhea → sunken fontanelles
- **Poor feeding**
- Blood glucose instability

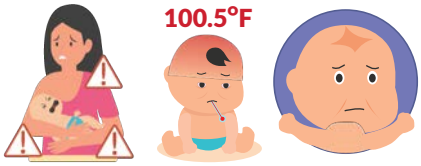
HESI Question

... **signs** of neonatal sepsis? Select all that apply.

- **Lethargy**
- **Tachypnea**
- **Apnea**

ATI Question

... **immediately prioritized** for assessment and care? A 3-week-old infant who has been **feeding poorly** with a **temperature of 100.5 F** and **sunken fontanelle**



Nursing Interventions

- Assess infection risks
- Draw labs/cultures
- IV access

Parent Education For Newborn Care & Circumcision Care

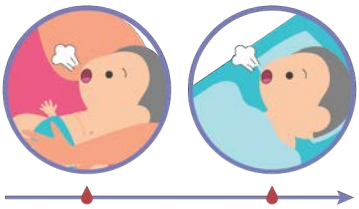
Parent Education For Newborn Care

Newborn GERD

Gastroesophageal Reflux Disease

NCLEX Key Points

- Burp **during & after** feeds
- Hold baby upright **20-30 minutes after each feeding**
- Offer **smaller, frequent** feeds



Kaplan Question

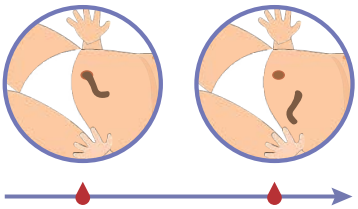
... newborn's **umbilical cord**... teaching is effective?

- "I will **clean the cord and skin** around it with **water**."
- "I will **allow the cord to fall off on its own**."

HESI Question

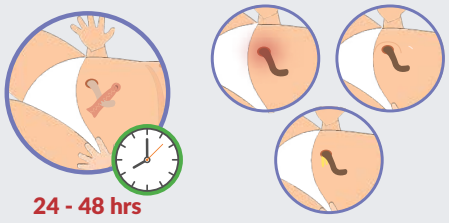
... **newborn's cord care** at home?

- Allow the **cord to air-dry** as much as possible



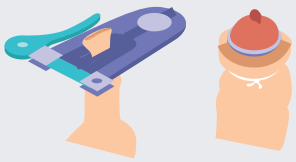
Umbilical Cord Care

- **Goal**: prevent infection & hemorrhage
- **Interventions**:
  - 2 hrs: Cord clamp can be removed when cord is DRY
  - Clean cord stump with WATER and AIR DRY **(NOT Alcohol)**
  - Assess for **SIGNS OF INFECTION**
    -Redness
    -Swelling
    -Drainage
- **Parent Teaching**:
  - Fold **diaper down & away** from the stump
  - **NO bathing** in a tub (**submerged**) until cord stump falls off
  - Let cord **fall off on its own**
  - **DO NOT** PULL CORD (infection + hemorrhage risk)
  - NO alcohol to clean the cord only water



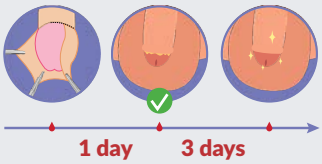
Circumcised & Uncircumcised

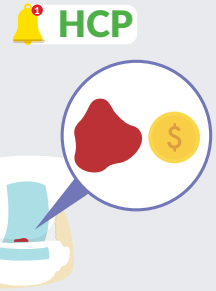
Newborn circumcision is an elective procedure that removes the foreskin from the male infant's penis using the clamp method or the plastic ring. It can be performed before discharge on the postpartum unit or on an outpatient basis with a pediatrician.



Nursing Care

1. Hand washing before care
2. **Petroleum Jelly** application at diaper changes
3. Normal healing: **yellow exudate** after the first day **NCLEX TIP**
4. Signs to report:
   - **Bleeding** exceeding the **size of a quarter**
   - Dry diaper or **No voiding 6 - 8 hours** after circumcision
5. Cleaning:
   - Warm water without soap
   - **AVOID** alcohol-based wipes or soap water





Kaplan Question

Which **action** should the **nurse take immediately after** the newborn is **circumcised**?

- Applies **petroleum gauze** and observes carefully for **bleeding**

ATI Question

... neonate who just underwent **circumcision**. If **bleeding** should occur, what is the **initial priority**?

- Use a **sterile gauze** pad to **apply light pressure** to the area

Saunders Question

... newborn after **circumcision** ... the circumcised area is **red with a small amount of blood drainage**. Which **nursing action** is most appropriate?

- Document the findings

Notes

Medications

Maternity

Newborn

Drug	Mode of Action	Indication	Contraindication / adverse effects	Dose / route	Nursing actions
Phytonadione Vit K	Helps to prevent bleeding by activating clotting factors	Prevention and treatment of hypoprothrombinemia	Pain, swelling, flushing, dizziness, rapid heartbeat, sweating	IM Subcut, IV (Children 1 mo): 1–2 mg single dose.	Monitor for frank and occult bleeding pulse and BP frequently; apply pressure to all venipuncture sites for at least 5 min; avoid unnecessary IM injections
Erythromycin Erythrocin	Suppresses protein synthesis at the level of the 50S bacterial ribosome	Infections caused by susceptible organisms including	Infantile hypertrophic pyloric stenosis, pancreatitis,interstitial nephritis, rash. Benzyl alcohol should be avoided in neonates.	IV/ P.O PO (Neonates): Ethylsuccinate 20–50 mg/kg/day divided q 6–12 hr IV (Children 1 mo): 15–50 mg/kg/day divided q 6 hr, maximum 4 g/day	Monitor for allergic reaction
HEp B vaccine	Causes a primary immune response	Provides immunity against HEP B	Do not give if baby is already +	5 mcg/0.5 mL; 5 mcg/mL; 10 mcg/0.5 mL;	Assess patient anaphylaxis (hypotension, flushing, chest tightness, wheezing, fever, dizziness)
HEP B IG BayHep B, Nabi-HB	Confers passive immunity to hepatitis B infection post exposure	Hepatitis b infection in neonates born to HBsAg-+ women, provides passive immunity	Erythema at IM site, pain, swelling, tenderness Hypersensitivity to immune globulins, glycine, or thimerosal	IM: 0.5 mL within 12 hr of birth	Assess patient anaphylaxis (hypotension, flushing, chest tightness, wheezing, fever, dizziness)

Postpartum

Drug	Mode of Action	Indication	Contraindication / adverse effects	Dose / route	Nursing actions
Hydrocodone bitartrate/ acetaminophen (Norco)/ Lortab	Bind to opiate receptors in the CNS	Management of moderate to severe pain	Avoid chronic use • Dizziness, sedation, respiratory depression, hypotension	ROUTE PO -2.5– 10 mg q 3– 6 hr as needed;	Monitor respirations Do not give laxatives
Rho(d) immune globulin (human)	Prevent production of anti-Rho(D) antibodies in Rho(D)-negative patients who were exposed to Rho(D)-positive blood.	Administered to Rho(D)-negative patients who have been exposed to Rho(D)-positive blood by: Pregnancy or delivery of a Rho(D)-positive infant	Prior hypersensitivity reaction to human immune globulin; Rho(D)- or Du-positive patients. • HTN, hypotension, anemia	ROUTE IM/IV 600 IU (120 mcg) w 40–125 mg qid, after meals and at bedtime (up to 500 mg/day)	Assess vital signs periodically during therapy
Simethicone Gas-X	Passage of gas through the GI tract by belching or passing flatus	Relief of painful symptoms of excess gas in the GI tract that may occur postoperatively	Not recommended for infant colic • None significant	ROUTE 40– 125 mg qid, after meals and at bedtime (up to 500 mg/day)	Assess patient for abdominal pain, distention, and bowel sounds prior to and periodically throughout
Docusate Peri-Colace	Promotes incorporation of water into stool, resulting in softer fecal mass	Prevention of constipation (in patients who should avoid straining, such as after MI or rectal surgery)	Hypersensitivity; Abdominal pain, nausea, or vomiting,	ROUTE PO: 2 tablets once daily at bedtime; maximum 4 tablets twice daily.	Assess for abdominal distention, presence of bowel sounds, and usual pattern of bowel function.

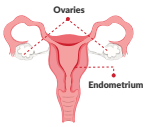
Neonatal Intensive Care Unit (NICU)

Drug	Mode of Action	Indication	Contraindication / adverse effects	Dose / route	Nursing actions
Surfactant (beractant)	Replaces surfactant in premature infants	Treatment of respiratory distress syndrome in premature infants	None • O2 desaturation	Intratracheal: (4 mL/kg birth weight); 4 doses may be given in first 48 hr of life, q 6 hr apart	Monitor ECG, heart rate, color, chest expansion, o2 sat, and ET tube patency continuously. Continuous bedside monitoring for 30min
Caffeine citrate	Decrease periods of apnea	Short-term treatment of idiopathic apnea of preemie infants between 28 and 33 week gestational age.	Hypersensitivity • Tachycardia,feeding intolerance, gastritis	ROUTE IV/PO Maintenance dose - starting 24 hr after loading dose 5 mg/kg	Necrotizing enterocolitis (abdominal distension, vomiting, bloody stools, lethargy)
Prostaglandin E1 (alprostadil)	Relaxes smooth muscle of the ductus arteriosus	Temporary maintenance of patent ductus arteriosus in neonates	Respiratory distress syndrome • Seizures, cerebral bleeding,	ROUTE IV 0.05– 0.1 mcg/kg/min initially; may be increased up to 0.4 mcg/kg/min until satisfactory response	Respiratory rate, heart sounds, and neurological status frequently
Ampicillin	Binds to bact cell wall	Treat bacterial infections	Hypersen to PCN • Seizures, pseud colitis	ROUTE IM/IV Children 40 kg): 100– 200 mg/kg/day in divided doses q 6– 8 hr (not to exceed 12 g/day).	Observe for anaphylaxis (rash, pruritus, laryngeal edema, wheezing)
HMF (human milk fortifiers) enzymes	Increased digestion of fats, carbs, and proteins in the GI tract.	Pancreatic insufficiency	Hypersen to hog proteins • Shortness of breath, dyspnea	ROUTE PO (Children 1 yr): 2000– 4000 lipase units per 120 mL of formula/breast milk.	Monitor stools for high fat content Stools will be foul-smelling/frothy. Assess patient for allergy to pork

Reproductive System

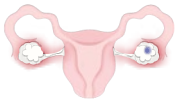
Maternity

Menstrual Cycle



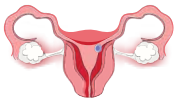
Two main components: Ovarian cycle and Uterine cycle

Ovarian cycle: Cyclical changes in the ovaries occur in response to two anterior pituitary hormones: **Follicle-stimulating hormone (FSH)** and **luteinizing hormone (LH)**. T here are two phases of the ovarian cycle, each named for the hormone that has the most control over that particular phase. The follicular phase, controlled by FSH, encompasses days 1 to 14 of a 28-day cycle. LH controls the luteal phase, which includes days 15 to 28



- Follicular phase
- Luteal phase

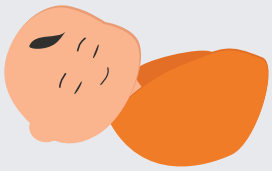
Uterine cycle: changes that occur in the inner lining of the uterus. These changes happen in response to the ovarian hormones estrogen and progesterone.



There are four phases to this cycle:

- Menstrual
- Proliferative
- Secretory
- Ischemic.

Cellular development



Soma cells:

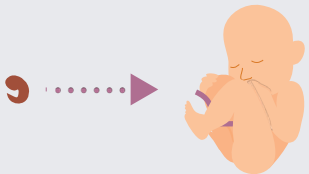
- Makeup organs and bodily tissue of the human body.
- Gametes: germ cells/ sex cells found only in the reproductive glands
- Nucleus: contains 23 pairs of chromosomes
- Each parent donates 1 par of chromosomes (46 Chromosomes equals little Mikey)
- Each parent donates 22 pairs of autosomes: genetic traits such as eye color, hair color, and ear wax consistency.
- One pair of sex chromosomes

Signs of Pregnancy

- **Presumptive**: subjective data the woman reports to the HCP for example, " My breasts hurt"
- **Probable**: objective data such as cervical changes
- **Positive**: diagnostic confirmation such as fetal heartbeat & ultrasound


Fetal Development

- **Pre-embryonic stage**: 3-4 weeks gestation
- **Embryonic**: 5-10 weeks gestation
- **Fetal**: 11-40 weeks gestation



Notes

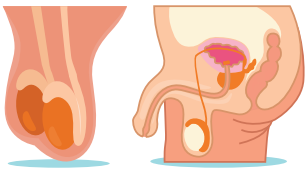
Reproductive System

Maternity

Male

External genitalia
- Penis: Reproductive and urinary elimination.
- Scrotum: External sac that houses testes. Protects the testes from trauma & testicular temperature regulation.

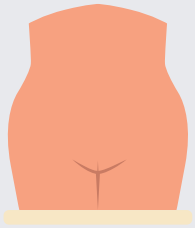
Internal reproductive organs
- Testes: produce male sex hormone and from spermatozoa
- Ductal system: " vas deferens" the tube in which sperm begin the journey out of the body
- Accessory glands: The seminal vesicles are paired glands that empty an alkaline, fructose-rich fluid into the ejaculatory ducts during ejaculation.

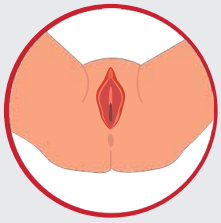


Prostate - muscular gland that surrounds the first part of the urethra as it exits the urinary bladder.
The alkaline fluids secreted by these glands are nutrient plasmas with several key functions, including the following:
- Enhancement of sperm motility (i.e., ability to move)
- Nourishment of sperm (i.e., provides a ready source of energy with the simple sugar fructose)
- Protection of sperm (i.e., sperm are maintained in an alkaline environment to protect them from the acidic environment of the vagina) (Hatfield 51)

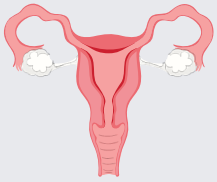
Female

External genitalia
- Mons pubis
- Labia majora and minora
- Clitoris
- Vestibule
- Perineum



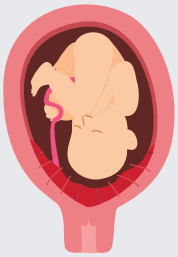


Internal reproductive organs
- Vagina: muscular tube that leads from the vulva to the uterus
- Cervix: dips into the vagina and forms fornices, which are arch-like structures or pockets.
- Ovaries: two sex glands homologous to the male testes are located on either side of the uterus. (Hatfield 55)



Fallopian tubes - The paired fallopian tubes (also known as oviducts) are tiny, muscular corridors that arise from the superior surface of the uterus near the fundus and extend laterally on either side toward the ovaries. The fallopian tubes have three sections
- Isthmus
- Ampulla
- infundibulum

Uterus - or womb, is a hollow, pear-shaped, muscular structure located within the pelvic cavity between the bladder and the rectum. The uterus is divided into four sections -
- Cervix
- Uterine isthmus
- Corpus
- Fundus (Hatfield 53)



Notes

Pregnancy
Maternity

Signs of Pregnancy

- **Presumptive**: subjective data the woman reports to the HCP for example, " My breasts hurt"
- **Probable**: objective data such as cervical changes
- **Positive**: diagnostic confirmation such as fetal heartbeat & ultrasound

Hematologic Changes

- Blood volume increases by 45-50%
- Red blood cell count increases up to 30%
- Plasma increases up tp 50%
- Hemoglobin decreases
- Hematocrit decreases

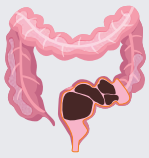
Cardiac Changes

- Blood pressure slightly decreases
- Heart rate **increases by 10-15 BPM**
- Cardiac output increases

Integumentary Changes

- **Chloasma:** " pregnancy mask "brown blotchy areas on the skin of the face, cheeks, nose, and forehead.
- **Linea nigra**: a dark line down the middle of the skin on the abdomen
- **Striae**: develop in response to increased glucocorticoid levels. Also known as stretch marks

GI Changes



- Intestines are displaced upwards & to the side
- Pressure changes in the esophagus & stomach which leads to heartburn
- Constipation

Musculoskeletal Changes

- **Lordosis**: Excessive inward curvature of the spine
- **Diastasis rectus abdominis**: tearing of the rectus abdominis muscles

Respiratory Changes

- Nasal mucosa edematous due to vasocongestion
- Nasal congestion and voice changes possible
- Accommodations to maintain lung capacity
- May feel short of breath when eupneic
- Third-trimester diaphragm pressure

Weight Gain

- A woman should increase her caloric intake by **300 kcal/day** during 2nd & the 3rd trimester
- Recommended weight gain depends on prepregnancy BMI.
- FIRST TRIMESTER : **3-4** lb total
- REMAINDER OF PREGNANCY: **1lb** per week.
- Total weight gain: **25-35 lbs** for a woman with a normal BMI

Notes

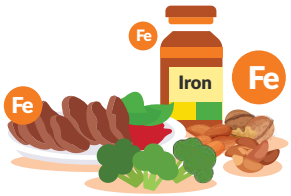
Pregnancy

Maternity

Nutrition

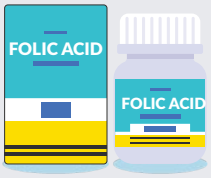
- When a woman isn't getting the proper nutrients this can cause Amenorrhea which can inhibit the ability to become pregnant
- Lack of folic acid can cause neural tube defects(spina bifida) and cause damage to the growing fetus
- Deficits in Vit C have been shown to also cause birth defects and cancer
- Pica: Persistent ingestion of nonfood substances such as clay, laundry starch, freezer frost, or dirt It results from a craving for these substances that some women develop during pregnancy
- These cravings disappear when the woman is no longer pregnant
- Pica is associated with iron-deficiency anemia, but it is unknown whether the iron deficiency is the cause or the result

Nutritional Requirements



- **Proteins**: Growth and repair of fetal tissue, placenta, uterus, breasts, and maternal blood volume
- **Minerals**: Prevent deficiencies in the growing fetus and maternal stores
- **Iron**: Formation of hemoglobin; essential to the oxygen-carrying capacity of the blood
- **Calcium**: Nerve cell transmission, muscle contraction, bone building, and blood clotting
- **Phosphorus**: Promotes strong bone growth
- **Zinc**: Fetal growth and maternal milk production
- **Iodine**: Promotes normal thyroid activity, preventing specific birth defects

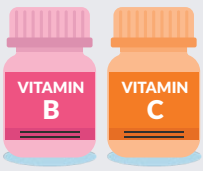
Vitamin Requirements



Folic acid (Vitamin B9)
- Necessary for the formation of the nervous system
- Prevents up to 70% of neural tube defects
- Diet should include at least 400 mcg of folic acid per day

Vitamin A
- Recommended intake via beta-carotene
- Too much can be toxic to the fetus
- Too little can stunt fetal growth and cause impaired dark adaptation and night blindness

Vitamin C
- Essential in the formation of collagen, a necessary ingredient to wound healing



Vitamin B6
- Necessary for the healthy development of the fetus's nervous system

Vitamin B12
- Needed to maintain healthy nerve cells, RBCs, form DNA

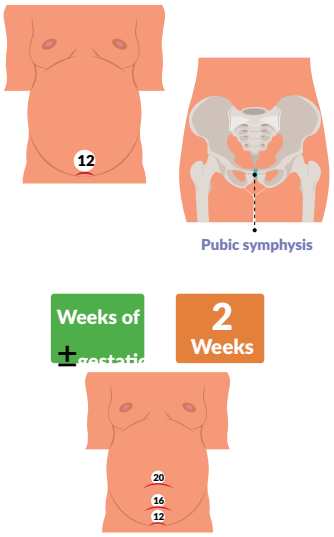
Notes

Pregnancy Assessment

Maternity

Uterine Growth & Fundal Height

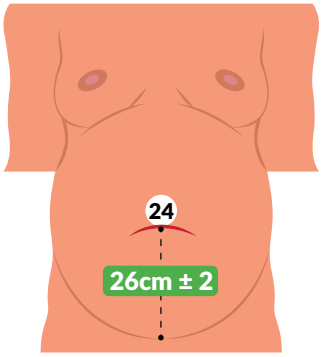
1. **12 weeks** - above the symphysis pubis **NCLEX TIP**
2. **16 weeks** - Halfway between the symphysis pubis and umbilicus
3. **20 weeks** - At the umbilicus
   Memory Trick Fundal height (in cm) should = weeks of gestation *+ or - 2 weeks.*
4. **36 weeks** - at Xiphoid process
5. **38 - 40 weeks** - the fetus engages & the fundal height drops



ATI Question

.. 24 weeks' gestation... most likely fundal height?

- **26 cm**



GPTPAL Assessment

G **Gravidity:** (Gravida)
Number of pregnancies
Including: abortion, miscarriages & current pregnancy
- **Nulligravida:** number of pregnancies is zero
- **Primigravida:** the first pregnancy
- **Multigravida:** the patient has been pregnant more than once

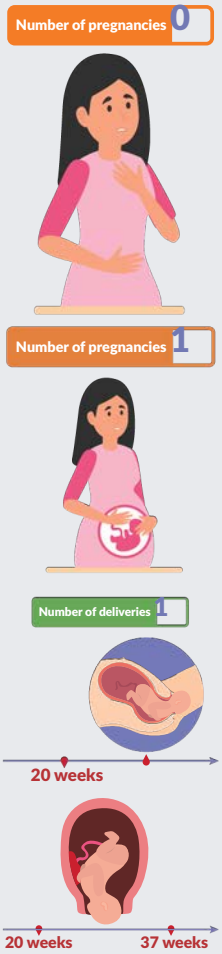
P **Para:** the number of deliveries after 20 weeks gestation

T **Term Births:** Number of births over 37 weeks

P **Preterm births:** the number of births between 20 - 37 weeks

A **Abortion** (or miscarriage)

L **Living Children:** Live births



ATI Question

... a nurse reads the following data: **G2 T1 P0 A1 L1**. Based on this information, what does the nurse **know is true about the client**? Select all that apply.

- The client has delivered **one newborn at term**
- The client has had **no preterm deliveries**
- The client has had **two prior pregnancies**
- The client has **one living child**

KAPLAN Question

A client is **pregnant** for the **third time**. The client has **one living child** and has had **one abortion**. Which description does the nurse **record**?

- **G3, L1, A1**

Top Missed NCLEX Question

A client is being seen in the pregnancy clinic for a new pregnancy. Last year she had a spontaneous abortion at 3 months gestation. What will the nurse document in the client's chart regarding her GTPAL?

✓ G2 T0 P0 A1 L0

Notes

Pregnancy Assessment

Maternity

Presumptive signs mean you **MIGHT** be pregnant
Probable signs mean you are **PROBABLY** pregnant
Positive signs mean you are **DEFINITELY** pregnant

Signs of Pregnancy

1. Presumptive signs
2. Probable signs
3. Positive signs

Presumptive Signs: Subjective "self-reported"

1. **Amenorrhea** (no period)
2. Nausea **& vomiting**
3. **Quickening** (movement)
4. Urinary **frequency**
5. Breast tenderness & fatigue

ATI Question

... presumptive signs of pregnancy. Which of the following findings should the nurse **expect the client to report**? Select all that apply.

- **Amenorrhea** Nausea
- and **vomiting**
- **Quickening**

HESI Question

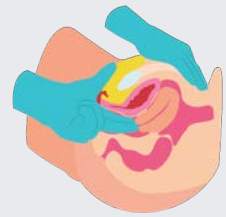
... symptoms of pregnancy?

- Urinary frequency

Probable Signs: Objective Signs

- **Goodell's** cervical softening. *"a soft cervix is a GOOD sign"*
  Memory trick: Goodell's = **Good** sign
- **Chadwick's Sign:** blue/purple birth canal.
  Memory trick: "Chad is a bully and he'll beat you black and blue!"
- **Hegar's Sign:** softening of the lower uterine segment.
  Memory trick:
  H - Hegar is like a soft pillow uterus where the
  H - **HE**ad **GO**es
- Ballottement
- **Positive Pregnancy HCG test:** elevated levels of HCG, but gestational trophoblastic disease can also cause this positive result

Goodell's = Good sign



ATI Question

... bluish discoloration of the cervix ... observed as early as **8-10 weeks**... It is known as:

- **Chadwick's sign**

ATI Question

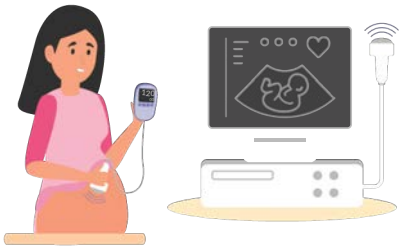
... home pregnancy test.

- Perform the test the **first time you urinate in the morning**

Positive signs: Diagnostic

1. **Fetal heartbeat** heard by **Doppler device** at 10 - 12 weeks
2. **Ultrasound** visualization of the fetus **NCLEX TIP**
3. Fetal movement (palpated or observed by HCP)

10 - 12 weeks



KAPLAN Question

... client is **certain of pregnancy** and reports feeling the **baby move**. Which response by the nurse is best?

- "Lie down so that I can **listen for the fetal heart tones** with the **Doppler.**"

Notes

Pregnancy Assessment

Maternity

EDB (Expected Date of Birth)

This is also referred to as **EDD (expected due date)**. Determining this is vitally important because planning & interventions during pregnancy are based on this information. Labor induction & diagnosing preterm labor are two examples. The gold standard for determining EDB is the use of ultrasound technology.

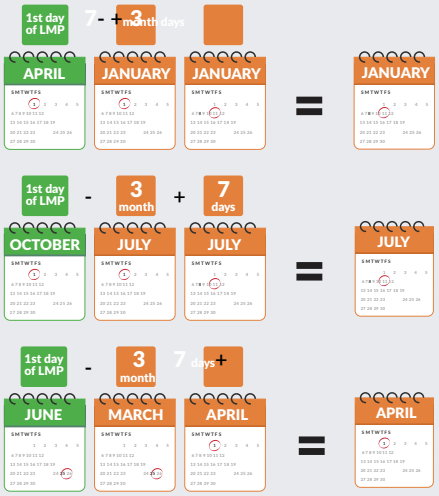
EDB (Expected Date of Birth)

Nägele's Rule
First day of LMP - 3 months + 7 days = **EDB**

Example Question 1
1. First day of LMP: April 1
2. Subtract - 3 months: January 1
3. Add + 7 Days: January 8 = **EDB January 8**

Example Question 2
1. First day of LMP: October 1
2. Subtract - 3 months: July 1
3. Add + 7 Days: July 8 = **EDB July 8**

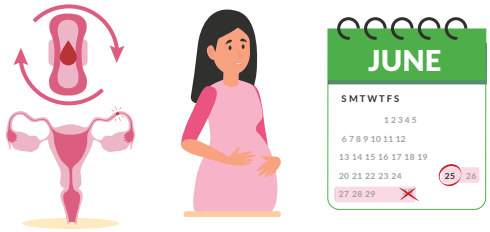
Example Question 3
1. First day of LMP: June 25
2. Subtract - 3 months: March 25
3. Add + 7 Days: April 1= **EDB April 1**



Nägele's Rule

1st day of **LMP** (last menstrual period)
-3 months
+ 7 days
= EDB (estimated date of birth)

1st day of the last menstrual period



ATI Question

... reporting that her **last menstrual period** began on **January 1** and ended on January 5. She notes she had unprotected intercourse on January 15 and some spotting on January 22. According to **Naegele's rule**, which of the following is the **estimated date of delivery**?

- **October 8**

HESI Question

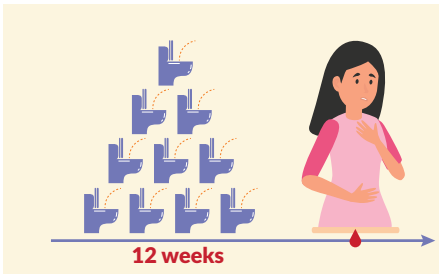
... **last menstrual period** began on **February 15** and that previously her periods were regular (28 day cycles). what is this client's ... **expected date of birth**?

- November 22

Top Missed NCLEX Question

A client presents to the hospital stating that she tested **positive on a home pregnancy test**. The client's **last menstrual period was August 7**. Today is **November 7**. Which of the following options are correct for this client?
Select all that apply.

- ✓ Expected date of delivery is **May 14**
- ✓ Auscultation of the **fetal heartbeat via Doppler** is possible
- ✓ **Urinary frequency** is a common



Notes

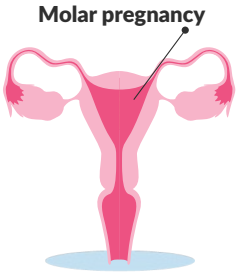
Hydatidiform Mole & Oligohydramnios

Maternity

Hydatidiform Mole

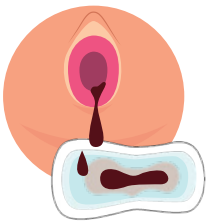
Also called **molar pregnancy** - is a type of gestational trophoblastic disease that results from abnormal fertilization.
It causes rapid abnormal growth of villi in the placenta that form grape like clusters & can sometimes turn into choriocarcinoma - a type of fast growing cancer that can KILL the mother. **Very deadly!**

The sad part is that there is **NO baby** but these grape like clusters produce **HIGH amounts of HCG** which makes couples think there is a pregnancy but this pregnancy is completely non-viable at any point & the couple will have to be supported emotionally for their loss.



Signs & Symptoms

- **Dark, brown vaginal bleeding** "prune juice color"
- **Elevated hCG** levels



ATI Question

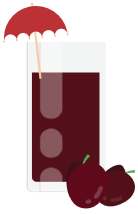
... **molar pregnancy**. Which of the following **manifestations** should the nurse expect?

- Dark brown vaginal discharge

Saunders Question

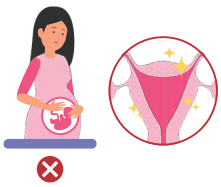
... **hydatidiform mole** ... which **findings** are associated? Select all that apply.

- **Vaginal bleeding**
- Excessive **nausea and vomiting**
- **Elevated levels of hCG**



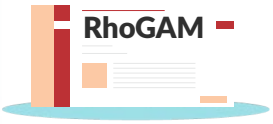
Education

- **AVOID pregnancy** until cleared by HCP **NCLEX TIP**



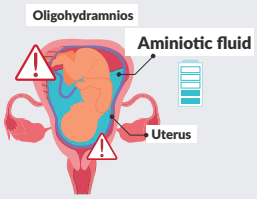
Treatment

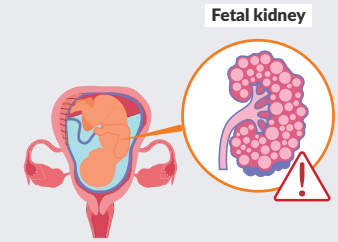
- Uterine evacuation of pregnancy
- **Rhogam**: for clients with Rh-negative blood types



Oligohydramnios

Is a condition where there is low amniotic fluid volume within the uterus that **puts the baby at risk** for decreased lung development & cord compression! Fluid volume gradually declines after 41 weeks gestation.





Causes

- Undiagnosed **rupture of membranes** (ROM)
- **Fetal kidney** anomalies

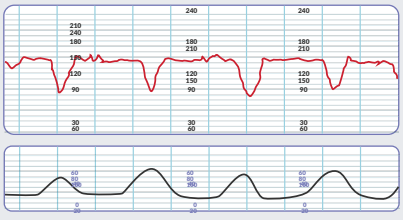
Complications

- **Pulmonary hypoplasia:** small, underdeveloped **fetal lungs**
- Umbilical **cord compression** → continuous fetal monitoring for **variable decels**

Interventions

- **Additional** neonatal personal present to help support with birth **NCLEX TIP**

Variable decelerations



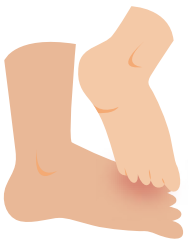
Notes

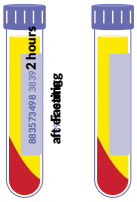
Discomforts of Pregnancy

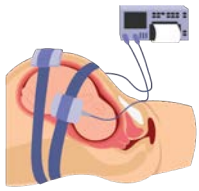
Maternity

Intrahepatic Cholestasis

- Liver disorder during pregnancy
  - Generalized **itching** on hands & feet that worsens at **night** but no rash **NCLEX TIP**
  - Increases **the risk of fetal death**
- Priority Assessments & Interventions
  - Bile acid testing
  - Fetal monitoring
  - Ursodeoxycholic acid







UTI

Signs & Symptoms

- Urinary **frequency**, urgency, **burning** & foul-smelling urine
  - *"Running to the bathroom **all the time**"*
  - *"**Pain** during urination with **smelly** urine"*
- Pyelonephritis (Kidney Infection)
  - **Report:** Fever or pain in the lower back or flank area **NCLEX TIP** → increased risk for **preterm labor**.

Treatment

Antibiotics & give analgesics for the pain

Heartburn (Pyosis)

Education **2 NCLEX TIPS**

1. Eat several small meals each day (6 per day)
2. **Eliminate** fried fatty foods
3. **Other Interventions**
   - Keep **head of bed elevated** using pillows
   - **Avoid** lying down immediately after eating
   - **Avoid** tight-fitting clothes
   - No caffeine, **chocolate**, **peppermint** & spicy food

ATI question

… 23 weeks' gestation with a complaint of significant **heartburn**?

- **Eat 6 small meals daily**

Notes

Discomforts of Pregnancy

Maternity

Morning sickness

Nausea during the **first trimester**

Interventions

- Consume high-protein snacks upon awakening **NCLEX TIP**
- **Small** frequent meals
- Drink fluids **between meals** (30 minutes before or after)
- Ginger
- Vitamin B6

HESI question

... pregnant client experiencing **nausea and vomiting**?

- Eat small, frequent meals (every 2 to 3 hours)

ATI question

morning sickness ... appropriate nursing response?

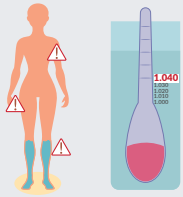
- Advise the client to **consume a high-protein snack** when she **awakes**

Hyperemesis gravidarum

- Persistent nausea & vomiting **PAST 12 weeks** → considerable weight loss (5% pre-preg weight), fluid/electrolyte imbalance, & malnutrition.

Signs & Symptoms

- Excessive vomiting → dehydration
- Electrolyte imbalance (**hypokalemia**)
- Urine Analysis **NCLEX TIP**
  - **Ketonuria** (Ketones in the urine)
  - High specific gravity
- Weight loss & nutritional deficits



ATI question

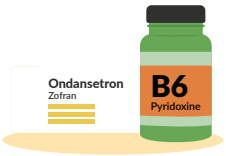
... **severe hyperemesis gravidarum**... manifestation of this condition?

- **Urine ketones** present

Hyperemesis gravidarum

Interventions

- Monitor: weight and I&Os
- IV fluids
- Antiemetics:
  - Ondansetron
  - Pyridoxine (B6) Vitamin
- Increase → dairy, lemon water, & protein



HESI question

... self-management for .. **hyperemesis**? Select all that apply.

- Try to **eat more dairy**
- Consume **protein** after eating a sweet snack
- Try drinking your **water with a slice lemon**

Constipation

- Increased progesterone levels **decreased GI motility** & slowed further by **iron supplementation**.

AVOID:

- **Dairy:** 2 hrs before & 1 hr after iron supplement → **decreases absorption**
- **Laxatives & stool softeners:** dehydration & electrolyte imbalance
- **Caffeine:** limited to 200-300mg daily

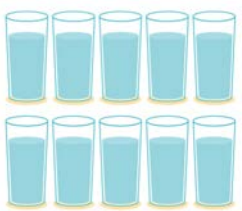
Treatments: Increase

F

Fiber: Fruits & vegetables **NCLEX TIP**

F

Fluids: 10-12 cups daily



E

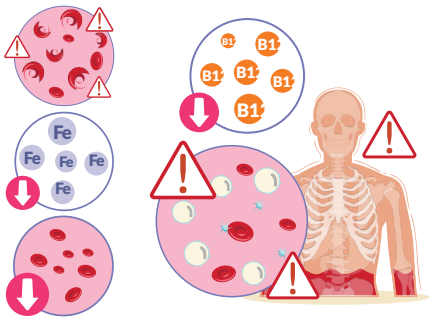
Exercise: Moderate-intensity exercise

Anemia & Pica

Maternity

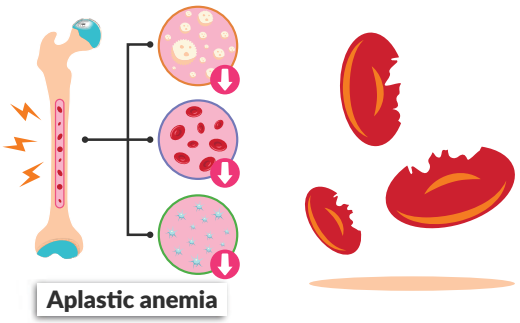
Anemia

The body **lacks adequate RBCs (Red Blood Cells) to carry oxygen** around the body to perfuse the tissues. Clients present fatigued, pale skinned, dizzy, and with shortness of breath, as the body lacks oxygen.



Top Tested

1. **Iron deficiency Anemia**
2. **Sickle cell anemia**
3. Pernicious Anemia
4. Aplastic anemia
   - Impairment in bone marrow
   - **Pan**cytopenia (Low RBC, WBC, Platelets)
5. Hemolytic anemia
   - Destruction of RBCs
   - Incompatible blood transfusion (antigen-antibody reactions)



Anemia Causes

- **Blood loss**: surgery, trauma, excessive menstruation etc.
- **Chemotherapy & Immunosuppressants**: suppresses the bone marrow where the RBCs are made.
- **Lack of iron, B12 & other building blocks**: like with iron def. anemia & pernicious anemia

NCLEX TIP

Hemoglobin

- Normal: 12 +
- Bad: 8 - 9
- **Less than 7** = Heaven

Iron Deficiency Anemia - Causes

- **Diet low in:** meat, fish, & poultry
- Gastric bypass surgery
- **Pregnancy:** fetus stores iron
- **Pica**
  - **LOW hematocrit and hemoglobin levels** NCLEX TIP
- **Other Causes:**
  - Low vitamin B12
  - **Hypo**chlorhydria (low stomach acid)
  - Gastric atrophy (Atrophic gastritis)

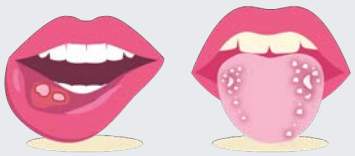
Infants & Children

1. Premature birth
2. Insufficient oral intake
3. Excessive intake of milk NCLEX TIP
4. Preterm infants [redacted] with breast milk
5. **Vegan diet** NCLEX TIP
   1. Fortified breads & cereals
   2. **HIGH** iron foods with **HIGH vitamin C**
   3. Calcium & Vitamin D

Signs & Symptoms

GI Manifestations:

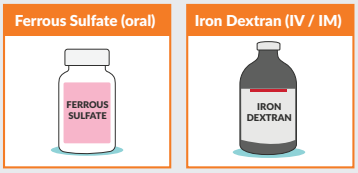
- Stomatitis - inflammation of mouth & lips
- Glossitis - inflammation of the tongue



Pharmacology

KEY POINTS

- Dark or black stools = **Normal & Expected** NOT GI BLEED
- Empty stomach **1 HOUR BEFORE** medications



Treatment

Rich in iron

1. Meat, fish, poultry
2. Whole grains
3. Green leafy veggies like spinach

Infants & Children

Limit **EXCESSIVE** milk intake

Iron + Vit. C

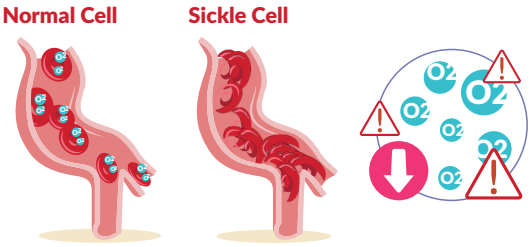
HIGH iron foods
HIGH vitamin C

Anemia & Pica

Maternity

Sickle Cell Anemia

The RBCs have a distorted shape, transforming from a nice round, plump shape to a **skinny, sucked in shape**. These misshapen RBCs die quicker than normal RBCs, **carry less oxygen** to the body, & get clogged in tiny blood vessels - **blocking or occluding the blood supply** & causing ischemia (low oxygen) to the organs. A vaso-occlusive crisis or "sickle cell crisis" can occur, causing **extreme pain** from the lack of oxygen!



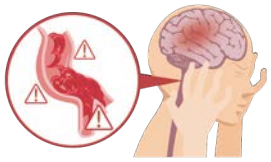
Signs & Symptoms

Blood Clot Manifestations

- **One-sided** arm weakness
- Swelling of the feet and hands (Dactylitis)

EXAM TIP

- **New**-onset paralysis of extremities
- **Sudden** inability to be aroused

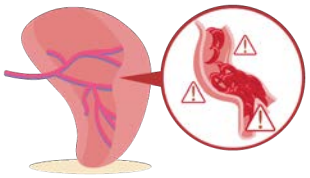


Complication

Splenic sequestration crisis

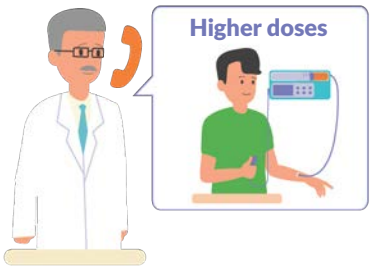
- Rapidly enlarging spleen
- Low blood pressure

Splenomegaly



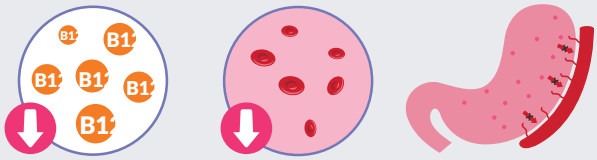
Treatment

- Hydration: **IV fluids**
- Bed rest
- **Pain Control** NCLEX TIP
  - PCA - patient control analgesia pump
  - **Call the HCP** for **Higher doses**



Pernicious Anemia

The body **cannot absorb B12**, which is a vital building block to create RBCs. Clients **lack intrinsic factor** in the GI tract, which **helps the body take in B12**.



Signs & Symptoms

- Glossitis: **EXAM TIP**
  - Inflamed red smooth tongue
- Extreme weakness
- Jaundice: "pale yellow skin"

Treatment

- **B12** - Injection: IM or IV
- NOT orally (PO)

Notes

Toxoplasmosis & TORCH Infections

Maternity

TORCH is an acronym for a list of infections. Contraction of these infections pose a **GREAT RISK** to the fetus as they cross the placental barrier.

We will be covering only the top tested need to know key points here:

T	Toxoplasmosis
O	Other infections *(Syphilis, chicken pox, mumps, HIV)*
R	Rubella
C	CMV
H	Herpes

T — TOXOPLASMOSIS

Parasitic infection

- **Cat feces** (litter box exposure)
- **Soil-contaminated** fruits & veggies (Educate clients who garden & eat homegrown vegetables) **NCLEX TIP**
- Raw or undercooked meat

ATI Question

... prevention of a TORCH infection.

- **Avoid** consuming **undercooked meat** while **pregnant**

HESI Question

Which infection could be contracted through **contact with a cat**?

- **Toxoplasmosis**

Kaplan Question

... **prenatal clinic**. The nurse is most concerned if a client makes which statement? "I clean the cat's litter box daily."

S — SYPHILIS

Treatment

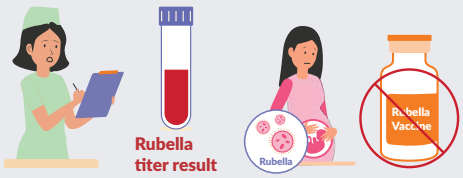
- IM penicillin injection
- Allergy to penicillin: I
  penicillin desensitization is required to receive appropriate treatment

This is a sexually transmitted infection that crosses the placenta & may cause **birth defects**. All pregnant clients are screened at their initial prenatal visit and HIGH risk clients are screened again during their 3rd trimester & before labor!

R — RUBELLA

KEY POINTS

- **No rubella vaccine** until **AFTER** childbirth
- If exposed: check rubella titer results immediately



ATI Question

... a **pregnant** client is **not immune to rubella**. **Do not provide the vaccine** to a **pregnant** client. The client cannot receive the vaccine until **after childbirth**

Saunders Question

A pregnant woman ... reports **exposure to a child with rubella**.

- I will check your **rubella titer results**, and we can **immediately identify** whether interventions are needed

H — HERPES

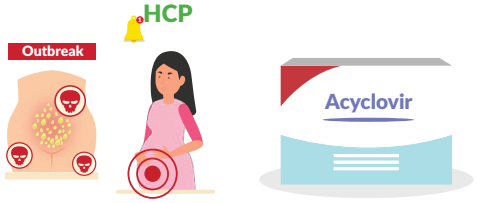
Active outbreak → painful genital lesions

Report to the HCP

Interventions

- Immediate antiviral therapy: **Acyclovir**
- Active lesions before delivery → **cesarean section**

Is another **STI** that presents with periods of remission & outbreak.



Saunders Question

... **positive history of genital herpes** but has **not had lesions during this pregnancy**. What should the nurse plan to tell the client?

- You will be **evaluated at the time of delivery for genital lesions** and if any are present, a **cesarean delivery will be needed**

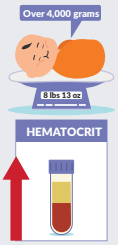
Gestational Diabetes

Maternity

This is impaired blood glucose regulation due to hormonal changes during pregnancyincluding rising blood sugar levels & even insulin resistance. As you know glucose & insulin needs increase throughout pregnancy but now the insulin has trouble getting sugar into the cell with insulin. Unstable glucose levels during pregnancy can result in DANGEROUS effects on both the mother & the baby.

Newborn Complications NCLEX TIPS

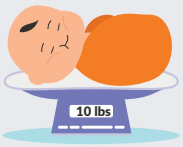
- **Macro**somia (Over 4,000 grams - 8 lbs 13 oz.)
- **Hypo**glycemia in the newborn
  - "Jitteriness"
  - Glucose 40 - 60 mg/dL → encourage breastfeeding!
- Elevated Hematocrit (polycythemia)
- Preterm labor & **PROM**
- **RDS:** Respiratory distress syndrome **(Immature lungs)**
- Fetal death: miscarriage & **stillbirth**



Saunders Question

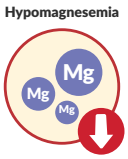
... at risk for **developing gestational diabetes** during this pregnancy?

- The client's **last baby weighed 10 pounds** at birth



Newborn Complications NCLEX TIPS

- **Hypo**magnesemia (low magnesium)
- Mother: **Pre-eclampsia** (hypertension)



HESI Questions

Q1: ... **maternal and neonatal risk** associated with **gestational diabetes** mellitus?

Maternal **preeclampsia** and fetal **macrosomia** Q2: ... associated with maternal **diabetes**? Decreased **magnesium Hypo**glycemia Respiratory distress syndrome

Risk Factors

- Advanced maternal age (**35+**)
- Overweight (over **25 BMI**)
- Multiple gestation: twins, triplets etc.

HESI Question

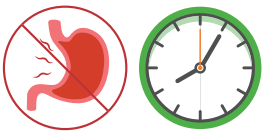
... increased **risk** for developing gestational diabetes?

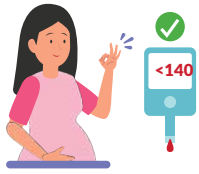
- The client is **37 years old**
- The client is having **twins**
- The client's **pre-pregnant weight was 190 lbs/86 kgs**

Diagnostics

- 1 hour **G**lucose **C**hallenge **T**est (GCT)
  - No fasting is required initially **NCLEX TIP**
  - Less than 140 glucose = **Normal**
  - **Over 140** glucose → 3 hr GCT: **fasting** & hourly BG checks

NCLEX TIP





Signs & Symptoms

Hypoglycemia

- **Cool**, pale, headaches, tremors, **clammy**

Hyperglycemia

- Poly**uria** - Increased **Urine**
- Poly**dip**sia - Increased **thirst**
- Poly**phag**ia - Increased **eating**
- Drowsiness & constipation

Saunders Question

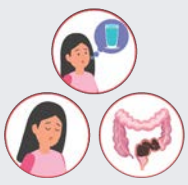
... **newborn** of a mother with **diabetes melitus**. What is the **priority nursing consideration**?

- **low** blood glucose levels

HESI Question

... symptoms of **hyperglycemia**? Select all that apply.

- Thirst
- Drowsiness
- Constipation



Treatment

- Increased fetal monitoring NST: Non Stress Tests
- **Diet & Exercise:**
  - Nutritional counseling: fruits, veggies, whole grains!
  - Eat every 3 - 4 hours
- **Meds:**
  - Oral meds
  - Insulin

Saunders Question

... gestational diabetes at **29 weeks'**. Which information should the nurse discuss with the client? Select all that apply. Plan for **weekly non stress tests** at 32 weeks Obtain **nutritional counseling**

HESI Question

... **gestational diabetes** indicates an understanding?

- I will **not go more than 4 hours** throughout the day **without eating**

Kaplan Question

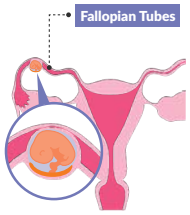
... **gestational diabetes ... teaching is effective** if the client selects which dessert?

- **Fresh fruit**

Ectopic Pregnancy

Maternity

This occurs when a fertilized egg implants outside the uterus, most often in the fallopian tubes.



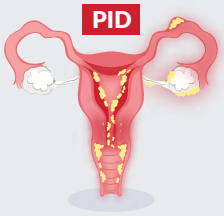
Memory Trick

E -Ectopic

E -Exit
(egg implants outside the uterus)

Risk factors

- Recurrent STIs (chlamydia)
- **PID:** Pelvic Inflammatory Disease
- Tubal surgeries, damage/scarring
- IUD



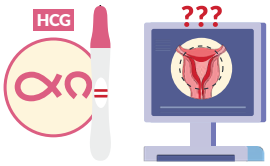
Saunders Question

... assessment findings **predispose the client to an ectopic pregnancy?** Select all that apply.

- Use of **fertility medications**
- History of **Chlamydia**
- Use of an **IUD**
- History of **PID**

Diagnostic

- Positive HCG test
- **Empty** uterus upon ultrasound

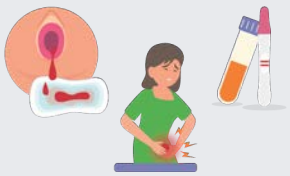


Signs & Symptoms

- Red vaginal spotting
- Positive urine pregnancy test
- 1 sided lower abdominal pain

Ruptured Ectopic Pregnancy

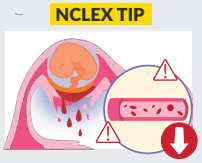
- Hypovolemic Shock **NCLEX TIP**
  - **Hypo**tension: **Low** blood pressure
  - **Tachy**cardia: Fast HR **over 100/min.**
  - **Dizziness**
- Shoulder pain
  "Severe, Sudden, Sharp" **NCLEX TIP**
- **Peritonitis**
  - Rigid abdomen
  - Tenderness
  - Low grade fever 100.4

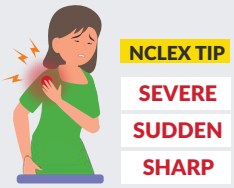


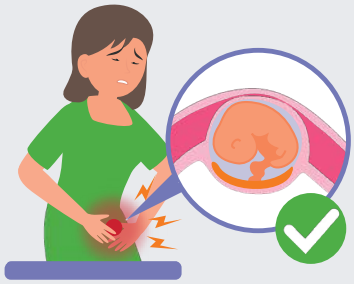
ATI Question

...recent client who has an **intrauterine device (IUD)** and bright **abrupt, sharp, lower abdominal pain red vaginal bleeding:**

- Ectopic pregnancy

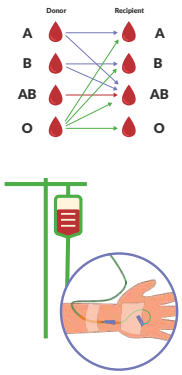






Interventions

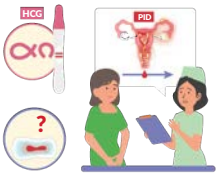
- **Monitor vitals** closely
- Prep for **blood transfusion**
  - Blood type & cross
  - Large bore IVs
- Prep for **surgery**



HESI Question

... severe lower left **abdominal pain** and **vaginal spotting.** Her last menstrual period was **5 weeks ago... next actions?**
Select all that apply.

- Check the **results** of the **HCG test**
- Ask the client to **describe the color of the vaginal bleeding**
- Ask the client if she has ever been diagnosed with **pelvic inflammatory disease**
- Draw the client's blood for a **type and crossmatch**



Notes

Prenatal Care

Maternity

Education For Pregnancy NCLEX TIPS

- **Avoid alcohol** & **tobacco** products
- Obtain testing for **rubella immunity**
- Schedule **dental wellness appointment**
- Second Trimester:
  - Gestational diabetes & preeclampsia **screening**
  - Anticipate **quickening** "light fetal movements"
  - Abdominal ultrasound evaluation
- Weight Gain:
  - Expected weight gain: 25 - 35 pounds during pregnancy
  - Maintain **BMI of 18.5 - 24.9 kg**
  - Gain of 1lb per week if pre-pregnancy BMI was normal (2nd & 3rd trimester)

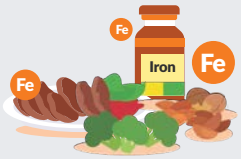
Kaplan Question

By the fifth month of pregnancy ...**gained 14 pounds:**

- Inform the client the **weight gain is appropriate**

Education For Pregnancy NCLEX TIPS

- Diet & Vitamins
  - **Folic Acid 400 mcg / day** → prevents neural tube defects
  - **Calcium 500 mg** daily
  - **Iron** rich foods meat and dried fruit
  - **Iron** supplements (ferrous sulfate) → prevent anemia
    - Take on an **empty stomach**
    - Risk for **constipation**
    - **Increase Vitamin C** to aid absorption (Orange juice)



ATI Questions

Q1: .... folic acid deficiency. Which of the following **complications**.. ?

- Fetal **neural tube defects**

Q2: ferrous sulfate.... which of the following beverages... **increase the absorption of the medication**? Orange juice

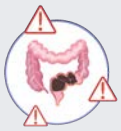
-

HESI Questions

Q **... pre-pregnancy** instructions? **400 mcg of folic acid daily**

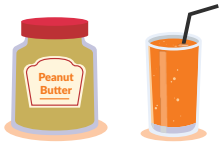
Q2: ... risk is associated with **iron supplementation** for the **pregnant client?**

- **Constipation**



Education For Pregnancy NCLEX TIPS

- **Protein foods** rich with calcium, iron, & B vitamins
  Example: Grilled **chicken**, turnip **greens**, **peanut butter**, & juice **NCLEX TIP**
- Food to **Avoid**
  - **Unhealthy**: excess salt, butter, fat, margarine
  - **Unsafe dairy**: or suspicious Brie cheese, Raw milk, **Deli-made egg salad** / sandwich



HESI Question

Which examples of **protein-containing foods ... vegetarian** client? **Select all that apply.**

- Dried **beans**
- **Seeds**
- **Peanut butter**
- **Peas**

ATI Question

8 weeks of gestation.... good source of **calcium**?

- **Dark green, leafy vegetables**

HESI Question

Which foods ... **avoid during pregnancy?**

- **Brie** cheese
- **Unpasteurized** milk
- **Deli made** egg salad

Prenatal Care

Maternity

We must educate pregnant mothers on a variety of information.

AVOID Medications During Pregnancy

NSAIDS

- **N** -Naproxen
- **S** -Salyslic acid
- **A** -Aspirin
- **I** -Ibuprofen & Indomethacin
- **K** -Ketorolac

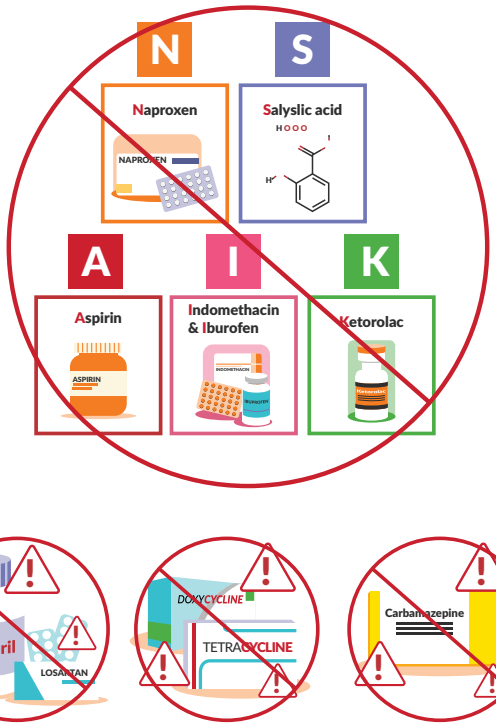
ACEs & ARBs = Avoid during pregnancy

- "-pril" Lisinopril (*NO Prils during Pregnancy*)
- "-sartan" Losartan (*Sartans = Satan to pregnancy*)

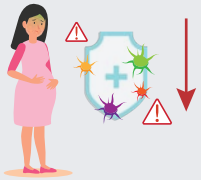
Doxycycline & Tetracycline

- ***Cycling** on a bike is **dangerous** during pregnancy*

Carbamazepine: seizures drug



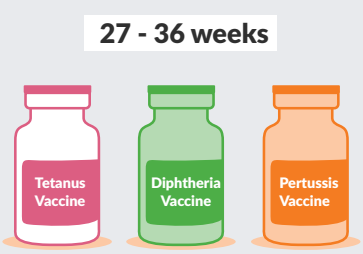
Vaccine Safety



Pregnant clients have a suppressed immune system & are at increased risk for illness. In general, **no live virus vaccines are given during & up to 1 to 3 month before pregnancy**, as live vaccines cause serious birth defects to a developing fetus in utero.

Safe during pregnancy	**NOT Safe** NO Live Vaccines! (Safe after pregnancy)
-**Inactivated** Influenza (flu shot) Tdap vaccine **27 - 36 weeks** **T**- Tetanus **D**- Diphtheria **P**- Pertussis	- Varicella-zoster (chickenpox) - Rotavirus - **Live or Activated** Influenza - MMR: measles, mumps, rubella

27 - 36 weeks



ATI Questions

Q1: 30 weeks' gestation.... vaccines are considered safe?
- Tetanus, diphtheria, and pertussis (Tdap)

Q2: routine education ... for a pregnant client?
- Get a **flu vaccine** to protect against influenza infection

HESI Question

... postpartum client before administering the varicella vaccine?
- You must return for a **second dose in 4 to 8 weeks**
- Use **contraception for 1 month** to avoid pregnancy

Newborn

- **Rhogam:** 72 hrs after birth to Rh negative mom with Rh positive baby
- **Hepatitis B vaccine:** to newborns with infected moms

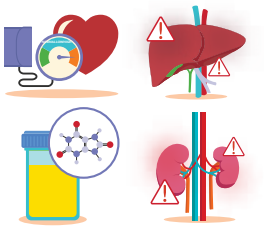
Notes

Preeclampsia & HELLP

Maternity

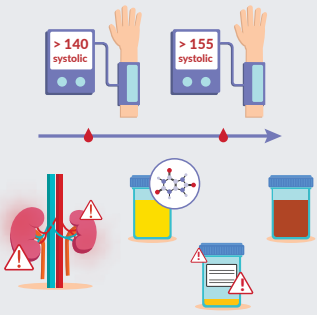
Pathophysiology

Preeclampsia is a potentially dangerous complication of pregnancy characterized by high blood pressure, proteinuria, & signs of damage to other organs like the liver & kidneys.
It can be deadly to both the baby & mother if left untreated. Typically, it begins after 20 weeks of pregnancy in women with NORMAL blood pressure, often presenting with NO symptoms.



Signs & Symptoms

- **High blood pressure** (over 140/ systolic) Increase in blood pressure of 15 mmHg since last visit **NCLEX TIP**
- **Proteinuria:** Protein in the urine
- Peripheral **edema**: swelling in face & fingers
- **Weight gain** = Water gain
- Seizures (eclampsia)



Saunders Question

... mild **preeclampsia ... call the HCP if which occurs?**

- **Weight increases** by more than 1 pound in a week

Complications

HELLP Syndrome

Hemolysis Elevated Liver enzymes Low Platelets

Critical Signs:

- **3rd trimester with** right upper quadrant pain, nausea & vomiting **NCLEX TIP**
- Epigastric pain

Other Complications from HTN

- Placental abruption: placenta prematurely detaches from the uterine wall
  Report to HCP
  Dark red vaginal bleeding **NCLEX TIP**
- Urine output **30ml/hr or less** = Kidney Distress! **Report to HCP**
- Persistent **headache** with blurred vision

HESI Question

... **preeclampsia**. Which statement would the nurse include in discharge teaching?

- **Return to the hospital** if you have **epigastric pain**

HESI Question

magnesium sulfate... discontinuing the therapy?

- Respiratory rate is **10 breaths/min**

HESI Question

... **magnesium sulfate** therapy.... **drowsiness, slurred speech, and depressed respiration**. Which medication would the nurse anticipate ?

- Intravenous **calcium gluconate**

ATI Question

... **37 weeks' gestation**. The healthcare provider should be called immediately:

- Severe **headache** and **blurred vision**

Pharmacology

Magnesium Sulfate (Mellows the body)
Prevents seizures

8 NCLEX TIPS

1. Therapeutic range: **4 - 7 mEq/L**
2. Successful → Seizure activity stops

Toxicity Signs

3. Over **7 mEq/L = TOXIC!**
4. Low DTRs (Assess hourly)
   - Absent or decreased DTRs **(hyporeflexia)**
   - Example: 0/4 patellar reflex
5. Low Vitals:
   - Respirations less than 12 /min
   - Low blood pressure & HR
   - Decreased mental status

Low urine output: **30 ml/hr or less** = kidney distress!

Treatment

7. **Stop** IV magnesium
8. Antidote: Calcium gluconate **NCLEX TIP**
   Supplemental oxygen **8-10 L/min by facemask** & suction supplies ready

HESI Question

... severe **preeclampsia** .. on an intravenous infusion of **magnesium sulfate**. ... treatment is a **success**?

- **Seizures do not occur**

Antihypertensives

B Beta blockers
- Labetalol

C Calcium channel blockers
- Nifedipine
- Cardizem

V Vasodilators
- Hydralazine

Avoid the A's **NCLEX TIP**

A ACE inhibitors: Lisinopril, Enalapril

A ARBs: Losartan, Valsartan

ATI Questions

Q1: ... severe preeclampsia ... sign of **magnesium sulfate toxicity**? Select all that apply.

- Respiratory rate **less than 12/min**
- Decreased level of consciousness

ATI Questions

Q2: ... preeclampsia ... infusion of **magnesium** sulfate. Which of the following **actions will be implemented**? Select all that apply.

- **Monitor urine output**
- Assess **deep tendon reflexes**

Nursing Interventions

- Seizure Precautions:
  - **Hyperreflexia or clonus** → seizure activity is impending
  Seizure precautions (padded bed, suction supplies, & oxygen)
  - Decrease environmental stimuli (dim lights & limit visitors) to minimize stimulation **NCLEX TIP**
- Ensure adequate protein intake

Saunders Question

... **severe preeclampsia**. Which **nursing action** should be included? Select all that apply.

- Keep the **room semi-dark**
- Initiate **seizure precautions**
- **Pad** the side rails of the bed
- **Avoid** environmental stimulation
- Reduce **external stimuli**

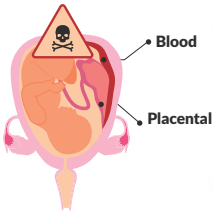
Placental Abruption

Maternity

Pathophysiology

It is a deadly condition where the placenta prematurely detaches from the uterine wall while the baby is still inside, like ripping off a scab.

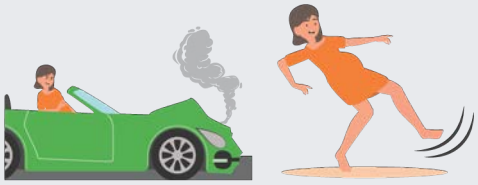
It's either **partial detachment**, **complete, or concealed**. Either way, it results in the mother having **severe pain & major bleeding** in the uterus.
The fetus suffers from hypoxia (lack of oxygen), which can be deadly, as it has no means of getting oxygen or nutrients.

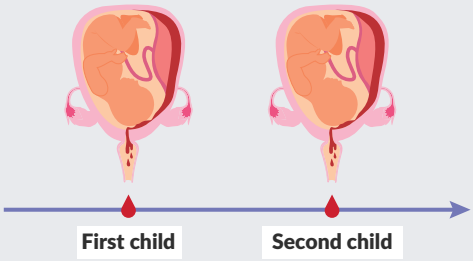


Placenta prematurely detaches from the uterine wall while the baby is still inside

Causes

- **Trauma:** motor vehicle accident, fall, blunt force trauma, etc.
- Hypertension
- Stimulants: **cocaine** & smoking
- **History** of previous abruption



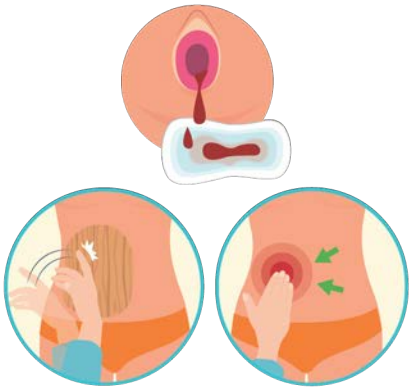


Signs & Symptoms Report to HCP

- Dark red vaginal bleeding **NCLEX TIP**
- Severe continuous **abdominal pain**
- **Rigid & tender uterus**
- Decreased H&H and **Hypovolemic shock**

For the baby

- Abnormal fetal heart patterns
- Uterine **tachysystole**



HESI Question

Which signs and symptoms ... with **abruptio placentae**? Select all that apply.

- **Abdominal pain**
- Vaginal **bleeding**
- Uterine **tenderness**

ATI Question

... **abruptio placentae** ... **complications** associated with this problem.. ?

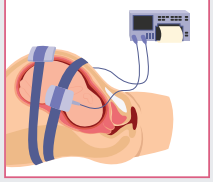
- Hypovolemic **shock**

Interventions

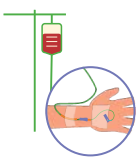
Interventions 4 NCLEX TIPS

1 Anticipate **emergent cesarean birth**

2 Apply continuous **external fetal monitoring**



3 **IV access & draw blood** for type and screen → blood transfusion

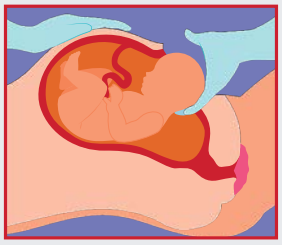


4 Monitor for **signs of hypovolemic shock** Pallor, tachycardia, hypotension

Saunders Question

... **placental abruption is present**. Which intervention should the **nurse prepare for**?

- **Delivery** of the fetus



Notes

Placenta Previa

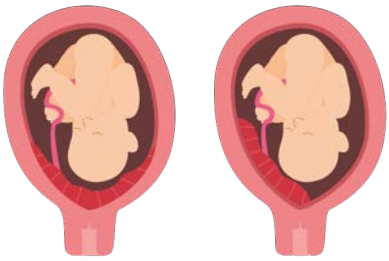
Maternity

Pathophysiology

This is the **abnormal implantation** of the placenta over the cervix either completely or partially at the bottom of the uterus. As you know, the cervix is the door to the baby condo which is now blocked by the placenta, making a normal vaginal delivery impossible.

As pregnancy progresses, the placenta grows in size & can migrate away from the cervical opening. This means it may resolve on its own by the 3rd trimester.

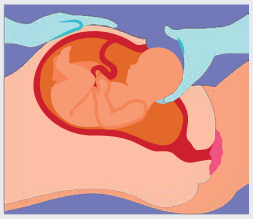
Therefore, additional ultrasounds are typically performed closer to the time of delivery - around 36 weeks to reassess placental location.



Complete previa | Partial previa

Causes & Risk factors

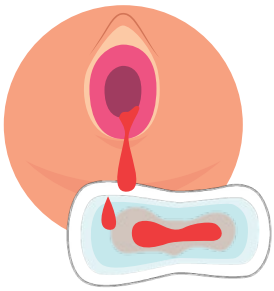
- Scar tissue
- Previous **cesarean section**, abortion, uterine surgery, multiparity (twins, triplets)
- Maternal age 35 or older
- Smoking



Age 35 or older

Signs & Symptoms

- **Painless** vaginal bleeding **"bright red"** NCLEX TIP
- Decreased H&H



ATI Question

... at 24 weeks ... painless, bright red vaginal bleeding. Which of the following conditions does the nurse suspect?

- Placenta previa

HESI Question

... after 20 weeks... painless bright red vaginal bleeding:

- Placenta previa

Kaplan Question

... at 29 weeks ... reporting vaginal bleeding... indicative of a placenta previa?

- "The bleeding scares me, other than that, I feel fine"

Interventions NCLEX TIPS

- Anticipate Blood Transfusion
  - Initiate **2 large-bore IV catheters**
  - **Draw blood** for type and screen
- **Pad counts** to assess for bleeding
- Electronic fetal monitoring
- **Cesarean** birth before the onset of labor
- **Betamethasone:** preterm newborns for lung development ATI
- **NO** vaginal exams, "digital exams"

Saunder's Question

... placenta previa... question which **prescription**?

- Obtain equipment for a **manual pelvic examination**

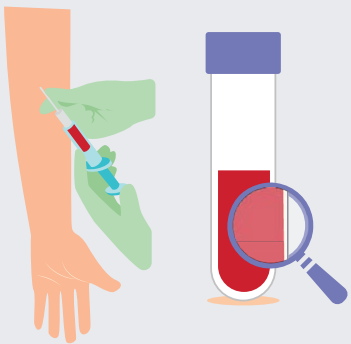
Education NCLEX TIPS

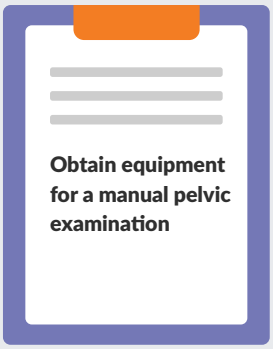
- Pelvic rest (**no** sex, **no** douching, **no** vaginal examination)
- Additional ultrasound around 36 weeks gestation & prior to onset of labor

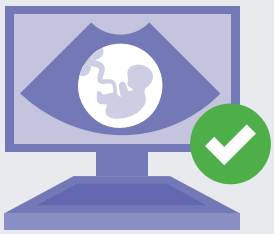
Discharge home

- Only if bleeding stops and fetal status is reassuring
- Instruct to return to the hospital **if bleeding occurs**
- **Bedrest**: decrease physical activity

- **Scheduled cesarean** birth before onset of labor







Preterm Labor

Maternity

Preterm Labor refers to labor that begins too early **between 20 - 37 weeks of pregnancy** characterized by CERVICAL change (that can be dilation or effacement), where as labor after 37 weeks is considered full term and labor before 20 weeks is categorized as spontaneous abortion - as the newborn will not survive.

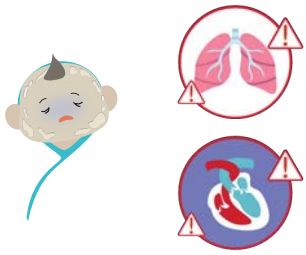
Preterm labor is the number 1 cause of neonatal mortality, as babies born prematurely do not have fully developed organs.

For example, the lungs do not have maturity to breathe on their own & the chambers in the heart have not fully closed yet, just to name a few. Sort of like a cake coming out of the oven too soon - it is not fully cooked.

In the same way, the baby is like a bun in the oven that comes out too soon & does not have enough time to fully cook or develop. Naturally, we will see less complications the longer the baby stays in the womb.

Preterm Labor

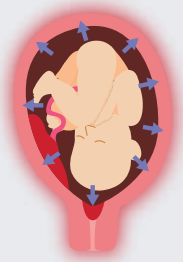
20 - 37 weeks of pregnancy



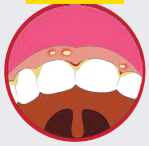
Causes & Risk Factors

- **D** - Distended Uterus
  - Fetal macrosomia
  - Polyhydramnios (too much amniotic fluid)
  - Multiple gestation (twins, triplets etc.)

  Diseases
  - Diabetes Mellitus
  - Eclampsia (High BP)
  - Heart disease
  - Anemia (HgB less than 10)
- **I** - Infection
  - UTI - Urinary tract infections
  - STI - Sexually transmitted infections
  - Periodontal disease (gum infection) NCLEX TIP
- **P** Placental Abruption Placenta separates from the wall of the uterus during pregnancy
- **S** - Stress: Emotional or Physical
  - Short cervical length or too thin (cervical insufficiency)
  - Smoking & Stimulants (cocaine)
- Other risk factors:
  - History of preterm births
  - Lifting heavy object (if at risk) ATI

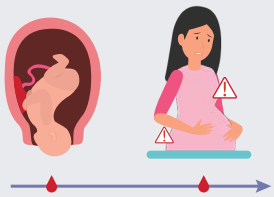


NCLEX TIP



Periodontal disease

No 1 risk



ATI Questions

Q1: A 42- year-old pregnant client ... at **risk of preterm labor**. Which information from the nurse is correct regarding **prevention of preterm labor**?

- **Do not lift heavy bags** of groceries or **young children** which requires use of abdominal muscles

ATI Questions

Q2: Which of the following **factors increases the client's risk of preterm labor**? **Select all that apply.**

- Urinary tract **infection**
- Multifetal **pregnancy**
- **Diabetes** mellitus

HESI Question

Which intervention would ...help **prevent preterm delivery**?

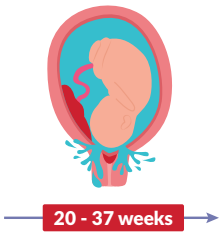
- Suggest that the client **avoid smoking**

Signs & Symptoms

Key Signs of Preterm Labor

Notify the HCP

1. Rupture of membranes **20 - 37 weeks**
   Report **watery discharge** from vagina ATI
2. Low back pain NCLEX TIP
3. Contractions every 10 minutes or less
4. Pelvic pressure
5. Diarrhea



20 - 37 weeks

NCLEX TIP

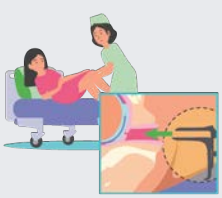
HESI Question

... signs of **preterm labor with a client at 28 weeks** gestation. Which client statement indicates a **need for further teaching**? **Select all that apply.**

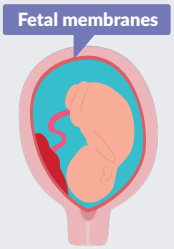
- **I expect the discharge from my vagina will change from thick to brown** over the next two weeks
- The baby's **movement will decrease** and be **almost still** from here on out
- I should **expect low back pain and diarrhea** as the baby grows

Diagnostics

- Speculum exam: to visualize the cervix
  - **Effacement** - thinned out cervix
  - **Dilation** - opening of the cervix
  - **Fetal membranes** intact or ruptured
  - Fetal Fibronectin Test (FFN)
- Transvaginal Ultrasound (less than **34** weeks)
  - Shortened cervix length



Fetal membranes



HESI Question

A client at **26 weeks of gestation**... Which finding indicates that **preterm labor is occuring**?

- The **cervix is effacing** and **dilated to 2 cm**

Preterm Labor

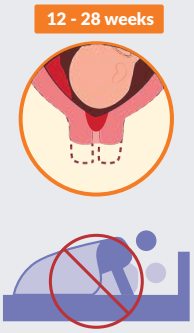
Maternity

Preventative Measures

- **Prophylactic Cervical Cerclage**
  To prevent preterm delivery
  - Cervical insufficiency
    - 12 to 28 weeks gestation
    - Stitches are removed at 36 - 37 weeks

Interventions

- Education (after cerclage)
  - Activity restriction & bed rest
  - **No sexual** intercourse
  - Mild abdominal cramping is expected
  - Assess **fetal movement** daily HESI



Signs of Preterm Labor | Notify the HCP

1. Rupture of membranes Report **watery discharge** from vagina ATI
2. Low back pain NCLEX TIP
3. Contractions & pelvic pressure

Interventions

- Continuous **fetal monitoring**
- **Amniotomy** (AROM) is the manual induction of labor by rupturing the amniotic membranes & is contraindicated!

SIDE NOTE

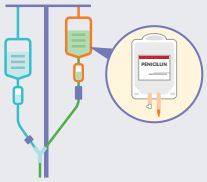
Clients who have had a history of preterm labor are commonly prescribed **progesterone** throughout the pregnancy, as it will reduce the risk for future preterm labor.

Pharmacology | 4 NCLEX TIPS

1. **Antibiotics**
   - Penicillin IV piggyback
     Prevent **group B strep** infections
2. **S**teroids: antenatal glucocorticoids
   Stimulate surfactant for fetal lung maturity
   - Betamethasone
3. **T**ocolytic agent
   To relax the uterus
   - **T**erbutaline
   - Nifedipine
   - Indomethacin
4. Magnesium Sulfate
   - Protects the **baby's brain** (neuroprotection)
     Reducing the risk for **cerebral palsy**
   - Continuous **fetal monitoring** is required for Mag Sulf infusion

Mag Toxicity

- Monitor mother's **respiratory rate**, blood pressure, & DTRs
- Discontinue: low RR, BP, & depressed DTRs
- Antidote: Calcium gluconate



Steroid - **S**one

Top Missed NCLEX Question

A pregnant client is admitted for preterm labor at **30 weeks gestation**. Which **treatment** options should the **nurse anticipate**?
Select all that apply.

- ✓ Intramuscular **betamethasone**
- ✓ **Penicillin** via IV piggyback
- ✓ IV **magnesium sulfate**
- ✓ **Calcium gluconate** ready

HESI Question

...magnesium sulfate to **prevent preterm labor**. Which would the nurse assess in the client to **determine drug toxicity**?

- **Respiratory** status
- Level of consciousness **(LOC)**
- Deep **tendon reflexes**

Kaplan Question

Magnesium sulfate IV ... the client's **deep tendon reflexes are decreased**. Which action does the **nurse take first**?

- **Discontinues** the IV infusion

ATI Questions

Q1: ... 30 weeks of gestation. Which medication... to **accelerate fetal lung maturity**?

- **Betamethasone**

Q2: ... **terbutaline**. Which of the following client statements indicates an **understanding of the teaching**?

- This medication is used to **stop my contractions**

Notes

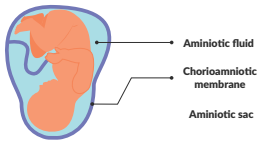
PROM & AROM

Maternity

PROM Pathophysiology

As you know, the baby is floating in amniotic fluid within the chorioamniotic membrane, making up the amniotic sac. This is held inside the uterus, which we call the baby apartment since it is where the baby lives during fetal development.

The cervix is the door to the apartment that holds it all in. **In PROM, the mother's water breaks too early & this amniotic fluid leaks out!**

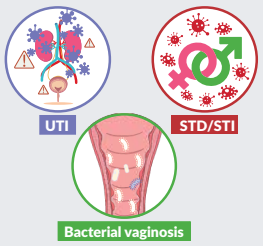


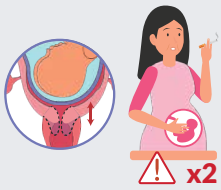
PPROM	PROM
P Preterm	
P Premature	P Premature
pture Of	pture Of
M Membranes	M Membranes
*Before 37 weeks	*After 37 weeks

Risk factors

Anything that weakens the strength of the chorio**amniotic** membrane

- Infections
  - UTI
  - STI (STD)
  - Bacterial vaginosis
- Short cervical length
- Smoking
- Abdominal trauma
- Prior distention
  - Polyhydramnios - increased amniotic fluid
  - Multiple gestations (twins, triplets +)





Treatment

Prevent infection

- **Over 37 weeks** gestation 90% of clients will go into spontaneous labor within 24 hours

Nurse care

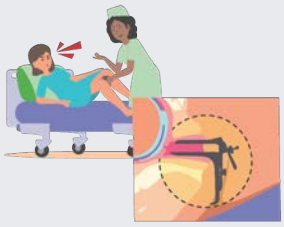
- Give prophylactic antibiotics to prevent **GBS infection** - Group B Beta Streptococcus **NCLEX TIP**
  1. Membranes ruptured **at/over 18 hours**
  2. Temperature **over 100.4**
  3. Gestation **less than 37 weeks**

NCLEX TIP

NCLEX TIP

Diagnostics

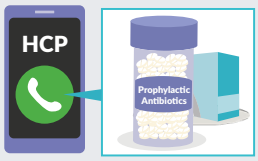
- Nitrazine Test
- Speculum exam ("Pooling")
  - A speculum is placed inside the vagina & the client is **asked to cough or bear down.** If amniotic fluid is seen coming out of the cervix when this pressure is applied, the client has ROM.
- Ultrasound
- Screening for STIs



Saunders Question

A pregnant 39 week-gestation ... has had a **positive group B streptococcus (GBS)** ... the cervix is **dilated 6 cm and 90% effaced**. Which should be **the nurse's first action?**

- Call the health care provider (HCP) to obtain a **prescription for intravenous antibiotic prophylaxis**



AROM

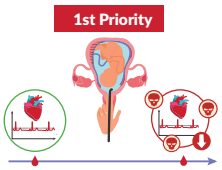
Amniotomy - this is a procedure performed by the health care provider to manually induce labor by rupturing the amniotic membrane or in other words breaking the client's water.

AROM	
A	Artificial
R	Rupture
O	Of
M	Membranes

Amniotomy

Manual induction of labor by rupturing the amniotic membrane

- **Risk for Umbilical Cord Prolapse** causing **fetal bradycardia** due to cord compression
- **4 NCLEX TIPS:** Interventions
  1. Assess fetal heart rate BEFORE & AFTER
  2. Assist to **upright position** after
  3. **Temperature** every 2 hours
  4. Characteristics of amniotic fluid *Color, amount & odor*



Normal	NOT Normal
Clear Colorless No foul odor	Yellow-green fluid **Meconium** Strong foul odor **Infection**

HESI Question

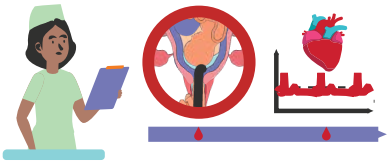
Amniotomy ... Immediately after the procedure what is **most important** information for the nurse to obtain?

- Fetal heart rate

ATI Question

Amniotomy ... Which of the following is the **priority for assessment** by the nurse?

- Fetal heart rate



Procedures to Assist Labor & Delivery

Maternity

Administering Oxytocin

- Use an **IV infusion pump** on a secondary IV line

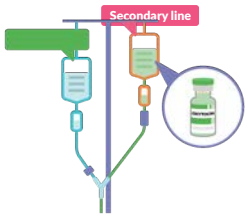
Monitor **2 NCLEX TIPS**

1. Mother's uterine contraction pattern, blood pressure & heart rate
2. The fetal heart rate (continuously)

STOP Oxytocin

3 NCLEX Key Points

1. Contractions:
   - Duration OVER 90 seconds
   - Frequency less than 2 minutes apart
   - Intensity over 90 mmHg
   - Resting tone greater than 20 mmHg
2. Late decelerations in FHR
3. Over **5 contractions** in



ATI Question

Q1: ... receiving **oxytocin after prolonged labor**. Intervention is necessary when which assessment item is noted?

- **6** contractions in 10 minutes

Q2: Which of the following findings ... **requires intervention** by the nurse?

- **Duration** of contraction of **100 seconds**

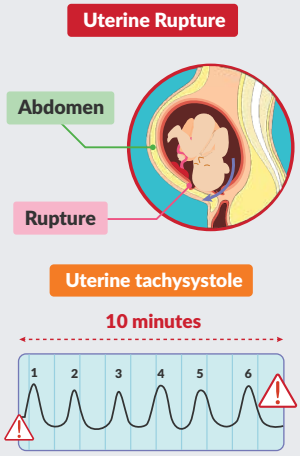
Kaplan Question

... oxytocin infusion to induce labor. The nurse **stops the infusion** if it occurs?

- Contractions last **90 to 120 seconds** & are **2 minute intervals**

Complications

1. Uterine Rupture **ATI**
2. Late declarations
3. Water intoxication (dilutional hyponatremia)
4. Increased risk for
   - Placental abruption
   - **Uterine atony** Soft or boggy fundus
     increased risk for postpartum hemorrhaging
5. Uterine tachysystole **NCLEX TIP**
   - *Side effects of oxytocin causing **severe contractions*** → reduced placental blood flow & impaired fetal oxygenation.
   - **STOP Oxytocin**
     - Over 5 contractions in 10 minutes
     - Late decels



Top Missed NCLEX Questions

A client is receiving oxytocin infusion for labor augmentation. The provider asks the nurse to **increase the oxytocin infusion rate**. Which of the following actions should the nurse take?

Click the exhibit

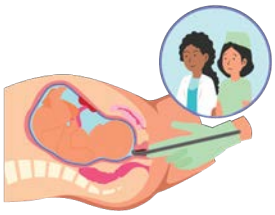
- Recommend that the **infusion rate be decreased**

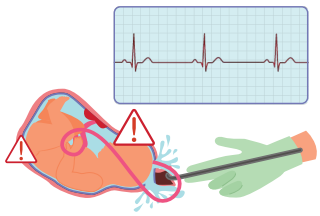
Amniotomy

- Manual induction of labor by rupturing the amniotic membrane

Risk for Umbilical Cord Prolapse

- Causing **fetal bradycardia** due to cord compression





NCLEX TIP

Forceps *spoon like devices used to assist delivery*

- **Caution!** Never apply fundal pressure during forcep use
- **Uses:** fetal distress or abnormal fetal presentation
- **Complication**
  - Uterine rupture
  - Bladder injury
  - Vaginal Lacerations

Vacuum *traction applied to the fetal head*

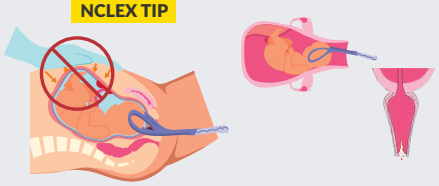
- **Caution!** Never apply fundal pressure **NCLEX TIP**
- **Uses:**
  - **Mother** not pushing effectively or unable to push
  - **Fetal** distress, rotation, or abnormal FHR
- **Complication**
  - Uterine rupture
  - Lacerations
  - Infant subdural hematoma

HESI Question

Complication... forceps-assisted delivery?

- Presence of **vaginal lacerations**

NCLEX TIP



Bishop Score

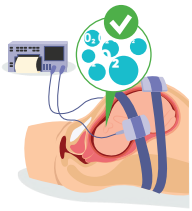
- System for assessing cervical readiness for induction of labor.
- OVER 6 - 8 score indicates induction will be successful

Cervix	Bishop score			
	0	1	2	3
Consistency	Firm	Medium	Soft	—
Position	Posterior	Mid-positon	Anterior	—
Dilation	0 cm	1-2 cm	3-4 cm	≥ 5 cm
Effacement	0% - 30%	40 - 50%	60 - 70%	≥ 80%
Station	-3	-2	-1, 0	+1, +2

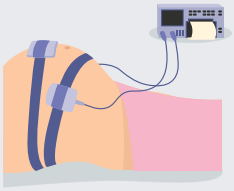
Fetal Heart Monitoring

Maternity

Fetal heart rate monitoring is a way to identify fetal **well being & oxygenation** during labor. During labor it is vital to monitor both uterine contractions & the baby's heart rate. Abnormal reading may indicate the baby is not getting enough oxygen or other problems.

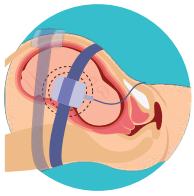


There are **2 types of devices** used for **External Fetal Monitor** - The **sono or ultrasound** (used for the baby's HR) & the **toco or tocometer** (for mom's uterine activity).

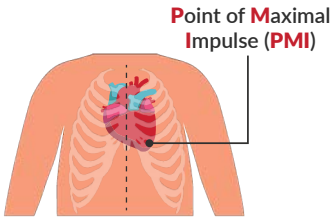


External Fetal Monitor

Find **Point of Maximal Impulse** (PMI)
this is point where the baby's heart rate can be heard the loudest



THE POINT OF MAXIMAL IMPULSE!!!!



That is the best place to put the fetal heart rate sensor. The **PMI** is found between the shoulders.

If the baby is cephalic or head down, it will be placed on the mother's lower abdomen & if the baby is breech, the monitor will find the PMI in the upper abdomen.

Finally a 2nd sensor is the contraction monitor. The sensor is placed high on the mothers abdomen to monitor contractions.

A more accurate but more invasive method of monitoring the baby is an **Internal fetal monitor (Fetal Scalp Electrode - FSE)**. These monitors are typically only used for high risk pregnancies.

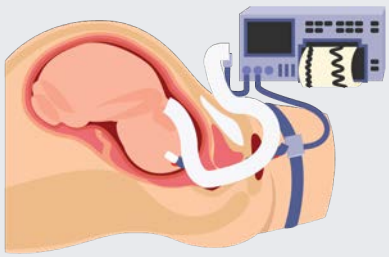
This method uses a thin wire electrode that is placed directly on the baby's scalp through the cervix.

This method gives better readings as it's not affected by movement. **It can ONLY be used after the amniotic sac has ruptured & the cervix is open to at least 2 cm in dilation.**

The **FSE** comes with a **HIGH risk of infection** since we are placing a foreign object into the mother's vagina & onto the baby's head.

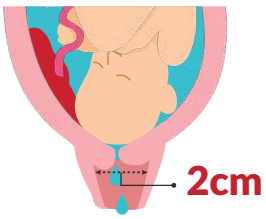
Internal fetal monitor

Fetal Scalp Electrode - FSE



ATI question

Which of the following **must be present** before the nurse initiates **internal fetal monitoring**?
Cervical dilation of at least **2 cm**



Notes

Fetal Heart Monitoring

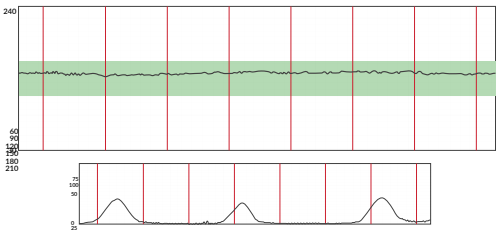
Maternity

Top 8 Strips to Know

As you can see, there are 2 strips here showing squiggly lines - similar to an EKG. **Fetal heart rate is on top** - which we always assess **FIRST**!

Mothers contractions are on bottom. The double red lines represent 1 minute in time.

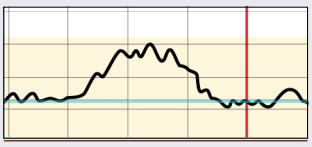
Always assess **FIRST!**



Key Terms for FHR

- **Baseline:** Normal FHR **110-160 bpm**
- **Variability:** how jiggly or wiggly is the line?
  More wiggly = More happy baby

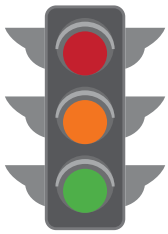
Variability

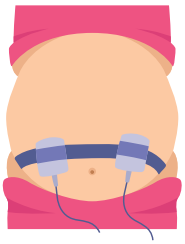


Variability: how jiggly or wiggly is the line? As labor progresses, we expect the fetal heart rate to have wiggly lines - this is called variability.

It means that the baby's neuro system is intact & the baby is happy! In general we say **the more wiggly=more happy baby.**

We have different types of variability, kind of like a traffic light.
The **RED** light where we STOP what we're doing & run to get the baby out is **Absent variability: NOT jiggly = NOT good!**

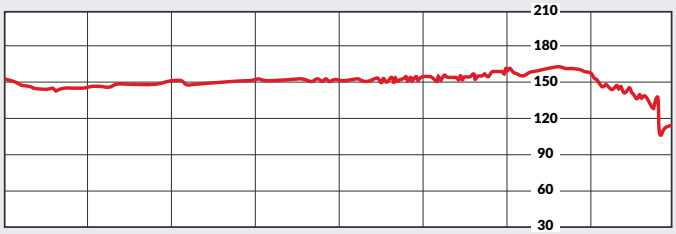




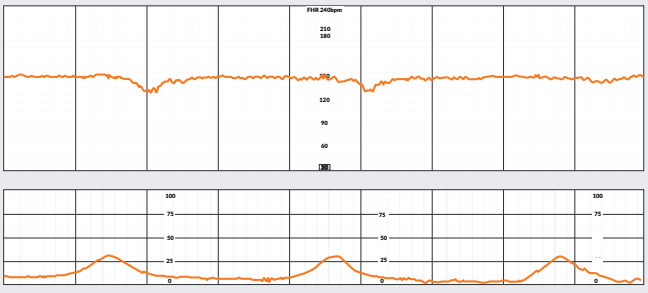
Types of Variability

- **Absent** variability: **NOT** jiggly = **NOT** good!
- **Minimal** variability: Flatter line that looks "sleepy & sad"
- **Moderate** variability: Normal & desired finding!
- **Marked** variability: Jagged jiggles = stressed baby!

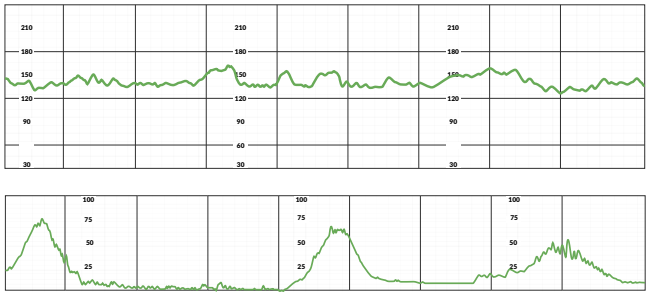
Absent variability: **NOT** jiggly = **NOT** good!



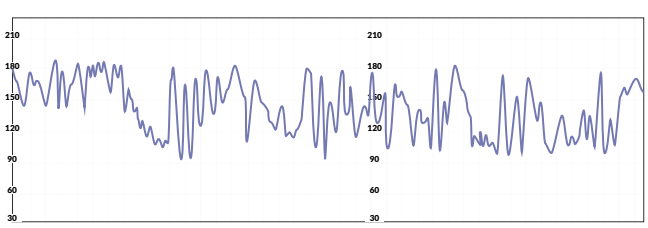
Minimal variability: Flatter line that looks "sleepy & sad"



Moderate variability: Normal & desired finding!



Marked variability: Jagged jiggles = stressed baby!



Fetal Heart Monitoring

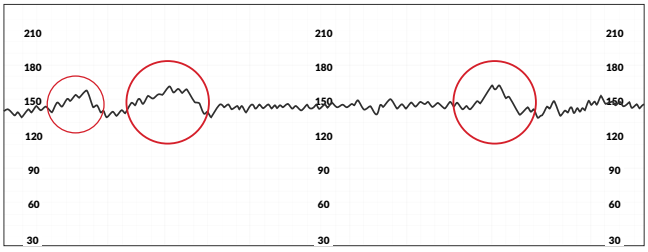
Maternity

Accelerations

These are temporary increases in FHR. It indicates great oxygenation for the baby! We call these "**happy little mountains**". They are little bonus points that show the baby is doing well!

Accelerations

- Temporary increases in FHR.
- Indicates great oxygenation for the baby!
- "Happy little mountains"



Decelerations

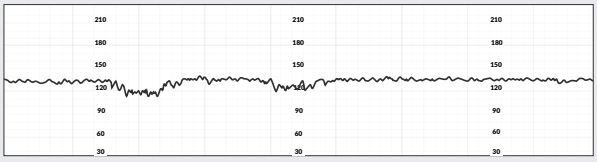
These are dips from baseline & there are 3 different types. Always look at the **shape & timing with each contraction**.

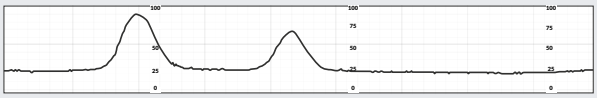
Decelerations: Dips from baseline

- **Early Decels: are GOOD!**
  Shallow, bowl shaped dips that mirror mother's contractions
  - Indicates head compression

  Memory Trick
  Good to be **Early** with **Early** Decels

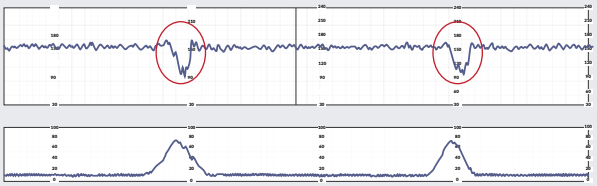
GOOD!





- **Variable Decels:** is **V**ery concerning with **V**ery deep "sharp **V** dips"
  - Indicates cord compression

VERY CONCERNING!

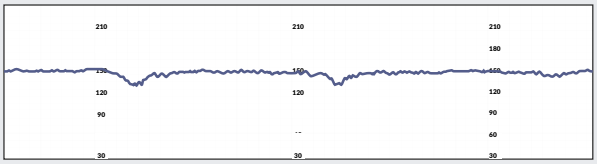


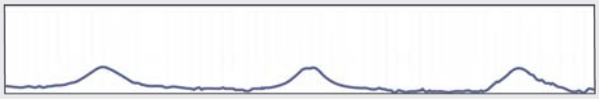
These are the **WORST**!

- **Late Decels:** BAD!!!
  - Indicates decreased oxygen (hypoxia)

  Memory Trick: Bad to be **late** to the party (don't be late with the dip!)

BAD!



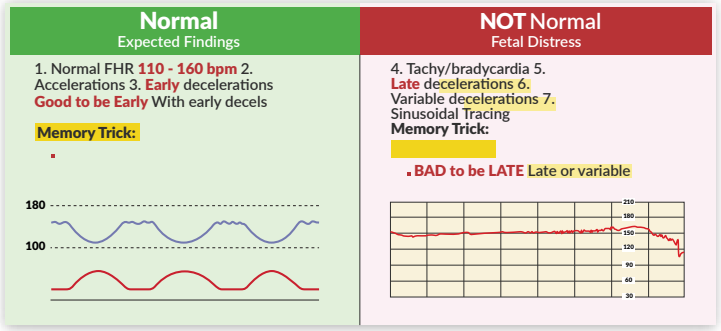


FETAL ACCELERATIONS & DECLERATIONS

V Variable Decelerations *W or V shaped dips*	V	C	**C** Cord Compression *CHANGE mom's position*
E Early Decelerations *Mirror the contractions*	E	H	**H** Head Compression *HAPPY baby baby is ready for delivery*
A Accelerations *Temporary increase in HR*	A	O	**O** Okay *Oxygen for baby*
L Late decelerations *Lower HR after contractions*	L	P	**P** Placental Insufficiency *PROBLEM*

Fetal Heart Monitoring

Maternity



8 Strips on the Nclex

Normal FHR Strips

1. **Normal FHR:** 110 - 160 bpm
   Baseline is between contractions
2. **Accelerations:**
   Temporary increase in FHR (this is ok!)
3. **Early decelerations**
   Mirror contractions with decreased FHR during contractions = ok!
   - **Cause:** Head compression during the contractions
   - **Intervention:** Prepare for delivery of the baby

Memory Trick:
Good to be Early
With early decels

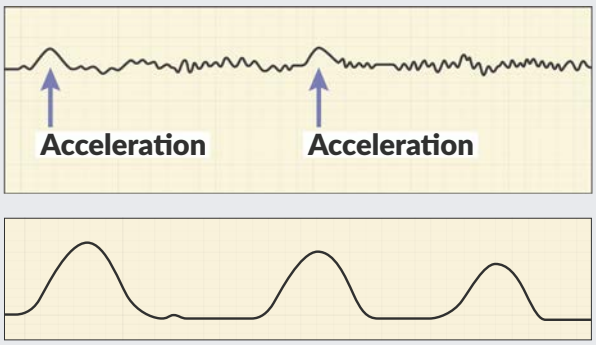
Normal 110 - 160bpm

GOOD!

HESI question

Which **fetal heart rate tracing** characteristics are considered reassuring or normal?

- **Early decelerations,** either present or absent



Not Reassuring (Risky!)

4 . Fetal Tachycardia

increase in **FHR over 160/min** for over 10 minutes
Early sign of fetal distress! HESI

Causes
- Trauma to mother (broken bone)
- Maternal Infection or fever
- Fetal anemia
- Dehydration

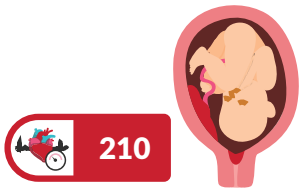
Stimulants (Cocaine)

Interventions
- Oxygen
- IV fluids
- Antipyretic

ATI Question

... client with a **fractured wrist** who is **36 weeks pregnant**. Which of the following assessment items should the nurse **prioritize**?

- The fetal heart rate is **210/min**



HESI Questions

Q1: While monitoring the **FHR** ... the nurse notes **tachycardia**. Which is a probable cause for this condition?

- Early signs of **fetal distress**

HESI Questions

Q2: ... a **FHR baseline of 175 bpm**. The nurse knows that this can be caused by which factor?

- Fetal **tachycardia**

Not Reassuring (Risky!)

5 . Fetal bradycardia

decrease in **FHR over 110/min** for over 10 minutes

Causes
- **Uteroplacental insufficiency**
- Umbilical cord prolapse
- Maternal hypotension
- Analgesic medication

Interventions

Memory Trick
- **R** Reposition mom: side lying position
- **O** Oxygen via Facemask
- **A** Alert the HCP (provider)
- **D** Discontinue oxytocin
- **I** Increase IV fluids

Saunder's Question ... slowing of the fetal heart rate and a loss of variability... nursing action?

- **Turn the client** onto her side & give **oxygen by facemask** at 8-10 L/min

Kaplan Question

... **Abrupt and rapid fluctuations** in the **fetal heart rate (FHR)** from baseline to **90 beats per minute** and **back to baseline ...** The fluctuations in fetal heart rate occur with **no relationship to the contraction** pattern. Which **response by the nurse is best?**

- "This is a potential problem that requires a **position change**."

HESI Questions

Q1: ... **maternal cardiac output** can be **increased** by which factor?

- Change in position

HESI Questions

Q2: ... **sudden drop in fetal heart rate** from its **baseline of 125 down to 80**. The nurse **repositions** ... Five minutes have passed and the **FHR remains in the 80s**. Which additional measure would the nurse take?

- Immediately **notify the primary health care provider**

Fetal Heart Monitoring

Maternity

8 Strips on the Nclex

CRITICAL Findings!

6 . Variable decelerations

Abrupt decreases in FHR

Less than 30 15 bpm below baseline from onset to baseline & for 15 sec - 2 min

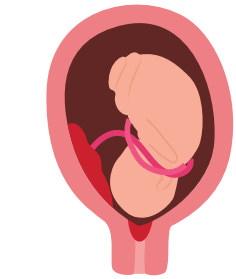
Causes

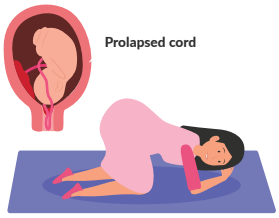
- Umbilical Cord Compression! NCLEX TIP
  Critical: Oxygen tube is compressed!
- Decreased amniotic

Interventions

Memory Trick

- **R** Reposition mom: side lying position
- **O** Oxygen via facemask
- **A** Alert the HCP (provider)
- **D** Discontinue oxytocin
- **I** Increase IV fluids





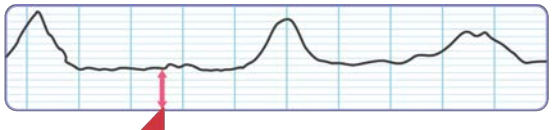
Amnioinfusion

The installation of sterile saline into the amniotic cavity to refill the lost fluid.

Report Immediately

Indications of Overfilling NCLEX TIPS

- Uterine resting tone that increases to 45 mm Hg
- Dry perineal pads



CRITICAL Findings! TOP TESTED

7 . Late decelerations

Decreased FHR **after contractions** with prolonged time before returning to baseline

Indicates that **oxygenation** is compromised! NCLEX TIP

Causes

- **Placental** insufficiency (Utero**placental** insufficiency) HESI
- Uterine tachysystole NCLEX TIP Side effects of oxytocin causing **severe contractions** → Reduced placental blood flow & impaired fetal oxygenation

STOP Oxytocin

- Over 5 contractions in 10 minutes
- Late decels

- Hypotension

Memory Trick

BAD to be LATE With late, absent or variable decels

Interventions

Memory Trick

- **R** Reposition mom: side lying position
- **O** Oxygen via facemask
- **A** Alert the HCP (provider)
- **D** Discontinue oxytocin
- **I** IV fluids (0.9% NS bolus or LR)

- **Prep for C-Section** if late decels persist

Top Missed NCLEX Question

A new nurse is evaluating the fetal monitoring strip of a client in labor who is receiving an **oxytocin infusion**. Which of the following **actions** should the nurse take next? **Select all that apply.**

- ○ Slow the oxytocin infusion
- ✓ **Reposition the client to left/right side**
- ○ Amnioinfusion
- ✓ **Oxygen by face mask**
- ✓ **Initiate an IV bolus of 0.9% saline**
- ✓ **Notify the provider & prepare terbutaline**

HESI Question

Oxytocin induction ... **the last five contractions**, the fetal heart rate has **fallen below the baseline** ... and returns to baseline in **20 to 30 seconds after** the end of the contraction. What **actions** must the nurse take?
Select all that apply.

- **Contact** the health care **provider**
- **Stop** the infusion of **oxytocin**
- **Increase** the infusion of the mainline **IV fluid**
- Apply **oxygen** by facemask

Kaplan Question

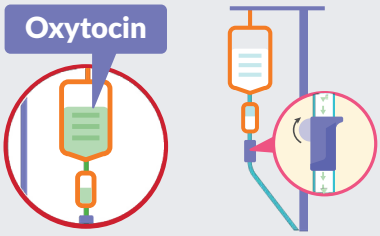
... **fetus is experiencing distress** if which heart rate pattern is observed?

- Late decelerations

ATI Question

Which of the following **interventions ... after examining this fetal monitoring strip?**

- **Discontinue oxytocin**
- Run the **IV fluids wide open**



CRITICAL Findings!

8 . Sinusoidal FHR

Repetitive, wave-like fluctuations (hills) with NO variability & NO response to contractions

Causes

- Mother **abdominal trauma** (fall, motor accident)
  → leading to fetal blood loss or anemia

Interventions

- Emergency Cesarean Section
  "Crash C-section"

Critical finding!

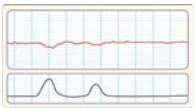
Intervention required

Sinusoidal FHR

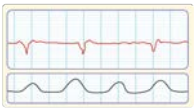
Top Missed NCLEX Question

The nurse is observing the **fetal heart rate (FHR) tracings of 4 clients**. Which pattern would be **most concerning**?

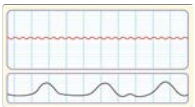
○ 1.



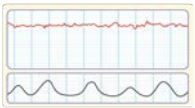
○ 2.



✓ 3.

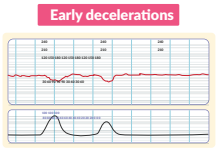


○ 4.



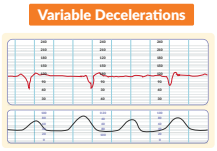
Early decelerations

○ 1.



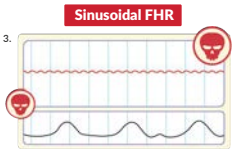
Variable Decelerations

○ 2.



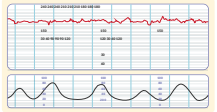
Sinusoidal FHR

✓ 3.



Fetal tachycardia

○ 4.



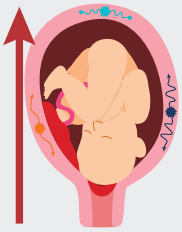
Fetal Heart Monitoring

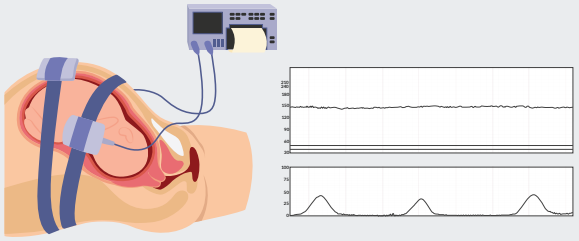
Maternity

HESI questions

Q1: What happens when **oxytocin levels are elevated**...?
- Uterine **contractions will increase**

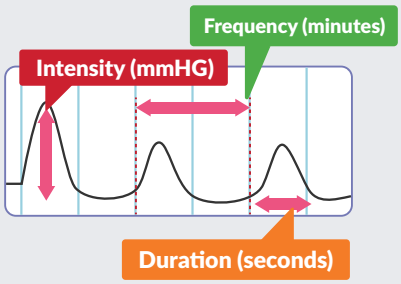
Q2: The nurse assesses **fetal well-being during labor** by monitoring which factor?
- Response of the **fetal heart rate to uterine contractions**

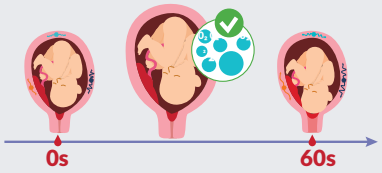




Key Terms for Uterine Contractions

During contractions, babies will hold their breath & fetal oxygenation is impaired - so knowing this is **VITAL** to **keep the baby well oxygenated** in between. There are 4 components to know.



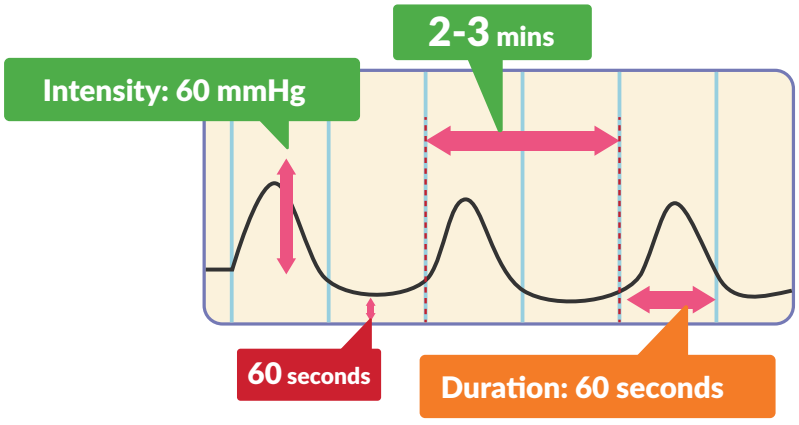


Key Terms for Uterine Contractions

1. **Frequency:** measures how **FAR APART** the contractions are
2. **Duration:** measures how **LONG** the contractions last
3. **Intensity:** rates how **STRONG** the contractions are
4. **Rest** (Tone & Time): the uterus should be **SOFT** to palpation between contractions for at least **60 seconds**.

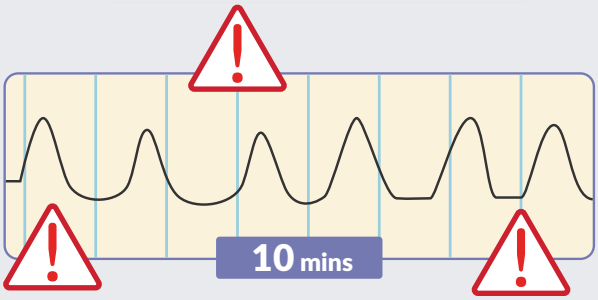
Normal Contractions (Rule of 60)

- **Frequency:** contractions that are 2 - 3 mins apart in active labor.
- **Duration:** 60 seconds
- **Intensity:** 60 mmHg
- **Rest:** 60 seconds or rest in between contractions

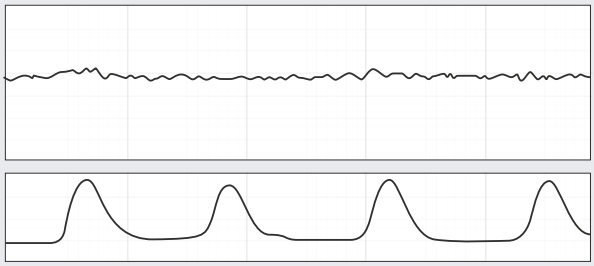


Tachysystole Complication!

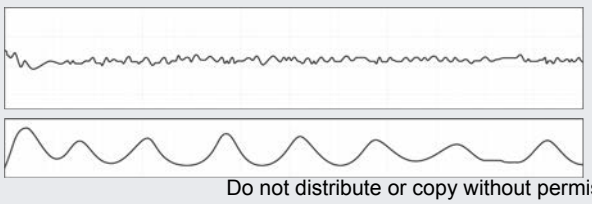
- Over 5 contractions in 10 minutes ***Too many contractions*** → *Fetal Distress! Including Hypoxia & reduced placental blood flow*



Normal UC pattern



Tachysystole pattern



Epidural & Pain Control

Maternity

Epidural Anesthesia

Epidural anesthesia also called an **epidural block,** is an injection into the lower back that temporarily blocks pain from the waist down. For the procedure, clients will lie on their side with knees tucked in or sit up right & lean forward. To help visualize the position, nurses tell clients to **curl over like a cooked shrimp**. When in the correct position, **the provider will insert a needle into the client's epidural space between the dura mater & the vertebral wall just outside of the spinal cord**.

A catheter is threaded through and secured as the epidural needle is removed. The catheter is used by the provider to administer pain relief when needed.

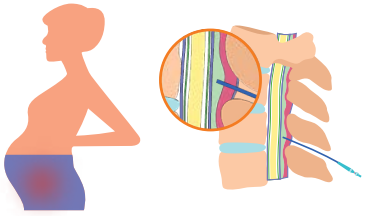
Epidural Anesthesia

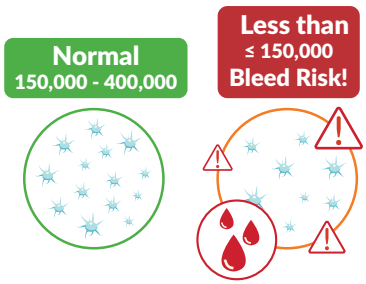
Epidural Block

- Blocks sensation from waist down: umbilicus (belly button) to legs
- After the cervix is 4 cm dilated

Caution

- Maternal hypotension (low BP)
- Fetal bradycardia (low HR)
- Low platelet count in the mother
  Normal 150k - 400k
  Less than 150k = risky! **BLEED RISK**





NCLEX Questions

Q1: Which laboratory value is the **priority to report to the provider** prior to **epidural anesthesia?**

- Platelet count of 95,000

NCLEX Questions

Q2: An **epidural was administered 20 minutes ago** and now the client reports feeling dizzy and nauseated. Which action should be **performed first?**

- Obtain **blood pressure**

Kaplan Question

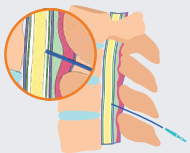
A client is **6 cm dilated** and ready for **epidural anesthesia. Which position** will the nurse assist the client?

- On the left side, shoulders parallel, legs flexed, and back arched

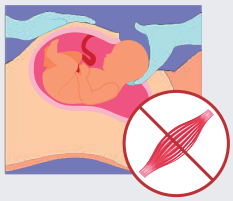
Spinal Anesthesia

Spinal Block

- C-section
- 100% loss of motor movement & sensation



Spinal Anesthesia



Interventions: Epidural & Spinal block

IV fluids to help counteract side effects of maternal hypotension

Exam Question:

Nursing action for hypotension

- Turn the mother to the **left lateral position** & increase IV fluid rate

HESI Question

... **spinal block in place for pain**... the client's **blood pressure is 20% lower** than the baseline level. Which nursing **action** is appropriate?

- Turn the client to the **left lateral position** or **place a pillow under her hip**

ATI Questions

Q1: Which of the following can result in **fetal bradycardia**?

The mother has received **spinal anesthesia Q2**: After the epidural, the nurse notes **decreased beat to beat variability** and **late decelerations on the fetal heart monitor**. Which of the **interventions** should the nurse implement? Select all that apply.

- Turn client on the **left side**
- Increase **IV fluid rate**

Pudendal Nerve Block

- Perineum
- Vulva
- Rectum

Good:

- Given quickly when birth is imminent

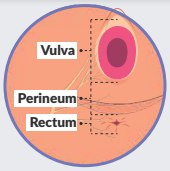
Bad:

- **DOES NOT** relieve contraction pain

ATI Question

Which of the following is correct regarding a **pudendal block**?

- A pudendal block anesthetizes the **perineum, vulva, and rectum**



Top Missed NCLEX Question

A laboring client in the **later part of 2nd stage of labor** is urgently requesting **pain relief for the perineal area**... cervix is **10 cm dilated and 100% effaced**, with the fetal head at **-1 station**. What is the **most appropriate** pain management technique for this client?

- ○ Breathing techniques
- ○ Epidural anesthesia
- ○ Spinal anesthesia
- ✓ ◉ **Pudendal nerve block**

Epidural & Pain Control

Maternity

Non Pharmacological

This means **no medications** are used for pain control during labor.

- Breathing techniques
- Imagery
- Massage: effleurage
- Back labor pain: **Sacral counter pressure**

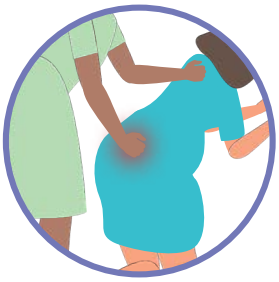
HESI Question

Which is an effective nursing intervention for a client experiencing **pain related to back labor**?
Counter pressure against the sacrum

NCLEX

Monitor for **nonverbal signs** of ineffective coping with labor
- Panic
- Anxiety
- Squirming movements

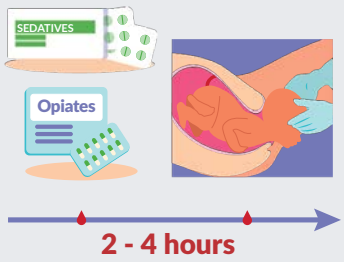
Pain medication



Medication

Pain control during labor with **pain medications**, like **sedatives & opioids,** are best given during the early stages of labor, as they can cause **serious side effects** like respiratory depression when given closer to birth!

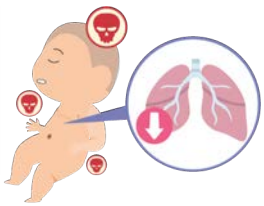
These medications can be **VERY DEADLY** - we like babies with strong cries, **NOT FLOPPY BABIES**. It's best to give these **2-4 hours BEFORE birth** so that the drug has time to wear off **BEFORE** birth.



Sedatives

Barbiturates
- Phenobarbital *(brand: Tedral)*

Caution: Respiratory depression



Opioids

1. Meperidine hydrochloride *(brand: Demerol)*
2. Butorphanol tartrate *(brand: Stadol)*
3. Nalbuphine hydrochloride *(brand: Nubain)*

Caution! 3 Key points for NCLEX

1. **ONLY** give opioids:
   - During contractions
   - After the **cervix** is 4 cm dilated or it will **slow labor**
2. Assess **fetal heart rate (FHR)** 10 minutes prior
3. Have **Naloxone** (opioid antidote) ready

Memory trick
Opioids make labor sl**O**w

HESI Questions

Q1: ... IV pain medication for a client in labor?
Select all that apply
- Administer the medication **only when** the client is having a contraction
- Assess the **fetal heart rate (FHR) for 10 minutes prior** to administering the pain medication
- **Naloxone will reverse the pain relief provided by the opioid**

HESI Questions

Q2: Which **action** would the nurse take **before administering meperidine hydrochloride** to a client to relieve labor pain?
- Monitor maternal **vital signs and fetal heart rate**

Fetal Heart Rate

Notes

Stages Of Labor

Maternity

1st Stage of Labor

ATI Question

latent phases of labor?
- Contractions every 5 to 10

HESI Question

... what do you closely monitor during the **latent phase of the first stage of labor**?
- Fetal heart rate

Kaplan Question

... purpose of the **fetal monitor**?
- "To determine if the fetus is **receiving an adequate amount of oxygen.**"

Phase 2: Active Phase
GO to the HOSPITAL!

- Breathing techniques & pain management
- 4 7 cm cervix dilation (Goal = Perfect 10 cm)
- **100% effaced** (fully thinned cervix)
- Contractions (stronger & longer)
- Pain Medications:
  - Epidural
  - IV narcotics -

Remember narcotics make the vitals low & slow leading to newborn sedation & respiratory depression at birth! IV narcotics given at the peak of contractions reduce the amount of narcotic that crosses the placental barrier & will help to decrease the sedation of the fetus.

Top Missed **NCLEX** Question

A client in **latent labor** receiving an oxytocin infusion for labor augmentation is **requesting IV pain medication**. Which nursing action is **appropriate**?

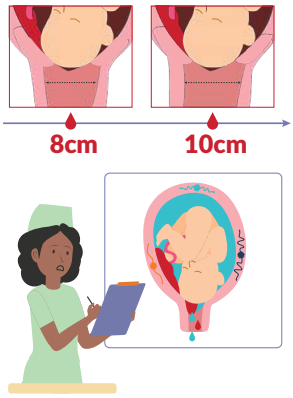
✓ Give the **medication slowly during the peak** of the next contraction

Phase 3: Transitional Phase

- Focus & staying in control
- 8 10 cm cervix dilation **(Goal = Perfect 10 cm)**
- **100% effaced** (fully thinned cervix)
- Contractions (strongest & closer)

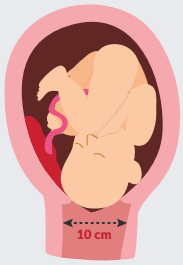
5 Key Points:
1. Anxiety & Vomiting
2. Urge to have a bowel movement
3. Strong urge to **push with each contraction**
4. **DO NOT push until 10cm** (fully dilated)
   Risk for cervical swelling & lacerations
5. Amniotic sac ruptures "bloody show"

Priority Assess color of amniotic fluid (water break)
- Meconium-stained fluid (dark fluid) *Sign of fetal distress or hypoxia Aspiration risk!*



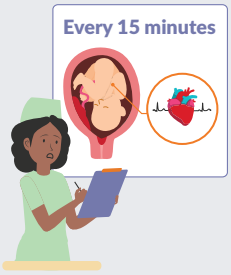
HESI Question

... expected during the **transition phase** of the first stage of labor?
- Vomits
- Bloody mucus
- Urge to have a bowel movement



Interventions

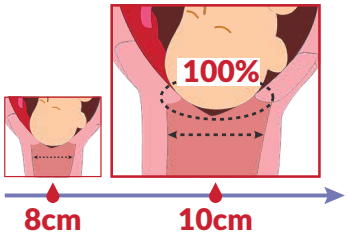
4 NCLEX TIPS
1. Emotional support & encouragement
2. Breathing techniques
3. 10 cm dilated - document fetal HR every 15 minutes Saunders
4. **AVOID pushing until 10cm** (fully dilated)
   Risk for cervical swelling & lacerations



Top Missed **NCLEX** Question

A laboring client reports **anxiety, vomiting,** & the **need to have a bowel movement**. What is the **expected cervical examination finding**?

- ○ A. 7 cm dilated, 100% effaced
- ✓ B. 8 cm dilated, 100% effaced
- ○ C. 6 cm dilated, 70% effaced
- ○ D. Go to the break room



ATI Questions

Q1: ... 30 weeks of gestation. Which medication... to **accelerate fetal lung maturity**?
- **Betamethasone**

Q ... **terbutaline**. Which of the following client statements indicates an **understanding of the teaching**?
- This medication is used to **stop my contractions**

Notes