

BERKELEY MEDICAL RESERVE CORPS

# PEDIATRICS & OBSTETRICS EMERGENCIES

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# Pediatrics



# DEFINITION OF PEDIATRIC PATIENT



**According to ALCO Protocol, a Pediatric Patient is defined as:**

- 14 y/o or younger
  - < 1 y/o is an infant
  - $\geq 1$  y/o is a child

**Are pediatric patients little adults?**

- No they are not.
- There are many distinct physiological, developmental, and psychological differences that make them much different from adults.



# ANATOMICAL & PHYSIOLOGICAL DIFFERENCES

## Head + Airway

- Head is larger in proportion to the child's body
- Neck bends/compresses easily making obstruction more likely
  - Tongue is proportionally larger than their mouth and oropharynx
  - Epiglottis is longer and stiffer

## Respiratory

- Lower lung volume than adults and higher metabolic rate
- Trachea is smaller and easily compressed
- Higher rate of respiratory muscle fatigue

## Musculoskeletal

- Larger occiput (back of head/skull)
- Weaker and more flexible bones
- Abdomen less protected




## Cardiovascular

- Lower blood volume and less capacity to compensate for high blood loss or changes in blood pressure



## Differences in Vital Signs

- Heart Rate typically higher than adults
    - 80 to 130 bpm
  - Respiratory Rate typically higher than adults
    - 20-30 RR
  - Blood Pressure typically lower
    - Systolic: 80-120
    - Diastolic: 40-80
- 



# PEDIATRIC TRIANGLE

## Appearance

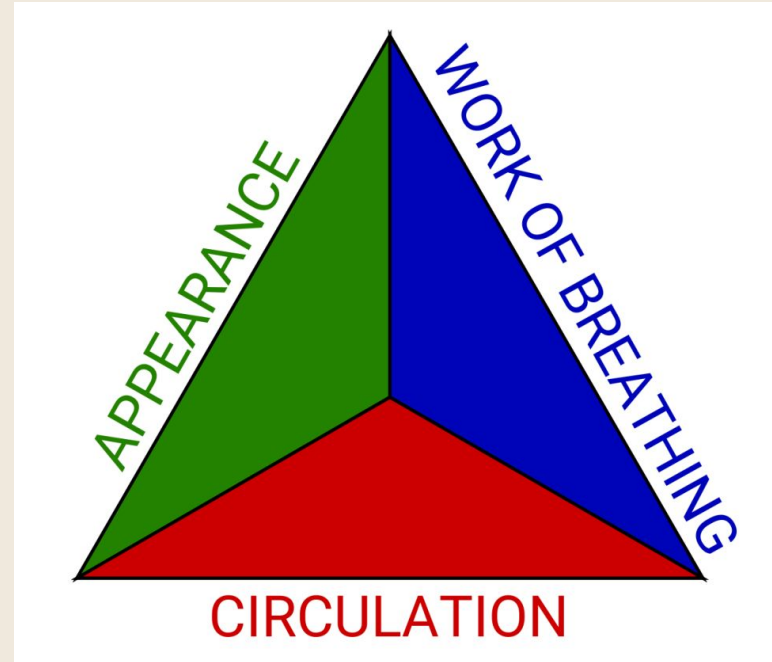
- Are they awake and alert?
- Are they acting normally?
- Do they have a normal amount of muscle tone?
- Are they crying an appropriate amount for their age?

## Work of Breathing

- Are they breathing too quickly or heavily?
- Are they using their belly or ribs to breathe?
- Are they flaring their nostrils?

## Circulation

- Is their skin pale or blue?
- Is their skin cool or sweaty?





**BE HONEST!**

**NOT LYING TO KIDS, BEING HONEST WITH THEM.  
THEY CAN TELL WHEN YOU LIE.**

**USE SIMPLE TERMS**

**PUTTING THINGS IN  
SIMPLER TERMS**



# Obstetrics





# OBSTETRIC ASSESSMENT



## Questions to Ask a Pregnant Patient

- How long have you been pregnant?
- When are you due?
- Is this your first pregnancy? How many pregnancy (Gravida)? How many living (Para)?
- Are you having contractions? How far along are the contractions? How long do the contractions last?

## Follow-up Questions to Help Determine Potential Complications

- Were any of your previous deliveries by C-section?
- Have you had any problems in this or any previous pregnancy?
- Does your physician expect any other complications?
- Do you feel the urge to bear down?

# APGAR

1 - 5 MINUTES AFTER BIRTH

**A - Appearance**

**P - Pulse**

**G - Grimace/  
Irritability**

**A - Activity/  
Muscle tone**

**R - Respiration**

Sign	Score		
	0	1	2
Heart rate	Absent	< 100	> 100
Respiratory effort	Absent	Irregular or gasping	Good crying
Muscle tone	Flaccid	Partial flexion of extremities	Complete flexion or Active movements
Reflex response	No response	Grimace	Cry
Color	Blue (central cyanosis) or Pale	Body pink but extremities blue (peripheral cyanosis)	Completely pink

(total score out of 10)

# Stimuli, Suction, Meconium

## Stimuli and Suction

- During the first minute of life
  - Airway positioning/suctioning, if needed (suction mouth then the nose)
- Drying and Warming (head, back, body)
- Tactile stimulation
  - Rub newborn's back and gently flick or slap the soles of his or her feet
- Place baby on mother's chest

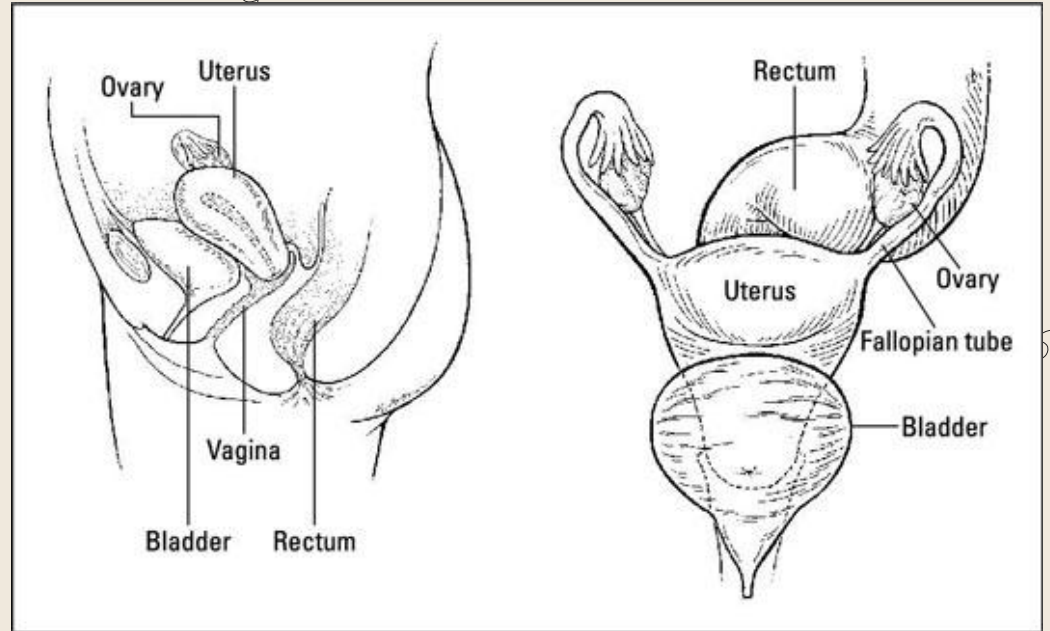
## Meconium

- Baby's first stool (Can be thick or thin)
- Meconium-stained amniotic fluid is seen in approximately 17% of term births
- Generally common with gestational age (older patients)
- Postterm newborns (42 weeks' gestation and beyond) are at highest risk
- If you see presence of meconium and the newborn is not breathing adequately, **QUICKLY SUCTION** newborns mouth then nose after delivery before providing rescue ventilations

# OBGYN ANATOMY



- VAGINA
- CERVIX
- UTERUS
- OVIDUCTS
- OVARIES





# PEDIATRIC EMERGENCIES

# CROUP VS PERTUSSIS<sup>+</sup>



## Croup

### - **SIGNS AND SYMPTOMS**

- Barking "seal-like" cough
- Inspiratory stridor
- Low-grade fever
- Hoarse voice
- Symptoms worse at night

### - **TREATMENT**

- Humidified Oxygen
- Keep child calm
- Don't put anything in mouth
- Transport in position of comfort

## Pertussis

### - **SIGNS AND SYMPTOMS**

- Begins like cold
- Violent coughing spells
- <sup>+</sup> "Whoop" sound on inspiration
- Post-tussive vomiting
- Cyanotic during coughing attack
- Apnea in infants

### - **TREATMENT**

- PPE, contagious
- Oxygen if needed
- Suction mucus and secretion
- Transport in position of comfort

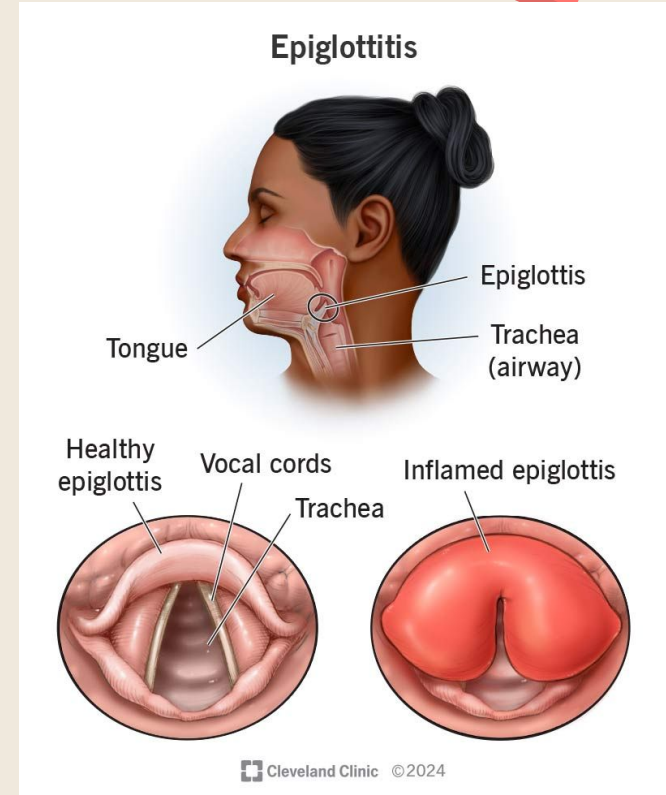
# EPIGLOTTITIS

## SIGNS AND SYMPTOMS

- Sudden, rapid onset
- High fever
- Drooling
- Tripod position
- Stridor
- Cannot swallow or painful to swallow
- Sick and no barking cough

## TREATMENTS

- Do not examine throat
- Keep patient calm
- Provide high flow oxygen
  - Blow by for child
- Prepare for sudden airway obstruction
- Rapid and smooth transport







# SIDS/ALTE



## △ SIDS (Sudden Infant Death Syndrome)

- The sudden, unexplained death of a baby under 1 year old that happens during sleep.

### SIGNS AND SYMPTOMS

- Infant pulseless/apneic
- Signs of dependent lividity or rigor mortis
- Infant unresponsive with no known cause
- Was sleeping beforehand

### TREATMENT

- If no signs of definite death, begin CPR
- Supportive care if resuscitation is inappropriate
- Notify authorities per county protocol ○



## ALTE (Apparent Life-Threatening Event)

- An episode in an infant that is frightening to the observer and includes one or more of:

### SIGNS AND SYMPTOMS

- Cyanosis or pallor
- Apnea of irregular breathing
- Marked change in tone (limp/stiff)
- Altered responsiveness
  - Could be resolved beforehand
- Choking or Gagging



### TREATMENT

- Full assessment
- Check glucose, temperature, XABCs
- Transport
- Supportive care



# FEVER & FEBRILE SEIZURES

## SIGNS AND SYMPTOMS

- Seizure in a febrile child
  - Child who has symptoms of fever
- Fever higher than 100.4 F
- Loss of consciousness
- Shaking or jerking of arms and legs
- Postictal state or drowsiness

## TREATMENT

- Maintain airway
- Suction as needed
- Protect from injury during seizure
- O2 if needed
- Remove excess clothing to help cooling
- No active cooling
- Transport and monitor ABCs



# CHOKING

## SIGNS AND SYMPTOMS

- **Inability to speak or make sounds**
- **Silent, ineffective cough OR no cough at all**
- **Cyanosis**
- **Universal choking sign/ hands clutching throat**

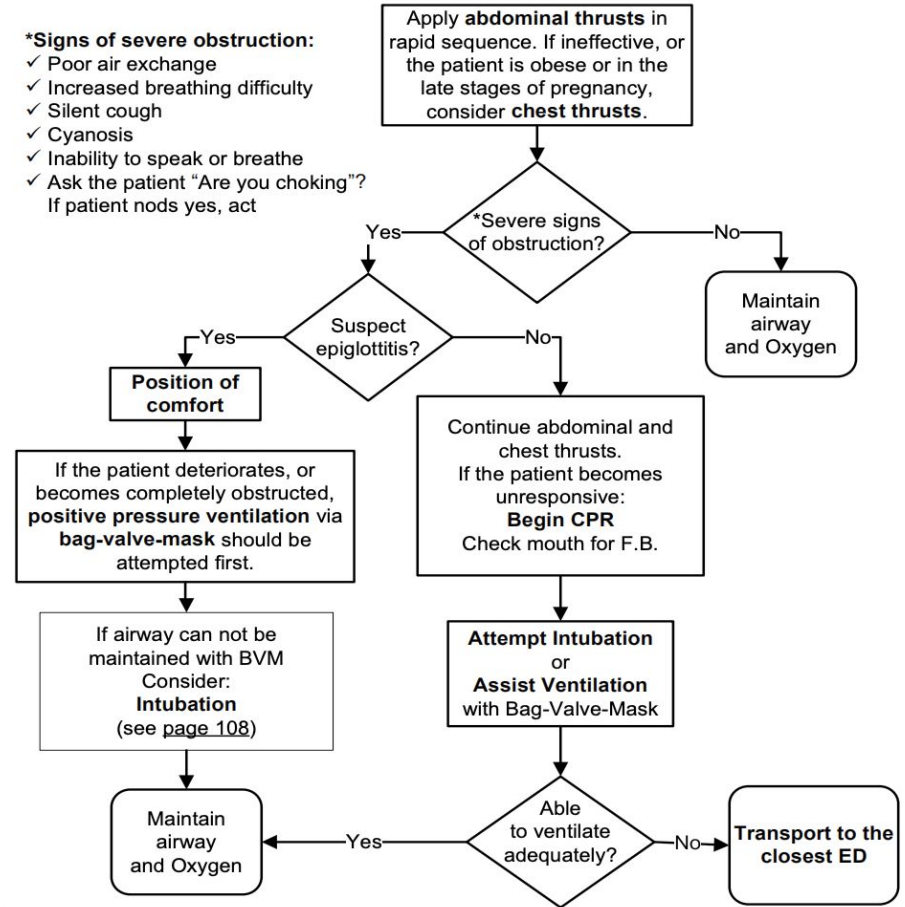
## TREATMENT

- **Abdominal thrusts, quick and forceful thrust until object expelled or unconscious**
- **Begin CPR if unresponsive**

# ALCO PROTOCOL

## \*Signs of severe obstruction:

- ✓ Poor air exchange
- ✓ Increased breathing difficulty
- ✓ Silent cough
- ✓ Cyanosis
- ✓ Inability to speak or breathe
- ✓ Ask the patient "Are you choking?"  
If patient nods yes, act





# OBSTETRIC EMERGENCIES

# PLACENTA PREVIA

## - SIGNS AND SYMPTOMS

- Painless, bright vaginal bleeding.
- Contractions
- Bleedings that starts and stops.

## - TREATMENT

- Vaginal examination is contraindicated due to bleeding potential
- Rapid Transport
- Administering Oxygen
  - Nasal Cannula or Non Rebreather - target  $spO_2$  100 percent.
- Positioning the patient on her left side



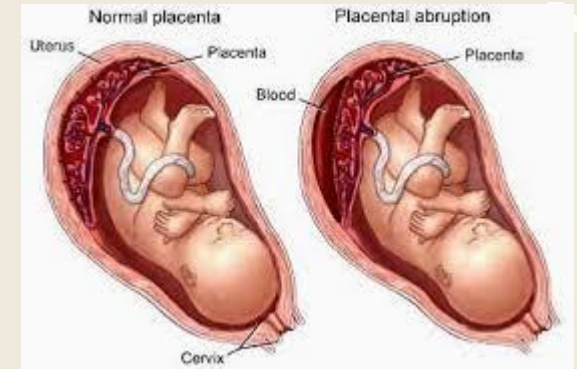
# PLACENTA ABRUPTIO

## - SIGNS AND SYMPTOMS

- Vaginal bleeding
  - Sometimes there is only internal bleeding
- Abdominal or back pain
- Sudden and Severe uterine contractions
- Decreased Fetal movement

## - TREATMENT

- Initiate Rapid Transport
- Provide High Concentration Oxygen to mother
- Lay on left side to ensure circulation





# BREECH DELIVERY



## - SIGNS AND SYMPTOMS

- Buttocks first or Both legs first delivery
  - High Complication Rate

## - TREATMENT

- Initiate Rapid Transport
- NEVER pull on the legs
- Provide High Concentration Oxygen to mother
- Place mother in head down position with elevated pelvis.
- If baby delivers, support and prevent explosive delivery.
  - If delivery is slow, keep body aligned with position of the head.
  - Insert gloved index and middle fingers into vagina to form a v on either side of baby's nose to help if baby starts spontaneous breathing.





# NUCHAL CORD

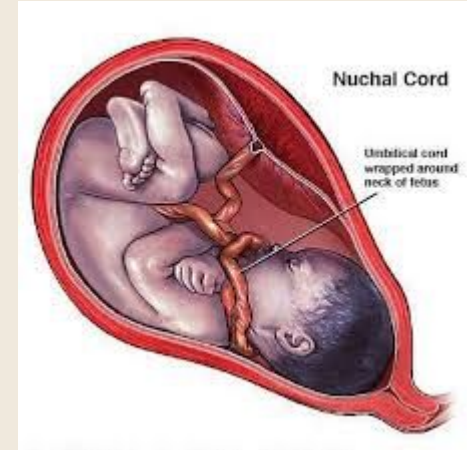


## SIGNS AND SYMPTOMS

- Fetal head delivery but with presence of a cord wrapped around the neck.

## TREATMENT

- If you see the nuchal cord, hook index and middle finger between cord and body to try and slip it over the head.
- If you are unable to separate the cord deliver clamp and cut in place.
  - This is a rapid transport situation.



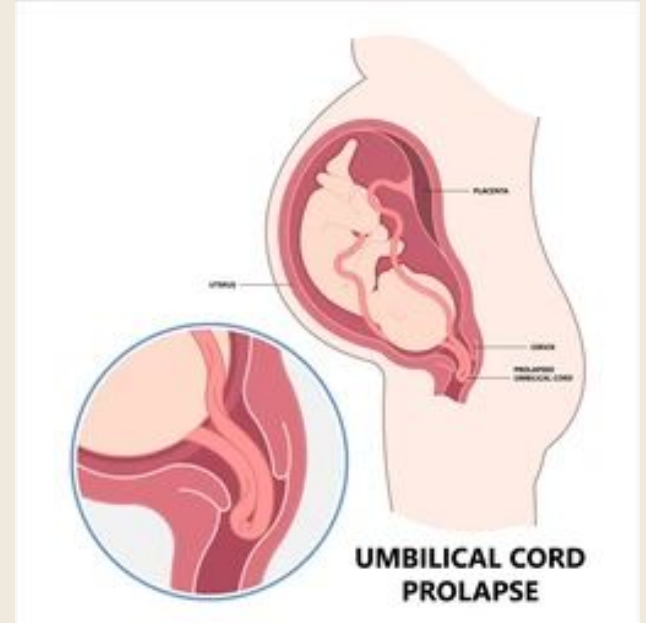
# PROLAPSE CORD

## SIGNS AND SYMPTOMS

- Visible/ presence of umbilical cord protruding from the vagina
- Fetal bradycardia
- Presence of meconium

## TREATMENT

- Supine position w/ hips elevated
- Gently insert gloved hands to lift baby's body or head off the cord to relieve pressure
- DO NOT attempt to push back/tug the cord
- Cover exposed cord with moist sterile dressing
- Rapid transport





# PREECLAMPSIA VS ECLAMPSIA

SECOND HALF OF PREGNANCY > 20 WEEKS

## SIGNS AND SYMPTOMS

- Hypertension  
(systolic BP > 140 mm Hg, diastolic BP > 99 mm Hg)
- Severe/persistent headache
- Blurred vision, sensitivity to light
- Edema in hands and feet
- Upper abdominal pain
- Dyspnea
- Anxiety
- Altered mental status

## TREATMENT

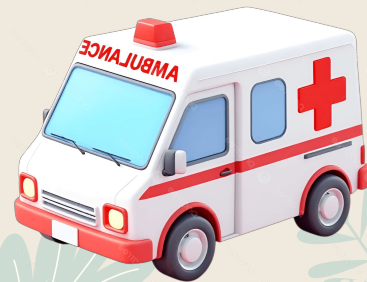
- Place pt in left lateral recumbent position
- Administer oxygen
- Rapid transport

## SIGNS AND SYMPTOMS

- Signs and symptoms of preeclampsia
- Presence of seizures

## TREATMENT

- Lay pt in left lateral recumbent position
- Maintain airway
- Administer oxygen
- If vomiting occurs, suction
- Rapid transport
- ALS



# MISCARRIAGE

## SIGNS AND SYMPTOMS

- Vaginal bleeding or spotting
- Discharge (watery, dark, brown, foul odor)
- Abdominal pain/cramps
- Decrease in pregnancy symptoms (nausea, breast tenderness, etc.)
- Back pain
- Decreased fetal movement
- Signs of shock

## TREATMENT

- Assess and treat for shock
- Provide supportive care
- Comfort position
- Rapid transport



# LEFT-SIDED POSITIONING

## LEFT LATERAL RECUMBENT POSITION



### WHY

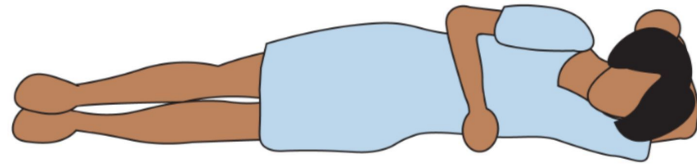
- Weight of uterus compressing on the inferior vena cava
- Improves blood flow
- Prevent hypotension

### WHEN BASED ON S&S

- Hypotension
- Tachycardia
- Pallor/pale
- Dizziness
- Shock-like symptoms

### HOW

- Place pt on their left side (Spinal Precaution: wedge towel under right hip)



**Left Lateral Recumbent**

# ALCO PROTOCOL

## OB/GYN EMERGENCIES

### •Routine Medical Care

#### •Level of distress:

→ Estimate blood loss (if any)

→ Is the patient in shock? If yes, Go to **page 54** "Shock" protocol

•Consider immediate transport or prepare for delivery

•Determine stage (trimester) of pregnancy

•Any patient that is  $\geq 20$  weeks pregnant who has sign(s)/symptom(s) that may be pregnancy related (e.g. ABD pain), should be preferentially triaged to a receiving facility with a Labor and Delivery department.

### 1. **VAGINAL BLEEDING** (Abnormal bleeding between menses, during pregnancy, postpartum or post operative)

1.1 If postpartum, gently massage the fundus to decrease bleeding

1.2 Monitor vital signs frequently

### 2. **SPONTANEOUS ABORTION**

2.1 If fetus is  $> 20$  weeks or 500 grams, see neonatal resuscitation protocol (**page 73**). If non-viable, save and transport any tissue or fetal remains

2.2 Have patient place a sanitary napkin or bulky dressing material over vaginal opening - **Do not pack the vagina with anything**

### 3. **SEVERE PRE-ECLAMPSIA / ECLAMPSIA**

3.1 Attempt to maintain a quiet environment

3.2 Monitor vital signs frequently

3.3 Observe for seizures, hypertension or coma. If seizures occur, go to the appropriate seizure policy

### 4. **BREECH DELIVERY**

4.1 Allow delivery to proceed passively until the baby's waist appears. Gently rotate the baby to a face down position and continue with the delivery

4.2 If the head does not readily deliver insert a gloved hand into the vagina to relieve pressure on the cord and create an air passage for the infant. Transport. Monitor vital signs and infant condition frequently

### 5. **PROLAPSED CORD**

5.1 Place the mother supine position with head lower than hips

5.2 Insert a gloved hand into the vagina and gently push the presenting part (e.g.: the neonate's head or shoulder off the cord. **DO NOT TUG ON THE CORD**

5.3 Place fingers on each side of the neonate's nose and mouth, split fingers into a "V" to create an opening. **Do not** attempt to re-position the cord. **Do not** remove your hand. Cover the exposed cord with saline soaked gauze

### 6. **LIMB PRESENTATION**

6.1 Defined as the presentation of a single limb - arm or leg

6.2 It is unlikely that the baby will deliver and immediate transport should be initiated

6.3 Place the mother supine position with head lower than hips

The background is a light beige color with various medical and nature-themed illustrations. At the top center is a blue syringe with a red plunger. To its left is an orange bandage with a pink cross. Above the syringe is a small white cross. To the right is a red pill with a white cross. Below the syringe is a small white pill. At the bottom center is a red pill with a white cross. To the left of the pill is a small white pill. At the bottom right is a red pill with a white cross. The text "THANK YOU" is in large, bold, red capital letters, and "QUESTIONS?" is in smaller, bold, orange capital letters below it. There are also green leaves and red flowers on the left and right sides.

**THANK YOU**  
**QUESTIONS?**

**КАНОТ!**