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Obstetrics

Primary Care Paramedicine

Module: 18

Section: 03

Lecture Outline

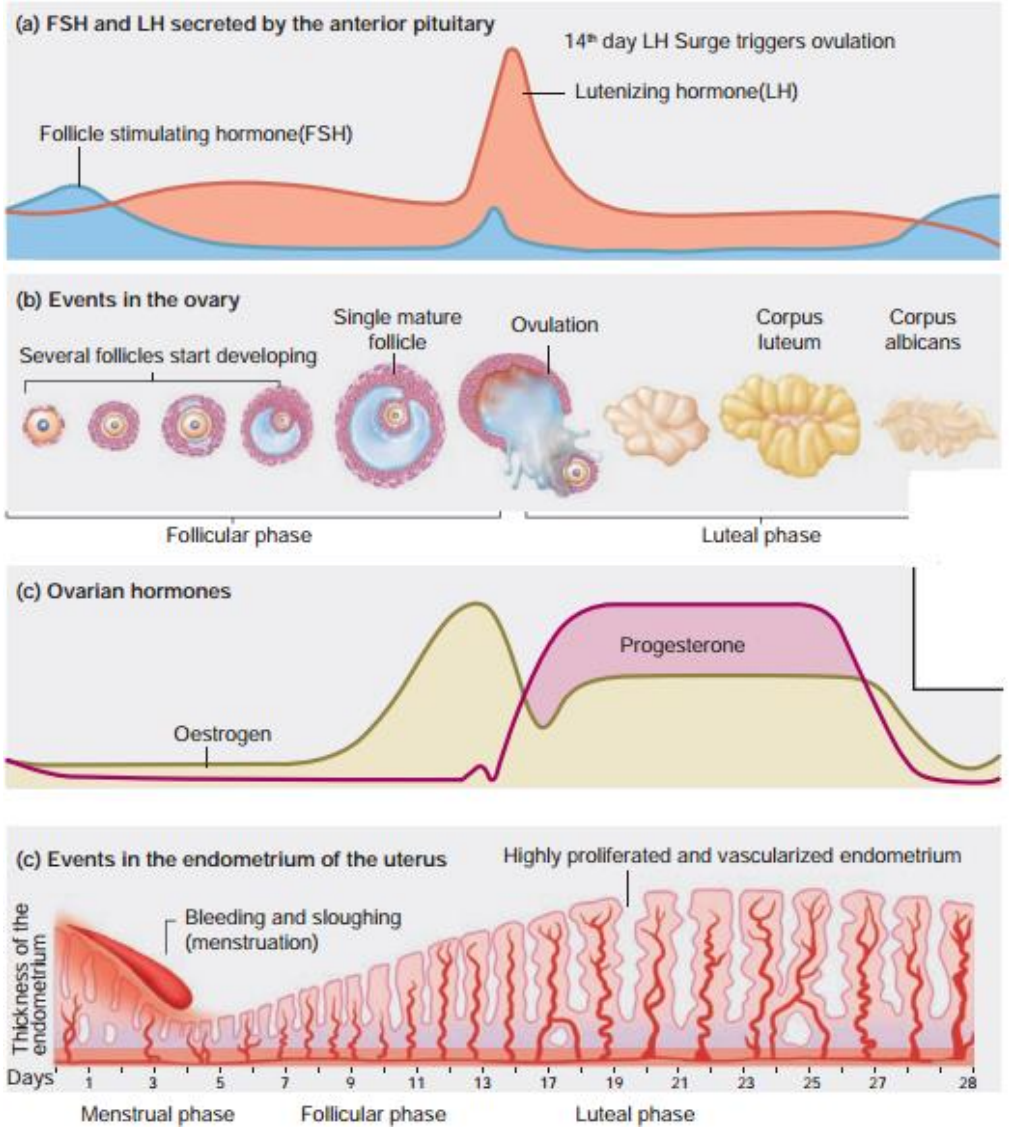
- Introduction
- The prenatal period
- General assessment
- General management
- Complications of pregnancy
- The peurperium
- Abnormal delivery situations
- Complications

Introduction

- Pregnancy is a normal process
  - Resulting from ovulation and fertilization
- Complications are uncommon
- Childbirth occurs daily and requires only minimal assistance

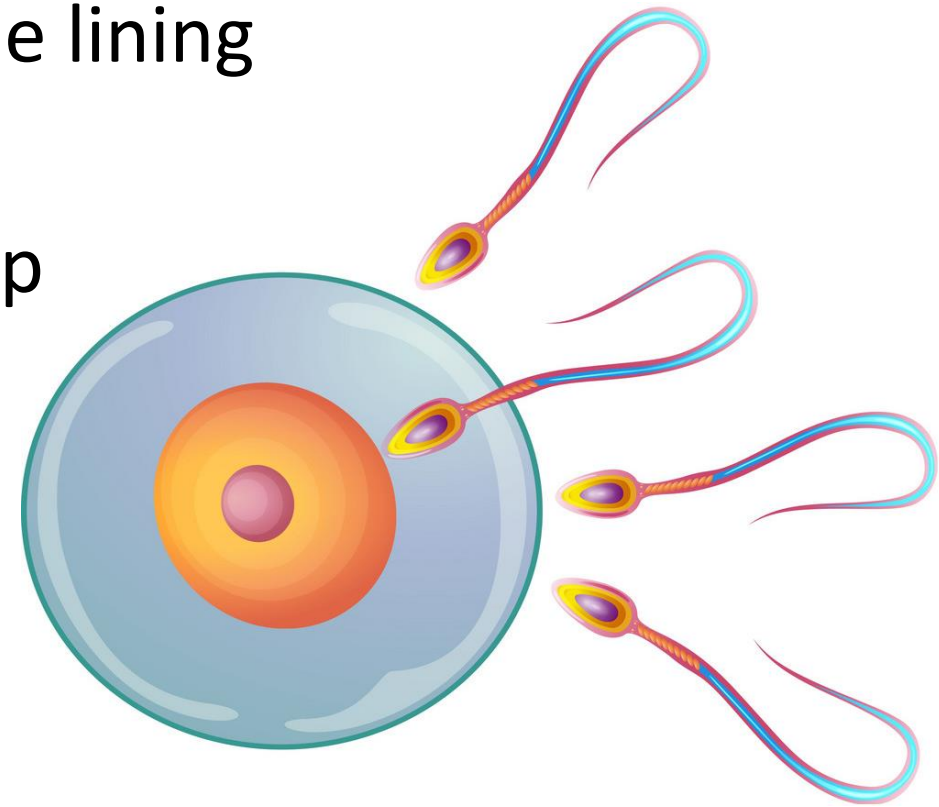
Ovulation

- First two weeks of menstrual cycle
  - Dominated by estrogen
  - Endometrium thickens and engorged
- Surge of LH and FSH
  - Ovulation occurs
  - Egg travels down Fallopian tubes to uterus
- Unfertilized egg
  - Menstruation takes place 14 days later



Fertilization

- Distal third of the Fallopian tubes
- Ovum begins cellular division immediately
- Blastocyst implanted in thickened uterine lining
  - Prepared by progesterone
- Fetus and placenta subsequently develop



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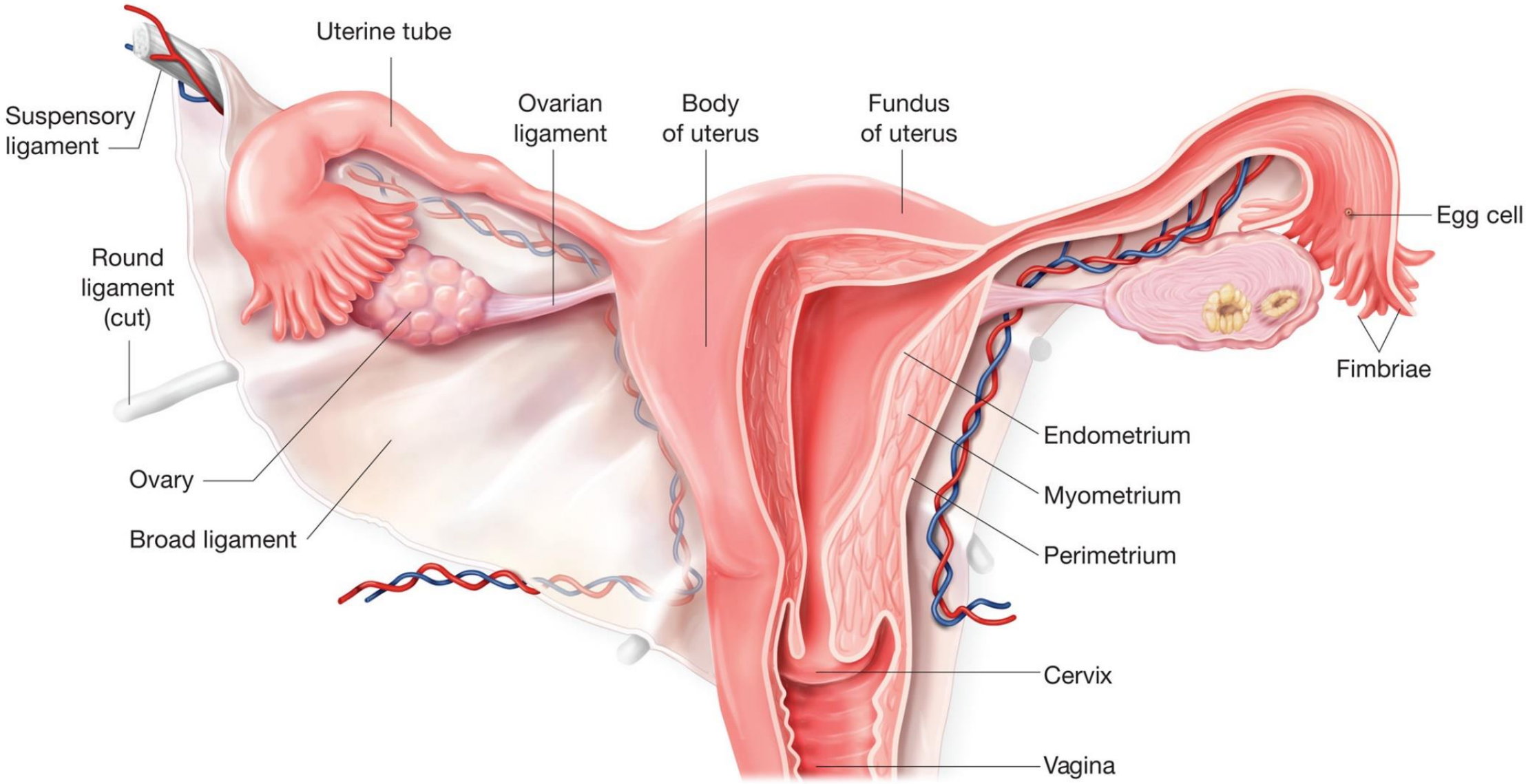
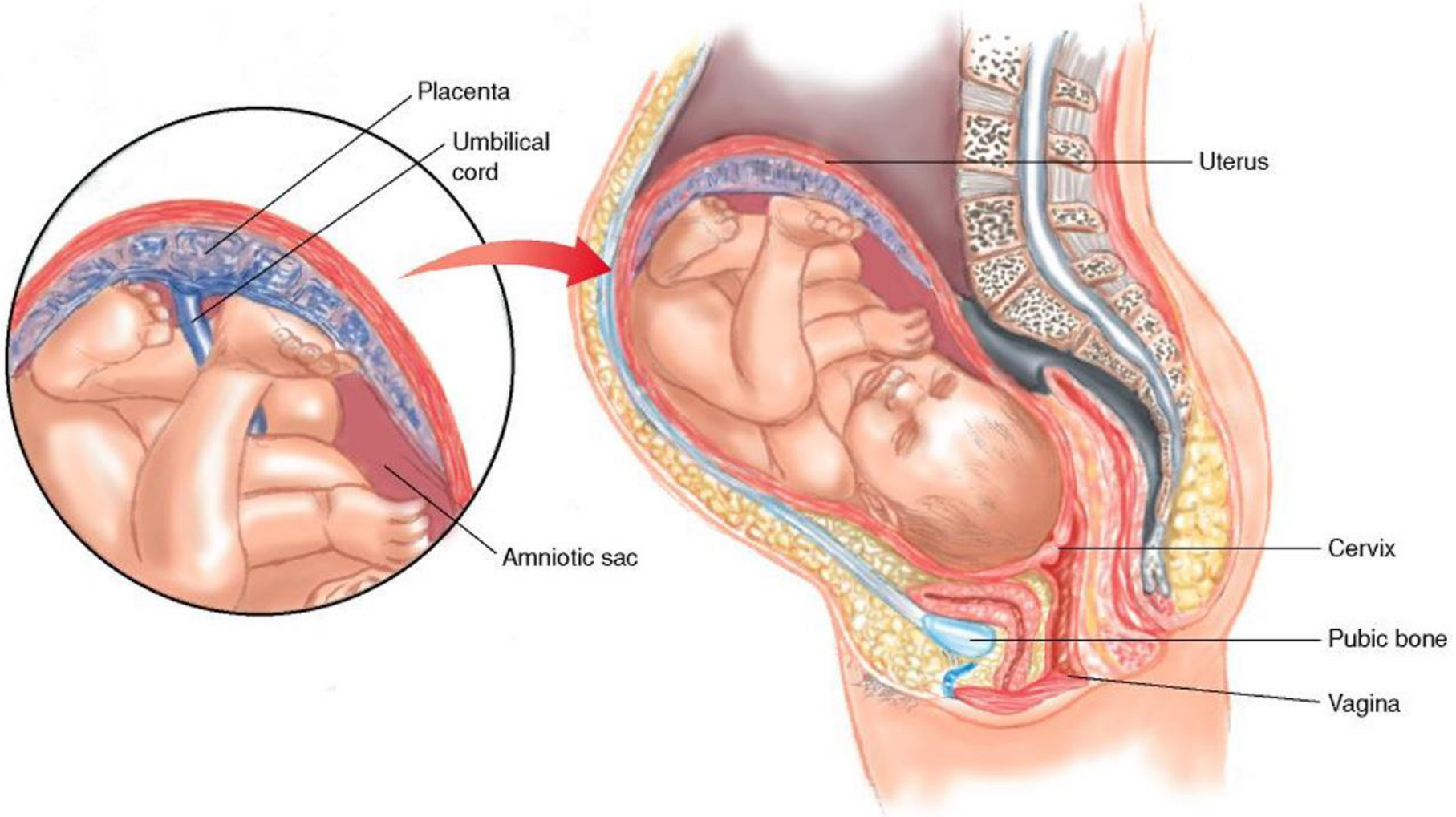
Anatomy



Placenta

- Develops three weeks after fertilization
- Temporary blood rich organ
  - Transfers heat
  - Gas exchange
  - Delivers nutrients, carries away wastes
  - Endocrine gland
- Connected to fetus by umbilical cord
- Expelled with afterbirth

Placenta


Placenta
Umbilical cord
Amniotic sac
Uterus
Cervix
Pubic bone
Vagina

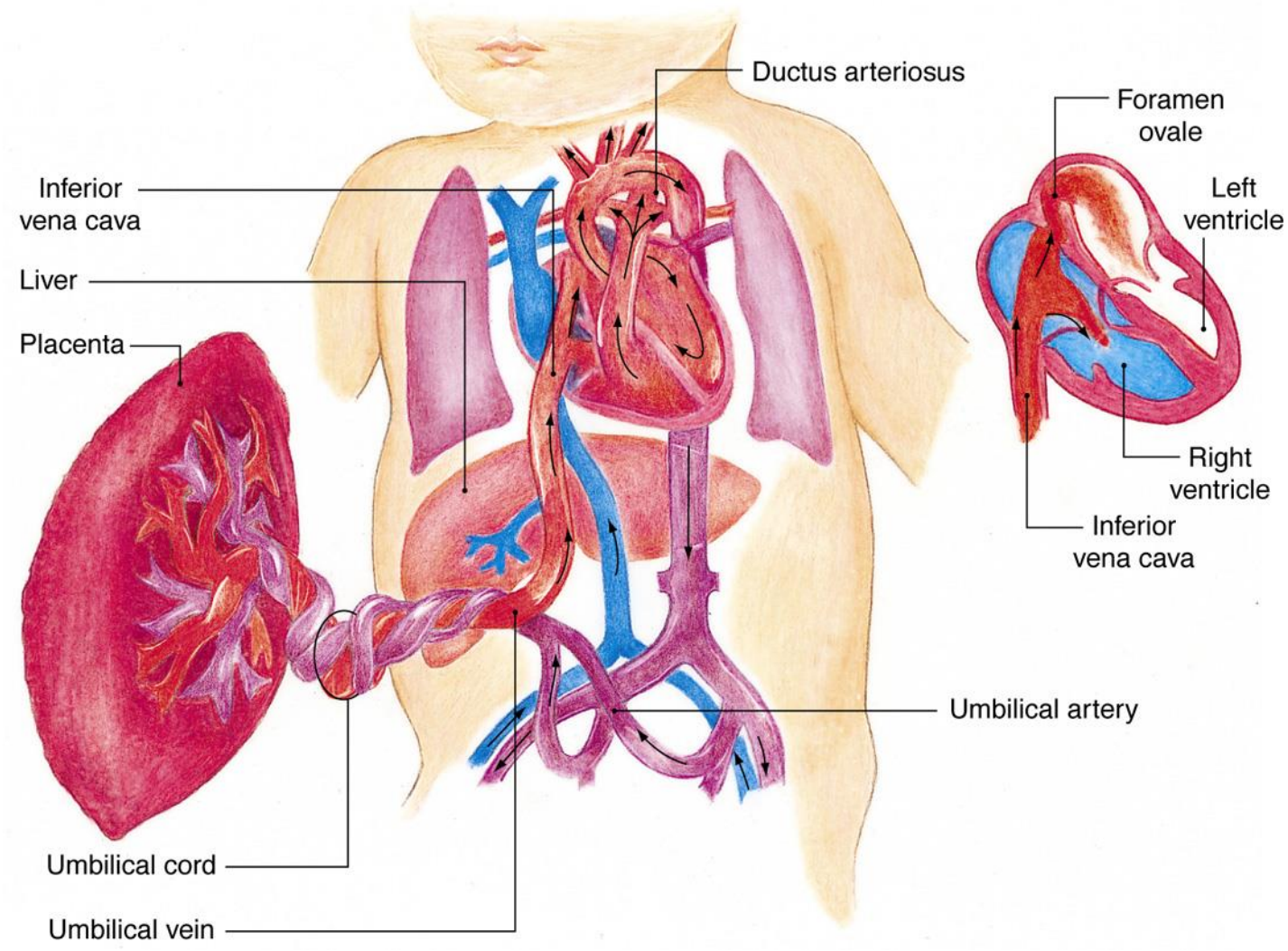
Umbilical Cord

- Connects placenta to fetus
- Contains two arteries and one vein
  - Vein transports oxygenated blood
  - Arteries return deoxygenated blood
- Develops within amniotic sac
- Fluid surrounds and protects fetus
- Allows for fetal development

Amniotic Sac and Fluid

- Membrane surrounding the fetus
- Fluid originates from fetal sources – urine, secretions
  - Fluid accumulates rapidly
  - Amounts to about 175 to 225 mL by the fifteenth week of pregnancy and about 1 L at birth
- Rupture of the membrane produces watery discharge

Fetal Circulation



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FETAL DEVELOPMENT

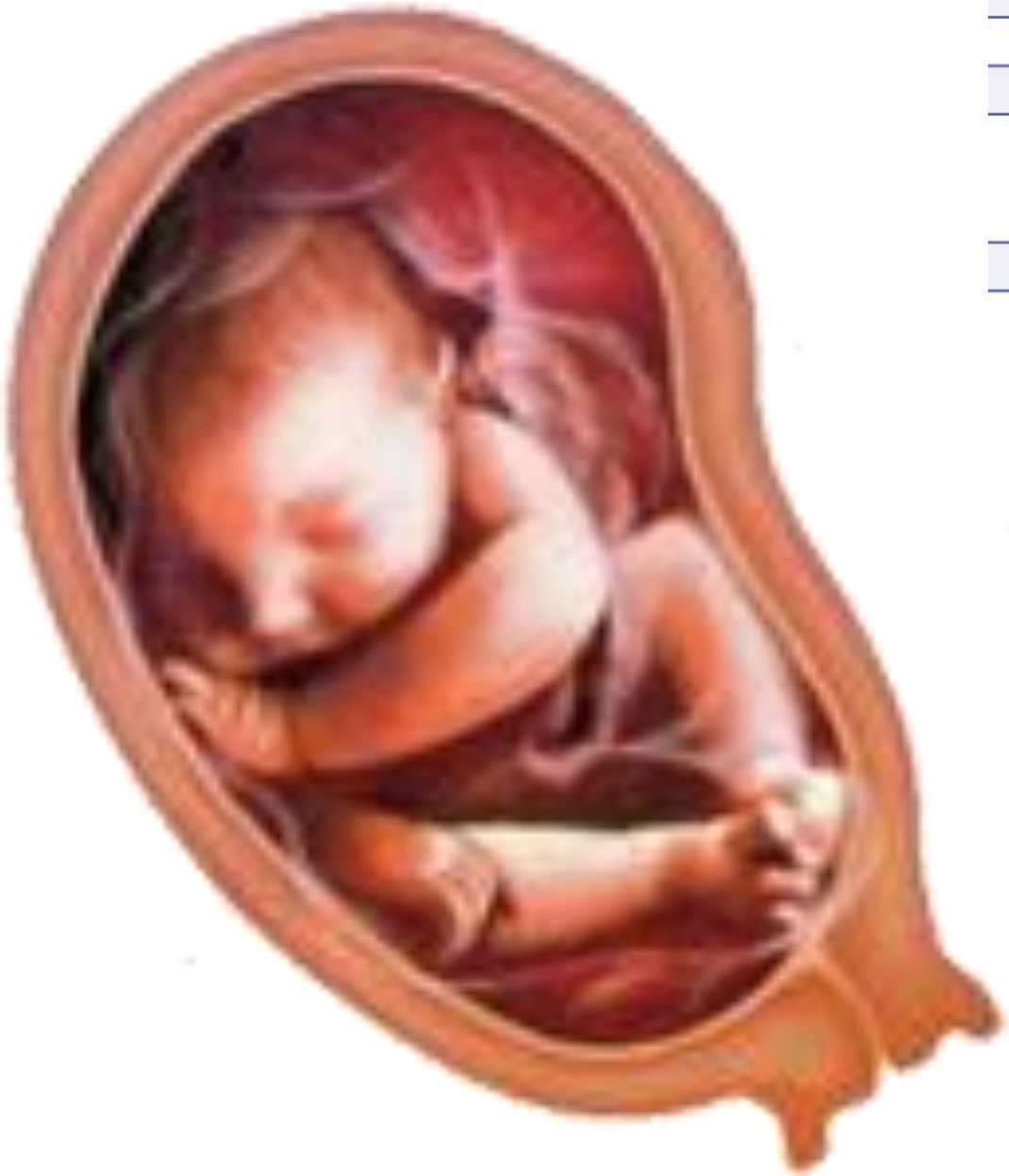


Table 40-1 Significant Fetal Developmental Milestones

	Pre-embryonic Stage
2 weeks	Rapid cellular multiplication and differentiation
	Embryonic Stage
4 weeks	Fetal heart begins to beat
8 weeks	All body systems and external structures are formed
	Size: approximately 3 centimeters (1.2 inches)
	Fetal Stage
8–12 weeks	Fetal heart tones audible with Doppler
	Kidneys begin to produce urine
	Size: 8 centimeters (3.2 inches), weight about 1.6 ounces
	Fetus most vulnerable to toxins
16 weeks	Sex can be determined visually
	Swallowing amniotic fluid and producing meconium
	Looks like a baby, although thin
20 weeks	Fetal heart tones audible with stethoscope
	Mother able to feel fetal movement
	Baby develops schedule of sucking, kicking, and sleeping
	Hair, eyebrows, and eyelashes present
	Size: 19 centimeters (8 inches), weight approximately 16 ounces
24 weeks	Increased activity
	Begins respiratory movement
	Size: 28 centimeters (11.2 inches), weight 1 pound 10 ounces.
28 weeks	Surfactant necessary for lung function is formed
	Eyes begin to open and close
	Weighs 2 to 3 pounds
32 weeks	Bones are fully developed but soft and flexible
	Subcutaneous fat being deposited
	Fingernails and toenails present
38–40 weeks	Considered to be full-term
	Baby fills uterine cavity
	Baby receives maternal antibodies

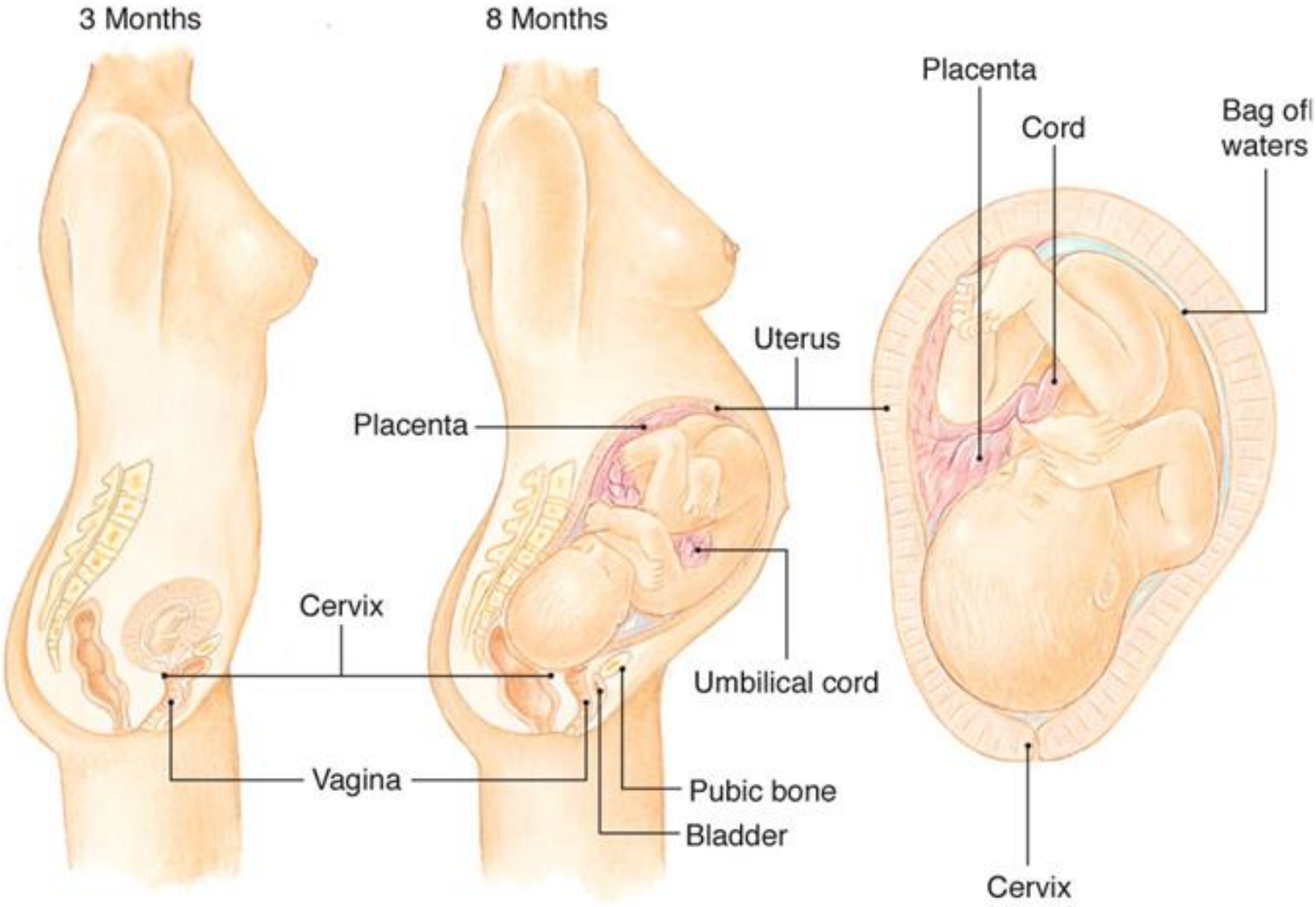
Obstetrics

PHYSIOLOGICAL CHANGES TO MOTHER

Physiologic Changes

- Reproductive system
  - Uterus increases in size.
  - Vascular system.
  - Formation of mucous plug in cervix.
  - Estrogen causes vaginal mucosa to thicken.
  - Breast enlargement.

Physiological Changes



Physiologic Changes

- Respiratory system
  - Progesterone causes a decrease in airway resistance.
  - ↑ Oxygen consumption (30 – 40%)
  - ↑ Tidal volume (40%)
  - ↑ Minute volume (40%)
  - ↑ Respiratory rate (slight)
  - ↓ FRV (15 – 20%)
  - ↓ FRC (20 – 25%)

Physiologic Changes

- Cardiovascular system
  - ↑ Cardiac output (40 – 50%)
  - ↑ Blood volume (40 – 50%)
  - ↑ Heart rate (15 – 25%)
  - ↓ SVR (10 - 15%)
  - Supine hypotension

Physiologic Changes

- Gastrointestinal system
  - Hormone levels altered
  - Peristalsis is slowed
- Urinary system
  - Urinary frequency is common
  - ↑ Renal blood flow and GFR
- Musculoskeletal system
  - Loosened pelvic joints.

Obstetrics

ASSESSMENT

Obstetrical Terminology

- Gravida
  - Refers to the number of all of the woman's current and past pregnancies
- Para
  - Refers only to the number of the woman's past pregnancies that have remained viable to delivery
- Antepartum
  - The maternal period before delivery
- Gestation
  - Period of intrauterine fetal development

Obstetrical Terminology

- Perinatal
  - Occurring at or near the time of birth
- Postpartum
  - The maternal period after delivery
- Prenatal
  - Existing or occurring before birth
- Term
  - A pregnancy that has reached 37 weeks gestation

History

- EDC
- Length of gestation
- Gravidity, parity and abortion
- Previous cesarean delivery
- Maternal lifestyle (alcohol or other drug use, smoking history)
- Infectious disease status
- History of previous gynecological or obstetrical complications (prenatal care?)
- Presence of pain

History

- Vaginal bleeding
  - Events prior
  - Number of sanitary pads
  - Other vaginal discharges
  - Colour, amount, duration
- Labour
  - Presence of “show” (expulsion of the mucous plug in early labor)
  - Need to push
  - Membranes intact

Obstetric History

- Allergies, medications taken (especially the use of narcotics in the last 4 hours)
- Maternal urge to bear down or sensation of imminent bowel movement, suggesting imminent delivery

Physical Examination

- The patient's chief complaint determines the extent of the physical examination
  - The prehospital objective in examining an obstetrical patient is to rapidly identify acute surgical or life-threatening conditions or imminent delivery and take appropriate management steps

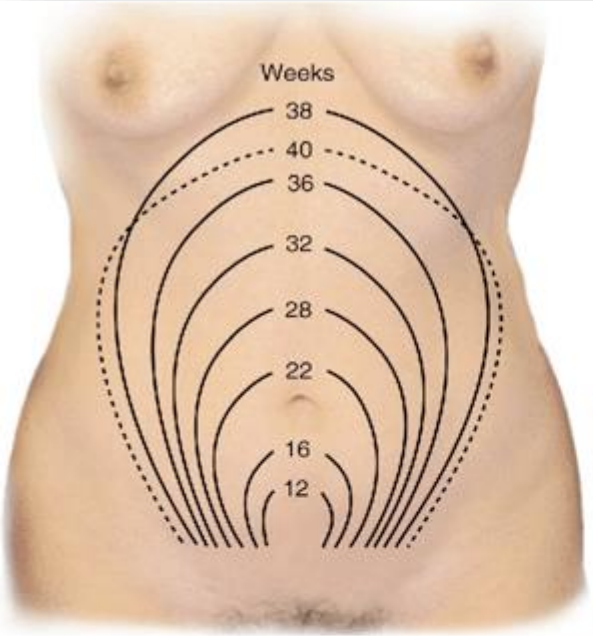
Physical Examination

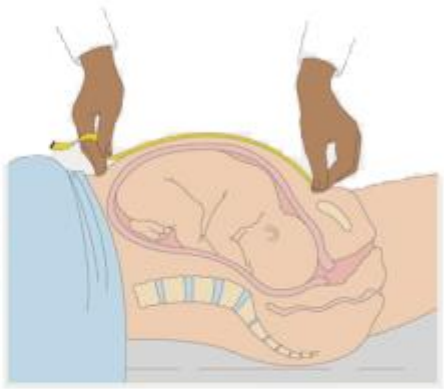
- Evaluate the patient's general appearance skin color
- Assess vital signs and frequently reassess them throughout the patient encounter
- Examine the abdomen for previous scars and any gross deformity, such as that caused by previous uterine surgery especially caesarean birth, a hernia or marked abdominal distention

Evaluation of Uterine Size

- The uterine contour is usually irregular between weeks 8 and 10
  - Early uterine enlargement may not be symmetrical
  - The uterus may be deviated to one side
- At 12 to 16 weeks, the uterus is above the symphysis pubis
- At 20 weeks, the uterus is at the level of the umbilicus
- At term, the uterus is near the xiphoid process

Fundal Height





Approximation of Fundal Height	
Gestational age	**Fundal Height Landmark**
12 wks	Pubic symphysis
20 wks	Umbilicus
36 wks	Xiphoid process
37 - 40 wks	Regression of fundal height b/w 36 - 32 cm
Postpartum (≤ 24 hrs)	Umbilicus

General Management

- Do not perform an internal vaginal examination in the field.
- Always remember that you are caring for two patients, the mother and the fetus.
- ABC, monitor for shock.

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Obstetrics

COMPLICATIONS OF PREGNANCY

Complications of Pregnancy

- Trauma
- Medical conditions
- Bleeding
  - Abortion
  - Ectopic pregnancy
  - Placenta previa
  - Abruptio placenta

Complications of Pregnancy

TRAUMA

Trauma in Pregnancy

- The leading causes of obstetric trauma are motor vehicle accidents, falls, assault and gunshots. These injuries are classified as blunt abdominal trauma, pelvic fractures or penetrating trauma
- Many of the assessment and management aspects of obstetric trauma are unique to pregnancy, although initial evaluation and resuscitation should always be maternally directed.
- Increased incidence of intimate partner violence in pregnancy
  - If there is a pre-existing abusive relationship it is more likely to escalate into physical violence during pregnancy
- The greatest risk of fetal death is from fetal distress and intrauterine demise caused by trauma to the mother or her death

Trauma in Pregnancy

- When dealing with a pregnant trauma patient, promptly assess and intervene on behalf of the mother
- Causes of fetal death from maternal trauma
  - Death of mother, placenta separation, shock, uterine rupture and fetal head injury
- Assessment and management
  - Remember increased blood volumes
  - 30 – 40 % loss will only show minimal changes in BP but will decrease uterine flow by 10-20%
- Transportation strategies
  - Tilt mother to left lateral

Trauma Management

- Consider cervical stabilization as per protocol
- Administer high-flow oxygen
- Fluid resuscitation
- Place patient tilted to the left to minimize supine hypotension
- Reassess patient
- Monitor the fetus

Transport Considerations

- Transport
  - All trauma patients of 20 weeks or more gestation
  - Any pregnant patient complaining of abdominal pain
- Anticipate development of shock

Complications of Pregnancy

MEDICAL

Medical Complications of Pregnancy

- Hypertensive disorders
- Supine hypotensive syndrome
- Gestational diabetes

Preeclampsia and Eclampsia

- Known collectively as Hypertensive Diseases of Pregnancy (HDP)
  - While the exact etiology of HDP is unknown, the most popular current theory is that it arises as a result of abnormal placentation or excessive fetal demands, such that there is a mismatch between uteroplacental supply and fetal demands. This results in maternal endothelial cell dysfunction, manifesting in maternal and fetal complications.
- Preeclampsia
  - A disease of unknown origin that primarily affects previously healthy, normotensive primigravida
    - Occurs after the twentieth week of gestation, often near term
  - Pathophysiology
    - Vasospasms, endothelial cell injury, increased capillary permeability, activation of clotting cascade
- Eclampsia
  - Characterized by the same signs and symptoms plus seizures or coma

Preeclampsia and Eclampsia

- Diagnostic criteria (updated by the Society of Obstetricians and Gynaecologists of Canada in 2008) can be fairly complex.
- Predisposing factors
  - Young and advanced age, previous history, obesity, HTN, renal disease, diabetes, multiple gestation
- The criteria for diagnosis of HDP:
  - Hypertension
  - Proteinuria

Preeclampsia and Eclampsia

- Consider the following:
  - BP
    - Diastolic BP of >90 mmHg (best predictor of adverse outcome)
    - Systolic BP >140 mmHg
      - Not a criterion for defining HTN in pregnancy, but should be watched as it may predict diastolic hypertension
    - Severe hypertension should be defined as a systolic BP >160 mm Hg or a diastolic BP >110 mm Hg.
  - Proteinuria
    - > 300 mg/day, or > 2+ on dipstick

Preeclampsia

Signs and Symptoms

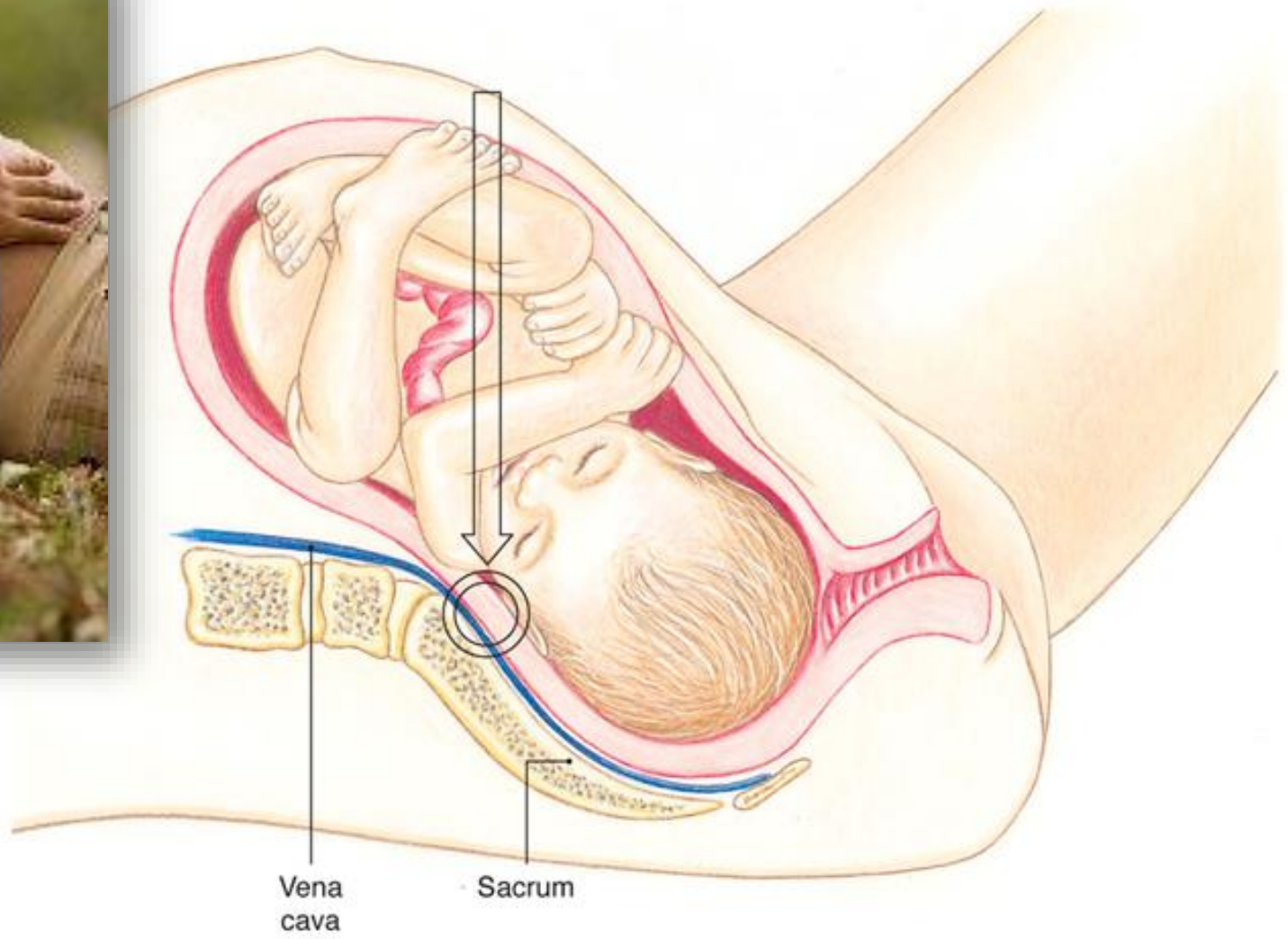
- Right upper quadrant (RUQ) pain
- Headache and visual disturbances are potentially ominous symptoms requiring immediate assessment
- Other symptoms may include:
  - Hyperreflexia
  - Dizziness
  - Confusion
  - Seizures
  - Coma
  - Blurred vision
  - N/V
  - Hypertension
  - Edema

Preeclampsia

Management

- Closely monitor mother and fetus
- Left lateral recumbent
- Oxygen therapy as required
- IV access
- May have to manage seizures
  - Threat of hypoxia to fetus

Supine Hypotension Syndrome



Supine Hypotensive Syndrome

- Occurs in third trimester
- Gravid uterus compresses inferior vena cava
- Place in Left lateral recumbent or elevated right hip
- Monitor fetal heart tones and maternal vital signs
- Fluid resuscitation may be considered

Gestational Diabetes

- Hormonal influences and increased tissue response
- High risk for later development of diabetes
- Consider hypoglycemia in patient with decreased LOC
- Administer dextrose as indicated

Complications of Pregnancy

VAGINAL BLEEDING

Abortion

- Termination of pregnancy before the 20th week of gestation (after which it is known as a preterm birth)
- Common classifications of abortion
  - Complete or Incomplete
  - Induced/therapeutic
  - Missed
  - Spontaneous
  - Threatened

Abortion

Signs and Symptoms	Management
• Cramping • Abdominal pain • Backache • Tissue or clot like material being passed • Vaginal bleeding	• Treat for shock • Provide emotional support

Complications of Pregnancy

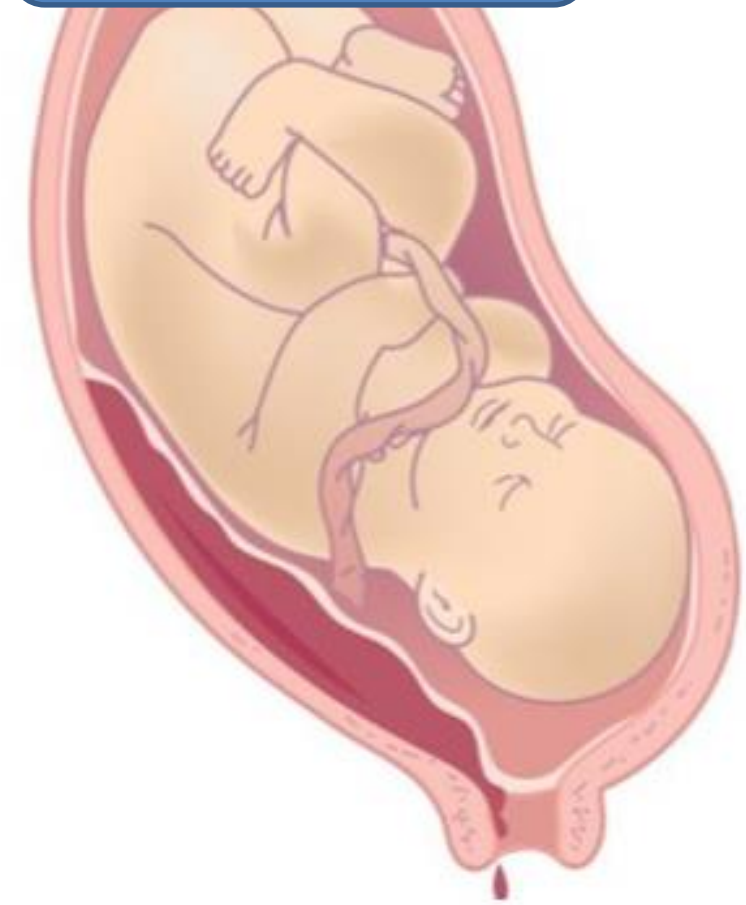
THIRD TRIMESTER BLEEDING

Placenta Previa

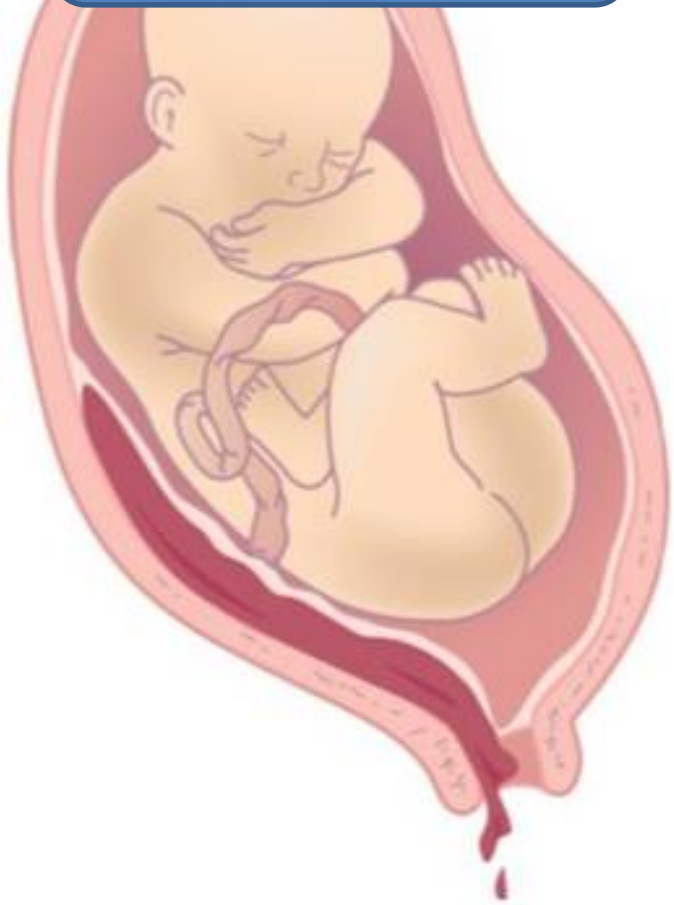
- Abnormal implantation of placenta on the lower half or the uterus
- Painless vaginal bleeding (3rd trimester)
- Never attempt vaginal exam
- Treat for shock
- Rapid transport
- Definitive management is delivery by C-section

Placenta Previa

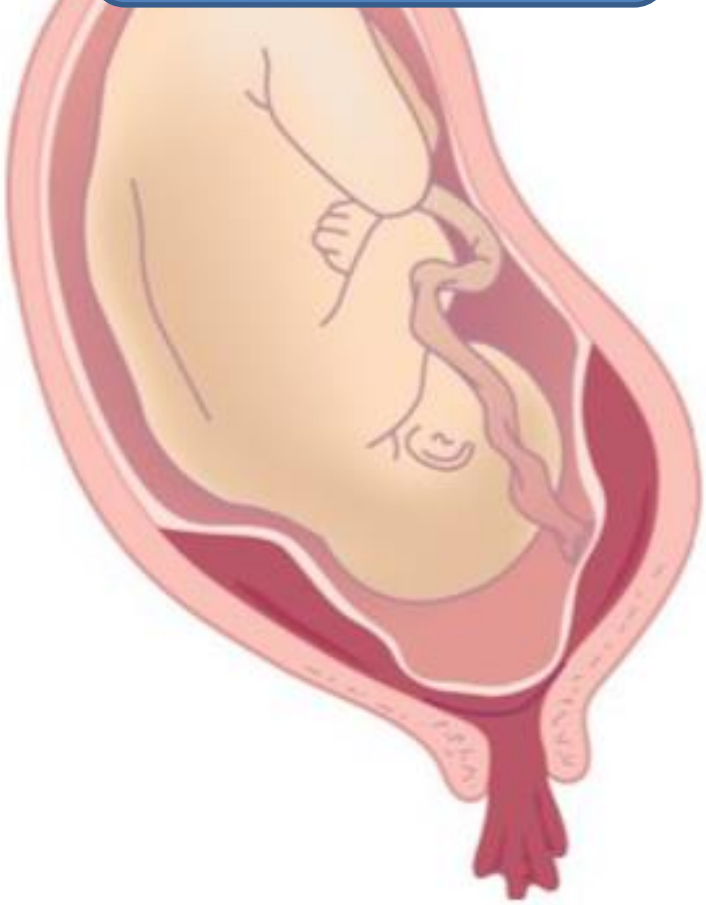
Marginal



Partial



Complete



Abruptio Placentae

- Premature separation of a normally implanted placenta (partial, severe or complete)
- Predisposing factors
  - HTN, preeclampsia, trauma, previous occurrence
- Life threat for mother and fetus
- Signs and symptoms vary
- Treat for shock, fluid resuscitation
- Transport left lateral recumbent position

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Abruptio Placenta

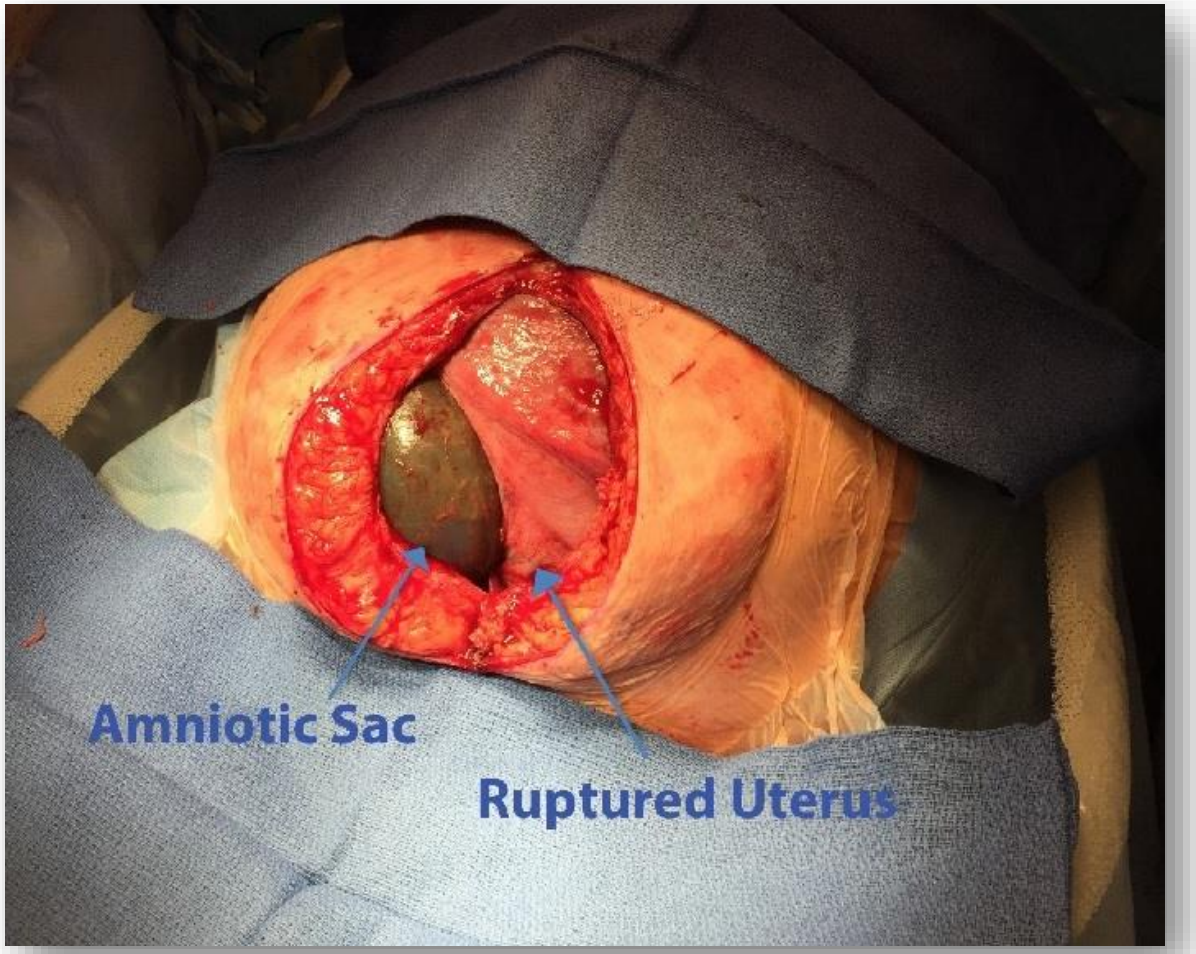
Partial Abruption
(Concealed Hemorrhage)

Partial Abruption
(Apparent Hemorrhage)

Complete Abruption
(Concealed Hemorrhage)

Uterine Rupture

- A spontaneous or traumatic rupture of the uterine wall
- Causes
  - Pervious C-Section
  - Trauma



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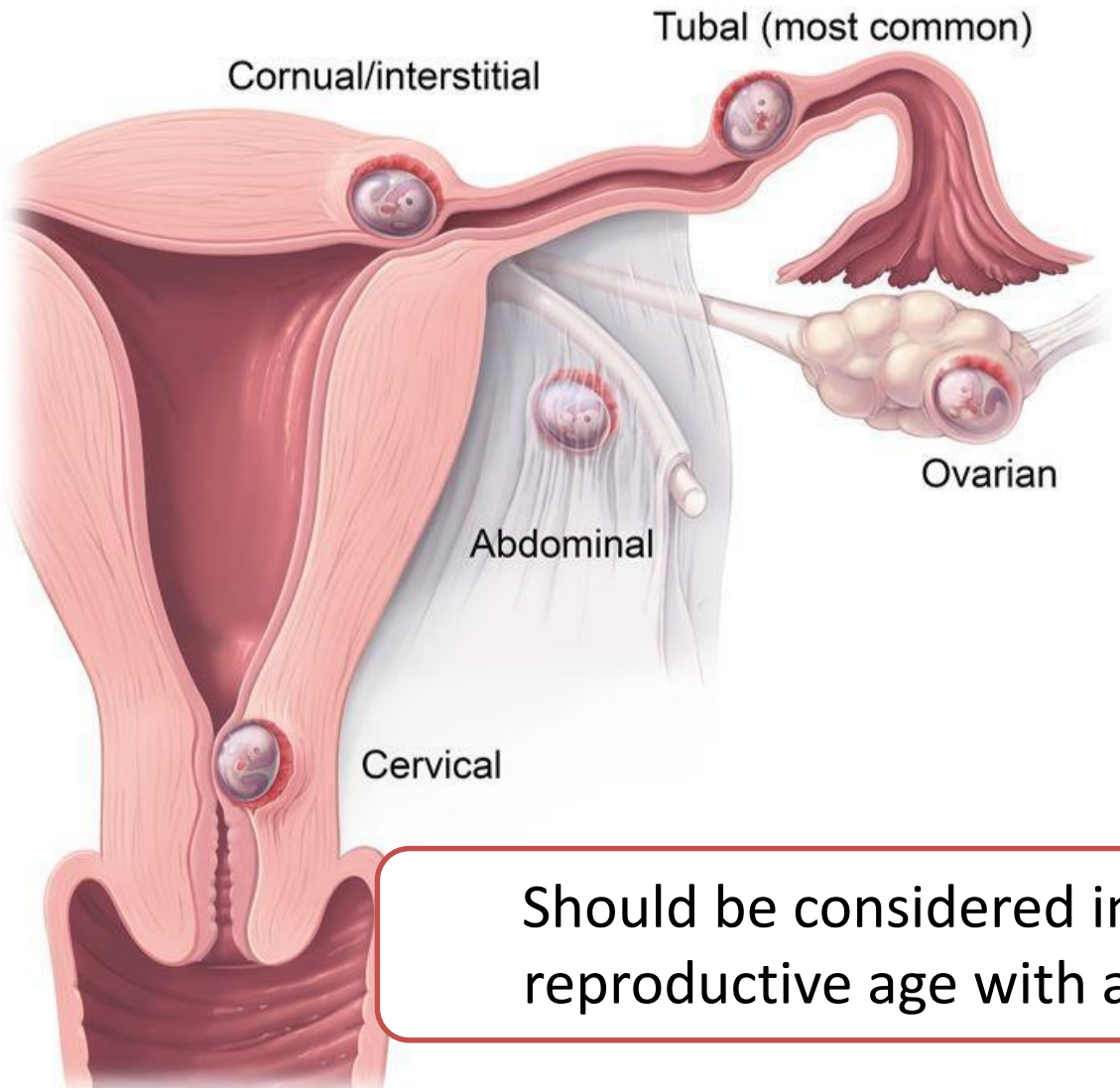
Differentiating

	History	Bleeding	ABD Pain	ABD Exam
Abruptio Placentae	Toxemia HTN	Single attack of scant, bright vaginal bleeding (often concealed) that continues until delivery	Present	• may range from localized tenderness to (more likely) excruciating with abdominal rigidity that may or may not be associated with labour contractions • Labor • Absent fetal heart tones (often)
Placenta Previa	Lack of association with toxemia	Repeated "warning" hemorrhages over days to weeks	Usually absent	• Lack of uterine tenderness (usually) • Labor (rare) • Fetal heart tones (usually)
Uterine Rupture	Previous cesarean section	Possible bleeding	Usually present and associated with sudden onset of nausea and vomiting	• Diffuse abdominal tenderness • Sudden cessation of labor • Possible fetal heart tones

Management of Third-Trimester Bleeding

- Prehospital management of a patient with third-trimester bleeding is aimed at preventing shock
- No attempt should be made to examine the patient vaginally
  - Doing so may increase hemorrhage and precipitate labor

Ectopic Pregnancy



- Develops outside the uterus
  - Most commonly in the fallopian tube, but sometimes in the ovary, or rarely in the abdominal cavity or cervix
  - Tube can rupture
  - Triggers massive hemorrhage

Should be considered in any female of reproductive age with abdominal pain

Ectopic Pregnancy

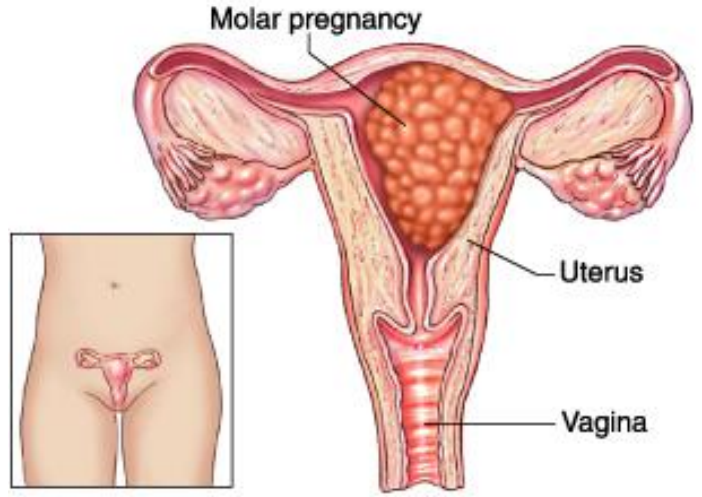
Signs and Symptoms

- ABD Pain (severe unilateral abdominal pain)
- May radiate to shoulder on affected side
- Spotting
- Rupture
- Internal hemorrhage
- Sepsis
- Shock

This is potentially life-threatening

Molar Pregnancy

- Malfunction of the egg or sperm creates problem at fertilization stage, resulting in abnormal placenta.
  - Complete mole
    - when an empty egg is fertilized, triggering the normal progression of pregnancy without a fetus.
  - Partial mole
    - occurs when two sperm fertilize the same egg, resulting in abnormal placenta and fetus with abnormal chromosome count.
- Most likely vaginal spotting or bleeding (usually dark brown) or excessive nausea and vomiting
- Preeclampsia is also a potential complication.
- Prenatal screenings tend to find most instances of molar pregnancy; D&C is scheduled early on.



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Obstetrics

LABOUR AND DELIVERY

Braxton-Hicks Contractions

- As early as 13 weeks
- Uterus begins intermittent contractions
- May enhance placental blood flow
- Painless irregular contractions
- Do not cause cervical changes

Preterm Labour

- Maternal Factors
  - Cardiovascular disease
  - Renal disease
  - Diabetes
  - Uterine and cervical abnormalities
  - Maternal infection
  - Trauma
  - Contributory factors

Preterm Labour

- Placental factors
  - Placenta previa
  - Abruptio placenta
- Fetal factors
  - Multiple gestation
  - Excessive amniotic fluid
  - Fetal infection

Assessment

- Approximate gestational age
  - Fewer than 38 weeks
  - Suspect preterm labour
- Obstetrical history
- Evaluate contractions
- Signs of imminent delivery

Management

- Transport
- Frequent monitoring of both mother and fetus
- Prepare for resuscitation of two patients

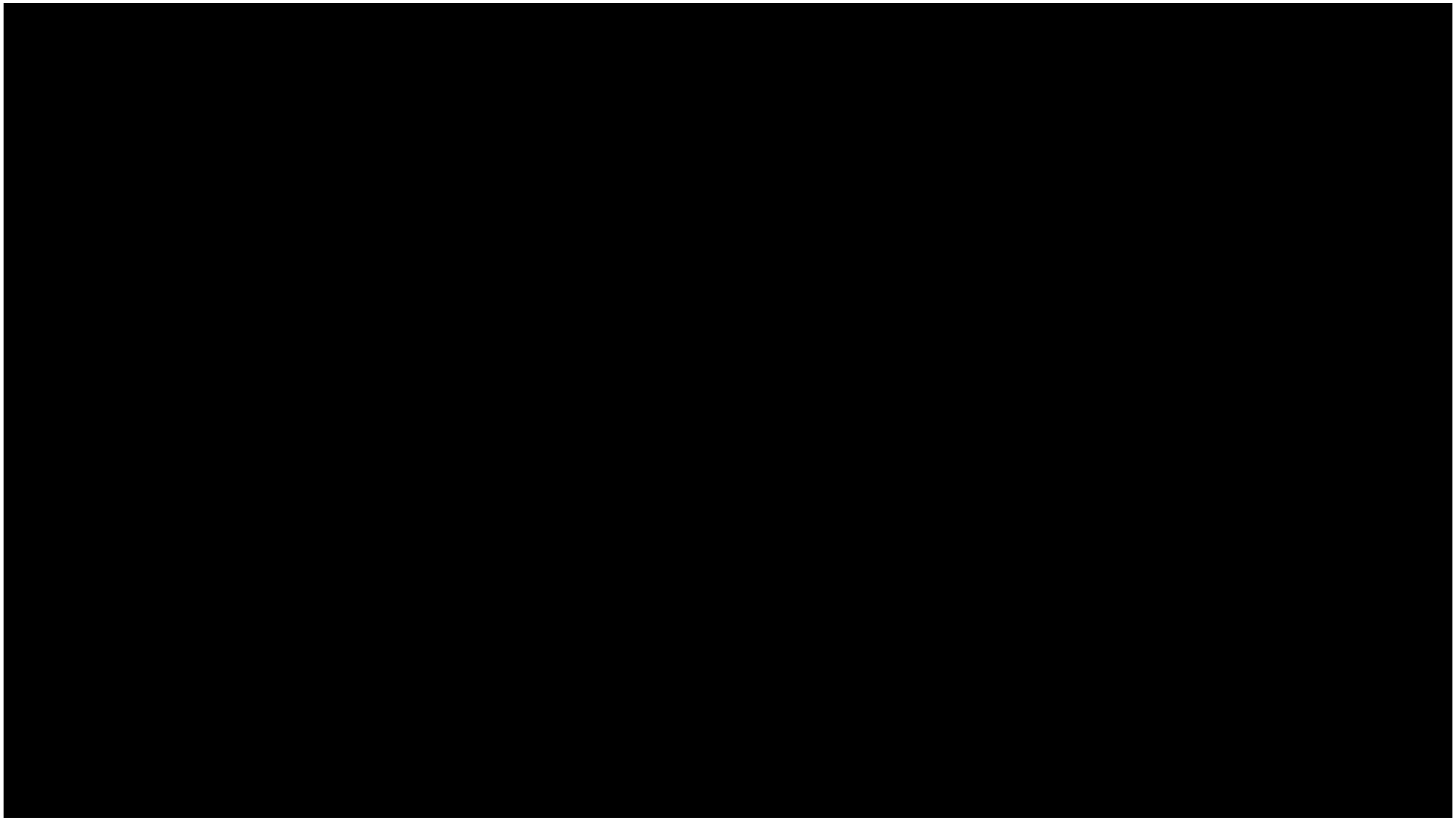
Stages of Labour

- Stage 1 (Dilation)
  - Begins with the onset of regular contractions and ends with complete dilation of the cervix
- Stage 2 (Expulsion)
  - Measured from full dilation of the cervix to delivery of the infant
- Stage 3 (Placental)
  - Begins with delivery of the infant and ends when the placenta has been expelled and the uterus has contracted

Table 42-3 The Stages of Labour: Nullipara Versus Multipara

Stage of Labour	Nullipara	Multipara
First stage	8 to 12 hours	6 to 8 hours
Second stage	1 to 2 hours	30 minutes
Third stage	5 to 60 minutes	5 to 60 minutes

Stages of Labour



Management

- Transport the patient in labour unless delivery is imminent.

Signs and Symptoms of Imminent Delivery

- If any of these signs and symptoms are present, prepare for delivery:
  - Regular contractions lasting 45 to 60 seconds at 1- to 2-minute intervals
  - The urge to bear down that is uncontrollable, and another symptom is bulging in the perineum and rectum or has a sensation of a bowel movement
  - There is a large amount of bloody show
  - Crowning occurs
  - The mother believes delivery is imminent

Signs and Symptoms of Imminent Delivery

- Except for cord presentation, the delay or restraint of delivery should not be attempted in any fashion
- If complications are anticipated or an abnormal delivery occurs, medical direction may recommend expedited transport of the patient to a medical facility
- Preparing for delivery

Equipment

Table 42-4 Sterile Obstetrics Kit Contents

Item
Surgical scissors or scalpel
Umbilical cord clamps
A small rubber bulb syringe
Towels, drapes, or sheets
10 × 10 cm gauze sponges and/or 5 × 25 cm gauze sponges
Sterile gloves
Infant blanket
Sanitary pads
A plastic bag

Two items that need to be available but are not usually included in the obstetrics kit are an infant-sized bag-mask device and goggles.

Assisting With Delivery

- In most cases, the paramedic only assists in the natural events of childbirth
- Primary responsibilities of the EMS crew:
  - Prevent an uncontrolled delivery
  - Protect the infant from cold and stress after the birth

Assisting with a Normal Delivery

- Delivery procedure
- Evaluating the infant
- Delivery of the placenta
- Post partum assessment

Standard Position

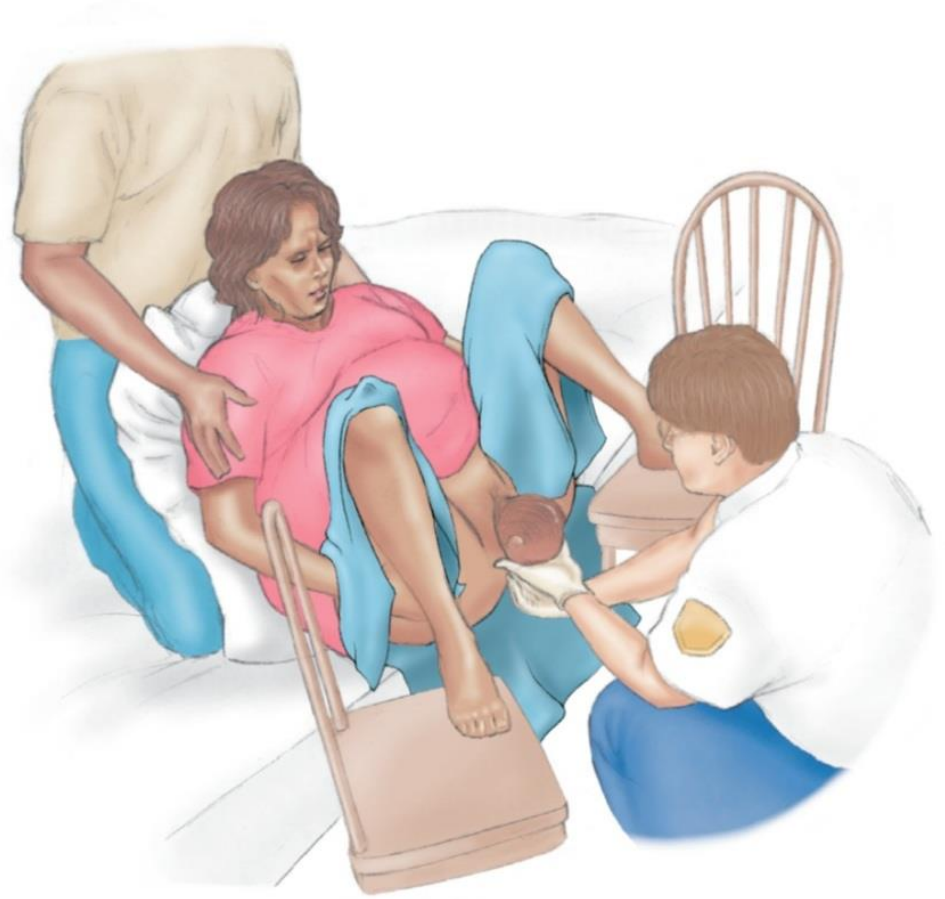
- Standard position in Canada
- Supine with her knees spread apart (or her feet in stirrups)
- Maternal cardiac output can increase as much as 25% from uterine contractions.

Preparing for Delivery

- Standing birth
  - Ancient practice
  - Used in several areas of the world
  - Sometimes used in the active birth model
    - Woman is allowed total freedom to be active up to the point of delivery.
  - Allows the woman to take advantage of gravity
  - Allows the pelvis to open to a maximal position

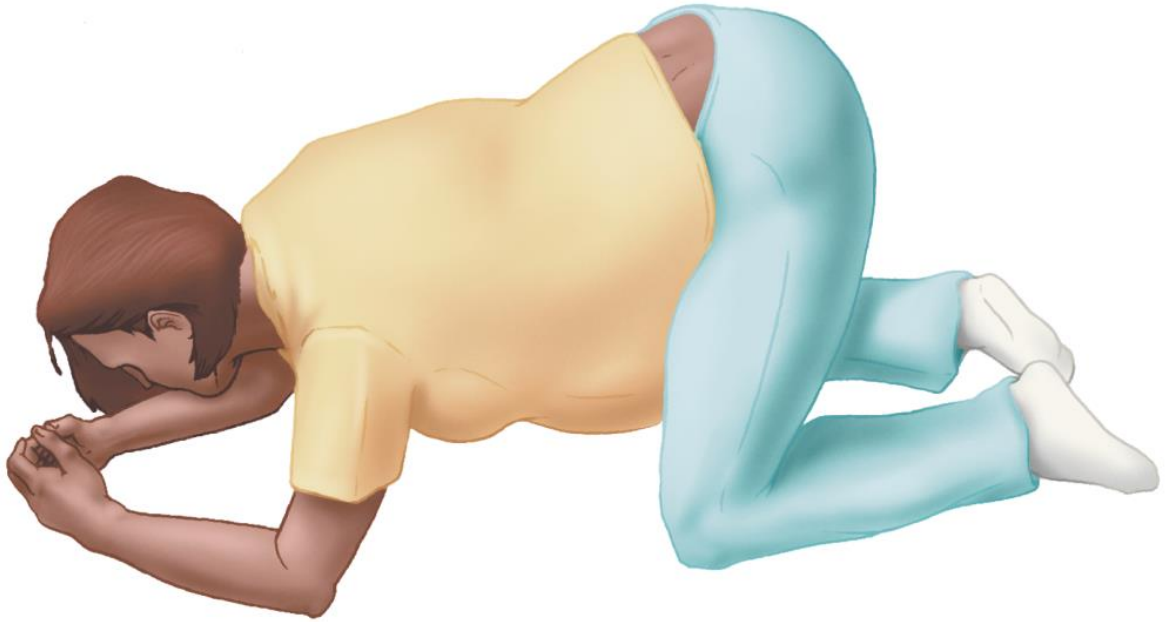
Preparing for Delivery

- Semi-Fowler position
  - Supine lithotomy position with the woman's
    torso propped up to a high Fowler
    or
    Fowler position
  - Seems to help some women with pushing
  - Can lie back to rest between contractions



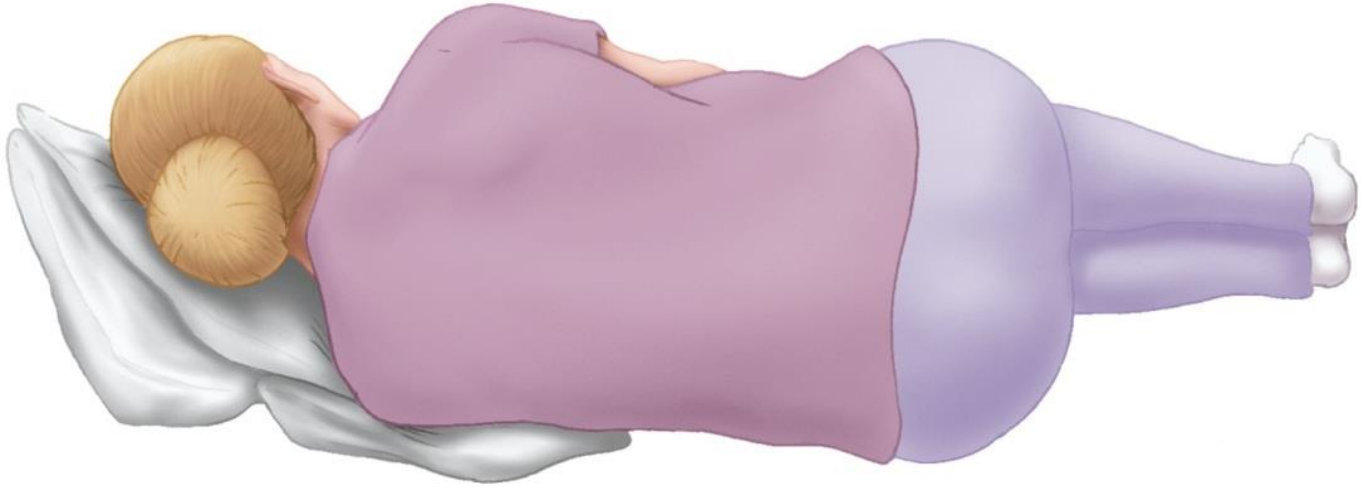
Preparing for Delivery

- Kneeling birth
  - Woman kneels with her buttocks in the air and usually rests on her elbows
  - Provides some of same advantages to squatting
  - May be used in a bathtub full of water (reputed to ease delivery)
    - Unintentional submersion is a possible downside.



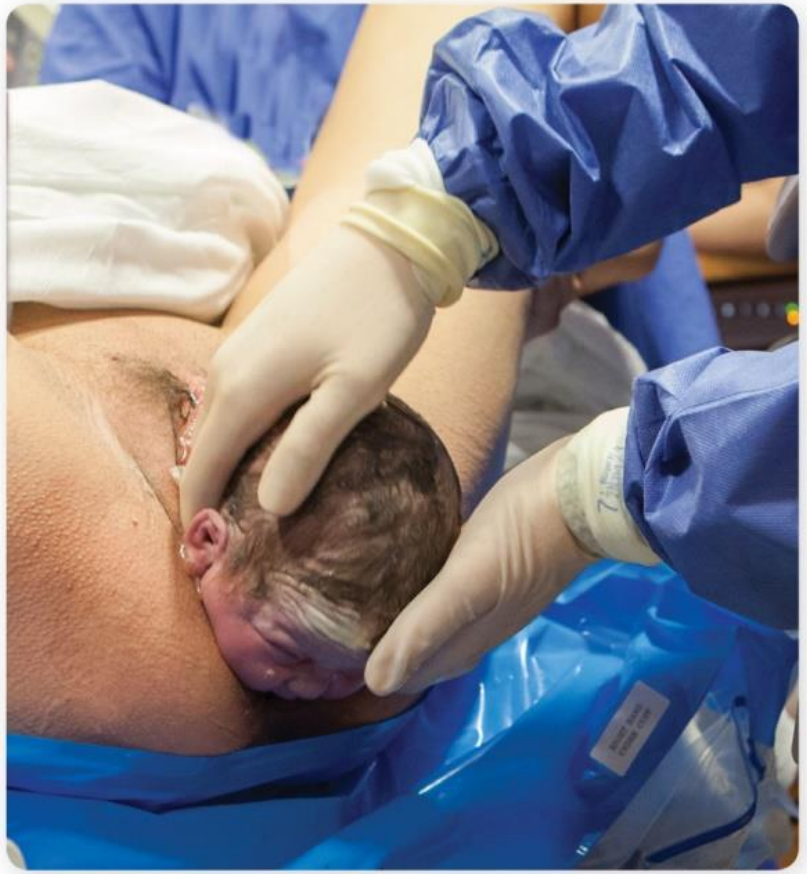
Preparing for Delivery (7 of 10)

- Side-lying position
  - Essentially a left-Sims position
  - Ensures that the uterus and the fetus are moved away from the inferior aorta
  - Allows the knees to be held together (purportedly reduces tearing)



Assisting Delivery

- Steps
  - Control the delivery.
    - When crowning occurs, place gentle pressure on the baby's head with the palm of your gloved hand.
  - As the newborn's head begins to emerge from the vagina, it will start to turn.
    - Support the head as it turns.
    - Do not attempt to pull the newborn from the vagina.

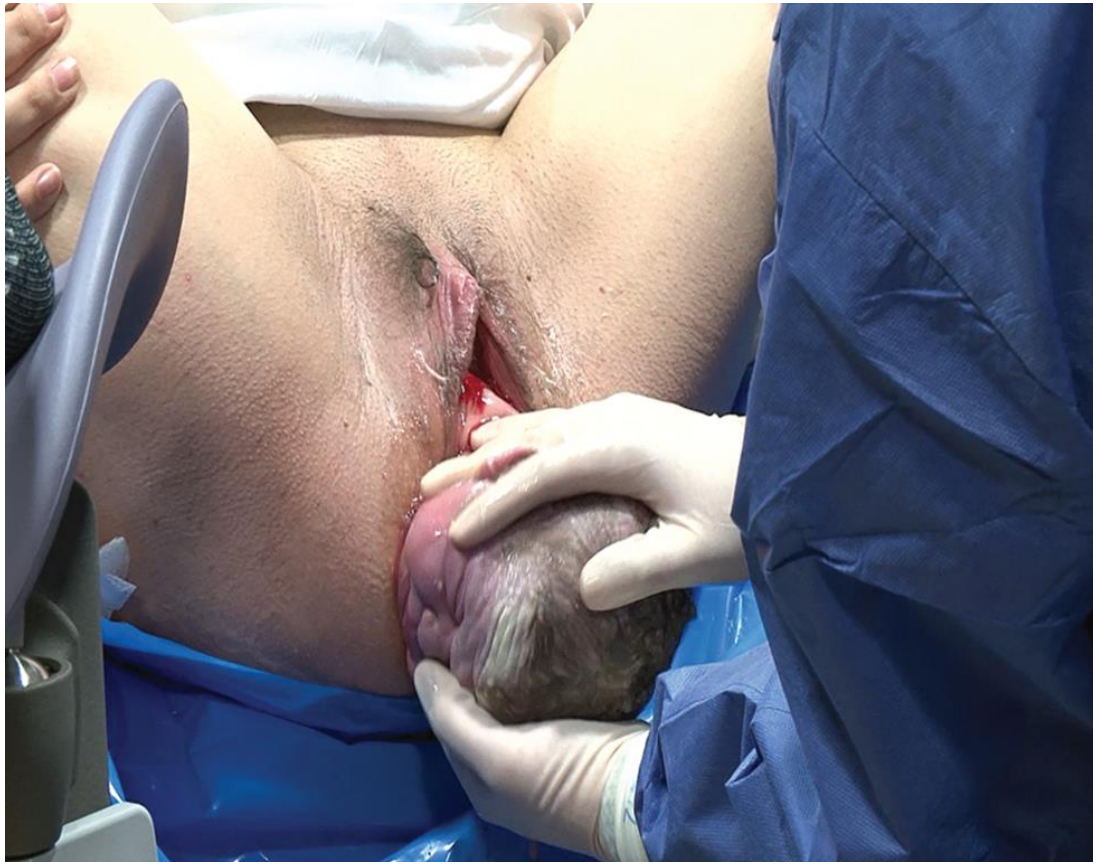


Assisting Delivery

- Steps (continued)
  - Slip your middle finger alongside the newborn's head to check for a nuchal cord.
  - If you find a nuchal cord, try to slip it gently over the baby's shoulder and head.
  - If the airway appears to be obstructed, cradle and support the newborn's head in your hand and clear the airway by suctioning with the bulb syringe.

Assisting Delivery

- Steps (continued)
  - Gently guide the newborn's head downward to allow delivery of the upper shoulder.

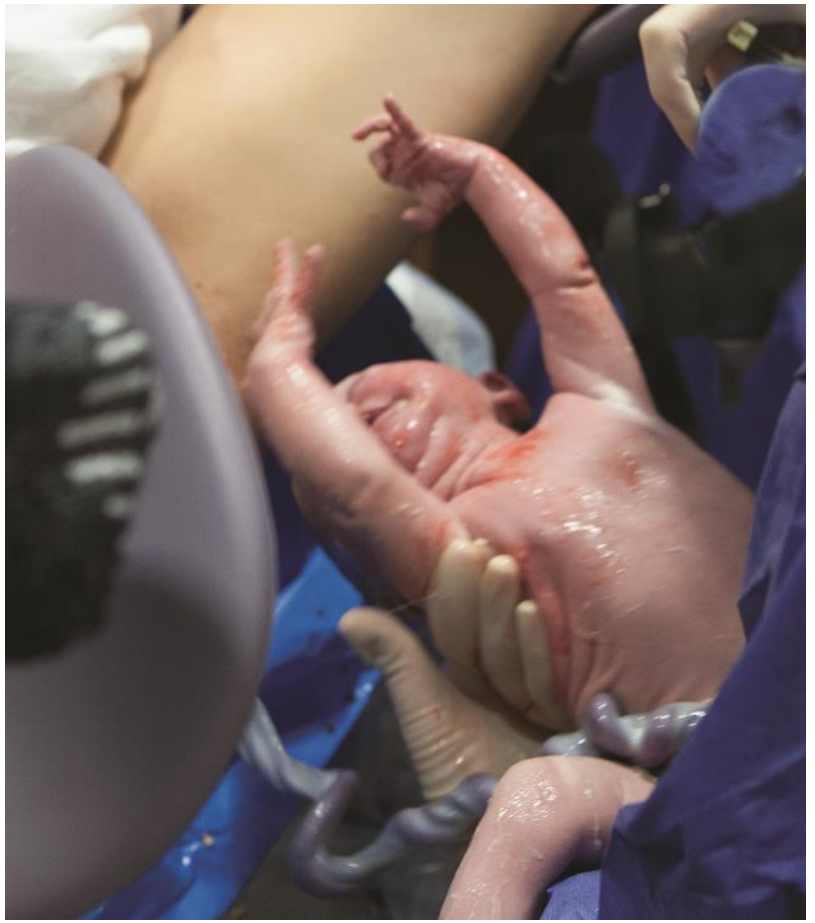


Assisting Delivery

- Steps (continued)
  - Gently guide the newborn's head upward to allow delivery of the lower shoulder.

Assisting Delivery

- Steps (continued)
  - Once the shoulders are delivered, the newborn's trunk and legs will follow rapidly. Be prepared to grasp and support the infant as it emerges.



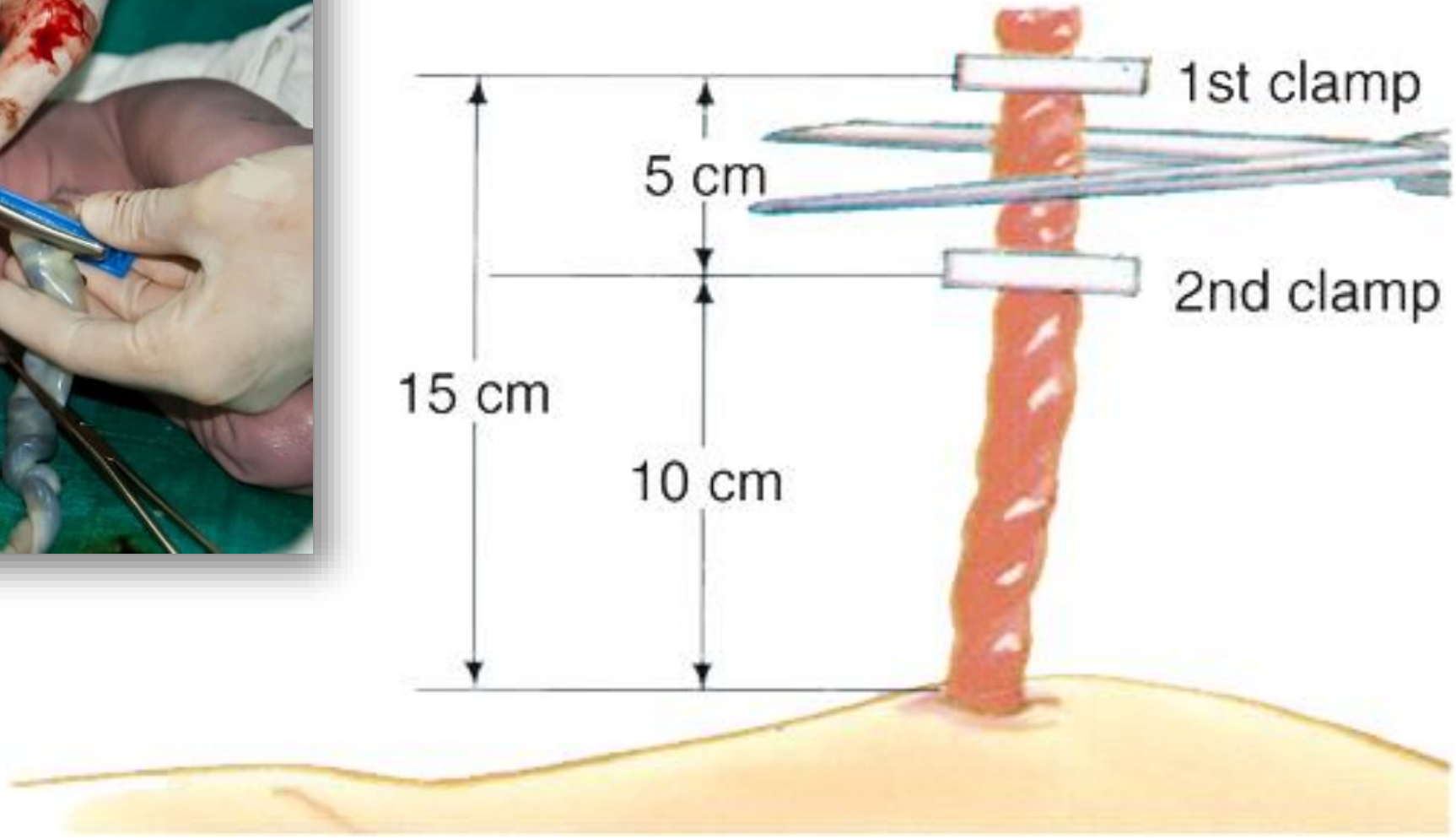
Assisting Delivery

- Steps (continued)
  - Once the newborn is delivered, maintain its body position at the same level as the vagina to prevent blood drainage from the umbilical cord.
  - Wipe any blood or mucus from the baby's nose and mouth with a sterile gauze.
  - Dry the baby with sterile towels, place the infant in the foil bunting, and wrap with a dry blanket.
  - Record the time of birth for your PCR.

Delivery

Really Channel - Ambulance: Home Birth

Cutting the Cord



Neonatal Care

- Once the newborn has been delivered
  - Assess for need of resuscitation
  - Dry off and prevent heat loss
  - Suction airway if required
    - If meconium is present suction airway before stimulating the baby
  - Identify APGAR Score

Apgar Score

- Enables rapid evaluation of a newborn's condition at specific intervals after birth
  - Routinely assessed at 1 and 5 minutes of age

Table 40-2 THE APGAR SCORE

Element	0	1	2	Score
Appearance (skin color)	Body and extremities blue, pale	Body pink, extremities blue	Completely pink	
Pulse rate	Absent	Below 100/min	100/min or above	
Grimace (Irritability)	No response	Grimace	Cough, sneeze, cry	
Activity (Muscle tone)	Limp	Some flexion of extremities	Active motion	
Respiratory effort	Absent	Slow and irregular	Strong cry	
			TOTAL SCORE =	

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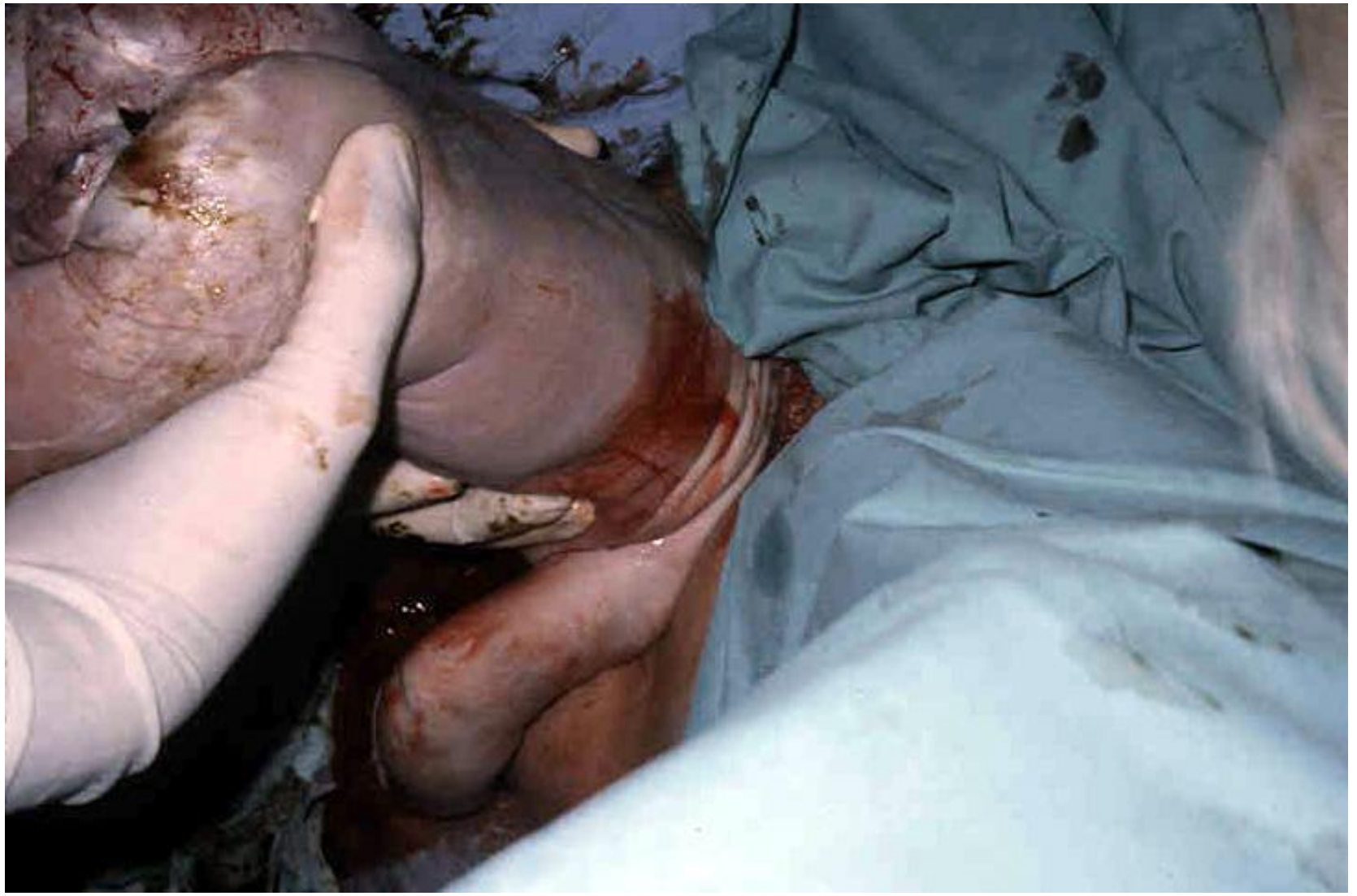
COMPLICATIONS DURING DELIVERY

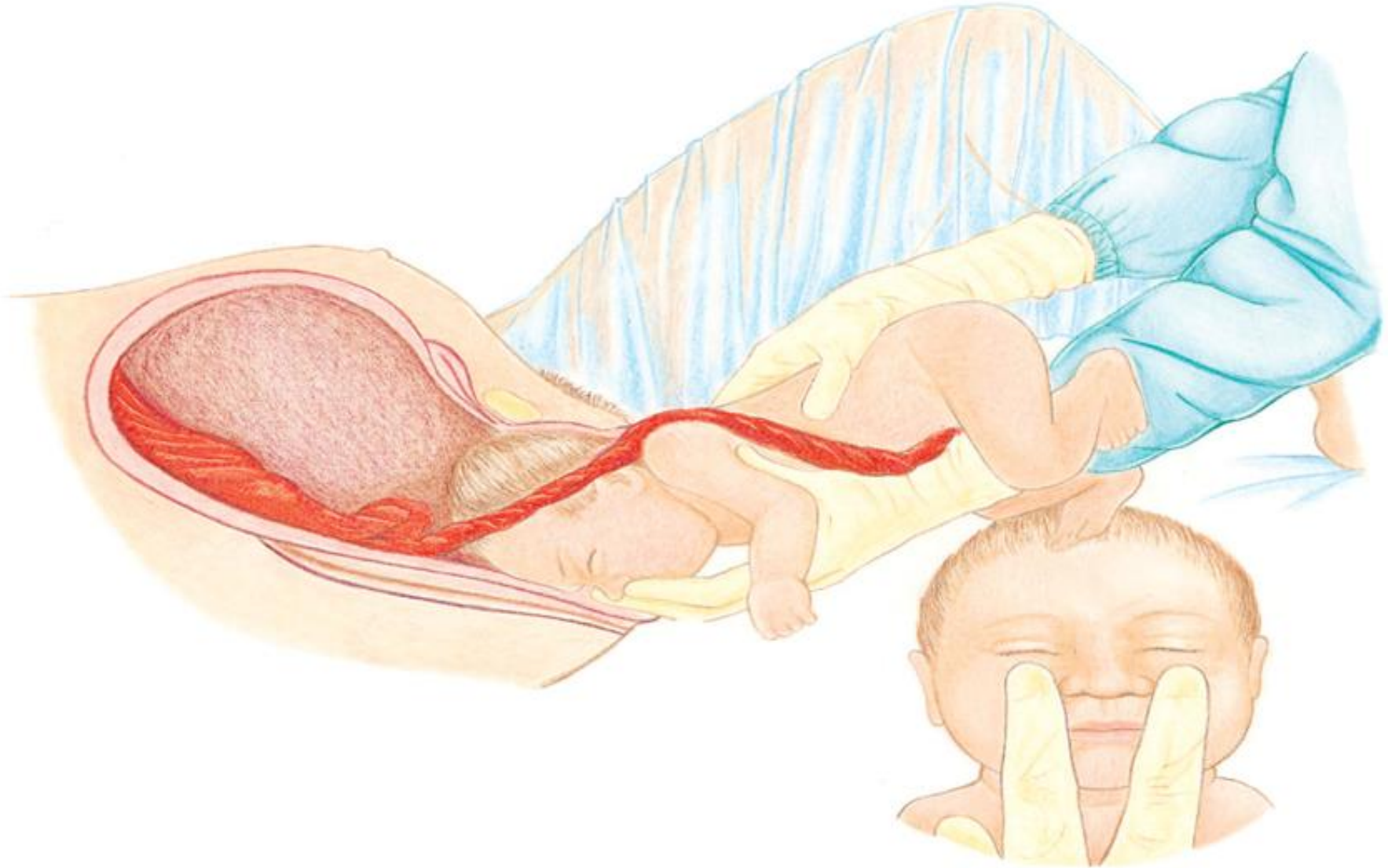
Breech Presentation

- The buttocks or both feet present first.
- Not suitable for field delivery
- If the infant starts to breath with its face pressed against the vaginal wall
  - Form a “V” and push the vaginal wall away from infant’s face
- Continue during transport

Breech Presentation

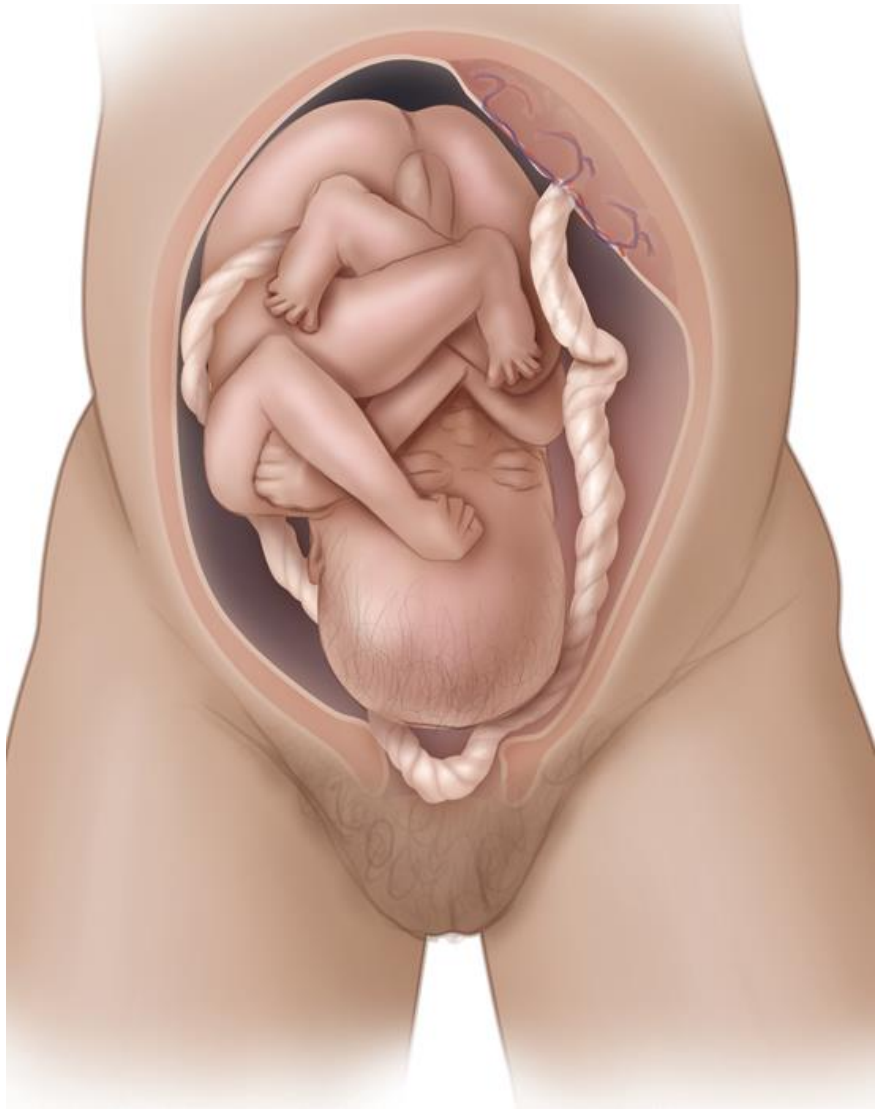


Breech Presentation



Prolapsed Cord

- The umbilical cord precedes the fetal presenting part.
- Elevate the hips, administer oxygen, and keep warm.
- If the umbilical cord is seen in the vagina, insert two gloved fingers to raise the fetus off the cord. Do not push cord back.
- Wrap cord in sterile moist towel.
- Transport immediately; do not attempt delivery.



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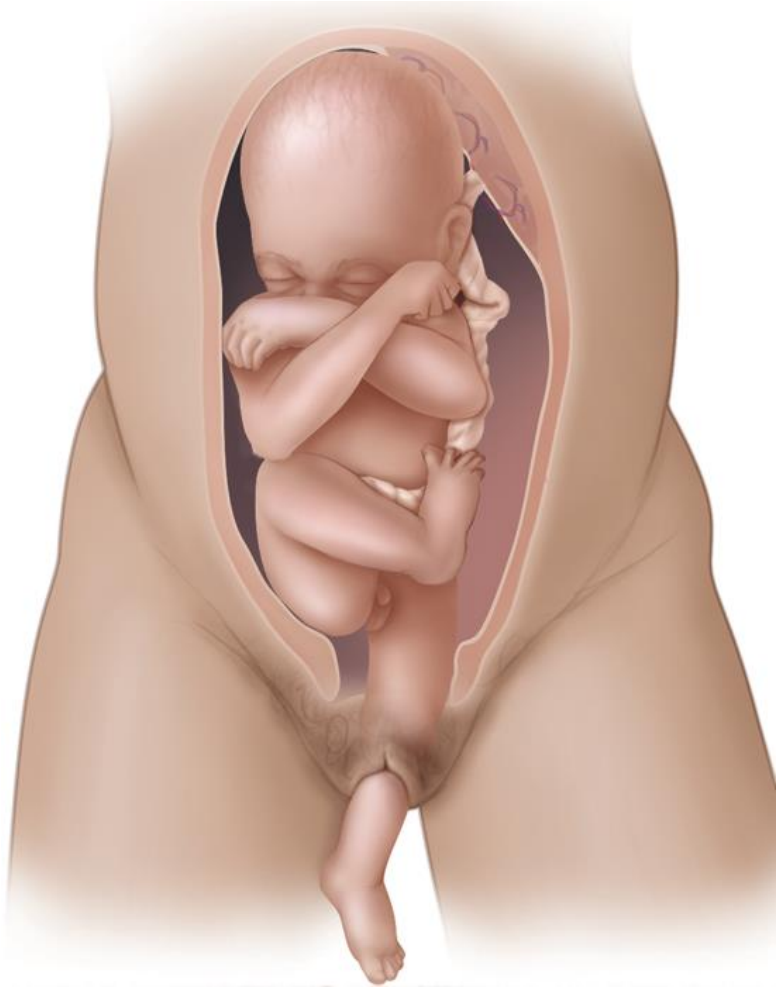
Patient Positioning for Prolapsed Cord

Other Abnormal Presentations

- Footling breech
  - One or both feet will dangle down through the vaginal opening.
- Transverse presentation
  - The fetus lies crosswise in the uterus; one hand may protrude through the vagina.
- Do not attempt delivery in the prehospital environment.
  - Nearly all require a cesarean section.



Other Abnormal Presentations

- Reassure the mother
- Administer oxygen
- Transport immediately
- Do not attempt field delivery in these circumstances

Multiple Births

- Multiple gestations
  - Occur in about 3% of all pregnancies
  - The older a woman is at the time of conception, and the more pregnancies she has had, the higher her chances of a multiple birth.
  - Use of fertility drugs
- Incidence
  - Has risen significantly in Canada in recent years
  - Always have a spare obstetric kit on hand.
  - Greater chance of breech presentations in such births
  - Fetuses are usually smaller.
    - Delivery is easier than in a single breech birth.

Multiple Births

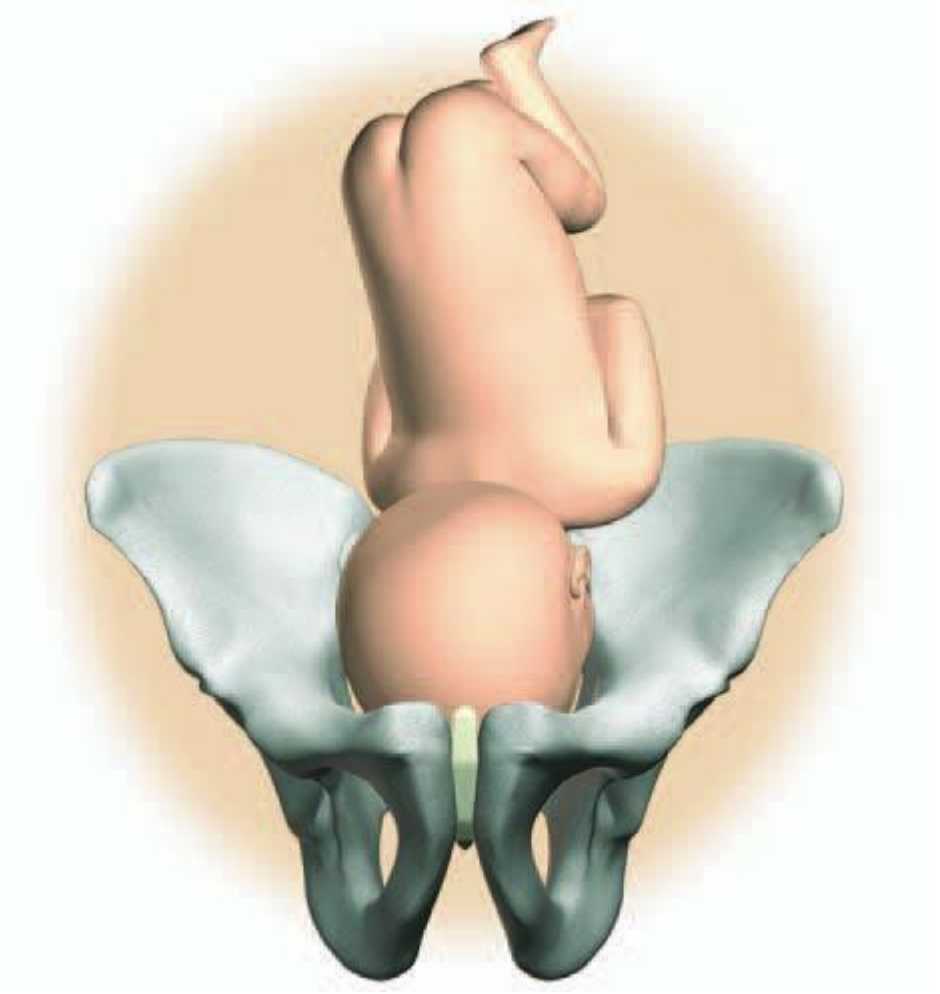
- Woman
  - Generally aware that she is carrying more than one fetus
  - May be unaware
  - If the woman is still suspiciously large after delivery of the first newborn, or another clue presents itself, prepare for another delivery.

Multiple Births

- Steps
  - Repeat earlier preparations.
  - After birth of first newborn, clamp and cut the cord in the usual fashion.
  - Inspect both ends of cord for oozing; apply second clamp, if necessary, to prevent hemorrhage from the twin if there is a shared placenta.
  - Contractions usually start again within approximately 5 to 10 minutes after birth of first newborn.
  - Second newborn can be expected to arrive within 30 to 45 minutes.
  - Usually both newborns are born before the first placenta is delivered.
  - Treat as you would premature newborns.
  - Record the time of birth of each twin separately.
  - Identify the first newborn delivered by loosely tying extra length of tape around a foot.

Cephalopelvic Disproportion

- Infant's head is too big to pass through pelvis easily.
- Causes include oversized fetus, hydrocephalus, conjoined twins, or fetal tumors.
- If not recognized, can cause uterine rupture.
- Usually requires cesarean section.
- Give oxygen to mother and start IV.
- Rapid transport .

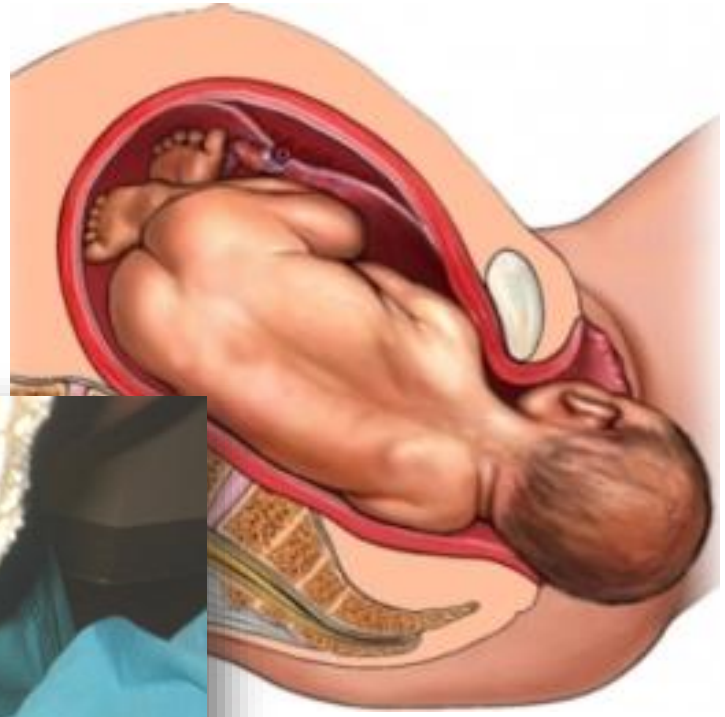


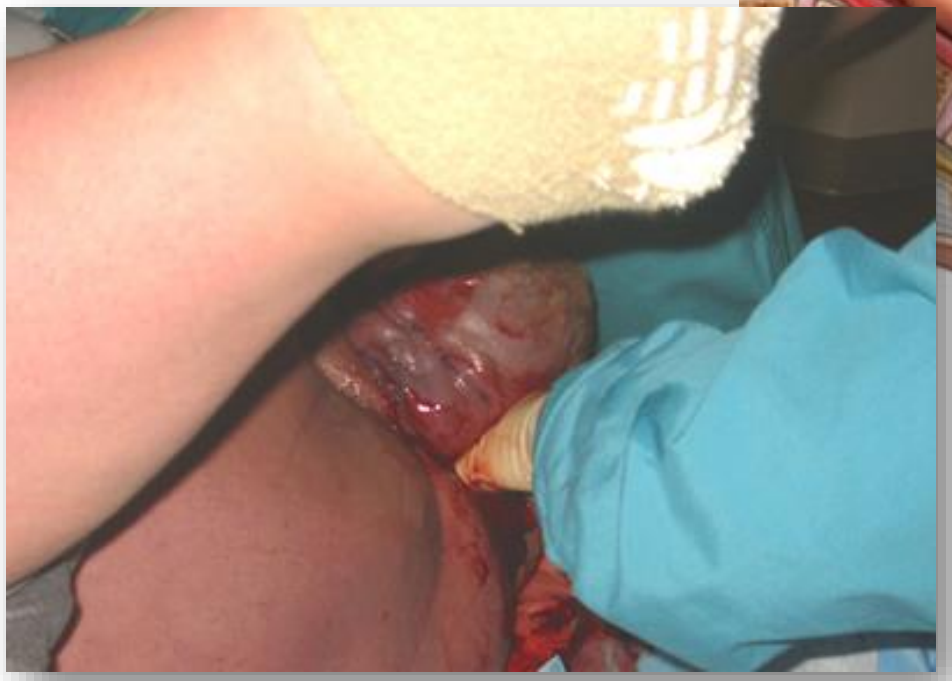
Precipitous Delivery

- Occurs in less than 3 hours of labor.
- Usually in patients in grand multipara, fetal trauma, tearing of cord or maternal lacerations.
- Be ready for rapid delivery , and attempt to control the head.
- Keep the baby warm.

Shoulder Dystocia

- Infant's shoulders are larger than its head
- Two main signs:
  - Body does not emerge
  - "Turtle sign"

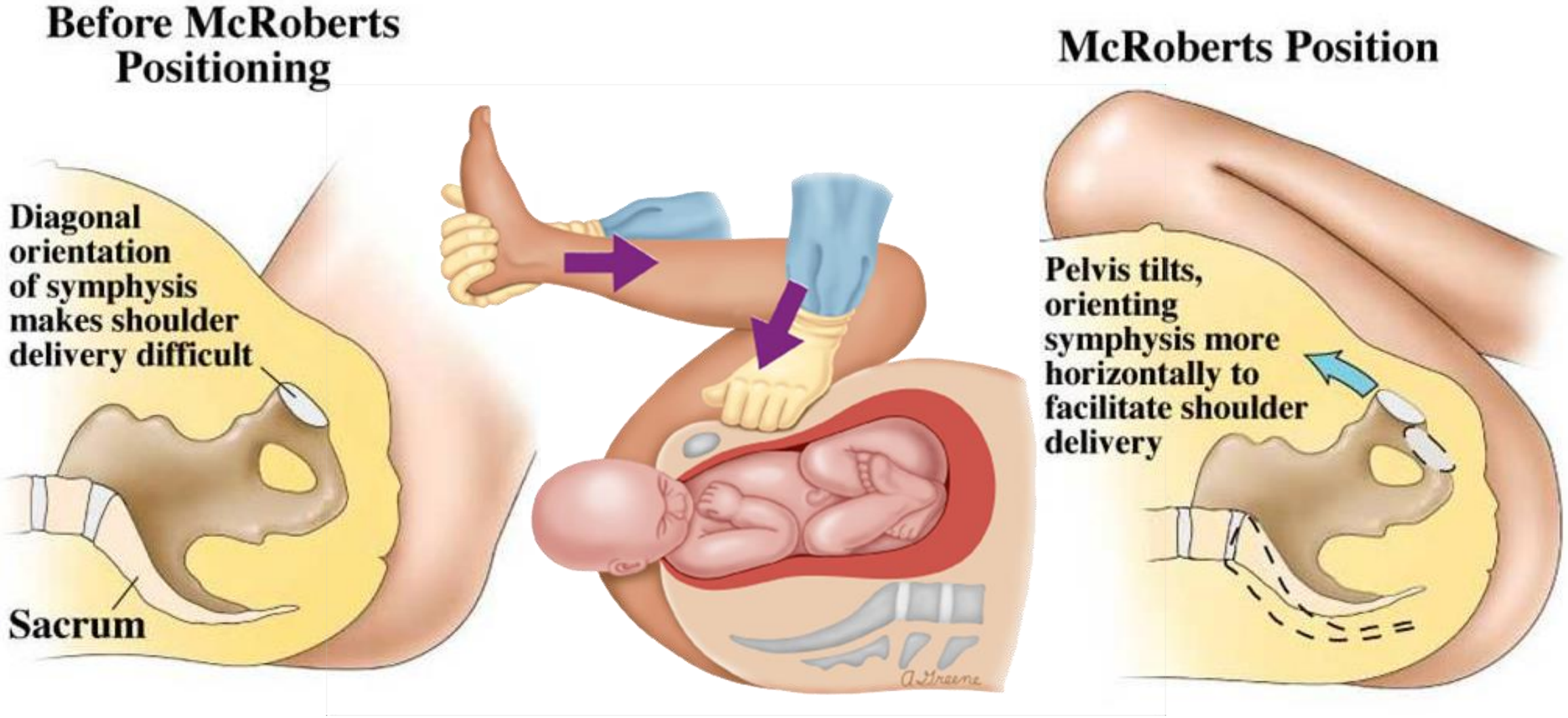




Shoulder Dystocia

- McRobert's Position may help
- If not place mother in knee-chest position
- Do not pull on the infant's head
- If baby does not deliver, transport the patient immediately

Shoulder Dystocia



Postpartum Hemorrhage

- Defined as a loss of more than 500 ml of blood following delivery.
- Establish two large-bore IVs of normal saline.
- Treat for shock as necessary.

Uterine Inversion

- An infrequent but serious complication of childbirth
- Causes
  - Contraction with ↑ ABD pressure (cough or sneeze)
  - Excessive fundal pressure
  - Excessive cord traction
- S/S
  - Postpartum hemorrhage
  - Sudden onset of ABD pain
  - May immediately experience bradycardia and shock
- Management
  - Place supine
  - Cover with moist sterile dressings

Pulmonary Embolism

- The development of PE during pregnancy, labor, or the postpartum period is one of the most common causes of maternal death
- S/S:
  - Presents with sudden severe dyspnea and sharp chest pain
  - Administer high-flow oxygen and support ventilations as needed
- Management:
  - Establish an IV of normal saline
  - Monitor patient closely
  - Transport immediately

Summary

- The prenatal period
- General assessment of the obstetric patient
- General management of the obstetric patient
- Complications of pregnancy
- Abnormal delivery situations
- Other delivery complications
- Maternal complications of labor and delivery

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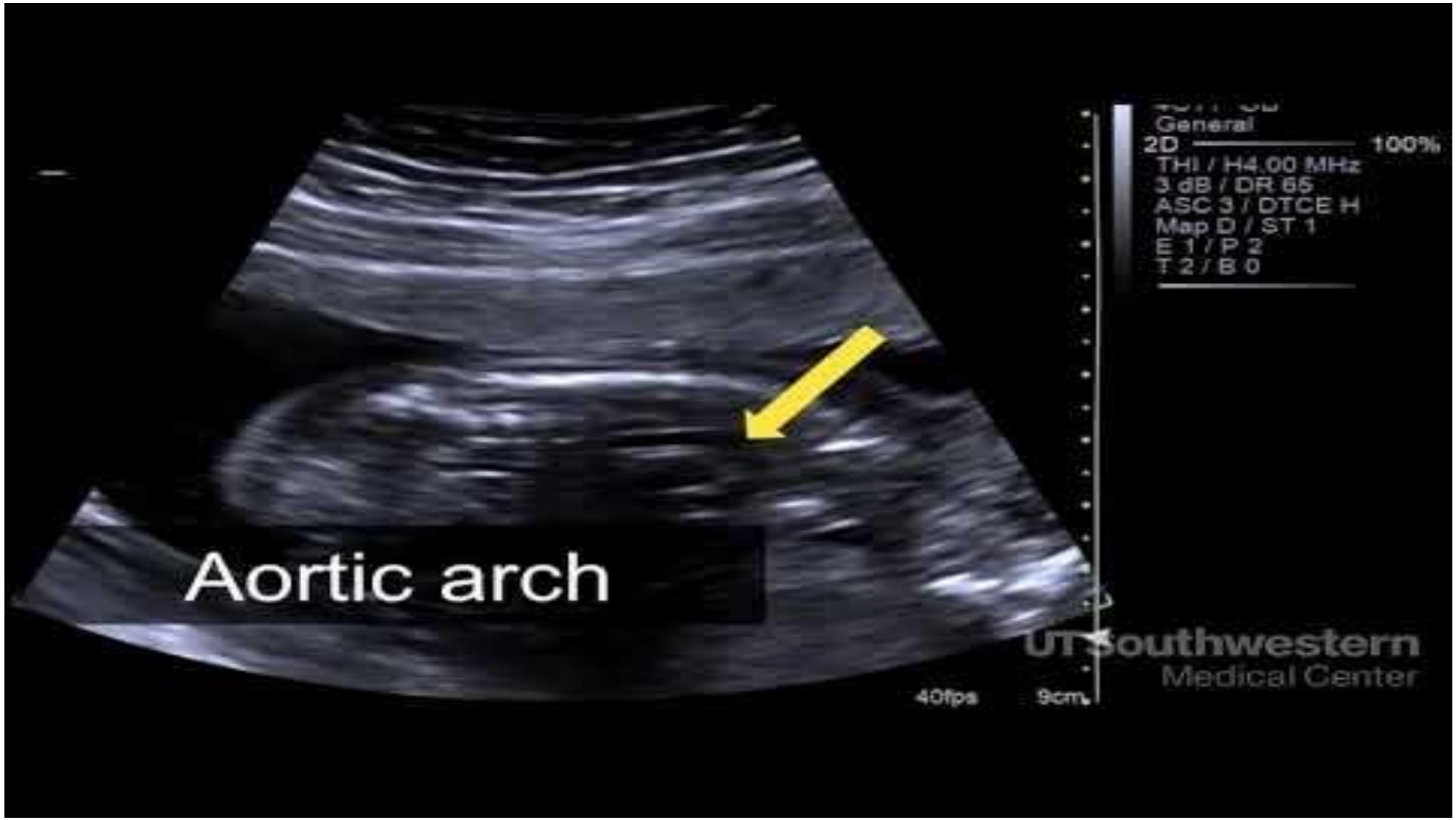
ULTRASOUND

Ultrasound - Prenancy



Other Uses For Ultrasound