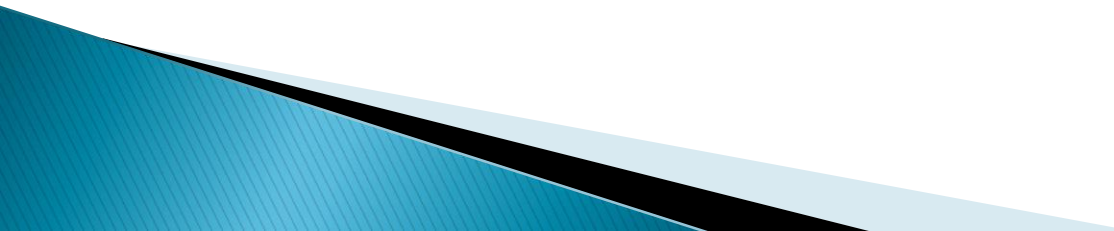


Trauma in Pregnancy

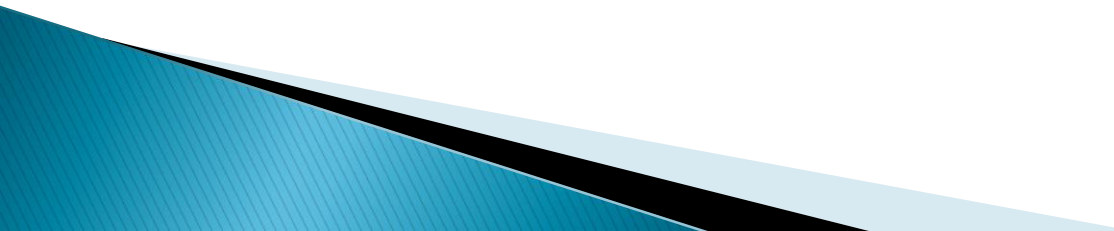
Dr. Roozbeh Rajaei Ghafoori

Associated Professor of Emergency Medicine

Objectives

- 1. Discuss anatomic and physiologic alterations of pregnancy and effects on patient management.**
 - 2. Establish assessment and treatment priorities for the mother and the fetus.**
 - 3. Identify elements of intimate partner violence.**
- 

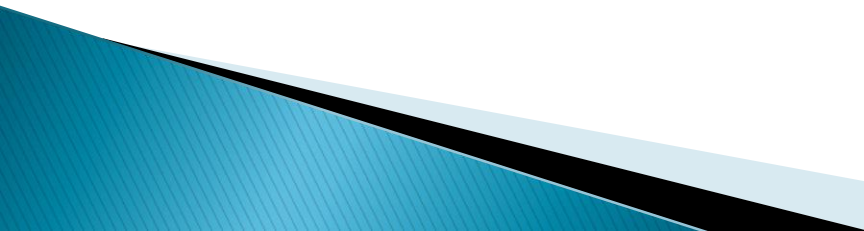
Assessment

- **Ask her!**
 - **Enlarged uterus?**
 - **Pregnancy test**
- 

Changes and Risks

- ▶ **What changes to anatomy and physiology occur with pregnancy, and what are the unique risks?**

Changes and Risks

- ▶ What changes to anatomy and physiology occur with pregnancy, and what are the unique risks?
 - ▶ 12th week
 - ▶ Uterus becomes an abdominal organ
 - ▶ 20th week
 - ▶ At umbilicus
 - ▶ 34 – 36 weeks
 - ▶ At costal margin
 - ▶ 38 – 40 weeks
 - ▶ Head engages pelvis
- 

Changes and Risks

► Third Trimester

- Uterus is thin-walled
- Maternal abdominal viscera displaced
- Inferior vena cava compression
- **Risks:**
 - Pelvic fractures with maternal hemorrhage and direct fetal injury
 - Abruptio placentae
 - Amniotic fluid embolism
 - Isoimmunization

Physiologic Changes

▶ Increased

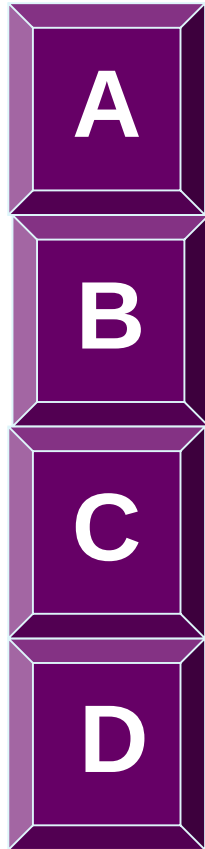
- Minute ventilation
- Heart rate and cardiac output
- Blood volume
- Glomerular filtration rate
- Gastric emptying time

▶ Decreased

- P_{CO_2}
- Hematocrit



Primary Survey and Risks



Aspiration risk

Difficult ventilation

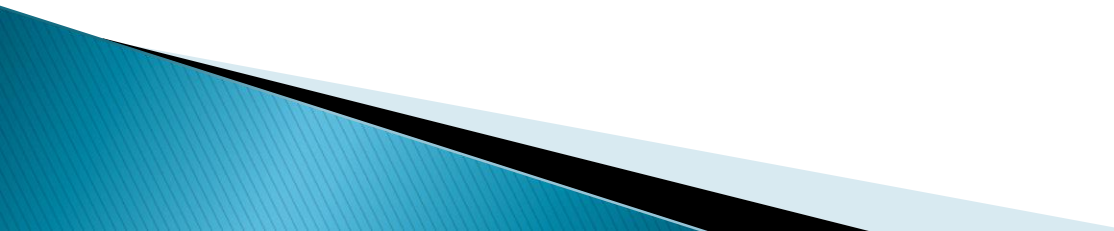
**Failure to recognize
blood loss early**

Eclampsia

**With maternal
blood loss,
fetal distress
precedes
changes in
maternal vital
signs.**

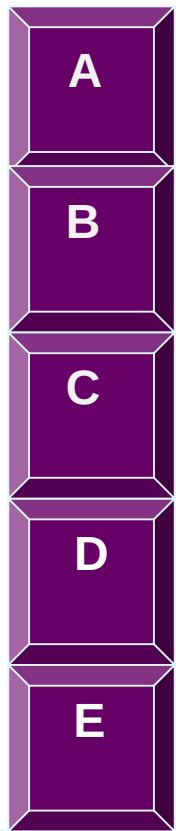
Evaluation and Management

How do I evaluate and treat two patients?

- Primary survey / resuscitation of mother
 - Fetal assessment
 - Secondary survey of mother
 - Definitive care of mother and fetus
 - Rh-negative mothers receive immunoglobulin therapy (unless injury remote from uterus)
 - Early OB consult
- 

Evaluation and Management

The Mother



A

Same as nonpregnant

B

Same as nonpregnant

Caution – chest tube placement

C

Displace uterus and volume infusion

Caution – fetal shock

D

Eclampsia vs. brain injury

E

Same as nonpregnant

Evaluation and Management

The Fetus

- Resuscitate the mother
- Monitor fetal heart tones
- Consider fetal injury with
 - Vaginal bleeding
 - Abruptio placentae
 - Uterine tenderness
 - Uterine rupture
 - Labor

Thanks for attention