

# Ectopic Pregnancy

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# Outline

- \* Definitions & Statistics
- \* Diagnosis
- \* Medical and Surgical Treatment
- \* Surgical Videos

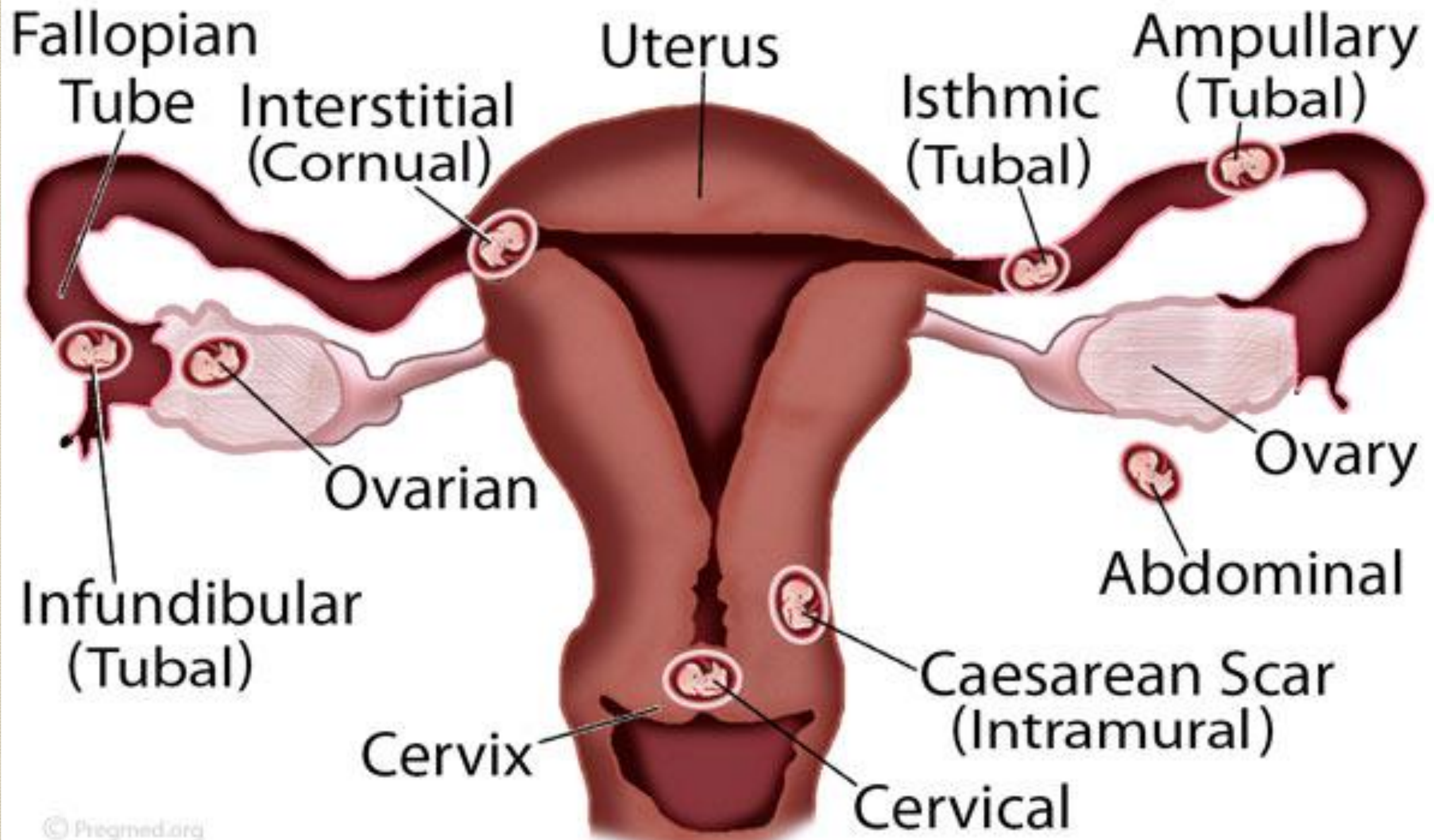


# Ectopic pregnancy stats

- \* Incidence: 1-2% of all pregnancies
- \* ~10% of all women presenting to ED with 1st trimester c/o
- \* 3 % of all pregnancy-related death
- \* Leading cause of hemorrhage related mortality
- \* Heterotopic (rising with ART. Used to be 1:30,000. Now 1:4,000)



# Ectopic Pregnancy





# Risk factors

- \* previous ectopic
- \* previous tubal surgery or tubal ligation
- \* h/o STIs/PID
- \* Current IUD
- \* Infertility
- \* Smoking
- \* Previous pelvic surgery
- \* Endometriosis



# Clinical manifestations

- \* First trimester vaginal bleeding and pelvic pain
- \* Asymptomatic
- \* Lower likelihood of pregnancy symptoms (breast tenderness, nausea)
- \* Typically 6-8 weeks after LMP



# Evaluation for suspected ectopic pregnancy

- \* confirm patient is pregnant
- \* determine whether pregnancy is intrauterine or ectopic
- \* determine whether ectopic has ruptured and if patient hemodynamically stable



# History

- \* LMP
- \* Characteristics of bleeding and pain
- \* Identify risk factors for ectopic
- \* General health history



# Physical

- \* Vital signs/assess hemodynamic stability
- \* Abdominal/pelvic exam



# Initial diagnostic testing

- \* HCG
- \* Ultrasound



# HCG

- \* Discriminatory zone: HCG above which a gestational sac should be visualized by TVUS.
- \* HCG 1500-2000, *most* IUPs are seen on TVUS
  - \* HCG of 3500 for 99% of IUPs



# Ultrasound

- \* TVUS excludes ectopic if: IUP seen (gestational sac with yolk sac or fetal pole). Gestational sac alone insufficient as could be pseudosac.
- \* TVUS confirms ectopic if: gestational sac with YS/FP seen outside the uterus



# Natural history

- \* Spontaneous resolution
- \* Tubal abortion
- \* Tubal rupture



# Treatment

- \* Medical (Methotrexate)
- \* Surgical (Salpingectomy or Salpingostomy)
- \* (Expectant Management)



# Surgical indications

- \* Hemodynamically unstable patient
- \* Signs/symptoms of impending or ongoing rupture
- \* Failed medical therapy
- \* Desire for sterilization
- \* Planned IVF with known hydrosalpinx
- \* Patient preference\*\*\*



# Methotrexate

- \* ~1/3 are candidates
- \* Optimal candidates: HD stable, willing and able to comply with follow up, HCG<5000, Ectopic mass <3.5 cm, no fetal cardiac activity.



# Methotrexate- Pharmacology

- \* Folic acid antagonist
- \* Otherwise used for neoplasia, severe psoriasis, and rheumatoid arthritis
- \* Inhibits DNA synthesis and cell reproduction, primary in actively proliferating cells
- \* Renally cleared



# Contraindications to MTX

- \* Immunodeficiency
- \* Active pulmonary disease
- \* Peptic ulcer disease
- \* Breastfeeding
- \* Heterotopic (with co-existing viable IUP)
- \* Allergy to MTX
- \* Clinically significant abnormalities in baseline hematologic, renal or hepatic lab values
- \* Not able to comply with post-treatment follow up, lack of timely access to hospital for management of tubal rupture



# Surgical treatment

- \* Salpingectomy
- \* Salpingostomy



# Surgical management

- \* Laparoscopy vs
- \* Laparatomy



# Post-op monitoring

- \* Follow HCG down to undetectable
- \* Rhogam
- \* Recurrence risk counseling



## Interstitial Pregnancy (Video)

[https://www.youtube.com/watch?v=-qlt4RqHk\\_I&t=25s](https://www.youtube.com/watch?v=-qlt4RqHk_I&t=25s)  
Ruptured Ectopic (Video)



<https://www.youtube.com/watch?v=f7uzm6sg04U>