

Screening and Prevention of Gynecologic Cancers

Ivy Wilkinson-Ryan MD

Dept ob/gyn

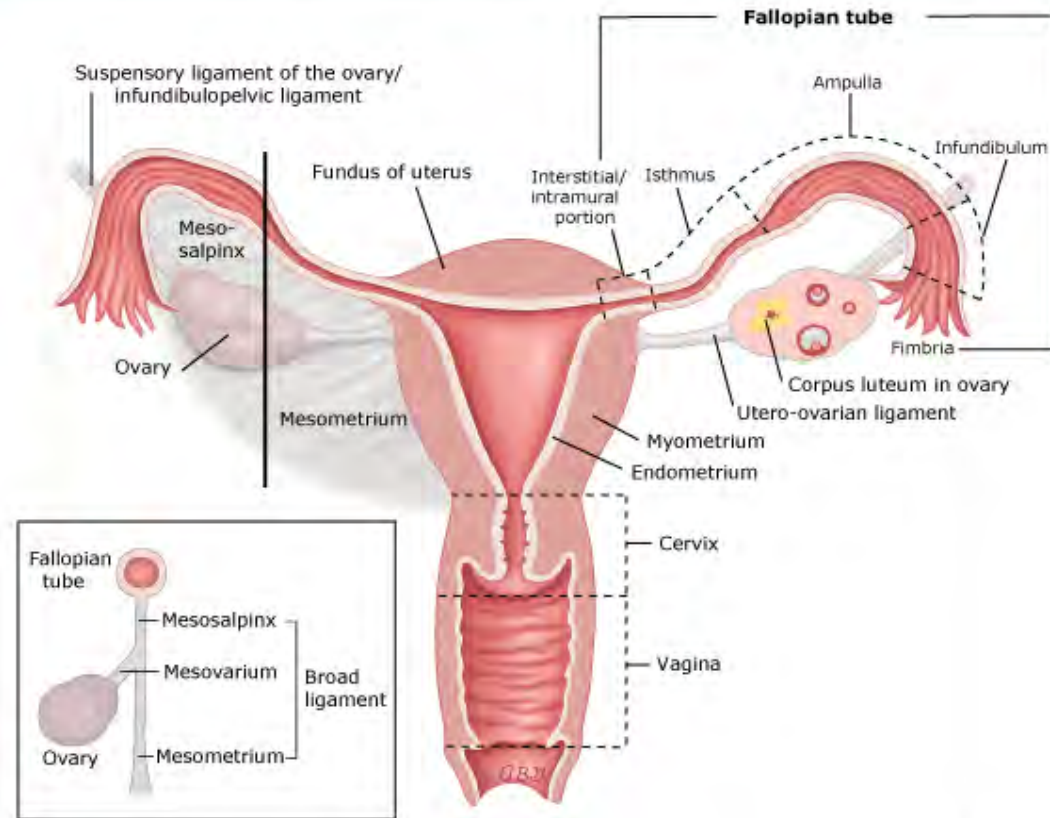
Division of Gyn Oncology

Dartmouth Hitchcock

Overview

- What is a screening test?
- Cervical Cancer
 - Risk Factor and Prevention
 - Screening
- Ovarian Cancer
 - Risk Factors and Prevention
 - Symptoms
 - Screening
- Endometrial cancer
 - Risk Factors and Prevention
 - Symptoms

Normal female reproductive anatomy



Principles of Screening Tests

- Performed on an asymptomatic population
- Must capture “most” patients who have the disease
- Allowed to have a high false positive rate
- Screening test and diagnostic test have to be low risk
- Results in improved health in the tested population

Example

- Screening for cervical cancer with pap smear
- Screening for ovarian cancer with pelvic ultrasound

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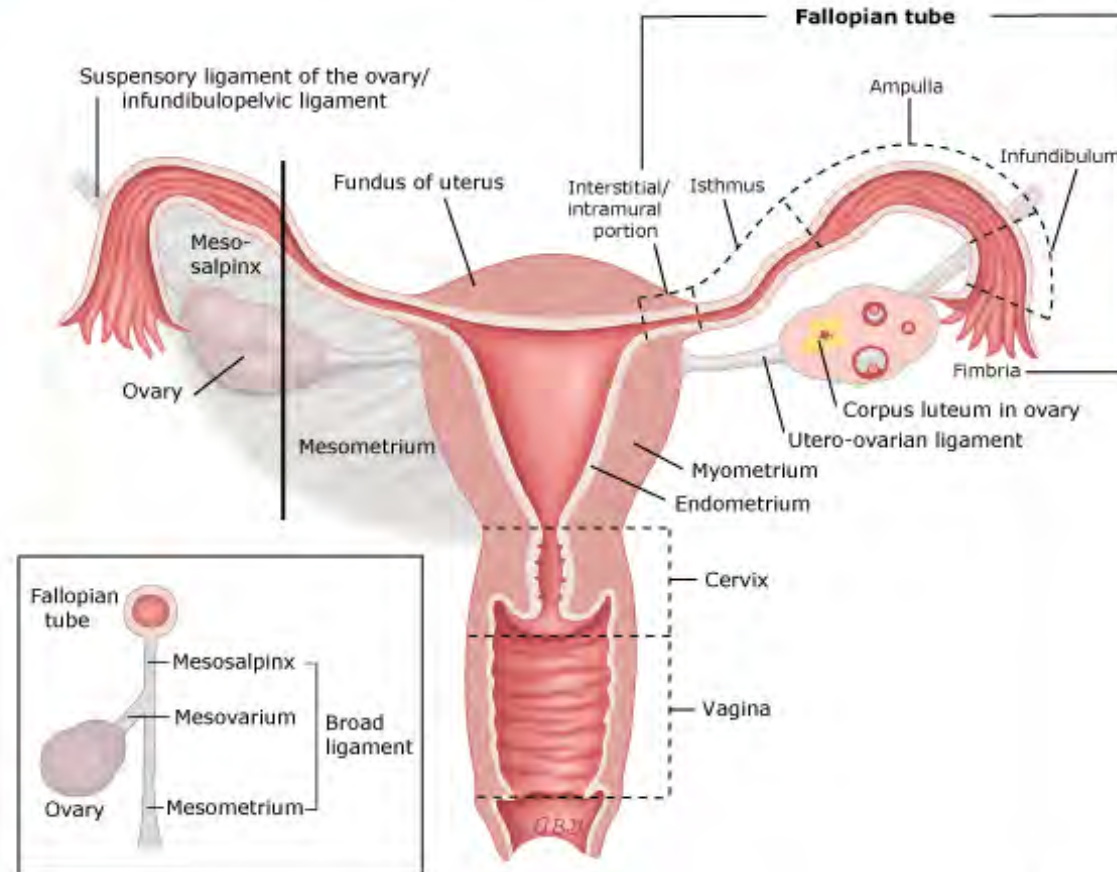
- Screening for cervical cancer with pap smear
- Screening for ovarian cancer with pelvic ultrasound

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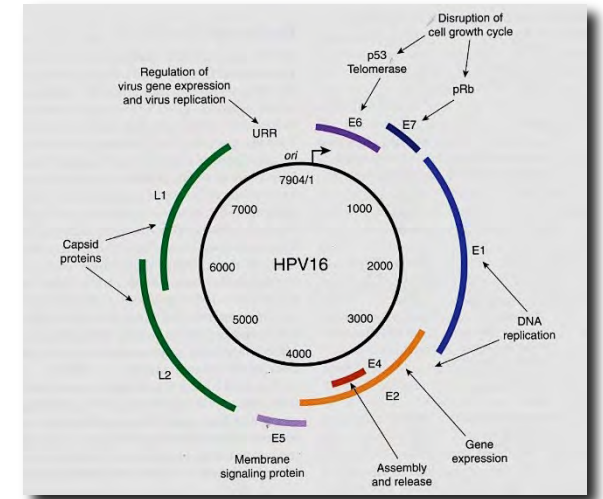
Cervical Cancer

Normal female reproductive anatomy

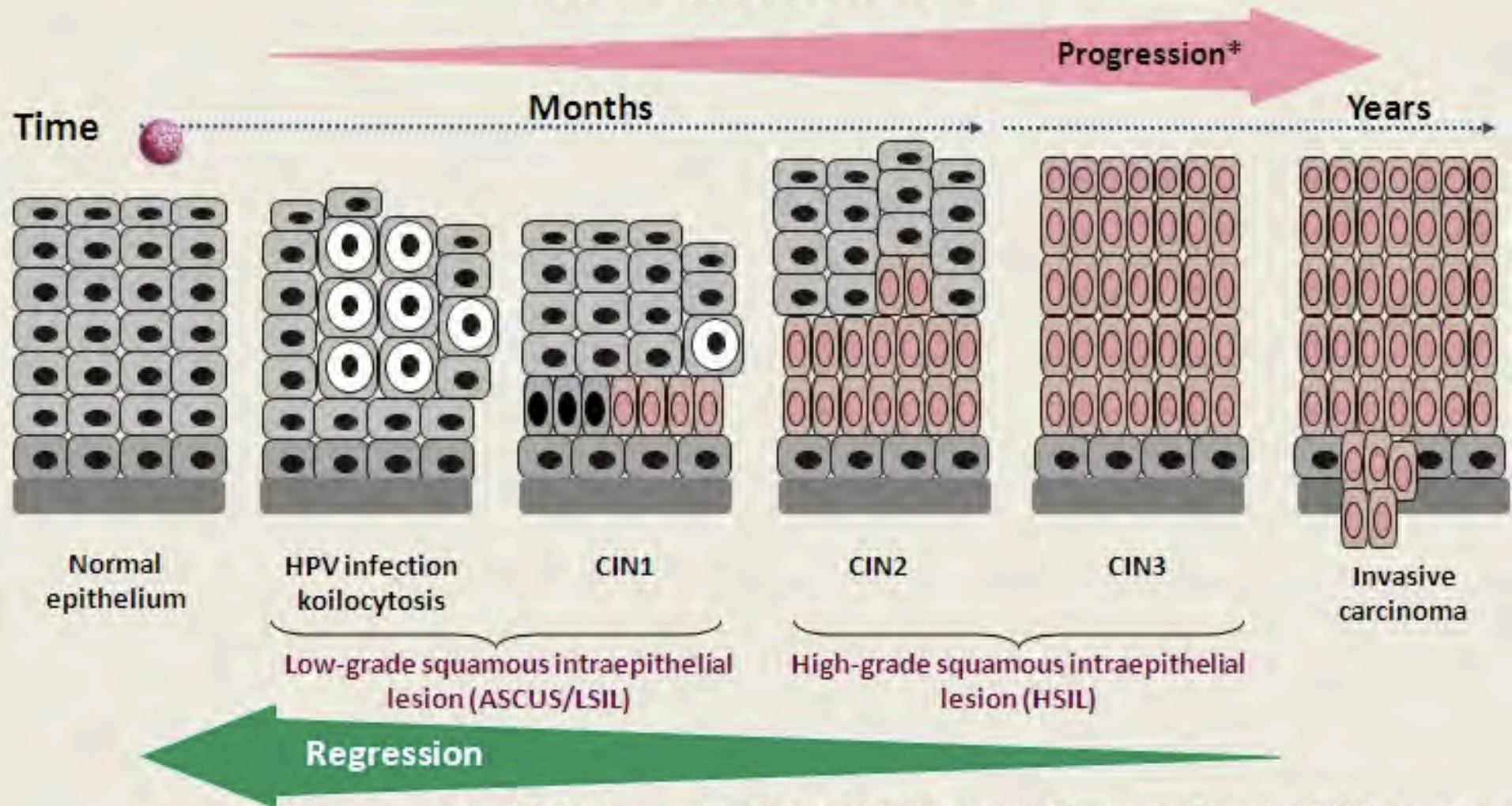


Cervical Cancer

- Cervical Cancer is caused by human papillomavirus (HPV)
- Other risk factor: smoking, not undergoing recommended screening
- Symptoms: Abnormal vaginal bleeding, pelvic pain
- Screening is accomplished via pap smear



Progression of cervical disease after HPV infection



* Probability increases with viral DNA integration. CIN: cervical intraepithelial neoplasia; ASCUS: atypical squamous cells of undetermined significance

What Happened to my Annual Pap Smear

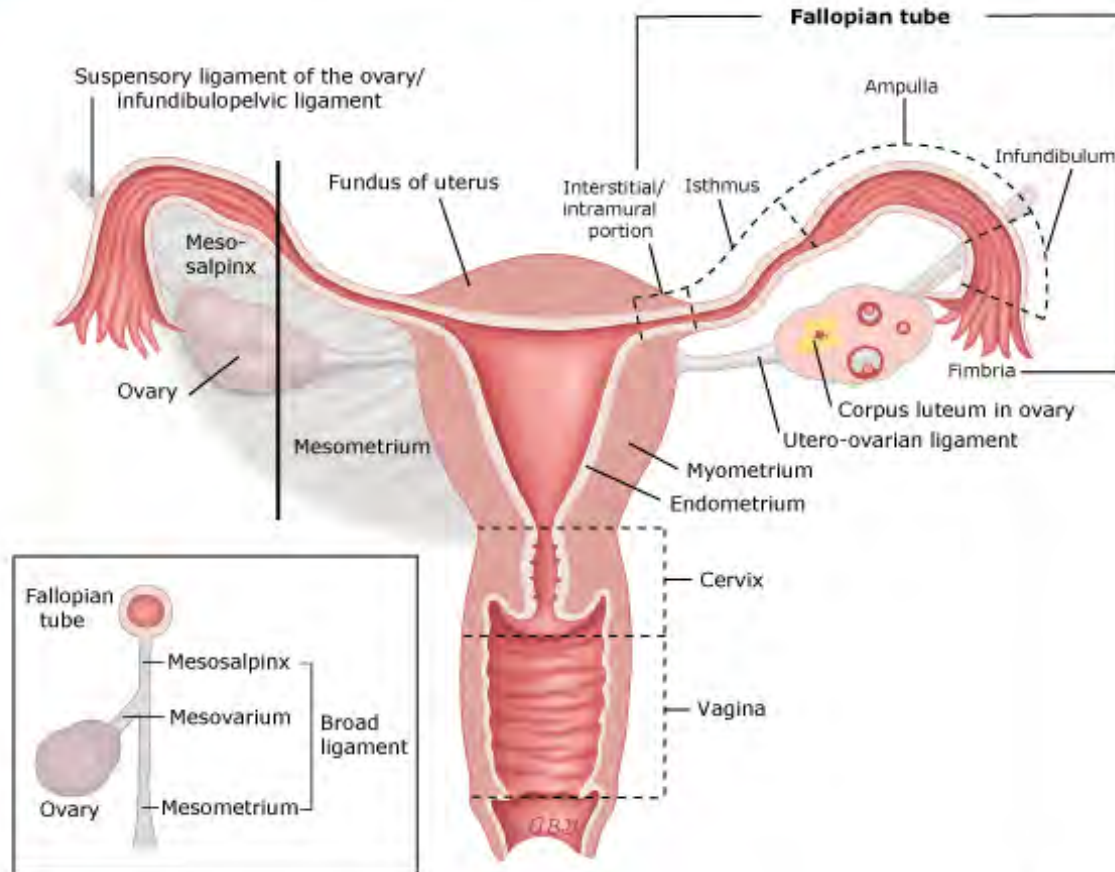
- Cervical cancer does not occur without HPV
- Once a patient has HPV it takes years to develop pre cancer

A Word on Prevention

- There is a vaccine!!
 - Approved for ages 9-45yo in males and females
 - Best coverage if vaccinated by age 12
- Preventing exposure to HPV is very difficult
 - Some improvement with condom use

Ovarian Cancer

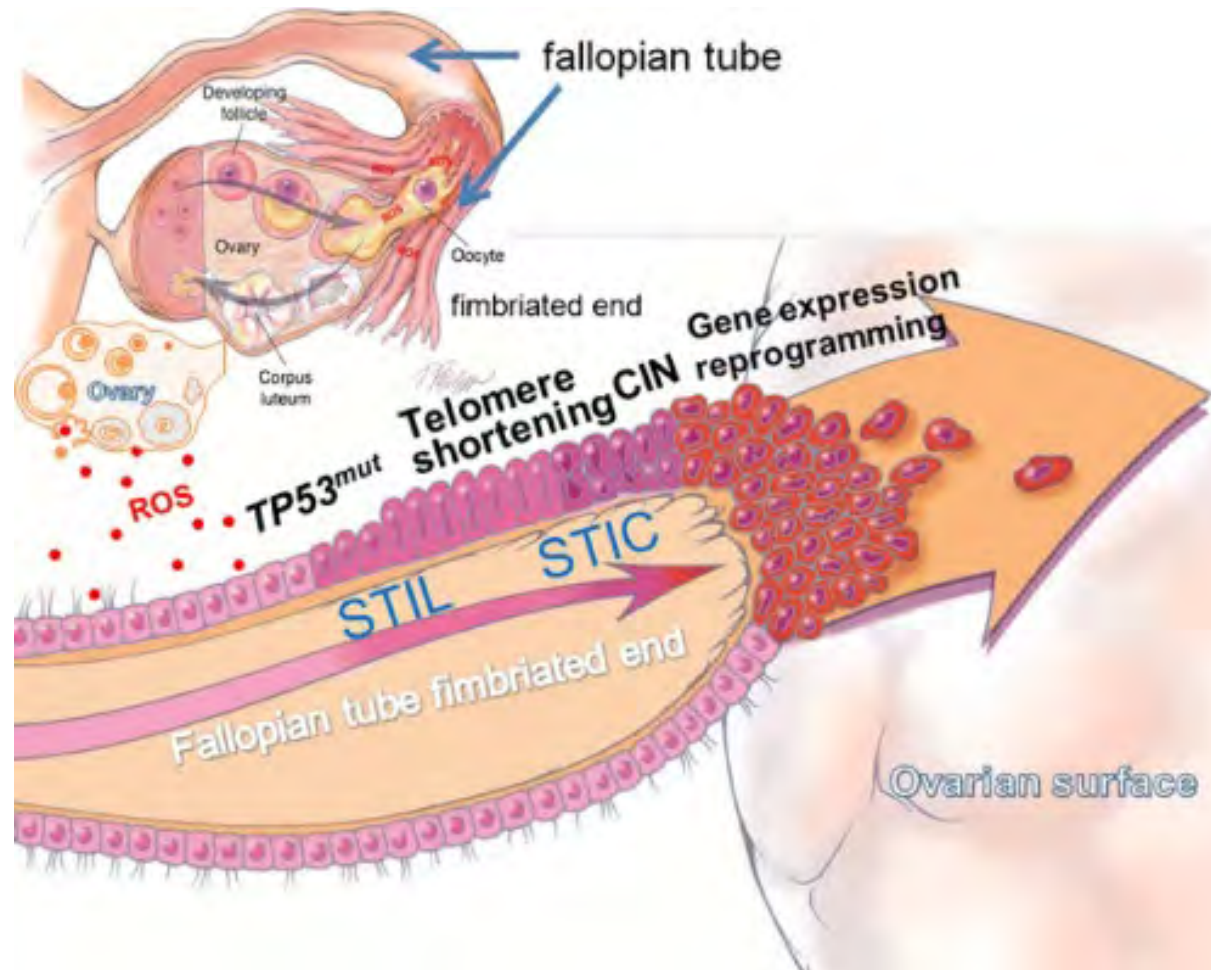
Normal female reproductive anatomy



Ovarian Cancer

- Risk Factors
 - More lifetime ovulations
 - Presence of intact fallopian tubes
 - Family History
 - BRCA mutation or Lynch Syndrome
- Prevention
 - Decreasing lifetime ovulations
 - Removing fallopian tubes
 - Removing ovaries

Pathogenesis of Ovarian Carcinoma



Ovarian Cancer Symptoms

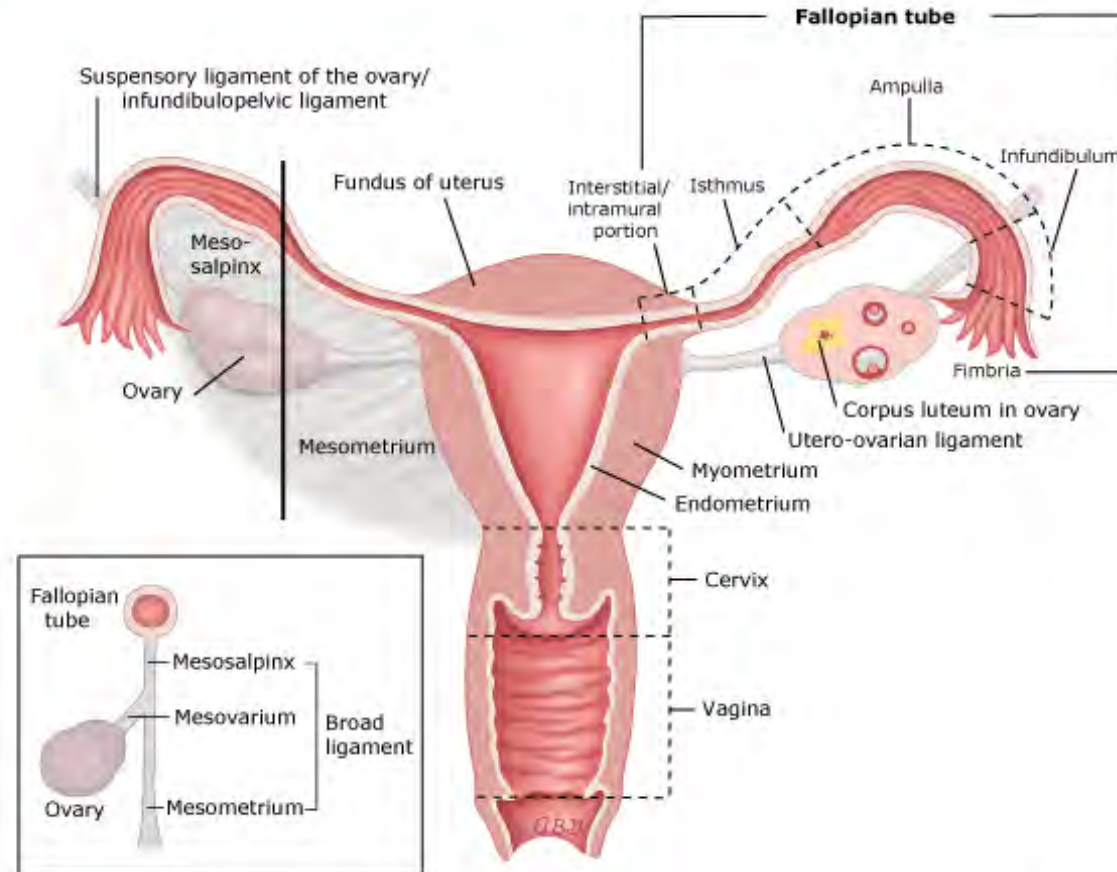
- Ovarian cancer has symptoms!
 - Abdominal pain
 - Abdominal swelling or bloating
 - Urinary frequency
- Women often undergo urologic or gastrointestinal work up before ovarian cancer is detected

Ovarian Cancer Screening

- There is no effective screening for the general population
 - Ultrasound
 - CA-125, ROMA, Ova1
 - Online risk assessment tools
- Ultrasound and CA-125 improves outcomes in women with known genetic mutation that predisposes them to ovarian cancer

Endometrial cancer

Normal female reproductive anatomy



Endometrial Cancer

- Risk Factors

- Excess estrogen
- Diabetes
- Lynch Syndrome
- Tamoxifen

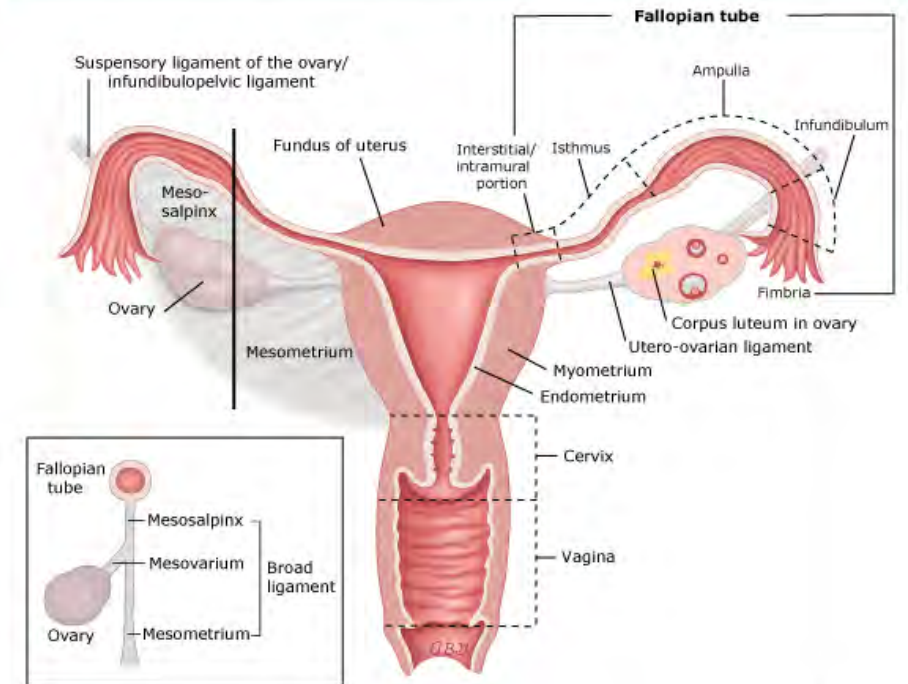
- Prevention

- Decrease extra estrogens
- Control or prevent diabetes
- Hysterectomy

Endometrial Cancer Symptoms

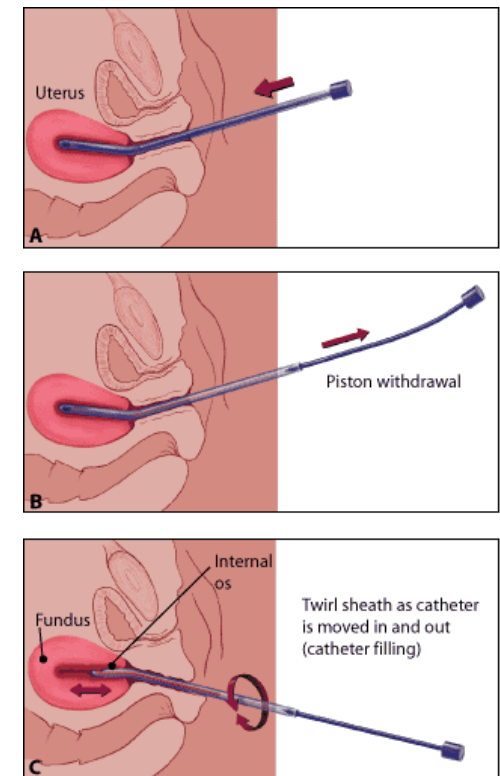
- Post menopausal bleeding
- Irregular bleeding in premenopausal patients
- Don't ignore irregular bleeding!

Normal female reproductive anatomy



Endometrial Cancer Screening

- Recommended for women with Lynch Syndrome
- Otherwise not recommended
 - Typically detected in early stage
 - Diagnosed by office procedure



Take home points

- Don't ignore your body
- You shouldn't have hormonal symptoms when you don't have hormones
- Find out your family history
- Not all bleeding is a "period"
- Pap smear and routine labs do not test for ovarian or endometrial cancer