BREAST CANCER
CERVICAL CANCER
ENDOMETRIAL CA
OVARIAN CANCER
VAGINAL CANCER
VULVAR CANCER

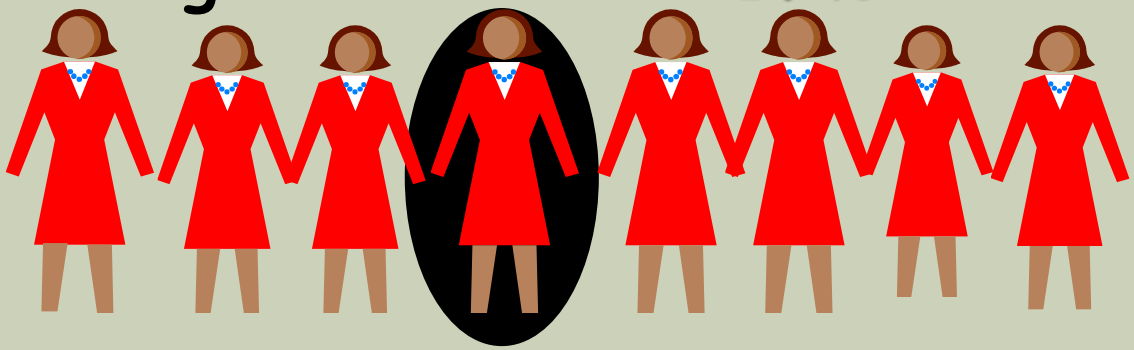
L. Thompson MSN, RN

Objectives

- Discuss breast & gyneological cancers:
  - Etiology
  - Risk Factors
  - Clinical Manifestations
  - Diagnostic Studies
  - Complications
  - Therapeutic Management
  - Nursing Diagnoses

Breast Cancer in USA

- Most common non-skin cancer in women (US)
- 2nd leading cause of death in women (US)
- Annually 1,660,290 diagnosed (35% mortality rate)
- 1 in 8 ♀ will be diagnosed
- **5 year Survival Rate:**
  - Localized (∅ *axillary node*): *98%*
  - Advanced stage breast CA: 17%



- Less than 1% are male

RISK FACTORS

Breast Cancer

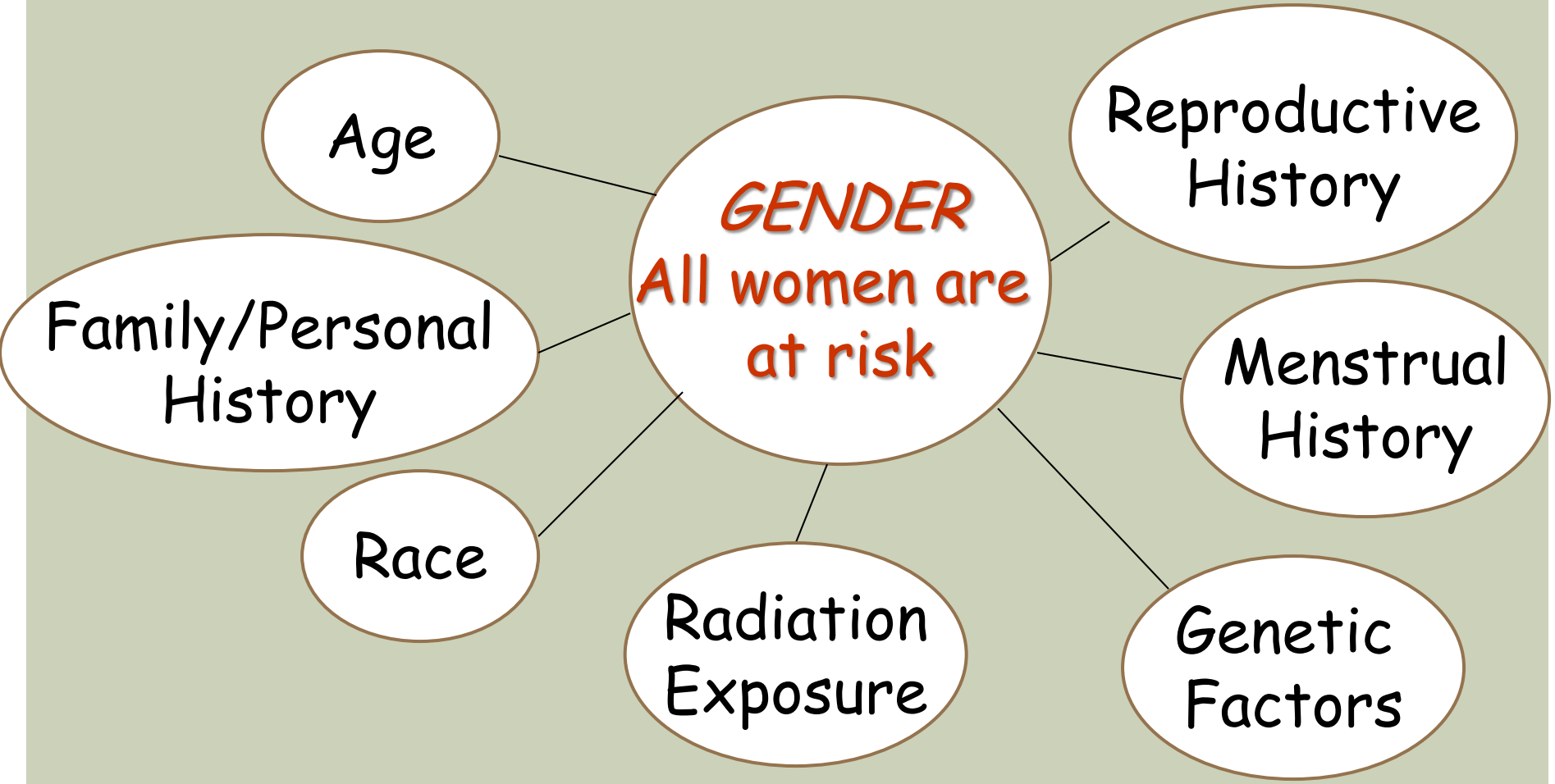
Modifiable Risk Factors

- Diet, Obesity
- Exercise
- Alcohol
- Smoking

Affects endogenous reproductive hormones

- Early menarche (<12yrs)
- Late menopause (>50 yrs)
- 1st pregnancy (>30 yrs)
- Fewer pregnancies
- Recent use of OCP
- HRT use
- Lack of breastfeeding
- Immune system issues
- Environment
- Race
- Age

Non-Modifiable Breast Cancer Risk Factors



Modifiable Breast Cancer Risk Factors

HEREDITY OR GENETICALLY RISK FACTORS

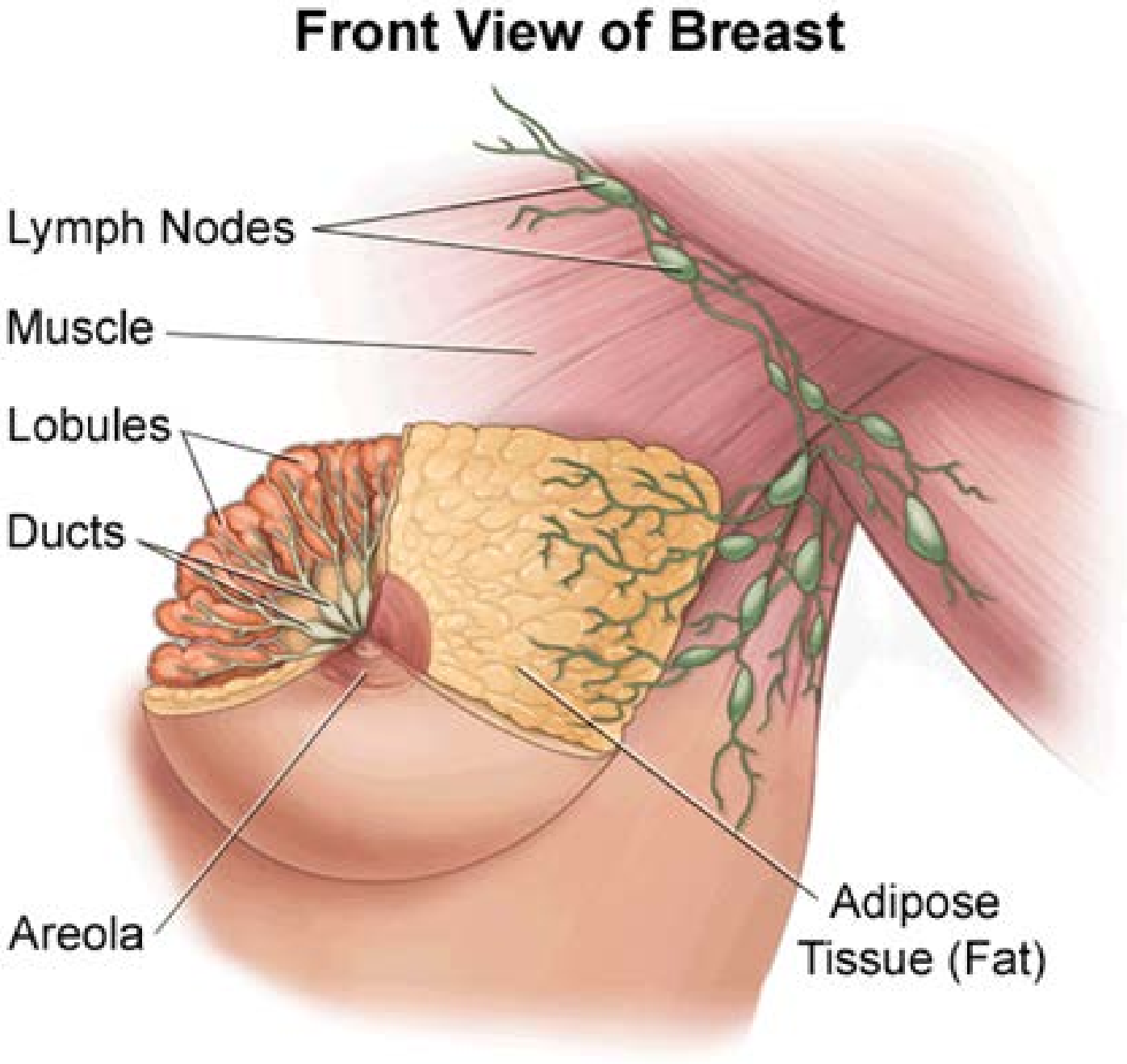
- First-degree relative (↑ risk 1.5-3 times)
  - Risk ↑ with numerous relatives
- *BRCA1 (chrom. 17), BRCA2 (chrom. 11)*
  - Inherited genetic mutation/alterations of a *tumor suppressor gene*
  - Found in 5-10% of all breast CA patients
  - *If mutated*: 40%-80% chance of breast CA
  - Increased risk of ovarian cancer, *colon & pancreatric cancer*
  - Autosomal dominant

PROPHYLACTIC OPTIONS

Breast Cancer

- Bilateral oophorectomy
  - ↓ risk of breast and ovarian ca
- Bilateral mastectomy
- Unaffected (contralateral) mastectomy
- *Medication*
  - Tamoxifen or raloxifene
    - SERMS (selective estrogen receptor modulators)
    - Blocks the effect of estrogen on breast cells

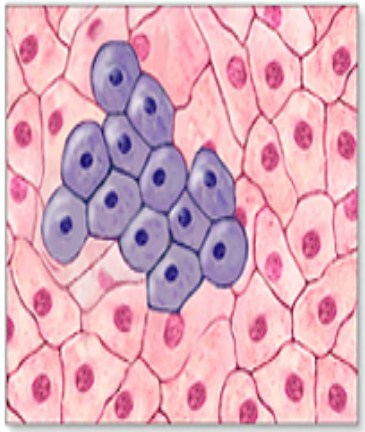
Pathophysiology



PATHOPHYSIOLOGY

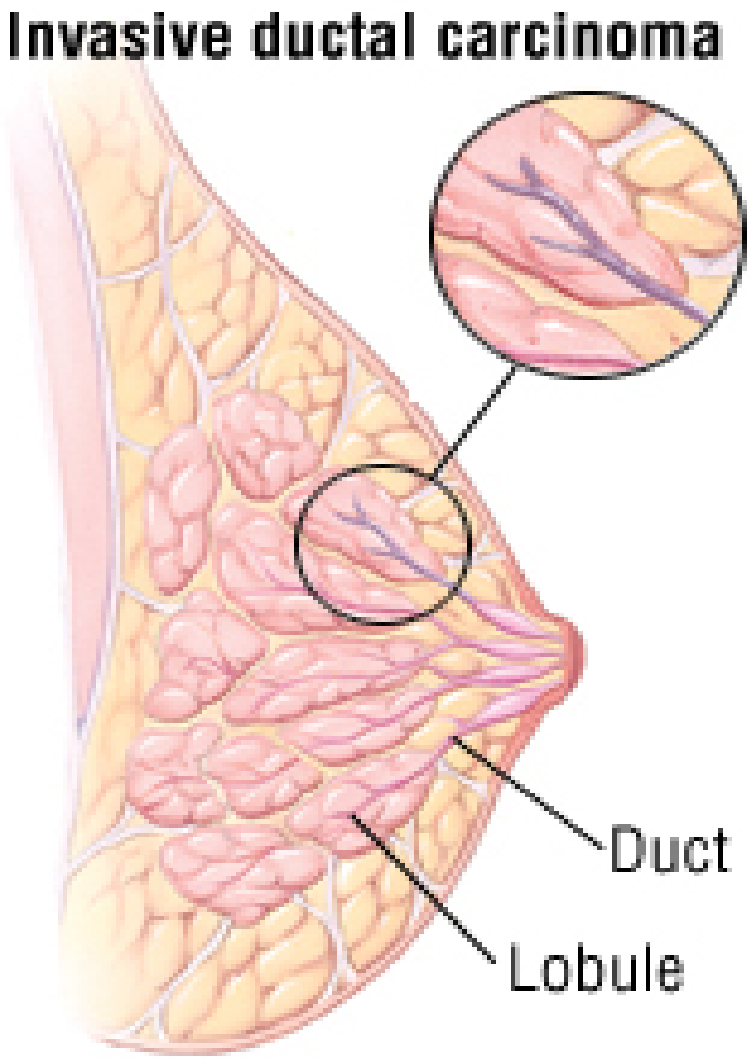
Breast Cancer

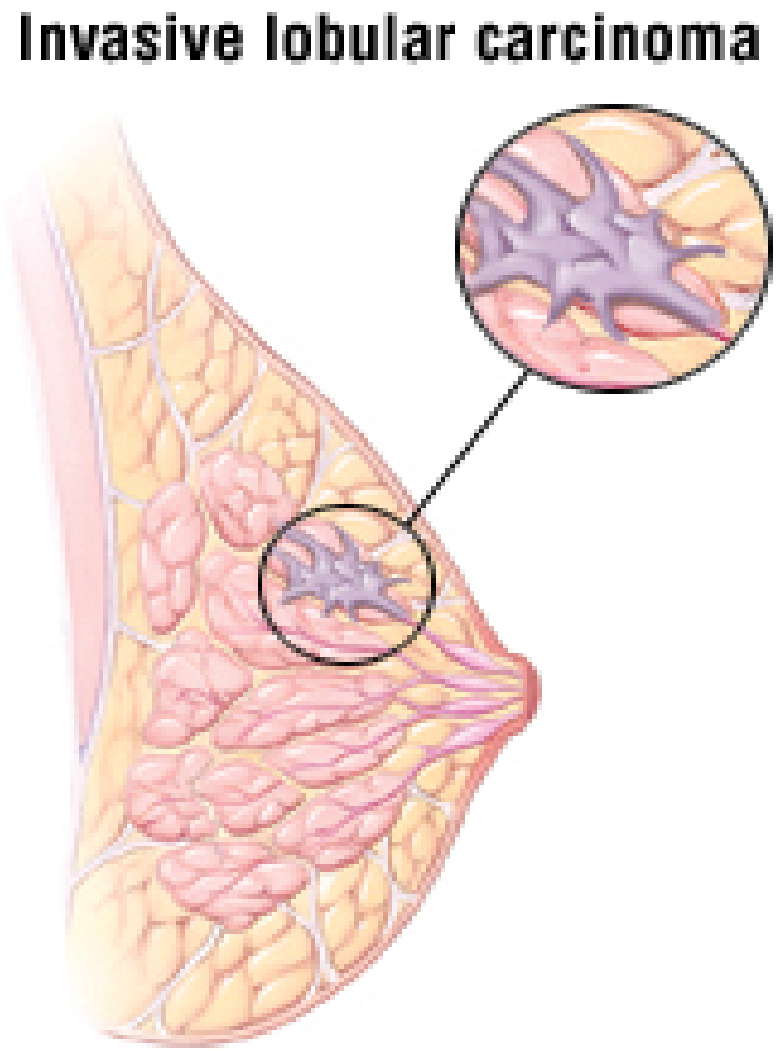
- CA cells arise from epithelial lining of the ducts or lobules
- In Situ or Noninvasive (22%)
  - *Lobular carcinoma in situ (LCIS)*
  - *Ductal carcinoma in situ* (DCIS)
  - No spread beyond area of origination
  - Confined within the ducts or lobules
- Invasive or Infiltrated
  - Begins in the lobules or ducts
  - Spreads to surrounding fatty tissue



PATHOPHYSIOLOGY

Breast Cancer

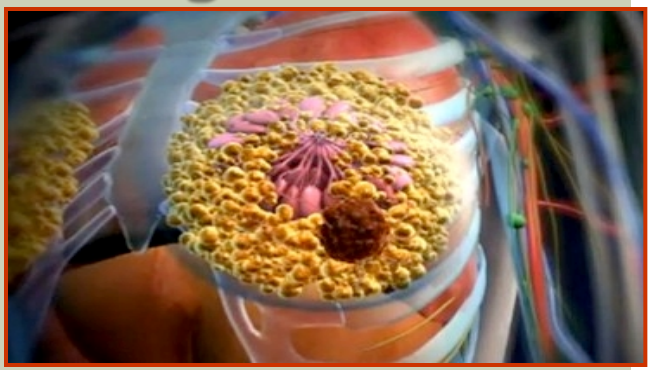




PATHOPHYSIOLOGY

Breast Cancer

- Factors affecting rate of tumor growth
  - Tumor size
  - Node involvement
  - Tumor differentiation
  - Estrogen and Progesterone receptor status
  - HER-2 (*Human epidermal growth factor receptor 2*)
    - Gene mutation
      - Excess protein which promotes CA cell growth
    - More aggressive type, less responsive to hormone tx
    - Medications used to target the protein

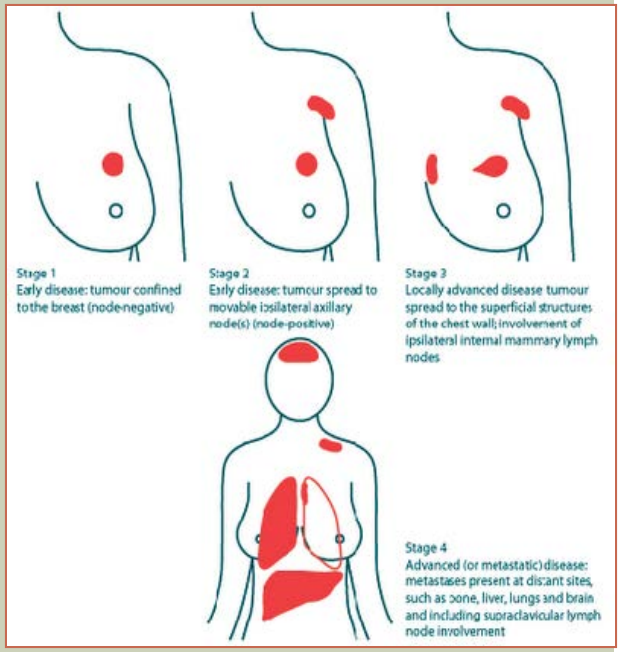


PROGNOSIS FACTORS

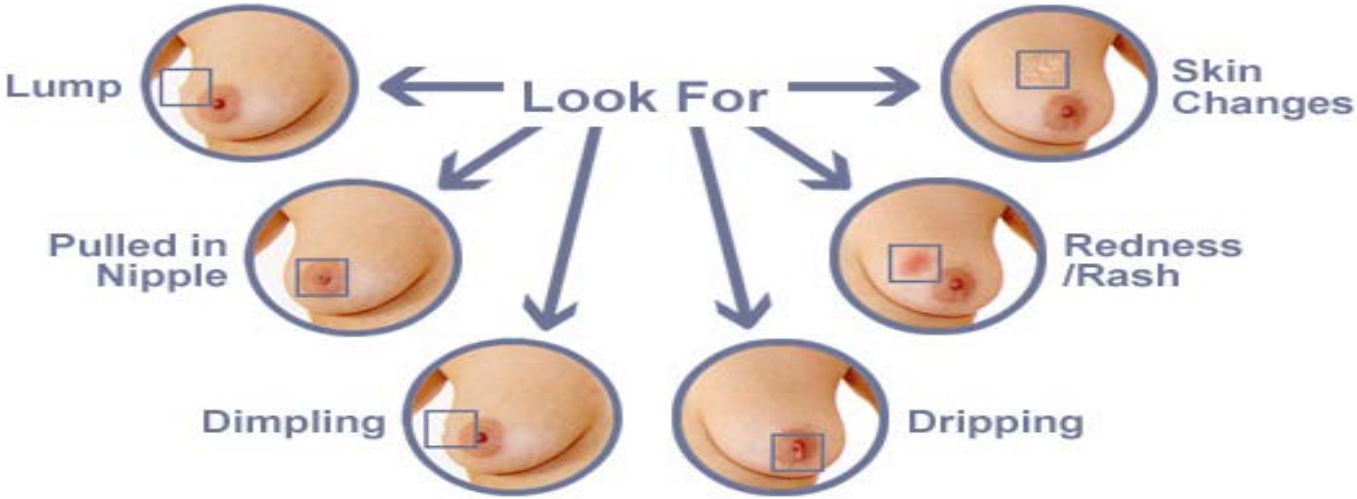
Breast Cancer

Staging or Classification of Tumor

- Stages 0-IV (TNM staging)
  - Size/extent of *tumor*
  - Axillary *node* involvement
  - *Metastasis*
  - (Table 52-6)
- SEER Summary Stage System
  - *Local Stage*: confined to breast
  - *Regional Stage*: spread to nearby tissue or nodes
  - *Distant Stage*: metastasized to distant organs

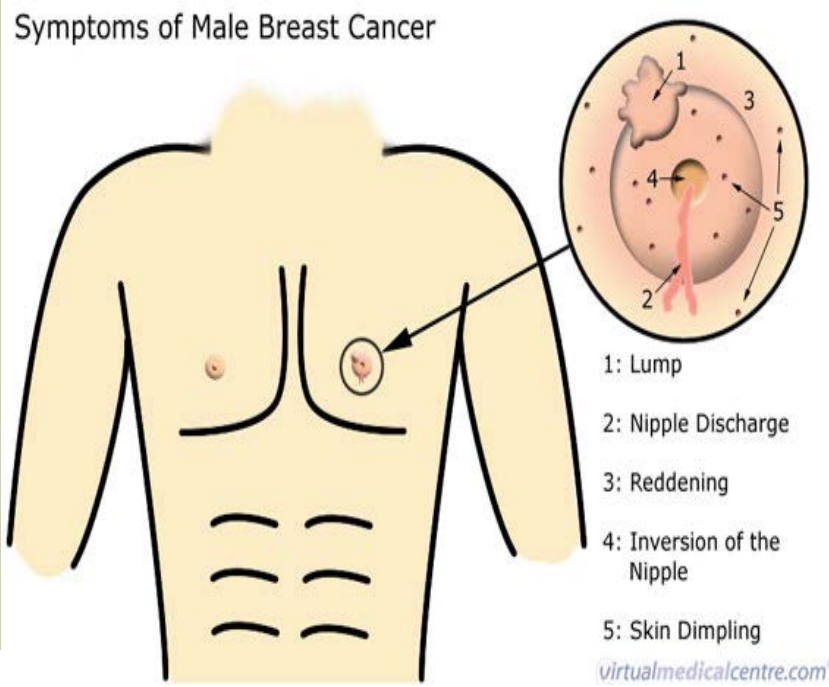


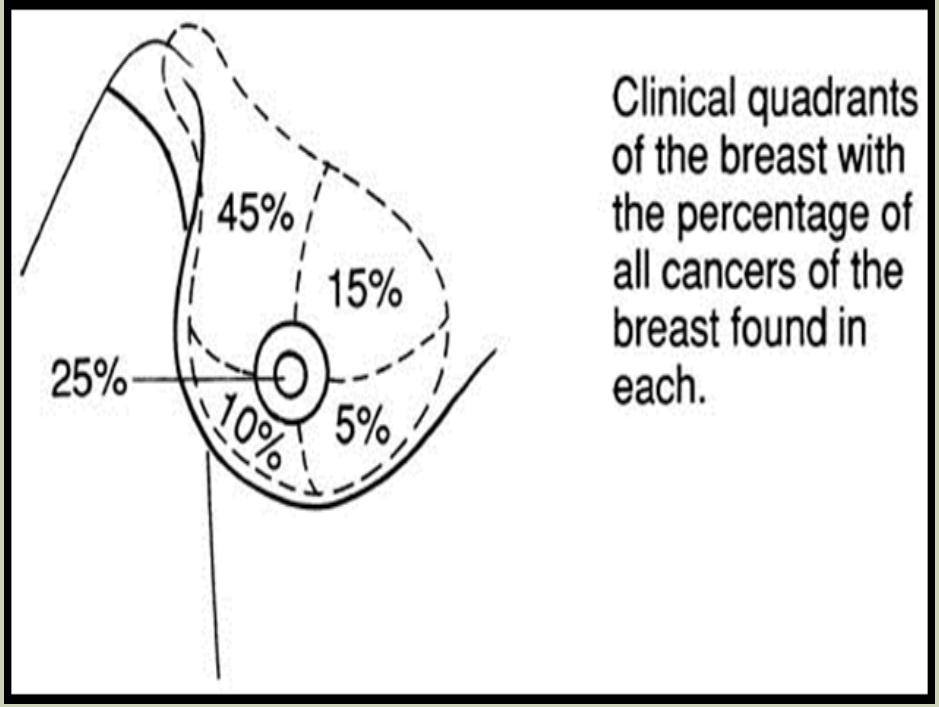
Clinical Manifestations



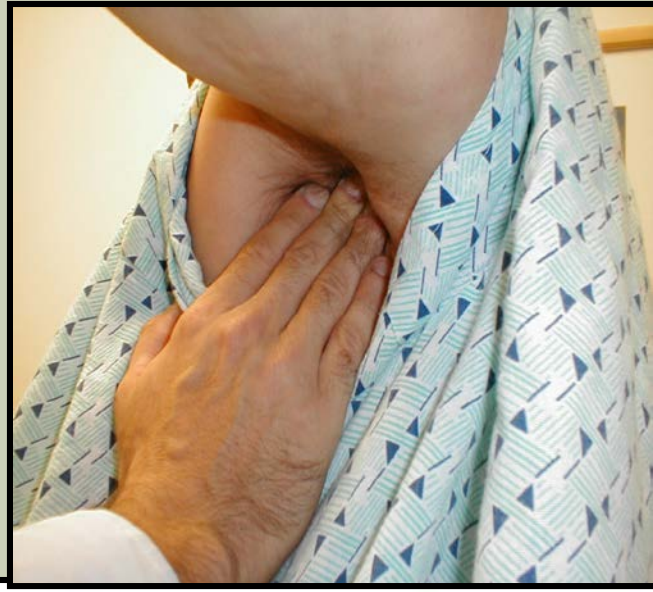
Warning signs and symptoms

- Breast self exam (BSE) may show:
  - Painless lump or thickening
  - Irregularly shaped
  - Nonmobile, firm lump
  - Nipple pain or retraction
  - Skin irritation or dimpling
  - Spontaneous discharge
  - Peau d'orange



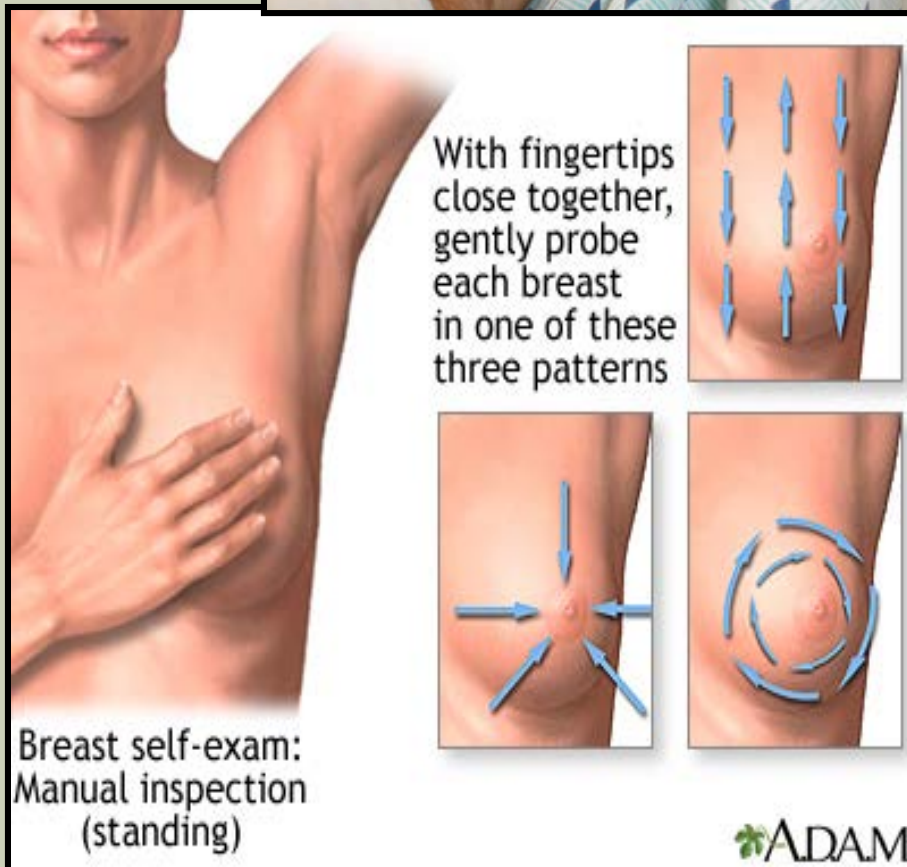


Clinical quadrants of the breast with the percentage of all cancers of the breast found in each.



Breast Self Exam

- ✓ Same time every month
  - Last day of menses unless ?
- ✓ Stand in front of a mirror
- ✓ Lie down and stand

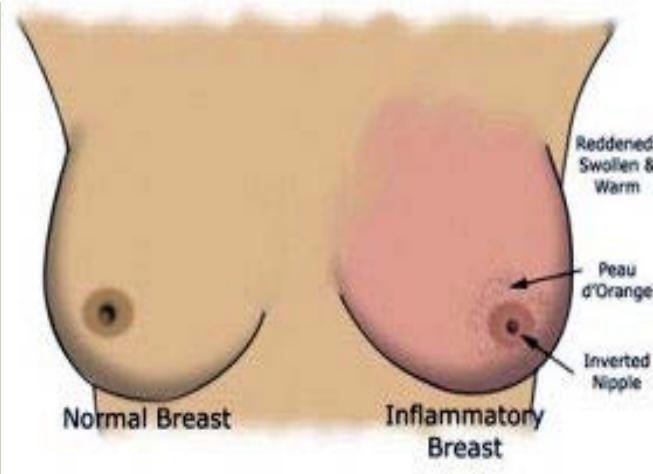


PAGET'S DISEASE

- Rare breast malignancy
  - Persistent lesion of nipple and extends to areola
  - Resembles eczema (itchy, red, discharge, inflamed)
  - Diagnosis of infection or dermatitis may delay tx
  - Usually underlying Ductal Br Cancer

INFLAMMATORY BREAST CANCER

- Most malignant but rare form
- Invasive ductal carcinoma
- Progresses in weeks or months
- Blocks lymph vessels causing inflammation
- Stages III or IV at diagnosis
- Symptoms
  - Red
  - Warm
  - Peau d'orange
- Misdiagnosed as an infection

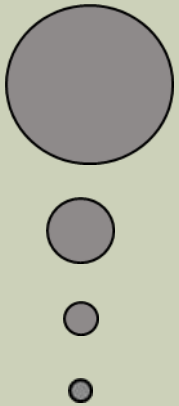


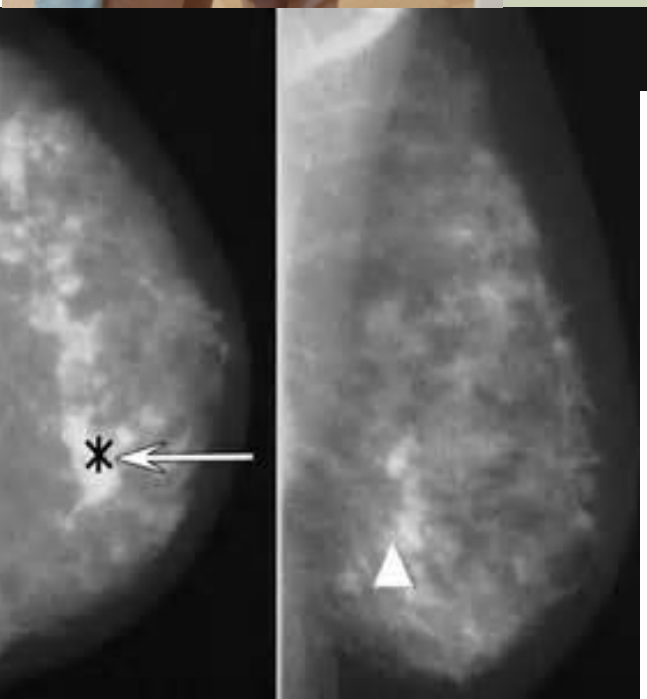
MAMMOGRAPHY

Diagnostic Studies

Average-size lump found by:

- Occasional breast self exam (BSE)
- Regular breast self-exam (BSE)
  - First mammogram
  - Regular mammograms



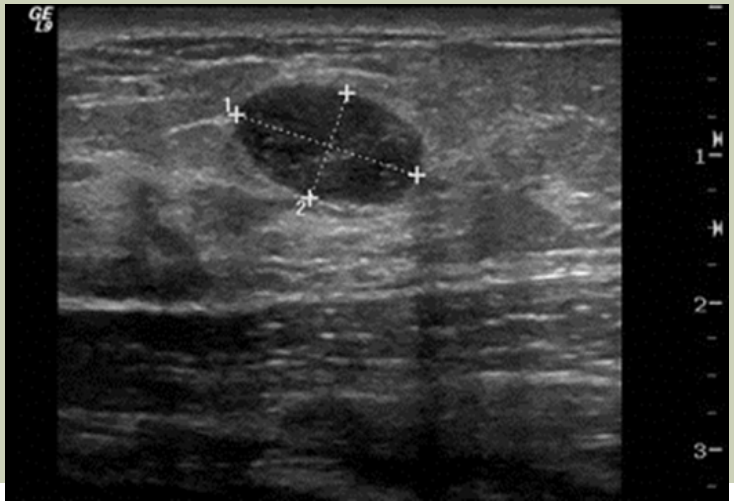


- Detects 80-85% in asymptomatic ♀
- Screening Recommendations
  - ACS: *annually* ≥ 45 yrs
  - US Prev.Task Force: q two yrs ≥50yrs
- Pt Education/Preparation
  - No deodorants/lotion/powders
  - Discomfort varies but not lengthy

DIAGNOSTIC STUDIES

Breast Cancer

- Ultrasonography
  - Used for further characterization
  - Helpful with dense tissue
  - Differentiating cysts from solid lesions
  - Used during biopsy to locate lesions



DIAGNOSTIC STUDIES

Breast Cancer

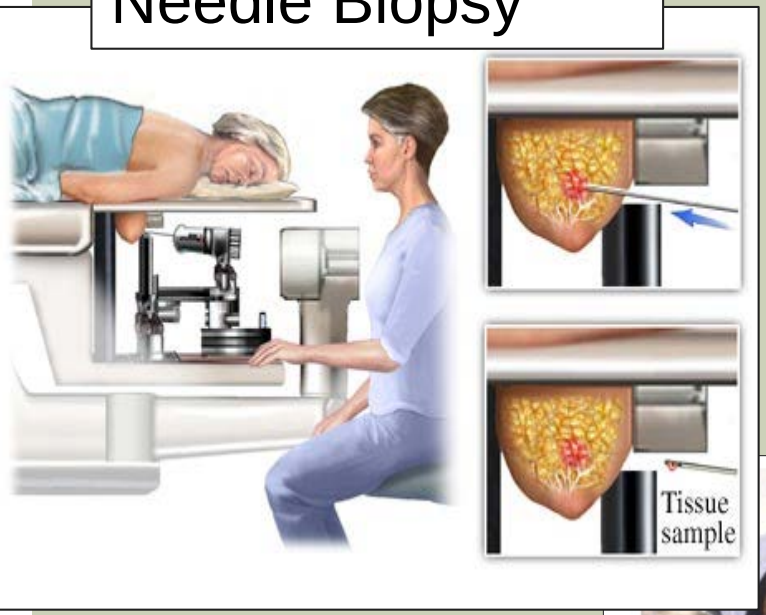
Biopsies

- Fine Needle Aspiration (FNA)
  - Cytological analysis of fluid & tissue
- Core Needle biopsy
  - Larger gauge than FNA
  - Often guided with US or CT scan
  - Diagnostic but not removal
- Open incisional or excisional biopsy
  - Removes entire tumor or part of large tumor
  - Local, regional or general anesthesia

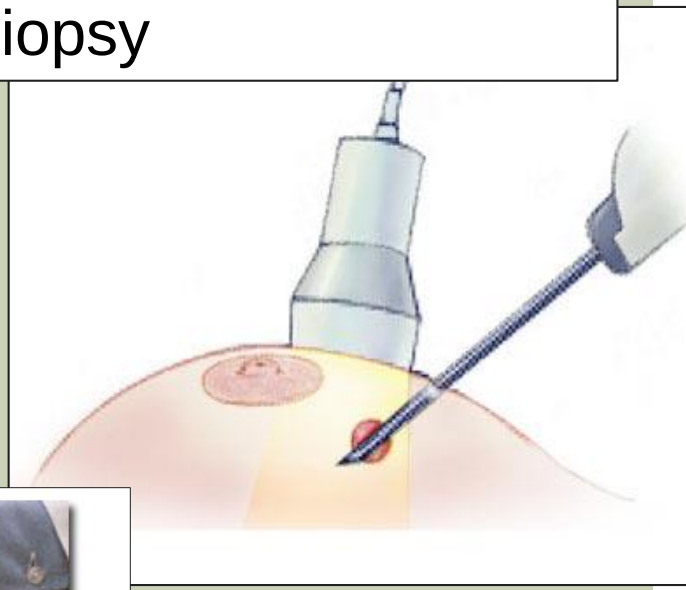
DIAGNOSTIC STUDIES

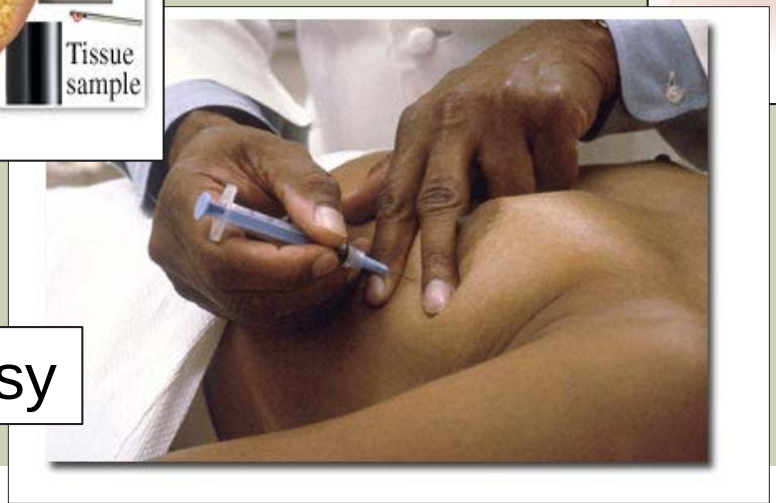
Breast Cancer

Stereotactic Core Needle Biopsy



Ultrasonographic guided core needle biopsy



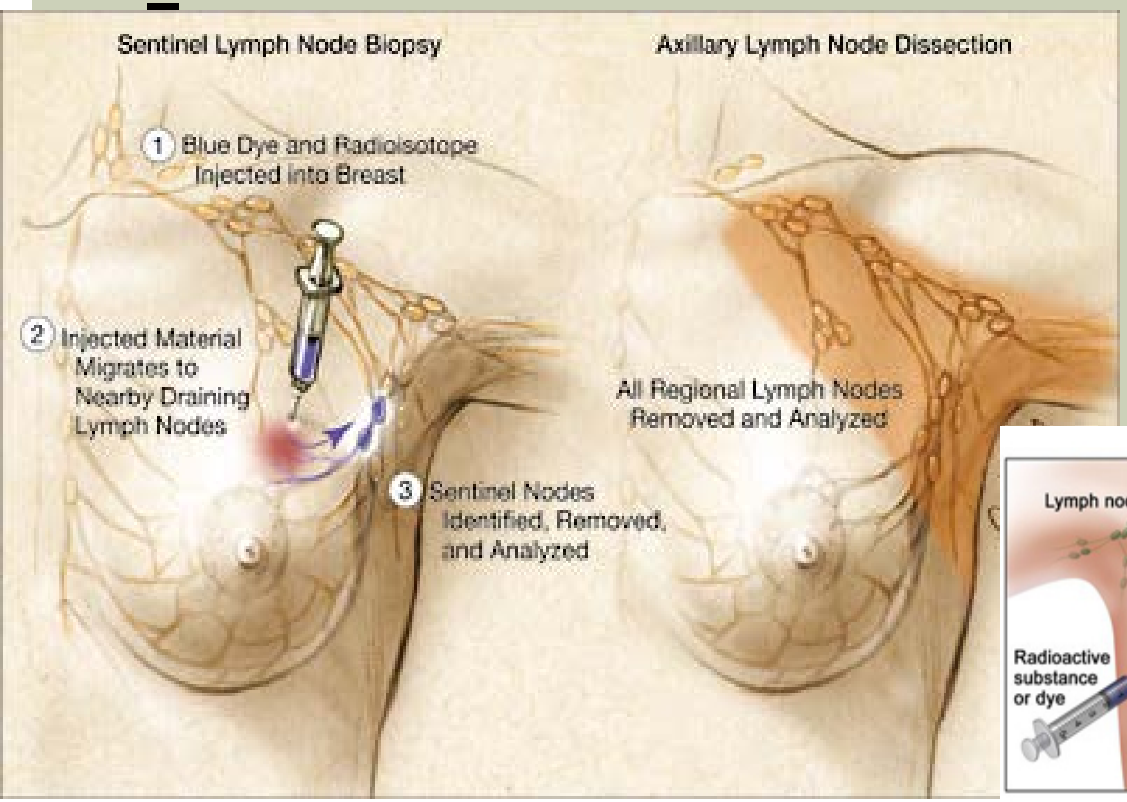


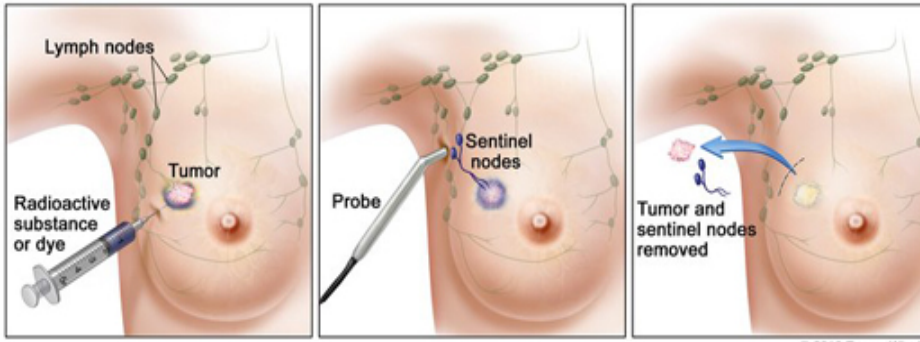
Fine Needle Biopsy

DIAGNOSTIC STUDIES

Breast Cancer

- Axillary lymph node dissection (ALND)
  - Most important in determining prognosis
  - ≥4 + nodes = increased risk of reoccurrence
- Sentinel lymph node dissection (SLND) with lymphatic mapping





PROGNOSTIC MARKERS

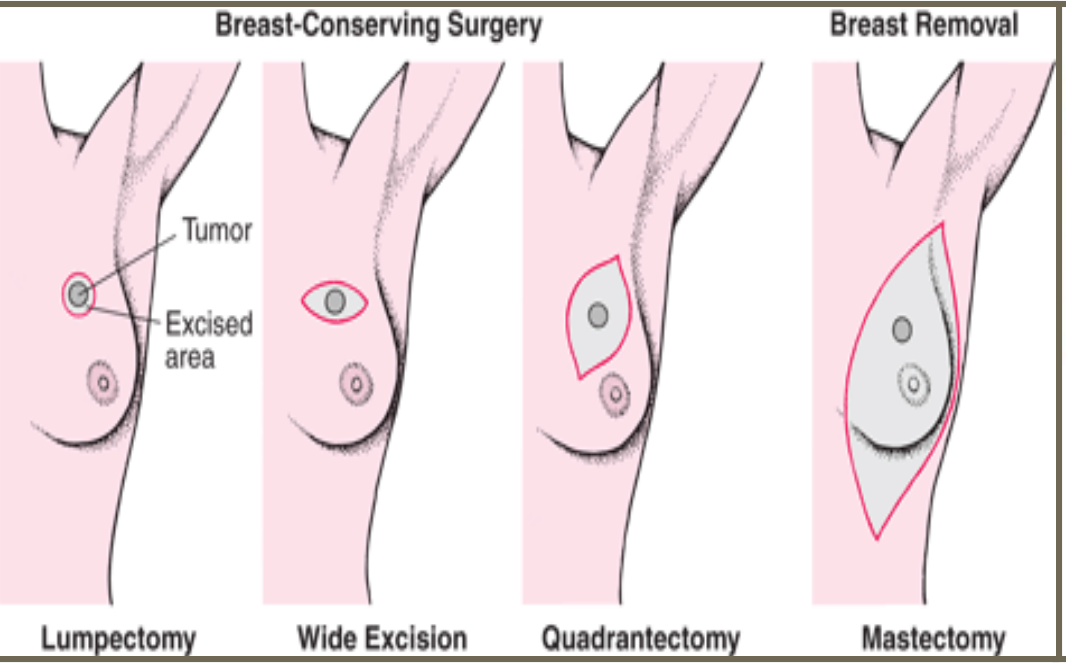
Breast Cancer

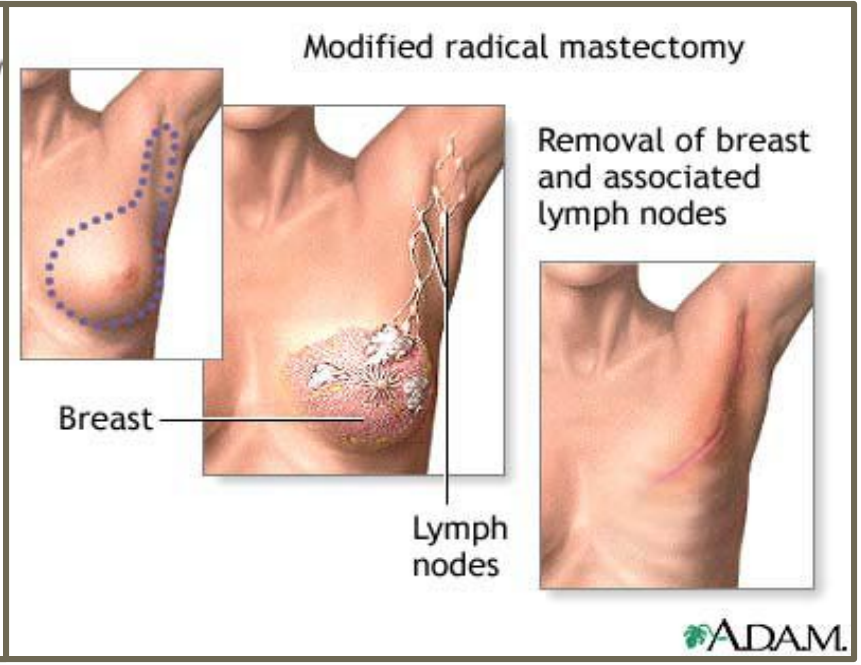
- Hormone Receptor Status
  - Estrogen and progesterone (ER+, ER-, PR+, PR-)
- HER2 Receptor Status
  - Biopsy or serum (biopsy preferred)
  - ↑+ receptors assoc. with aggressive tumor growth
- Triple Negative Status
  - Poor prognosis
- Genetic testing: BRCA 1 and BRCA 2
  - Serum or oral collection
- Genomic assay: MammaPrint and Oncotype DX
- Tumor Markers: CA 15-3, CA 27-29

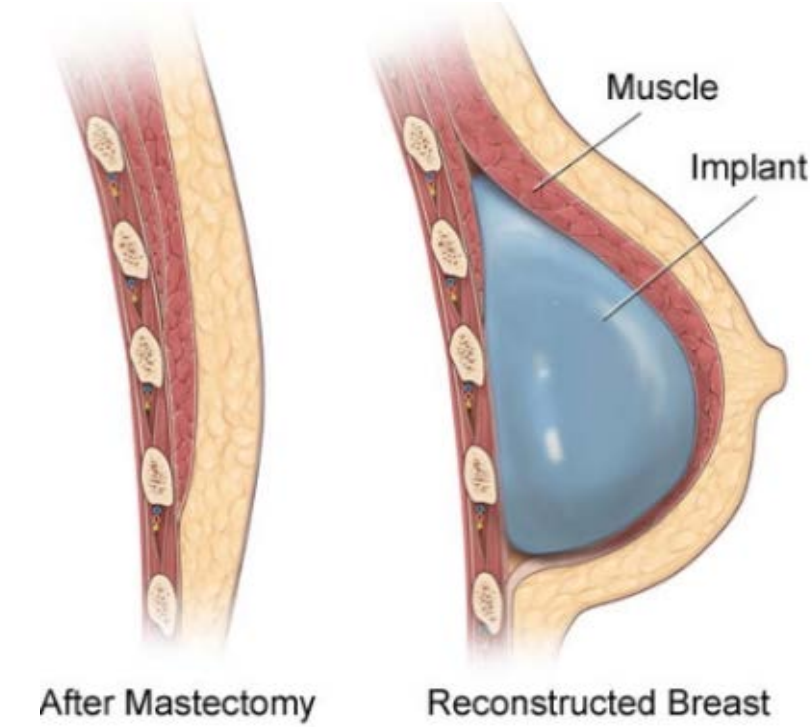
SURGICAL TREATMENT

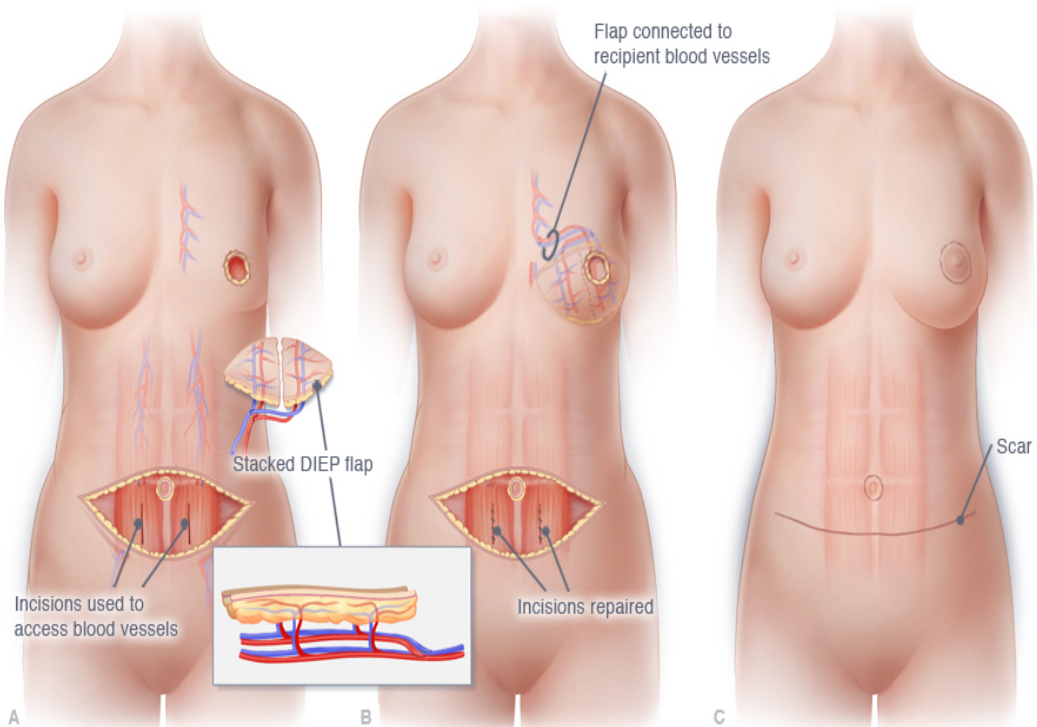
Breast Cancer

- Lumpectomy + Radiation (breast conservation)
  - Removal of tumor & margin of surrounding tissue
- Modified Radical Mastectomy
  - Removal of breast (preserving pectoralis muscle)
  - ALND or SLND (SLND preferred unless?)
- Radical Mastectomy
- Reconstructive Surgery
  - Tissue Expansion and Breast Implants
  - Breast Reconstruction Flap Procedures
- Skin-Sparing mastectomy (SSM)
  - Resection of nipple-areola complex followed by reconstruction


Breast-Conserving Surgery
Breast Removal
Tumor
Excised area
Lumpectomy
Wide Excision
Quadrantectomy
Mastectomy

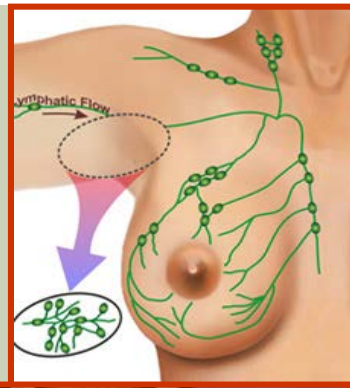

Modified radical mastectomy
Removal of breast and associated lymph nodes
Breast
Lymph nodes
ADAM.


Muscle
Implant
After Mastectomy
Reconstructed Breast


Flap connected to recipient blood vessels
Stacked DIEP flap
Incisions used to access blood vessels
Incisions repaired
Scar
A
B
C

COMPLICATIONS

Breast Cancer



- Recurrence / Metastasis
  - Occurs primarily thru lymphatics
  - Bone, Brain, Lung, Liver
- Lymphedema
  - Lymphatic obstruction
  - D/t node removal, surgery, radiation
  - S/S
    - Pain
    - Cellulitis
    - Impaired perfusion to extremity
- Treatment
  - Elevation, sleeves, exercise, weight loss
  - Avoid venipuncture or B/P on affected side.

HORMONE THERAPY (ANTI-ESTROGENS)

Breast Cancer

- SERMs (selective estrogen receptor modulators)
  - Selectively blocks action of estrogen in certain tissue(breast) but mimics estrogen in other tissues (endometrium).
  - Prophylaxis, shrinks tumors, ↓ risk of recurrence
  - **tamoxifen** (Nolvadex)
  - *Side Effects??*
  - Risks in post menopausal women
    - Blood clots, cataracts, stroke, endometrial CA
- New SERMs on the scene
  - toremifene(Fareston)
  - raloxifene(Evista):anti-estrogenic to BR & uterus(+bone)
    - ↓ risk of _____

HORMONE THERAPY (ANTI-ESTROGENS)

Breast Cancer

- SERD (selective estrogen receptor down-regulator)
  - Decreases concentration of estrogen receptors
  - fulvestrant (Faslodex)
  - Postmenopausal, no longer responding to tamoxifen
  - ↓risks of endometrial ca, ↓ side effects
- Aromatase Inhibitors (AI)
  - Blocks tissues from producing estrogen (except ovaries)
  - Used in postmenopausal women or post oopherectomy
  - anastrazole (Arimidex®), exemestane (Aromasin®), letrozole (Femara®).
- Side Effects?? Bone loss, stroke, blood clots

NONSURGICAL TREATMENT

Breast Cancer

Biological Therapy

Herceptin (trastuzumab)

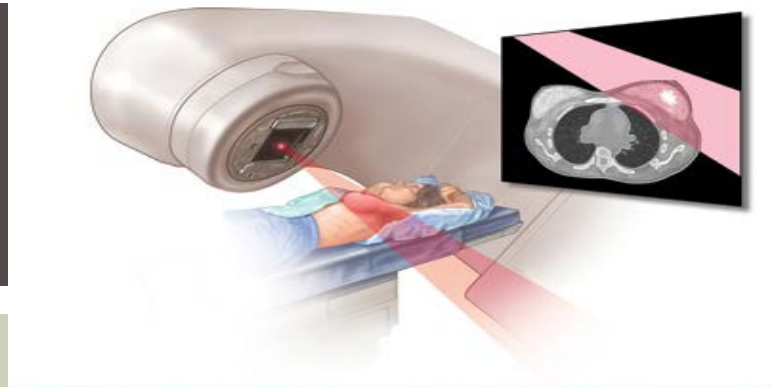
- Attaches to excess HER2 protein molecules & inhibits cancer growth
- *Side effects*
  - flu-like symptoms

Chemotherapy

Cytotoxic drugs: destroy rapidly dividing cells

- Cancer cells, bone marrow, digestive tract, hair follicles
- Used for neoadjuvant, adjuvant & palliative therapy
- *Side effects* ???
  - N&V, mucositis, alopecia, pancytopenia

NONSURGICAL TX FOR BREAST CA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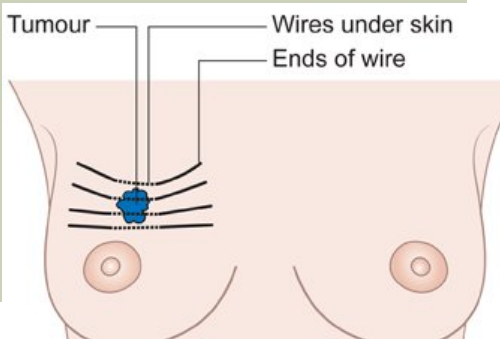
Radiation Therapy

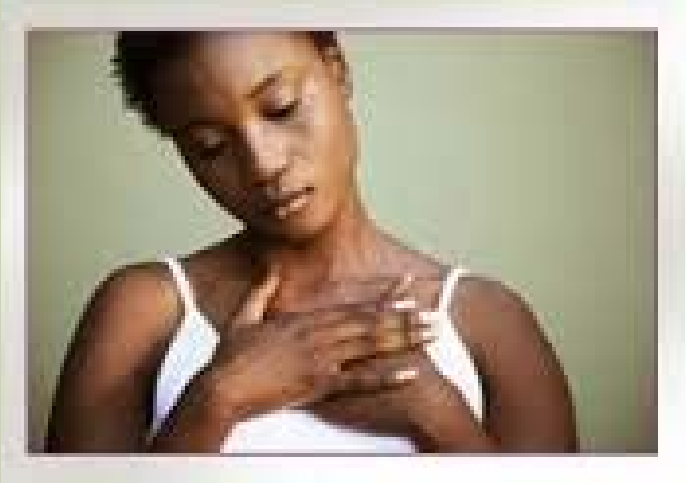
- Ionizing radiation to control or kill malignant cells
  - Primary Tx: prevent recurrences after lumpectomy
  - Adjuvant Tx: after mastectomy to prevent nodal spread
  - Palliative Tx: control pain caused by recurrence
- **High Dose Brachytherapy** (internal irradiation)
  - Balloon catheter placed after tumor removal
  - Radioactive seeds inserted to focused site
  - 5 days of treatment vs 5-6 weeks
- **Side Effects:**
  - Fatigue, Skin changes, Breast edema



NURSING INTERVENTIONS

Breast Cancer

- Health History (patient and family)
- Medications
- Lifestyle / Health Patterns
- Effective coping
- Decision making patterns



- Anxiety r/t a situational crisis and unpredictable outcome
- Disturbed body image r/t perceived effects of mastectomy

NURSING INTERVENTIONS

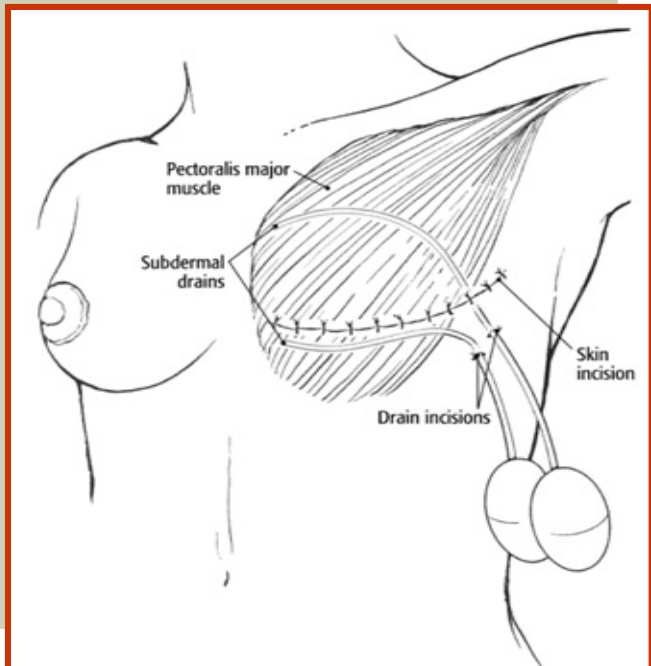
Breast Cancer

- Pre-op Care (lumpectomy, mastectomy, ALND)
  - Teaching
    - Turning, cough & deep breathing, IS
    - Dressing & JP drain
    - Pain
    - Exercises (ROM)

POST-OP CARE

Breast Cancer

- **Acute Pain** r/t tissue trauma & manipulation
- **Impaired physical mobility** r/t weakness and muscle loss
- **Risk for infection** r/t site or organism invasion
- **PC: Lymphedema** r/t impaired lymphatic drainage
- **PC: Pneumonia** r/t post-operative thoracic/abdominal surgery



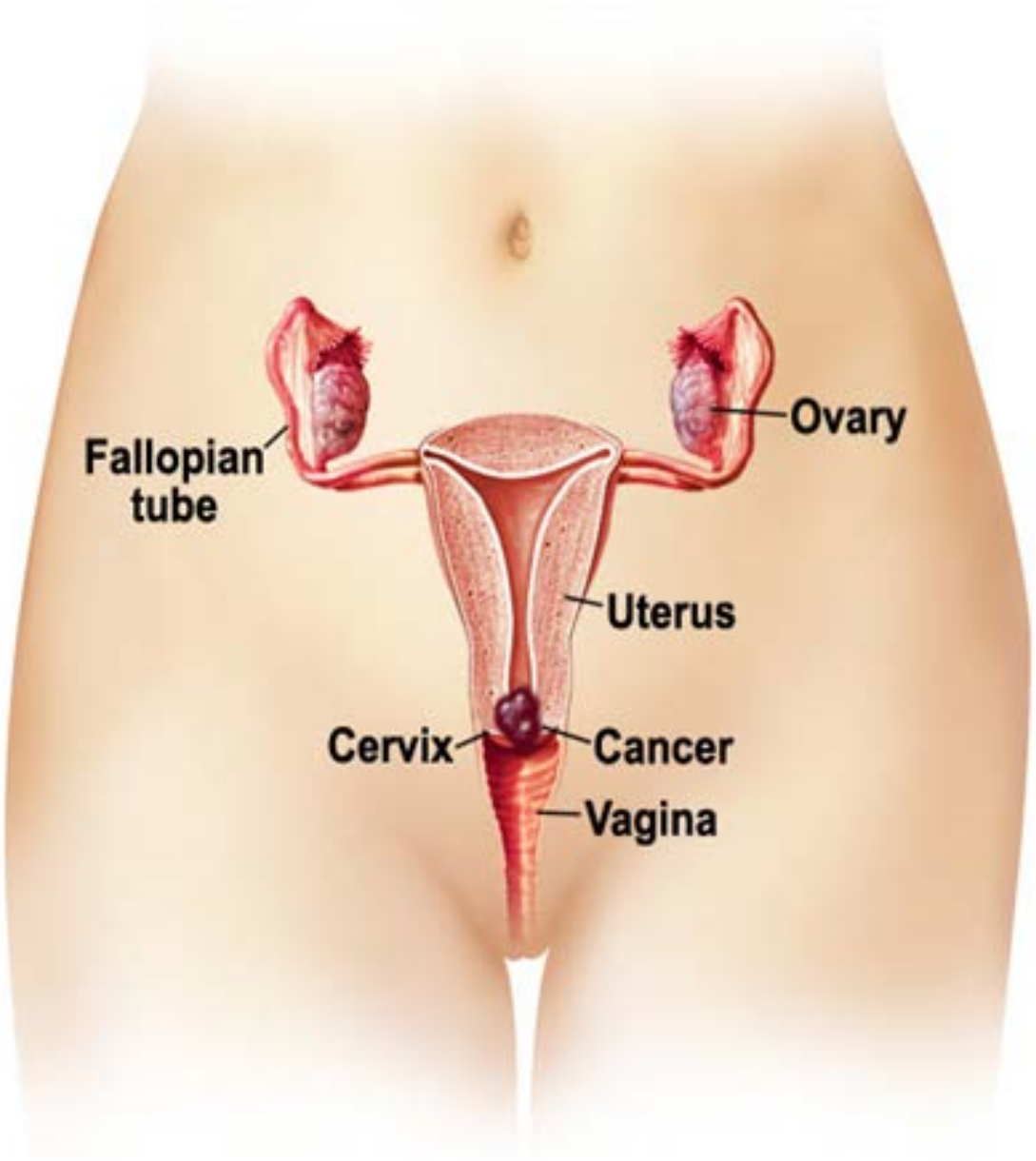
SURVIVORSHIP TEACHING

American Cancer Society®

- Follow up care for life
  - Every 6 months for 2 years
  - Annually thereafter
- BSE monthly
  - May reoccur at surgical site
- Mammogram every 6 months or yearly
  - Depends on risk of recurrence + history

- Adopt a healthy lifestyle
  - Diet high in plant sources, low fat
  - Exercise regularly

Cervical Cancer



ETIOLOGY

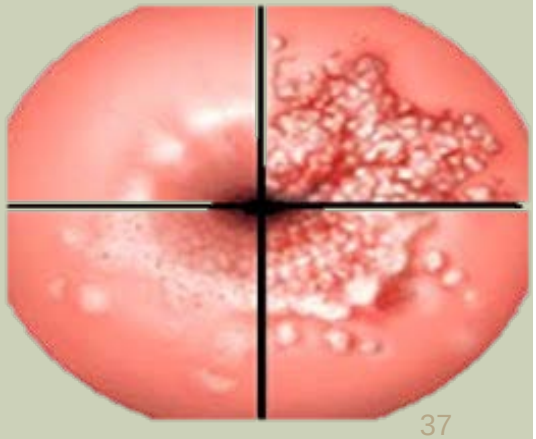
Cervical Cancer

- Annually 12,000 (33% mortality rate)
- In situ 4x more common than invasive
- Most common in African American♀(2x higher)
- Increased risk:
  - Low socioeconomic status
  - Early sexual activity
  - Smoking
  - Infection with HPV (human papillomavirus)
- Prevention
  - Pap Test (papanicolaou)
  - Vaccines (Gardasil, Cervarix)

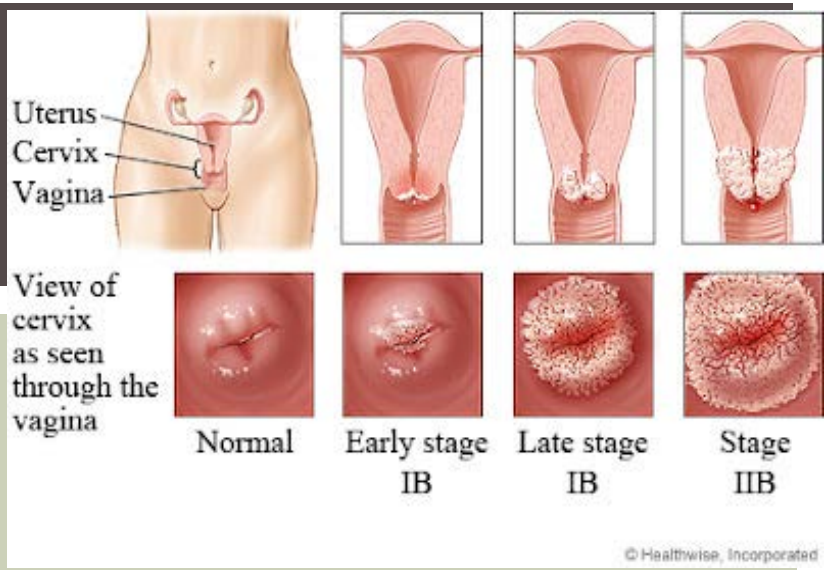
PATHOPHYSIOLOGY

Cervical Cancer

- Slow progression from cellular dysplasia to invasive cervical cancer.
- Caused by infection
- Dysplasia linked to:
  - Repeated injuries/ infections in the cervix
  - 70% caused by HPV type 16 & 18
- Squamous cell carcinoma 90%
- Adenocarcinomas 10-20%



CLINICAL MANIFESTATIONS



- Early 30s
  - Peak age - *in situ* cervical ca
- Age 50s
  - Peak age for invasive cervical cancer
- Asymptomatic in early stage
- Intermenstrual bleeding (metrorrhagia)
- Leukorrhea
- Late symptoms
  - Discharge dark w/ foul odor
  - Heavier bleeding
  - Pain
  - Cachexia

Cervical Cancer

DIAGNOSTIC STUDIES

Cervical Cancer

- Annual Pap Test
  - Initiate 3 yrs after first intercourse
  - ≥ 21 yrs old
- Pap Test q2-3 yrs
  - >30 yrs old (if 3 consecutive norm. paps)
- If mildly abnormal Pap Test result
  - Repeat in 4-6 mo for 2 years
- HPV DNA Test (16 and 18)
- Colposcopy
- Biopsy (with or without excision)
  - Punch
  - Cone
  - LEEP: (loop electrosurgery excision procedure)

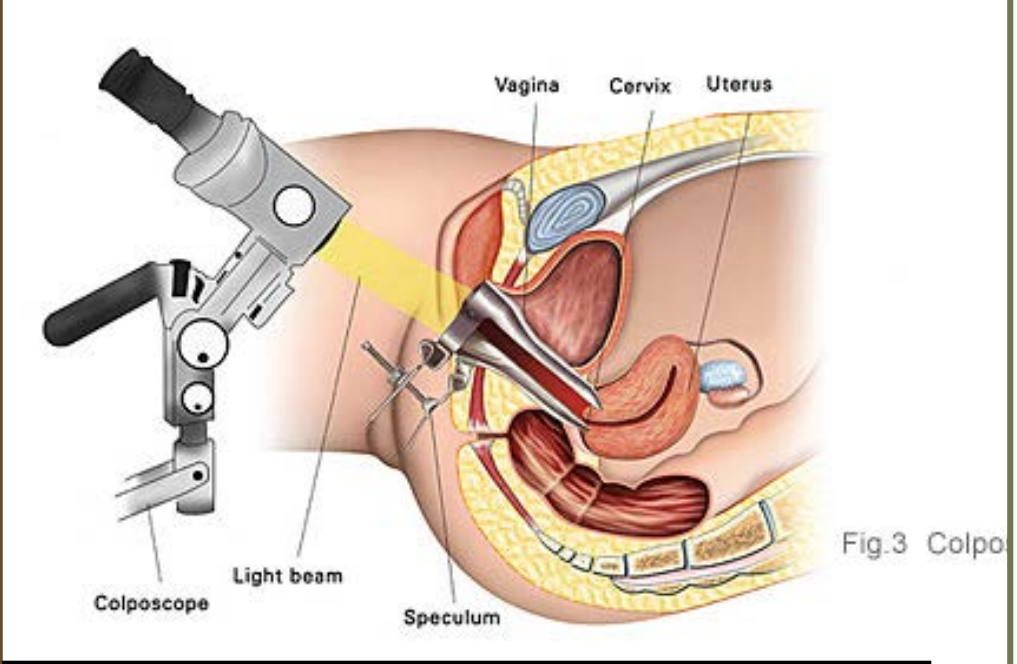
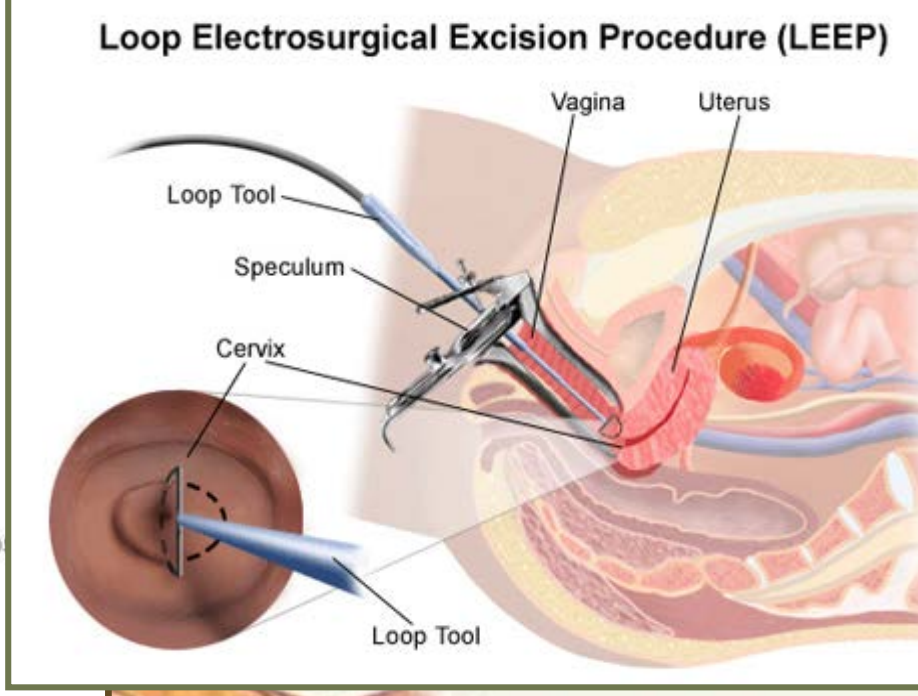
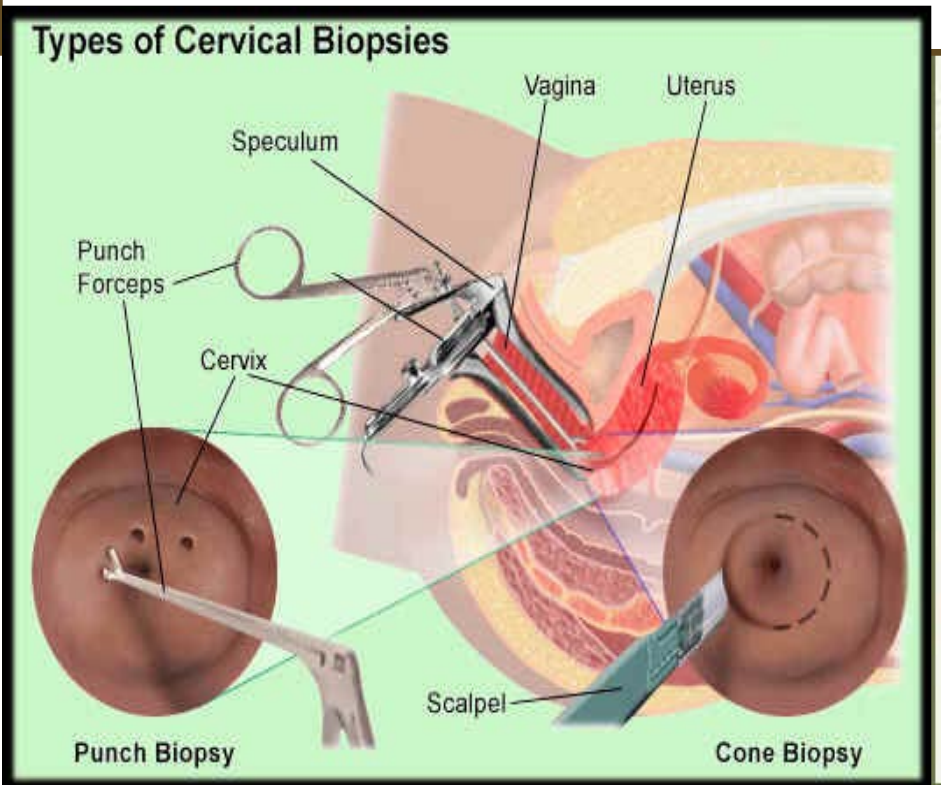
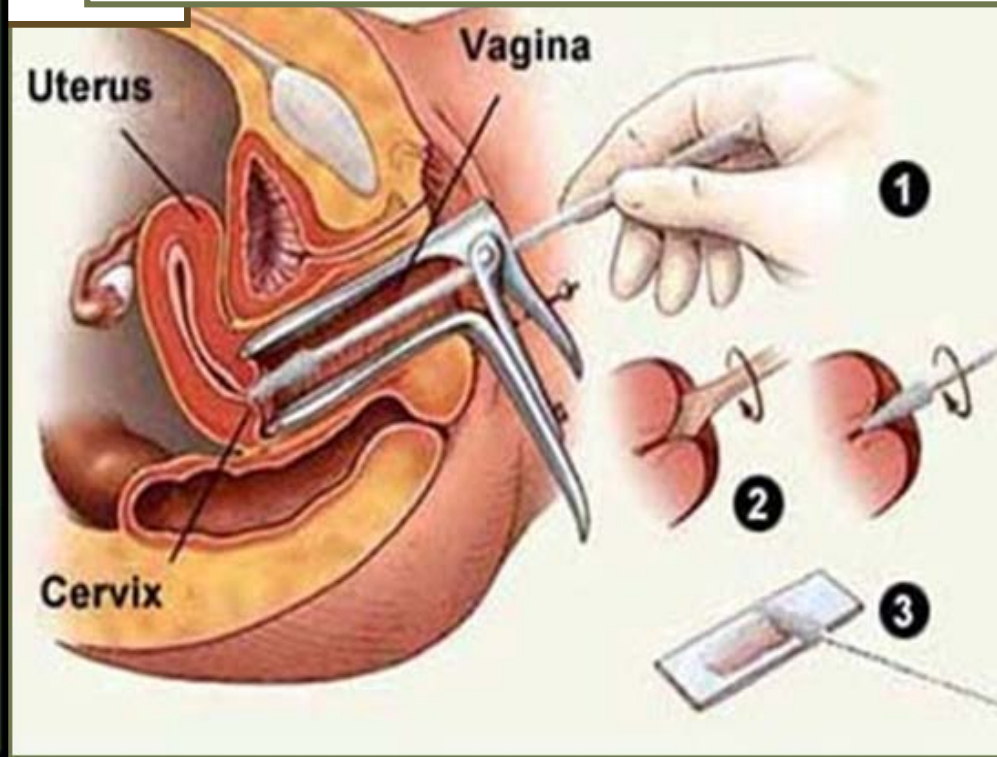

Vagina
Cervix
Uterus
Light beam
Colposcope
Speculum

Fig.3 Colpo


Loop Electrosurgical Excision Procedure (LEEP)
Vagina
Uterus
Loop Tool
Speculum
Cervix
Loop Tool


Types of Cervical Biopsies
Vagina
Uterus
Speculum
Punch
Forceps
Cervix
Scalpel
Punch Biopsy
Cone Biopsy


Uterus
Vagina
Cervix
1
2
3

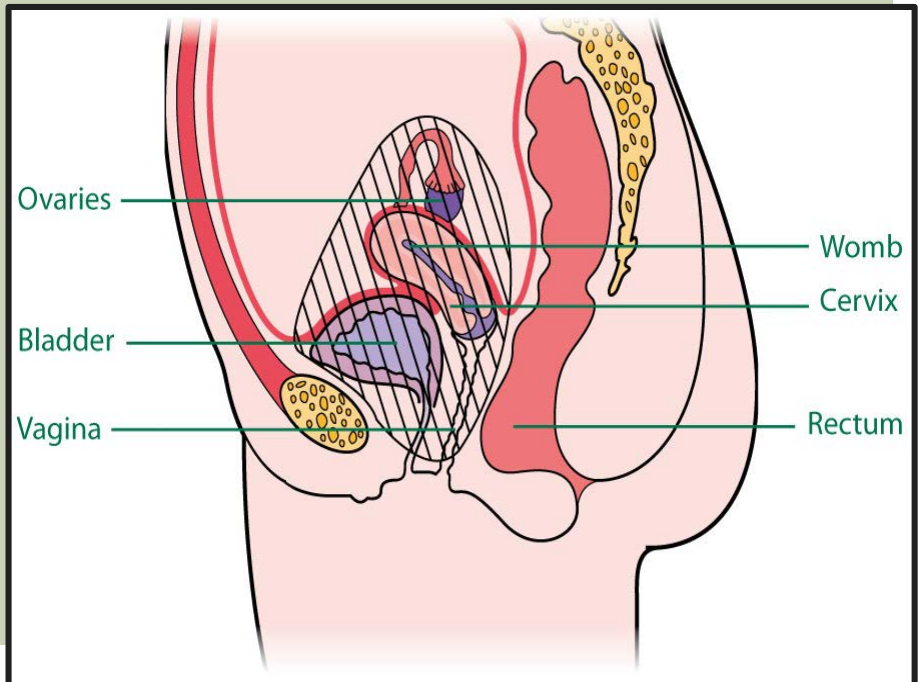
STAGING & TX OF CERVICAL CANCER

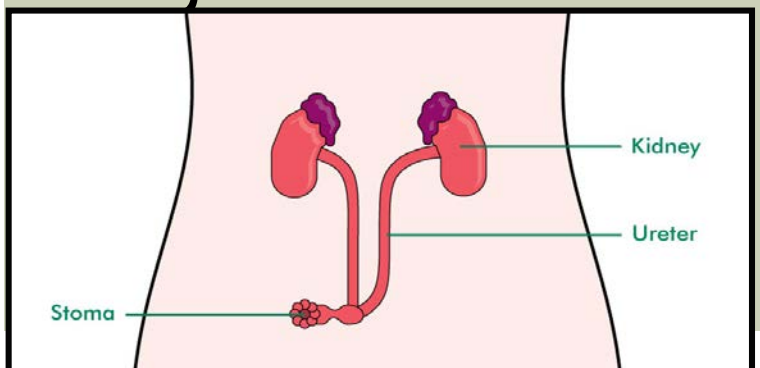
- Stage 0 (*in-situ*)
  - Tx: conization, cryo or laser, total hysterectomy
- Stage I (*confined to the cervix*)
  - Tx: radiation, radical hysterectomy
- Stage II *(beyond cervix but not to the pelvic wall or lower vagina)*
  - Tx: radiation, chemotherapy, radical hysterectomy
- Stage III (*to pelvic wall & lower vagina, hydronephrosis*)
  - Tx: radiation, brachytherapy, chemotherapy
- Stage IV (*beyond pelvis or mucosa of bladder or rectum)*
  - Tx: radiation, chemotherapy, pelvic exenteration

PELVIC EXENTERATION

Cervical Cancer

- AKA Pelvic Evisceration
- Most extensive pelvic surgery
- Removal of bladder, urethra, rectum, vagina, radical hysterectomy, lymph nodes
- Colostomy
- Ileal Conduit
- Vaginal reconstruction

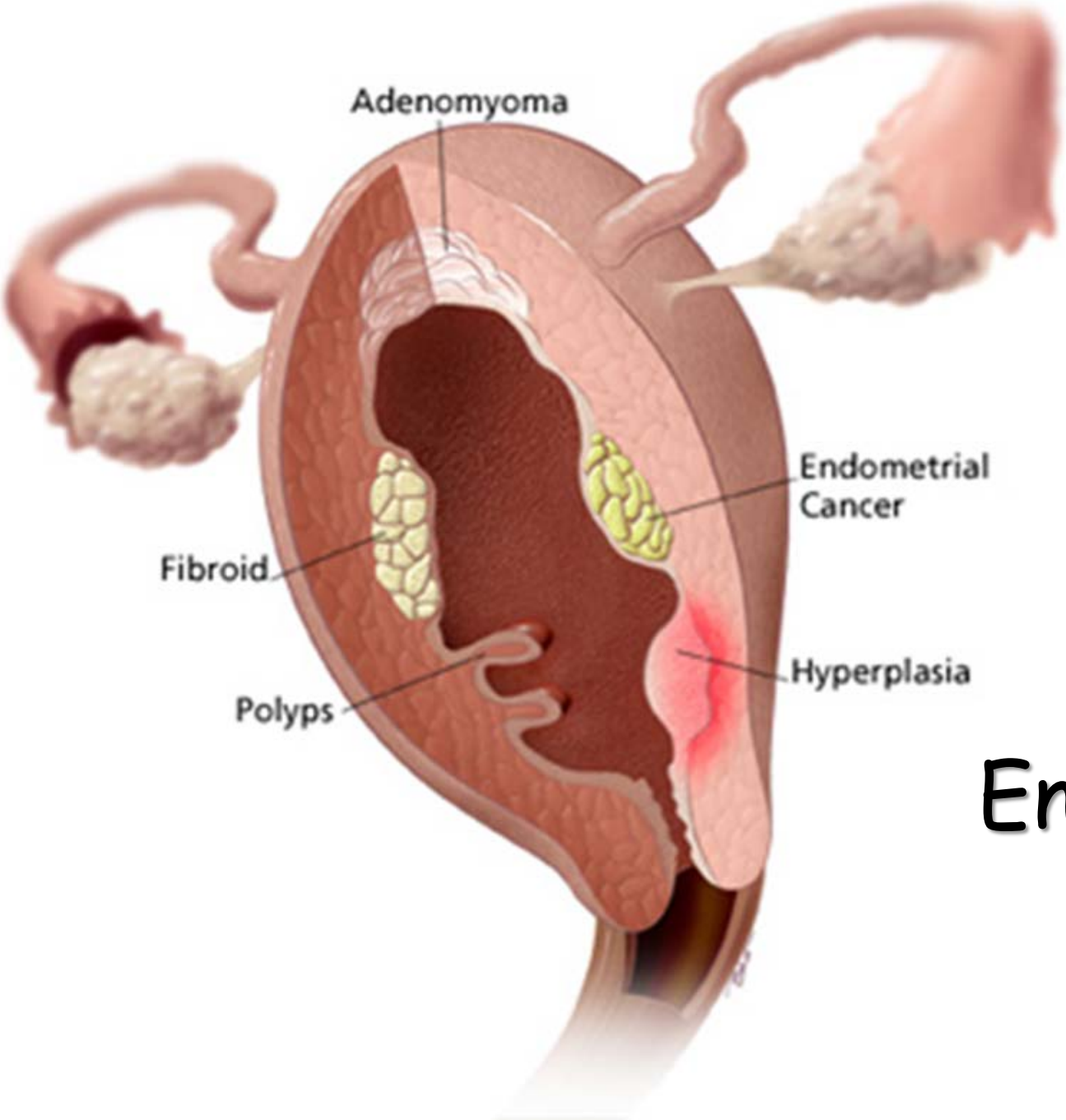




COLLABORATIVE CARE

Cervical Cancer

- Teaching
  - HPV vaccine & early treatment
  - Annual pap smears
  - Teaching of causes & preventive measures
- Managing side effects of medication
- Manage post surgical sequelae
  - See hysterectomy care
- Psycho-social well being



Endometrial Cancer

ETIOLOGY

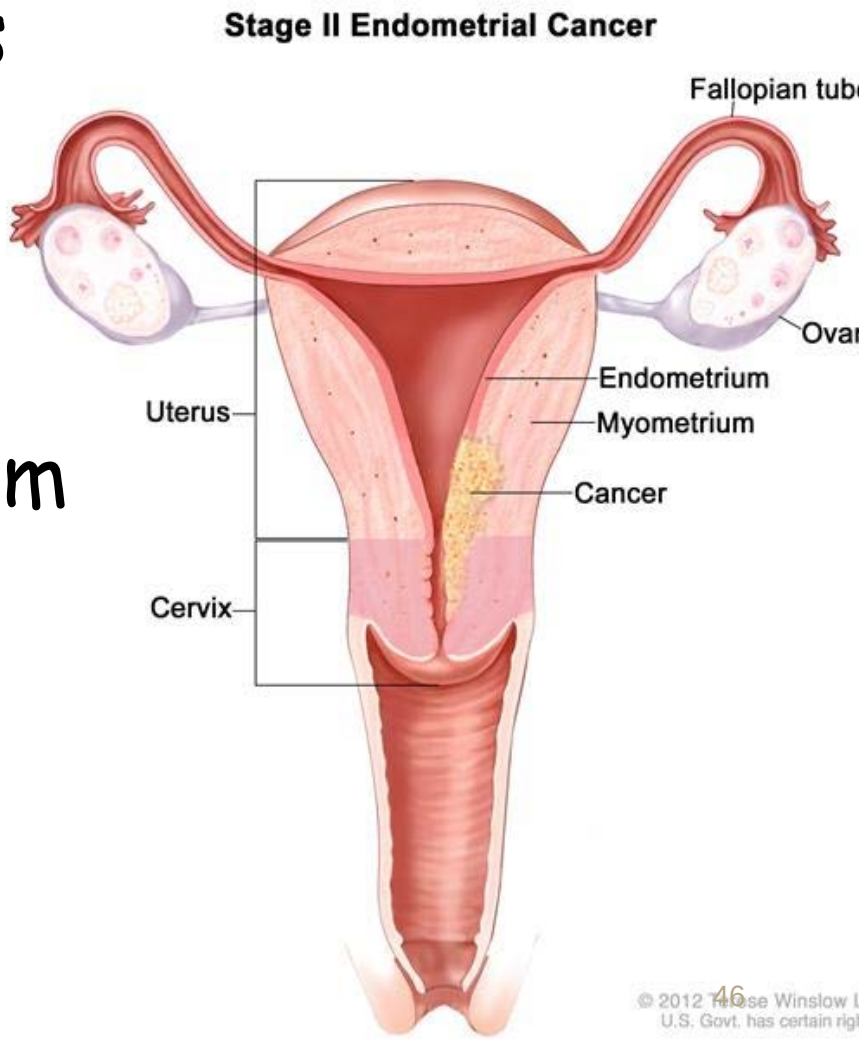
Endometrial Cancer

- Most common cancer of female repro sys
- 42,160 diagnosed annually
- 7,780 deaths annually (18% mortality)
- Survival rate: 95%
- Protective Factors: OCPs, multiparity
- Risk Factors
  - Unopposed estrogen
  - Age
  - Obesity
  - Smoking
  - Family hx of hereditary nonpolyposis colon cancer (HNPCC)

PATHOPHYSIOLOGY

Endometrial Cancer

- Hyperplasia progresses to carcinoma
- Tumors usually adenocarcinomas
- Invades the myometruim then regional lymph nodes
- Sites of metastases
  - Lung, liver, bone, brain



CLINICAL MANIFESTATIONS

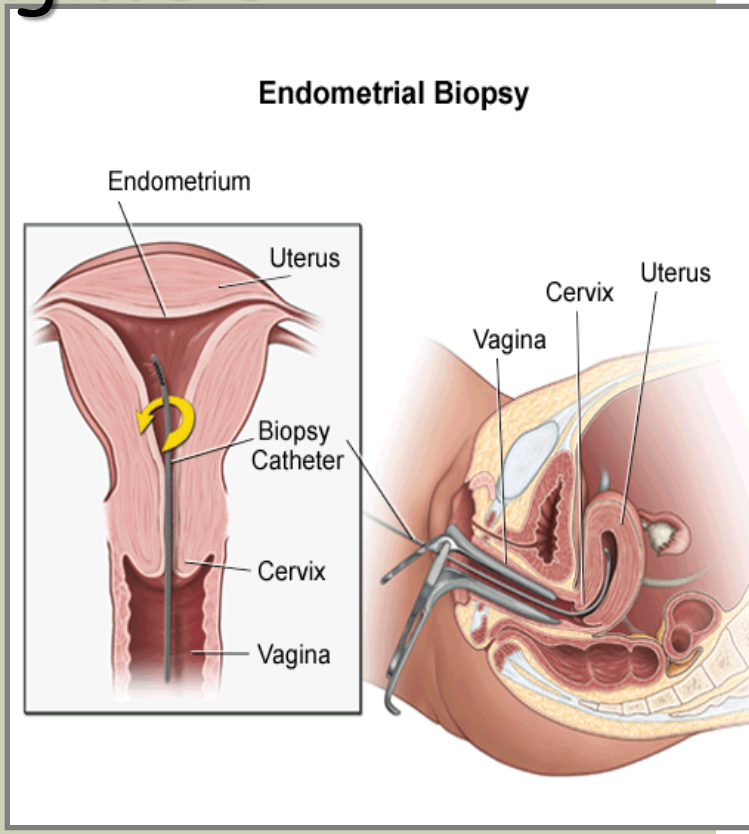
Endometrial Cancer

- Irregular vaginal bleeding
- Irregular perimenopausal bleeding??
- Post menopausal bleeding
- Late Signs
  - Weight lost
  - Pelvic pain
  - Abdominal mass
  - S/S metastasis to other organs

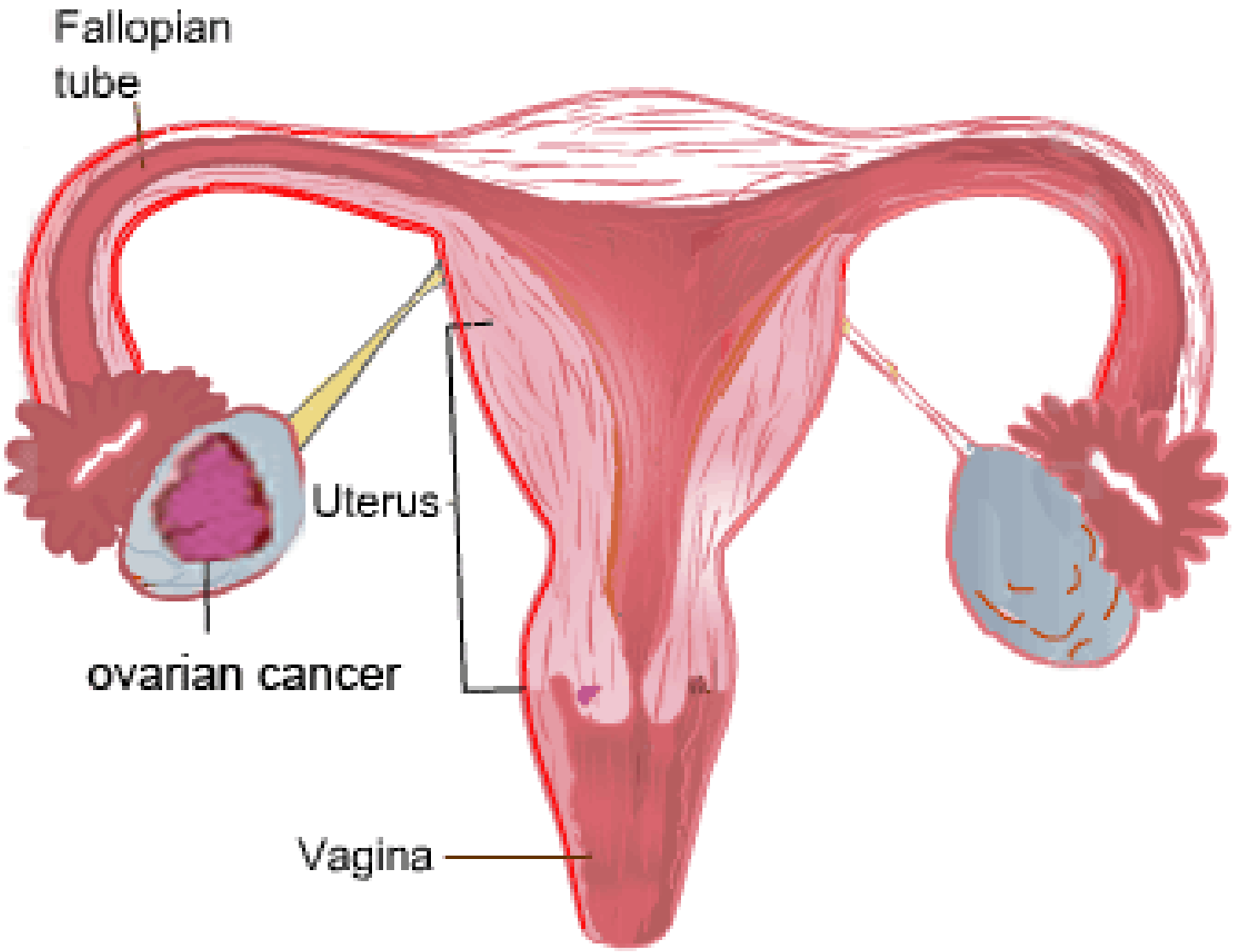
COLLABORATIVE CARE

Endometrial Cancer

- Endometrial biopsy for diagnosis
- PR-, ER-: poor prognosis
- Treatment
  - TAH w/ BSO
  - Lymph node biopsies
  - Radiation
  - Chemotherapy
  - Megestrol (Megace) if PR+
  - Tamoxifen (Nolvadex) if ER+



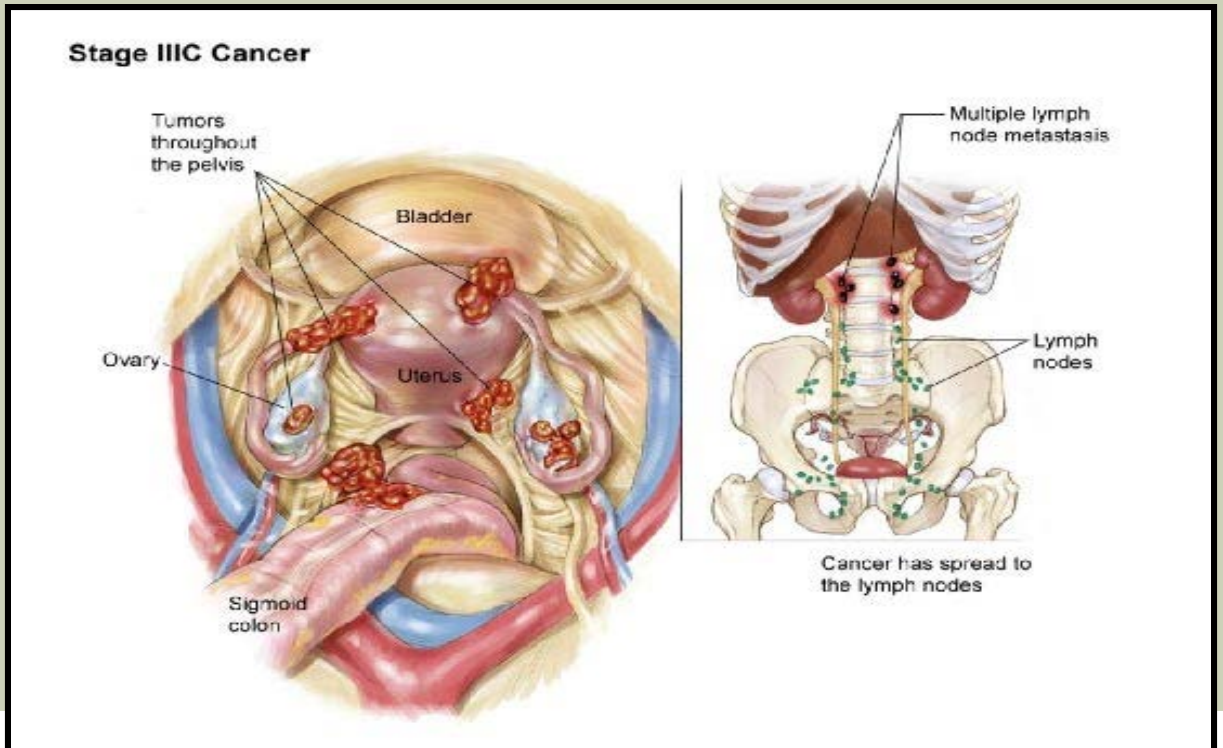
Ovarian Cancer



INCIDENCE

Ovarian Cancer

- Malignant neoplasm of the ovaries
- 2nd most common CA of female repro sys
- 21,550 diagnosed annually (67.7% mortality)



RISK FACTORS

Ovarian Cancer

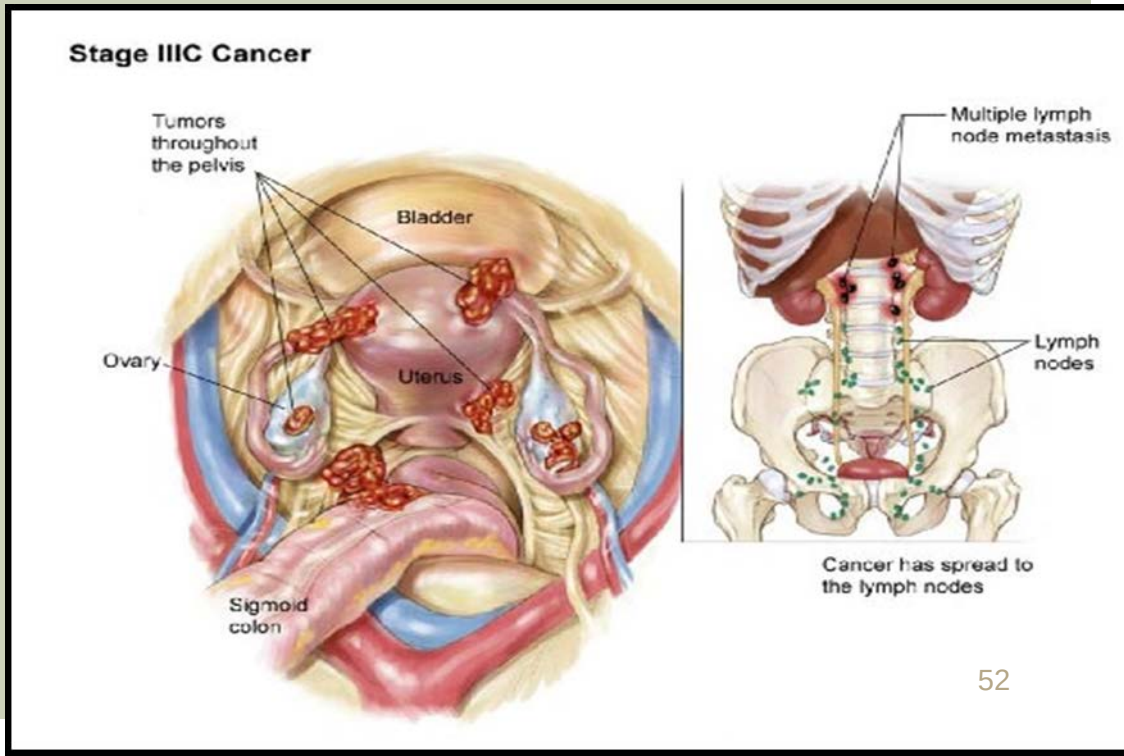
Higher Incidence	Protective Factors

▪ Age (55-65)
▪ Race - Caucasian
▪ Diet, Obesity, Alcohol, Smoking
▪ 1st pregnancy (>30 yrs)
▪ ERT or Infertility drgs
▪ BRCA1+ & BRCA2+ (11-40%)
▪ Family/personal hx of
  ▪ Breast / ovarian cancer
  ▪ Colorectal cancer (HNPCC)
	▪ OCP use
	▪ Multiparity
	▪ Breast feeding
	▪ Post hysterectomy
	▪ ↓ovulatory cycles & estrogen exposure

PATHOPHYSIOLOGY

Ovarian Cancer

- Epithelial ovarian carcinomas (90%)
- Germ cell tumors (10%)
- Metastasize by shedding malignant cells
- Attaches to:
  - Uterus
  - Intestines
  - Bladder
  - Omentum
- Spreads to lymph



CLINICAL MANIFESTATIONS

Ovarian Cancer

- Asymptomatic
  - 20% are diagnosed in early stage
- When symptomatic:
  - ASCITIES (abdominal fluid accumulation)
  - Pain (abdominal, pelvic and/or back)
  - Nausea, vomiting, indigestion, feeling full quickly
  - Change in bowel / bladder habits
  - Weight loss
  - Menstrual irregularities

SYMPTOMS OF
OVARIAN CANCER

If any of these symptoms last for more than two weeks or are unusual for you, please see your doctor:

- **Bloating**
- **Feeling full quickly while eating**
- **Pelvic or abdominal pain**
- **Urinary urgency or frequency or changes in bowel habits**
- **Abnormal vaginal bleeding or discharge**
- **Back pain**

DIAGNOSTIC STUDIES

Ovarian Cancer

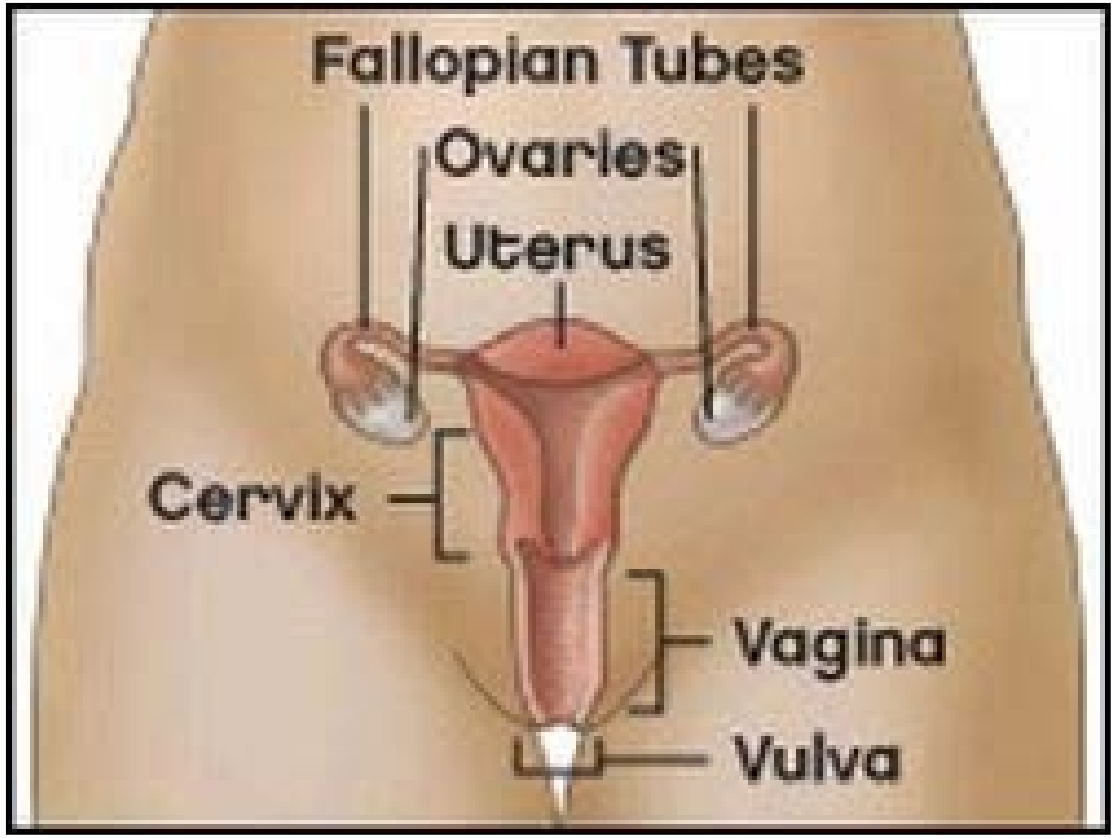
- No available routine screening test
- Annual Physical Exam
  - Bimanual pelvic exam
  - History of symptoms
  - Family History (Genetic testing)
- Abd or Transvaginal Ultrasound
- OVA1 (serum levels)
  - 5 proteins (biomarkers) that change w/Ov. Ca.
  - Includes tumor marker: CA-125
- Exploratary laparotomy (biopsy & staging)
  - Grade: I-III (differentiation)
  - Staging: I-IV

COLLABORATIVE CARE

Ovarian Cancer

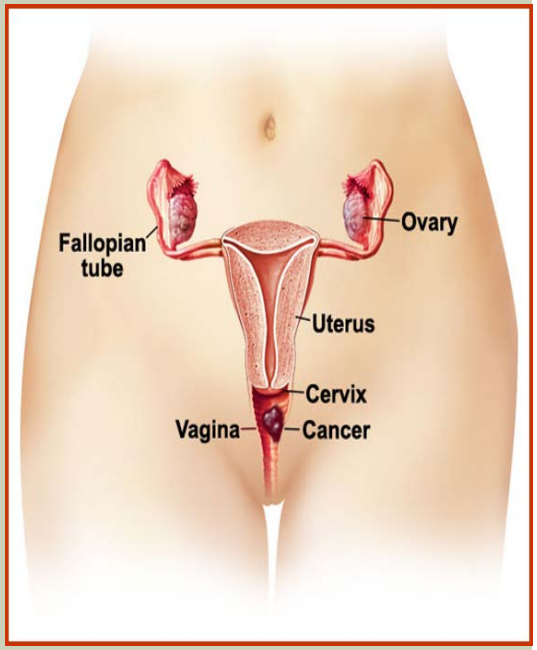
- Prophylactic oopherectomy
  - High risk women
- Stage I: limited to ovaries
  - Tx: TAH+BSO & tumor removal & debulking
  - Tx: Chemo or irradiation if Grade III
- Stage II: limited to pelvis
  - Above tx + internal & external irradiation
  - Or above tx + combined chemotherapy
- Stage III: limited to abdominal cavity
  - Above tx and debulking (possible TPE)
- Stage IV: distant metastatic disease
  - Above tx and palliative care

Vaginal / Vulvar Cancer



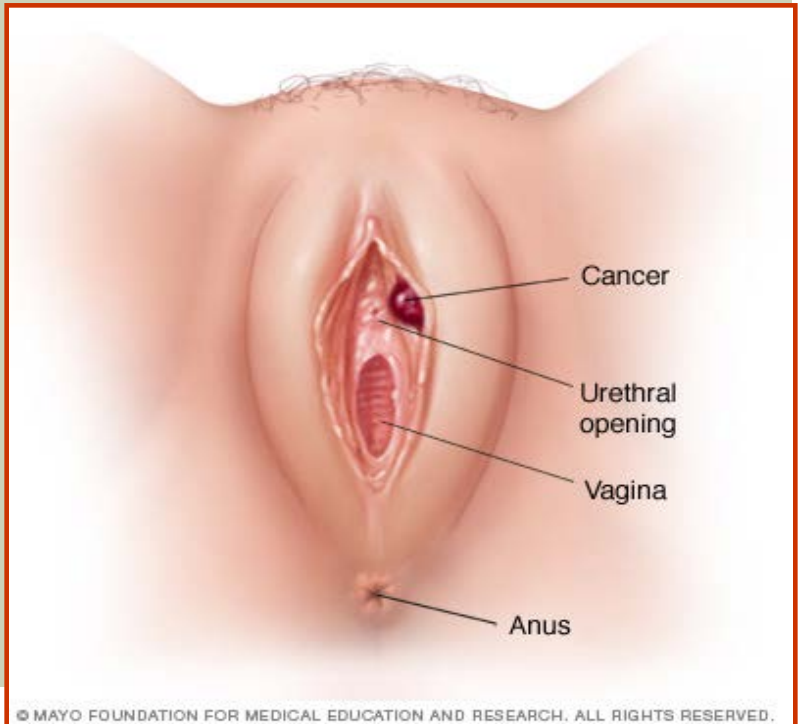
VAGINAL CANCER

- Most rare form of primary gyne cancer
- Annually 2,160 diagnosed (age grp 50-70s)
- Tumors usually secondary or metastatic
- Commonly squamous cell carcinoma
- DES (diethylstilbestrol) 1938-1971
  - Estrogen to ↓ miscarriages
  - ↑ risk of vaginal adenocarcinoma in female offsprings
- Some caused by HPV subtypes
- Treatment: (depends on staging I-IV)
  - Vaginectomy
  - Hysterectomy
  - Radiation
  - Chemotherapy



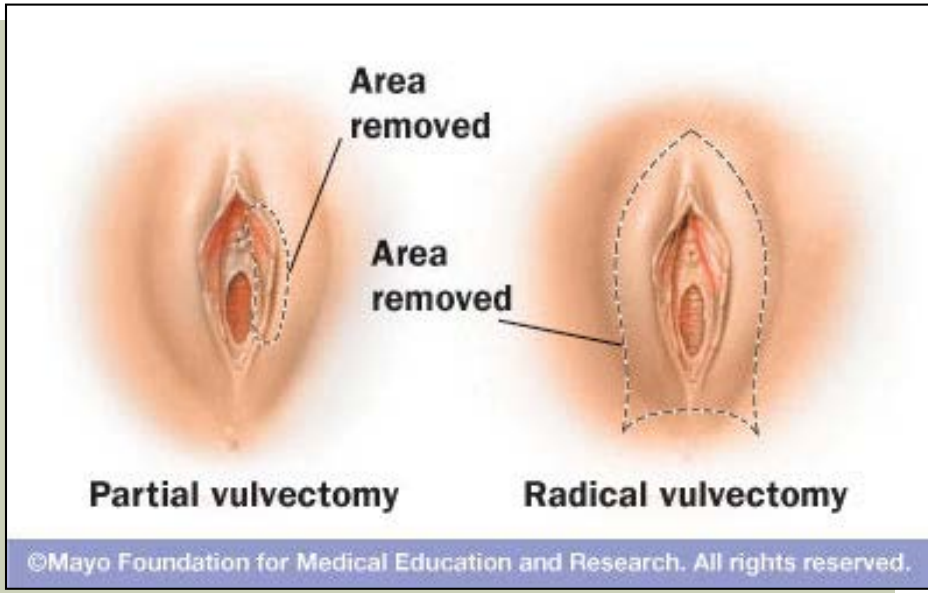
VULVAR CANCER

- Rare form of primary gyne cancer
- Annually 3,500 diagnosed
- Vulvar intraepithelial neoplasia (VIN)
  - Preinvasive lesions
- Invasive form
  - Females >60 yrs of age
- Risk Factors
  - HPV
  - Immunosuppression
  - Diabetes Mellitus
  - Hypertension
  - Chronic vulvar dystrophies



VULVAR CANCER

- Vulvar S/S
  - Itching, burning, pain
  - Bleeding or discharge
- Diagnosis
  - Biopsy of lesion
- Treatment
  - Chemotherapy, Radiation (internal or external)
  - Femoral Node Dissection
  - Surgical excision (usually radical vulvectomy)
  - TPE (Total Pelvic Exenteration)
    - Numerous physical & psychosexual effects



NURSING INTERVENTIONS FOR GYN CANCERS

- Pre-Operative or Diagnostic care
  - Pelvic Ultrasound
    - full bladder
  - MRI, CT Scan
- Biopsy preparation and teaching
    - Scheduled during what part of the cycle?
    - NPO after midnight
    - Vaginal rest for 48 hrs
    - Potential shoulder pain after laproscopy
- Care of pt on radiation therapy
- Care of pt on chemotherapy

NURSING IMPLICATIONS

Vulvar/ Vaginal CA

- Encourage regular gynecological exams
- Discuss lifestyle and CA risk factors
- Encourage reporting of any abnormal discharge or abnormal bleeding
- Assess for:
  - Increase abdominal pain and pressure
  - Bowel and bladder dysfunction
  - Vulvar itching and burning
- Inform and Empower
  - Decision making participation

NURSING DIAGNOSES

- Anxiety r/t threat of a malignancy
- Knowledge deficit
- Acute pain r/t pressure
- PC: Lymphedema r/t impaired lymphatic drainage
- Disturbed body image
- Ineffective sexuality patterns
- Anticipatory grieving

QUESTIONS?