---BREAST---

Basics

Mammary gland w/ 15-20 lobes that radiate from central nipple area
Each lobe has its own excretory duct
Cooper's ligaments: connective tiss from skin fascia, suspend breast on chest wall
Medial pectoral N pierces pec minor; lat to pec minor in 20% pts (vulnerable in ax dxn)
Lymph drainage to axillary LN (75%) and internal mammary LN
Drainage from lower LN to hi LN (if lowest LN neg for malig, assume all other LNs neg)
Sentinel LN Bx (SLNB): lowest LN draining breast id'd and bx'd
Preovulatory estrogen stimulates prolif of ducts
Physiologic gynecomastia in 50% of adolescent males; usu resolves by age 20
    Also in elderly; enlargement + tenderness; d/t ↓ testost
    If no mass or Sxs, no w/u req'd

Benign breast conditions

1. Mastalgia (breast pain)
    Cyclic, B/L pain + swelling days before menses
    d/t hormonal changes
    Rx: compressive bra, d/c caffeine, NSAIDs, primrose oil, danazol (androgen)
2. Fibroadenoma
    Common in teens to 30s
    Often 1-3cm, firm, discrete, round, mobile, non tender
    Rx: no excision if <2.5cm or if Asx
    Px: 50% involute w/in 5 yrs; may enlarge during pregnancy
    Bx to r/o phyllodes tumor (benign) which reqs wide resxn to prevent recurrence
3. Breast cyst
    #1 mass in 30s-40s
    Firm, mobile, tender
    Size, tenderness fluctuate w/ menstrual cycle
    U/S can dx simple cyst; may aspirate if large w/ sxs
    If U/S shows internal echoes, perform mammo and bx
4. Nipple discharge
    1st r/o pregnancy
    Other czs: hypothyroid, ↑prolactin (pituit adenoma), antipsychotics
    #1 cz is duct ectasia (benign)
    Clear, milky, green-brown
    Persistent, spontaneous, bloody or U/L discharge (10% malig)
    w/u: palpation, mammo, duct excision
5. Breast abscess
    Extremely tender, fluctuant mass
    Rx: repeated aspiration + ABX
    In nonlactating women who smoke, fistula may form (req's excision)
6. Mastitis
    Lactating women, p/w pain, erythema
    d/t staph, strep
    Rx: dicloxacillin or clindamycin

Breast cancer

Most pts do not have significant risk factors
Breast abnormalities usu benign if <30 yo, often malig if postmenopz
As age ↑s, risk of breast ca ↑s but risk of death from ca ↓s
Risk factors: age, EtOH, FHx, ↑estrogen "exposure," radiation
1% of all breast cancers occur in men

Types of breast cancer
- LCIS
- DCIS (microcalcif): comedo type = hi recurrence
- Infiltrating ductal: 90% of invasive ca
- Infiltrating lobular: indistinct borders, multcentric, B/L
- Tubular carcinoma: younger pts, better px than infilt ductal
- Medullary: rapidly growing, large; often w/ DCIS, better px than infilt ductal
- Colloid/mucinous: older pts, slow growth, good px
- True papillary: slower growth and better px than ductal ca
- Inflammatory: peau d'orange, only 25% 5 yr survival
- Paget's dz of nipple: may be exudative, scaly, erosive w/ burn, itch, or pain
  - Often associated w/ malignancy, thus need bx

S/Sx: skin swelling, dimpling, irritation; nipple dryness, ulceration, discharge

Dx: Mammograms 10% false neg rate
- Microcalcif's common; suspicious if pleomorphic, linear, branched
- U/S: Best for pts <30 yo w/ lesion; not for screening (can't vis entire breast)
  - Good for distinguishing solid masses, simple vs complex cysts
  - Suspicious findings: poorly defined margins, heterogenous, irreg shadows
- MRI: greater sens/spec than U/S; dense breasts/implants/scars don't affect MRI
- Bx: cytology (indiv cells), histology (relationships of cells)
- If pt <30 yo, U/S first; If >40yo mammo first

Mets to brain, bone, liver, lung
Risk for spread related to TNM status
Her-2-neu (oncogene): poor px, but better response to Herceptin if relapse occurs
If risk for mets low (<5cm? mass, no palp LN), only CXR and CBC req'd preop
If risk for mets high, need chest / abd CT + bone scan preop

Rx: Lumpectomy + RT
- Simple (total) mastectomy: removes entire breast + pec major fascia
- Mod radical mastectomy: simple mastect + axillary dissection
- Radical mastectomy: breast + pec maj/minor + ax contents + skin removed
- If LN mets: ax dissection req'd
- If no LN mets: SLNB + excision
- DCIS: no ax staging needed
- Lumpectomy alone if <4cm tumor (30% recurrence w/o postop RT)

No survival difference b/t breast conserving Rx and mastectomy
For BRCA pts: prophylactic B/L mastect ↓s ca risk by 90% (vs 49% w/ tamoxifen)
Adjuvant chemo: for LN+ dz or tumors >1cm
Adjuvant hormonal Rx: for elderly pts, esp if LN- dz
Tamoxifen for ER+ tumors, esp postmenopz pts
↓s recurrence + ↓s C/L cancer risk by 40%
No greater benefit if used >5 yrs
Local recurrence treated w/ mastectomy and, if not previously given, RT
Good px if not systemic dz
Metastatic dz Rx'd w/ chemo; brain mets w/ RT; bone mets w/ surg + RT

Cx: 5-12% recurrence w/ mastectomy
Lymphedema after ax dissection (avoided by SLNB)

Px: Ax LN status #1 predictor of overall survival, followed by tumor size, then ER status
Risk of developing second primary breast cancer is 1% per year, for 1st 15 years
F/U mammo 6 mo post op and annually thereafter