

# Mammograms & DEXA Bone Densitometry



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# Breast Cancer Facts for Women



- Breast Cancer is the 2<sup>nd</sup> leading cause of cancer deaths in women in the USA
- According to Susan G. Komen, a woman dies every 68 seconds from breast cancer.
- 1<sup>st</sup> leading cause of cancer deaths in women is Lung cancer.
- 1 in 8 women will develop breast cancer
- In 2010, over 200,000 cases of invasive breast cancers will be diagnosed
- Breast Cancer incident rates have dropped for the first time in 20 years.

# Breast Cancer Facts for Men



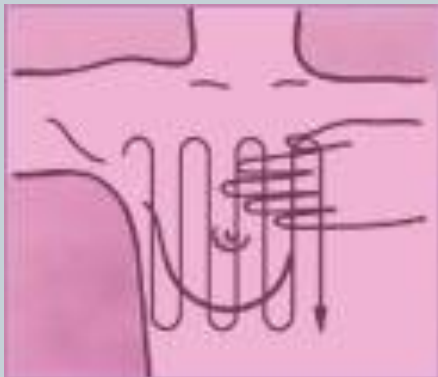
- Breast cancer is 100 times less common among men than women
- Lifetime risk is about 1 in 1,000
- In 2010, there were almost 2,000 invasive breast cancers diagnosed. Of these men, almost 400 will die.
- Average age at diagnosis is 68 years old
- Mirror many of the female risk factors

# Steps to Prevention



- **Breast Cancer Screening (Mammogram)**
  - Annually starting at age 40
- **Clinical Breast Exam (CBE)**
  - Annually during your annual physical
- **Breast Self Exam (BSE)**
  - Monthly beginning at age 20 for Men and Women

# Monthly BSE

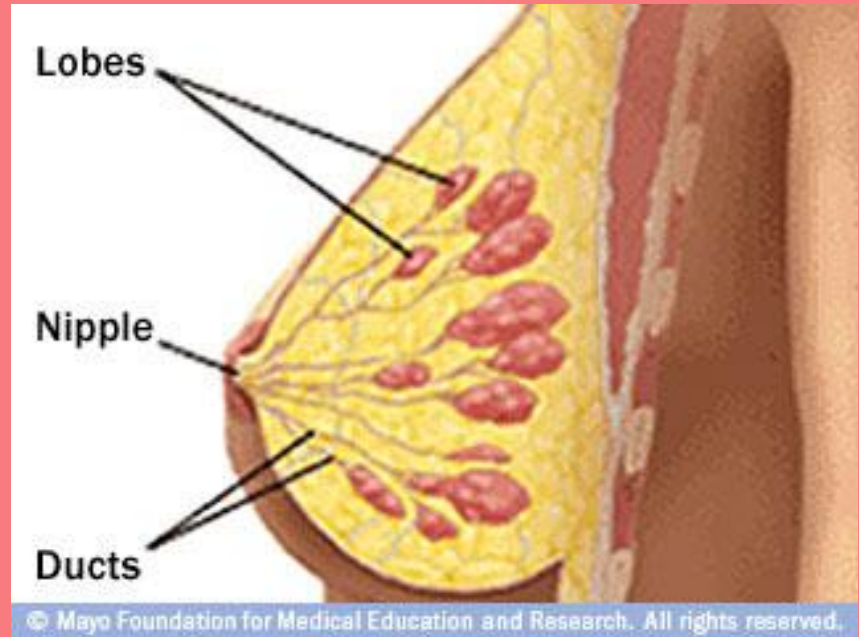
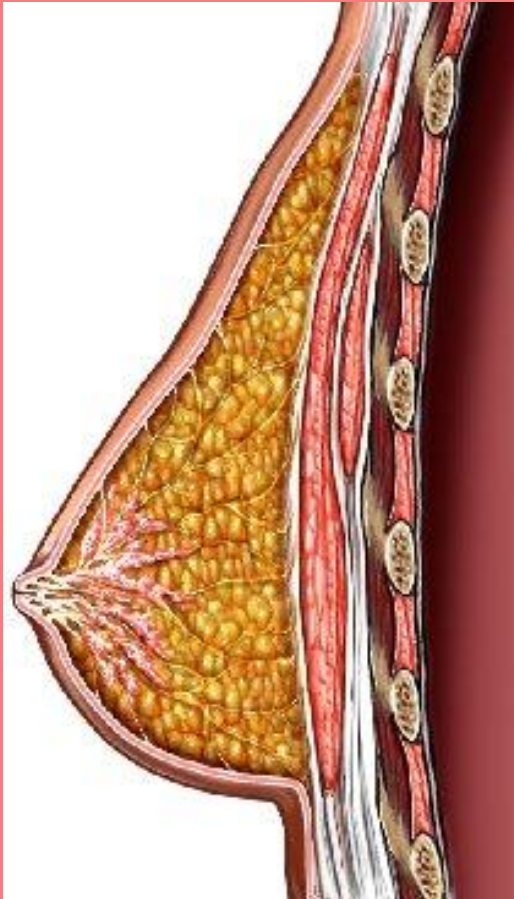


# Warning Signs



- Changes in look and feel of breast
- Changes in look and feel of the nipple
- Nipple discharge
- Breast Pain
- Dimpling of the skin

# Breast Anatomy



# Detection



Digital Mammogram



Ultrasound



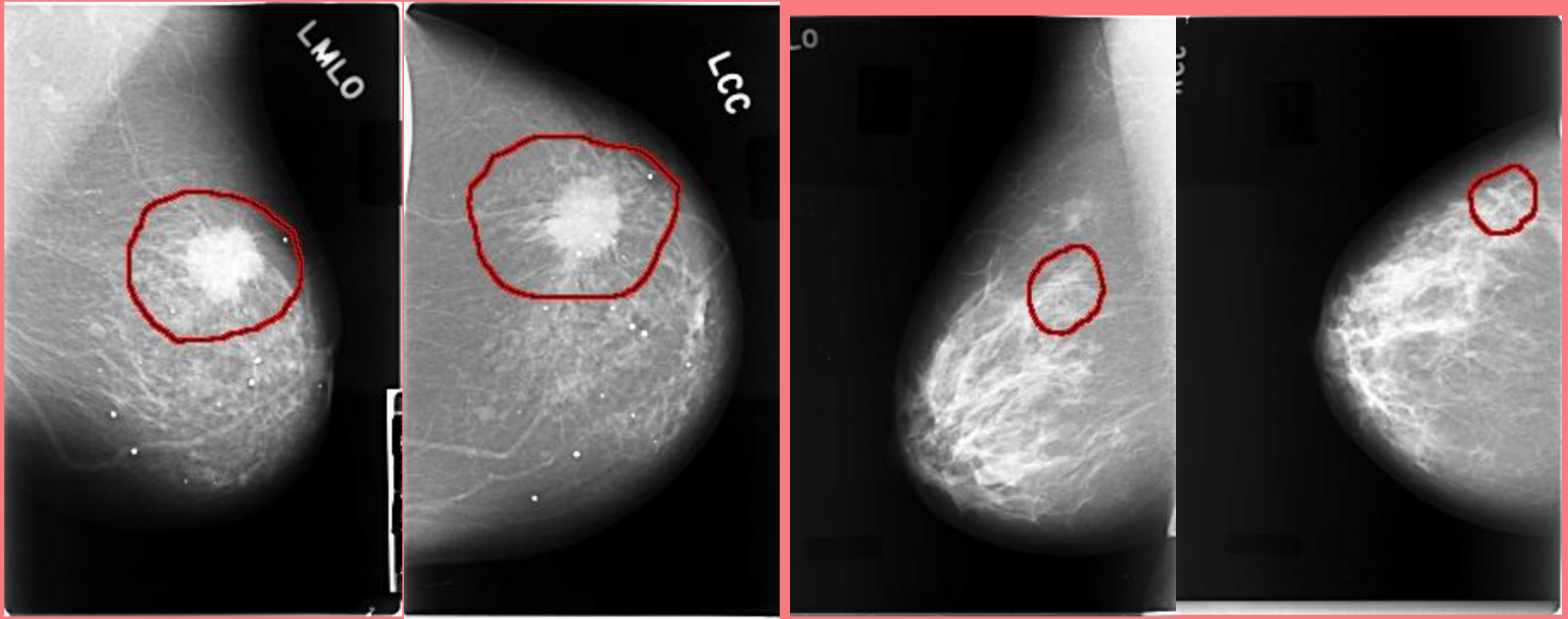
MRI unit



MRI Breast Coil



# Malignant Tumors



# Biopsy Equipment



# Biopsy Devices



Mounted/detachable targeting set



Z-Screw and Z-Stop



Imageable aperture



Hands-free probe and holster

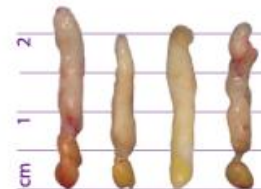
## Needle Size Options



8-gauge



11-gauge



8G EX sample size  
250mg per core  
6mm incision size



11G EX sample size  
83mg per core  
4.6mm incision size

# What can you do



- Exercise regularly 3-4 hours a week
- Decrease stress level, enhance comfort levels
- Lifestyle change
- Minimize sources of extra estrogen
- Maintain a healthy liver since it regulates blood estrogen levels
- Limit alcohol intake
- Choose organic
- Choose vegetables
- Shed Body Fat

# DEXA



- Dual Energy X-Ray Absorptiometry



# Bone Mineral Density-BMD



- Measures the levels of minerals in your bones, which indicates how strong they are
- You reach your peak BMD around age 30
- Low BMD is considered Osteopenia, which may have no bone loss at all
- Very low BMD is Osteoporosis, which usually has bone loss
- Should be tested using a DEXA machine, which is the most accurate

# DEXA results

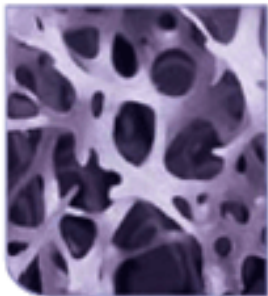


- **BMD:**  $>+1.0$  is good
- **T-Score:** Shows your BMD compared to other women or men in their 30's.
  - $-1.0$  to  $+1.0$  is normal
  - $-1.0$  to  $-2.5$  is Osteopenia
  - $-2.5$  to  $-3.0$  is Osteoporosis
- **Z-Score:** Shows your BMD compared to other women or men your own age.
  - This is just a guideline for your treatment

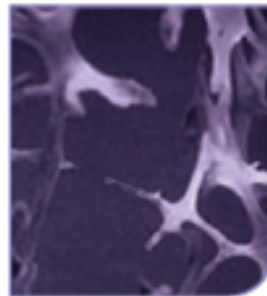
# Osteoporosis- Porous bones



Normal Bone



Weakened Bone



Source: 2004 Surgeon General's Report on Bone Health and Osteoporosis



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The rate of bone resorption exceeds the rate of bone rebuilding

# Symptoms and Causes of Osteoporosis



- Back pain caused by fractured or collapsed vertebra
- Loss of height over time
- Stooped posture
- Bones fracture
- Normal bone remodeling is disrupted
- Low calcium, phosphorus and minerals in your bones
- Change in hormone levels
  - Low Estrogen in women
  - Low Testosterone in men

# Controllable Risk factors



- Low calcium intake
- Tobacco use
- Eating disorders
- Sedentary lifestyle
- Excessive alcohol consumption
- Corticosteroid medications
- Certain antidepressant meds, acid blocking drugs, anti-seizure meds, methotrexate, breast cancer drugs

# Uncontrollable Risk Factors



- Being a woman
- Getting older
- Family history
- Body Frame size
- Thyroid hormone
- Medical conditions such as Crohn's disease, Celiac disease, hyperparathyroidism, Cushing's disease

# Prevention



- **Adequate amounts of calcium**
  - 1000-1200 mg from food and supplements (calcium citrate)
  - Dairy, almonds, broccoli, spinach, cooked kale, sardines, soy, and tofu
- **Adequate amounts of vitamin D**
  - 400-1000 iu daily (best choice)
  - Sunlight
  - Tuna, sardines and egg yolks
- **Regular exercise**
  - Strength training with weight bearing exercises –walking, running, stair climbing
  - Swimming, cycling and ellipticals are cardiovascular workouts

# Treatment with Antiresorptive Medications



- Inhibits bone resorption
- Includes HRT drugs (short term use for hot flashes)
- Fosamax, Actonel, Evista, Boniva, Calcimar, Reclast

# References



- [www.fda.gov](http://www.fda.gov) (Consumer section for certified facilities)
- [www.acs.org](http://www.acs.org)
- [www.komen.org](http://www.komen.org)
- [www.nbcam.org](http://www.nbcam.org)
- [www.cancercares.org](http://www.cancercares.org)
- [www.y-me.org](http://www.y-me.org)
- [www.medicinenet.com](http://www.medicinenet.com)
- [www.mayoclinic.com](http://www.mayoclinic.com)

# World Cup 2010

