



UNIVERSITY OF
GEORGIA
College of Pharmacy



Breast Cancer

A primer on clinical disease & therapy

Mandi Murph, Ph.D.

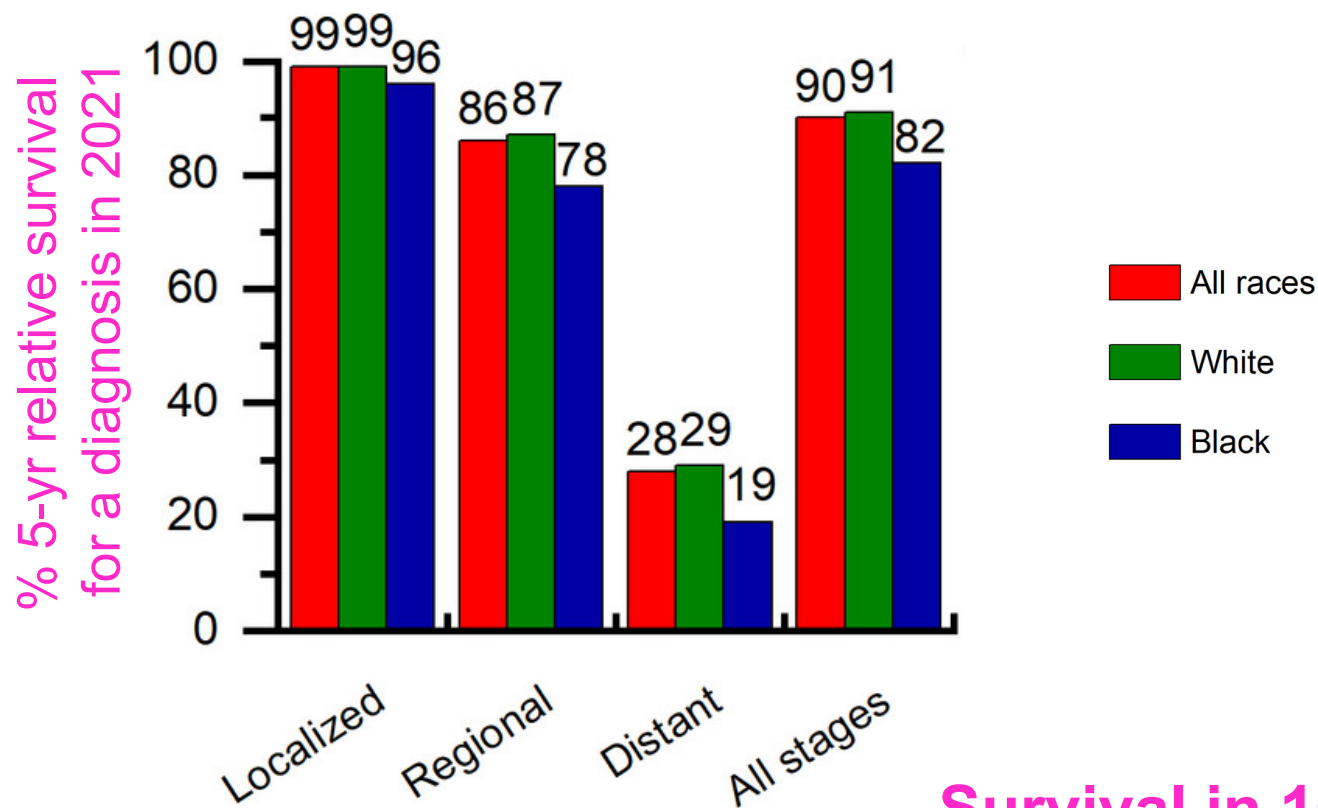
Associate Professor

Dept. of Pharmaceutical & Biomedical Sciences

The good news!



Survival outcomes of Breast Cancer



Survival in 10 years?
84%





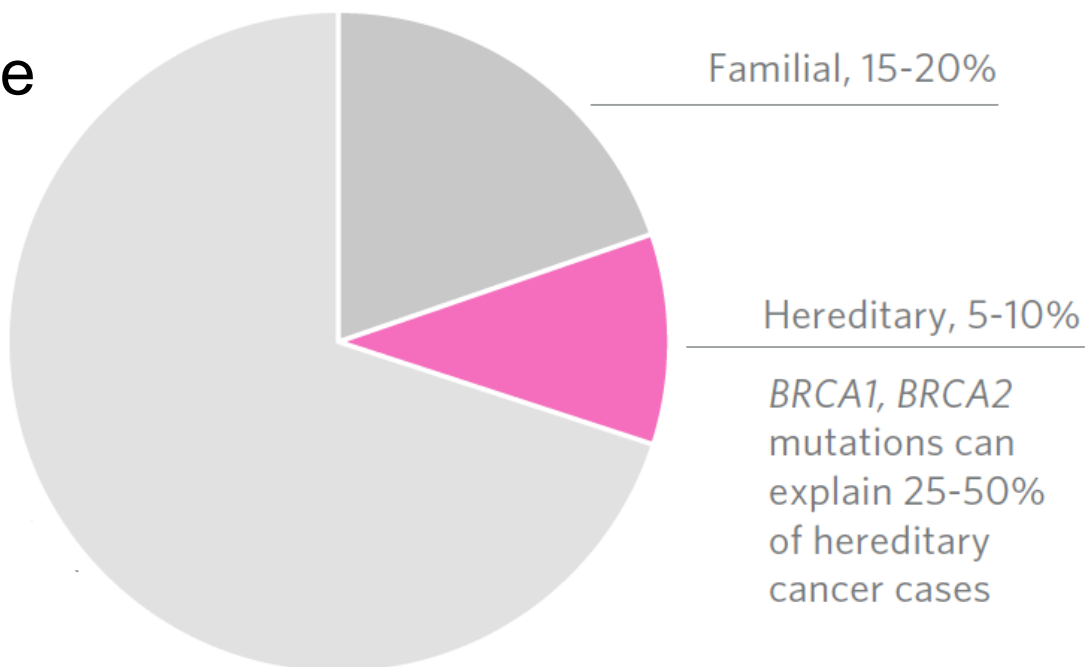
Risk factors

Lifestyle / Behaviors

- Alcohol consumption
- Obesity
- Radiation exposure to the breast and chest area
- Estrogen exposure: menstruation, nullparity, older age at childbirth & hormone replacement

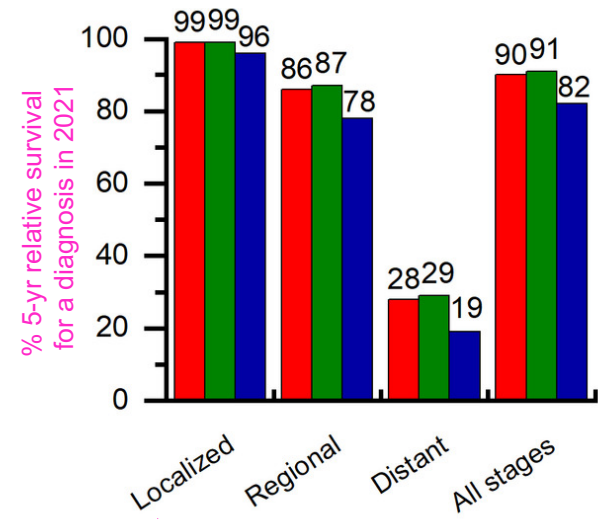
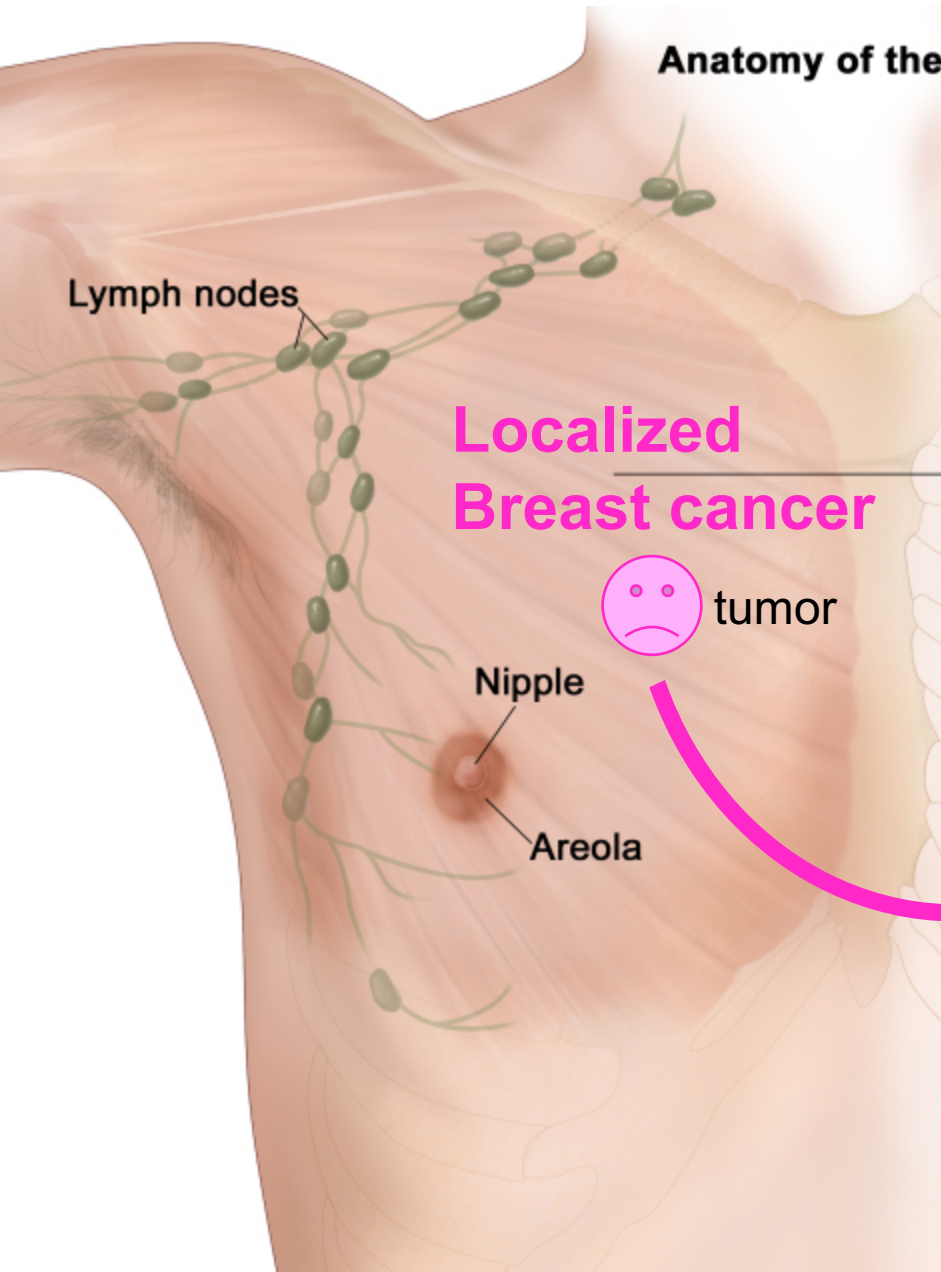
Familial / Genetics

- Inheriting a susceptibility
- Family history of disease
- Race
- Dense breast tissue

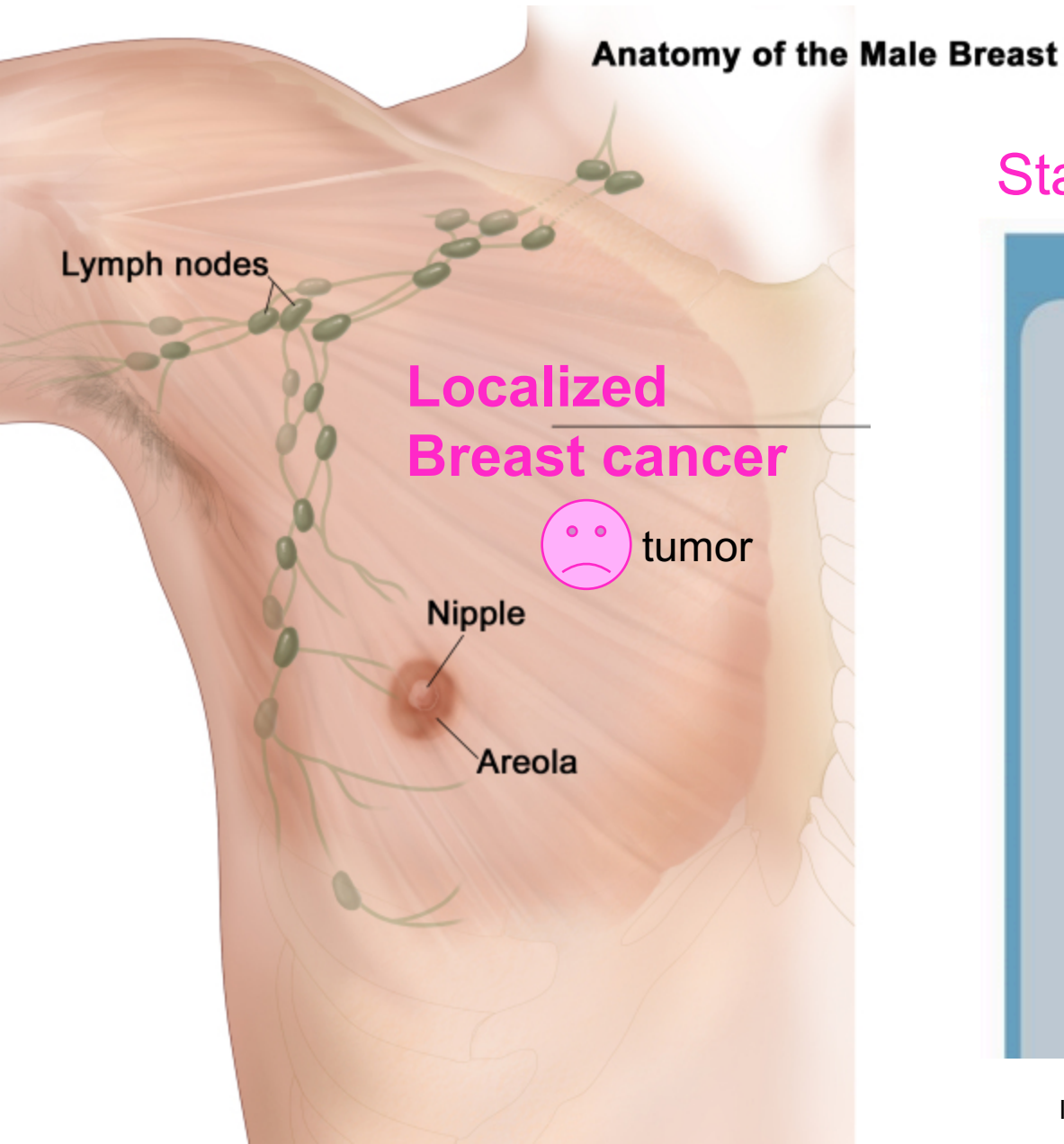




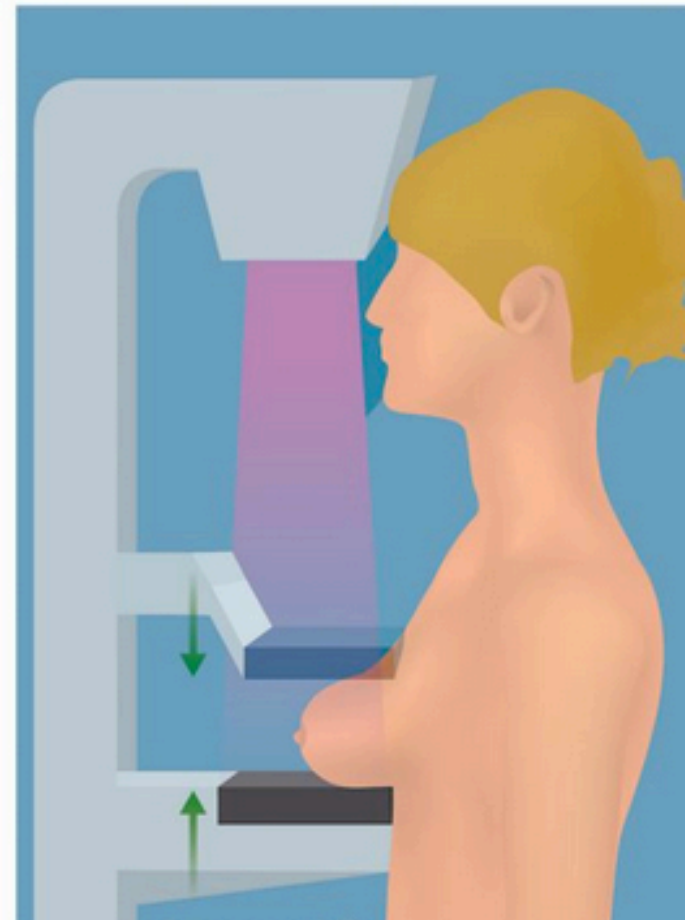
Anatomy of the Male Breast



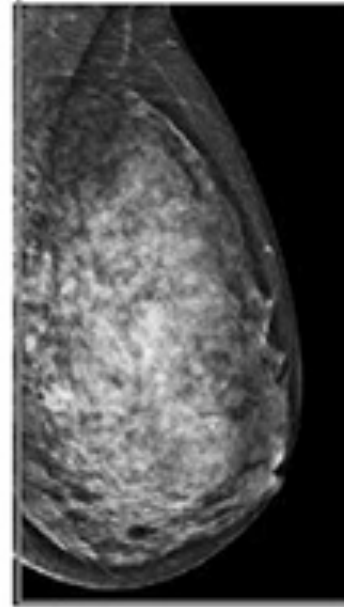
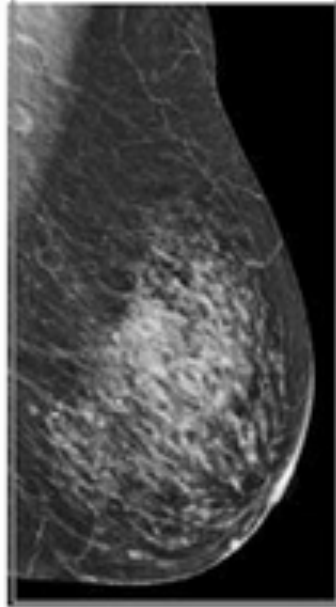
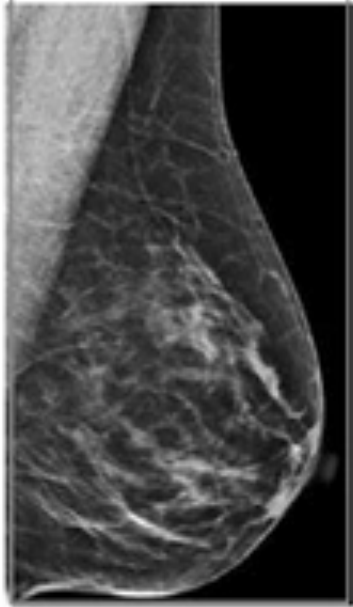
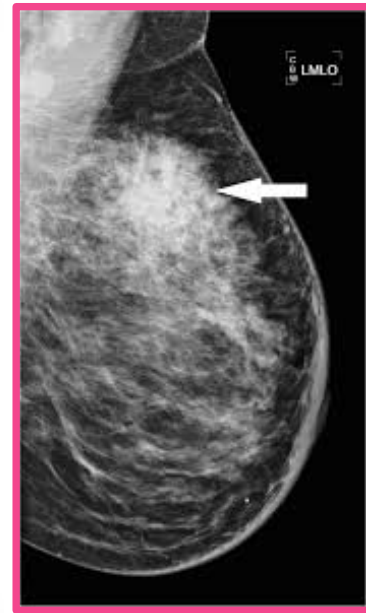
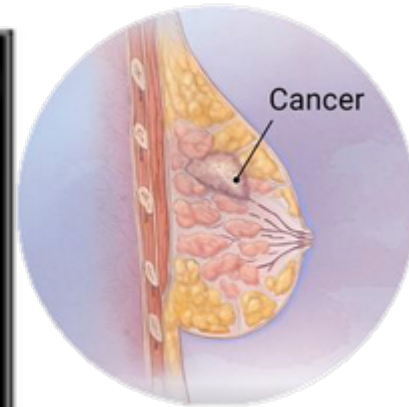
Mastectomy
Lumpectomy



Start ~40- 44 years of age



Mammogram

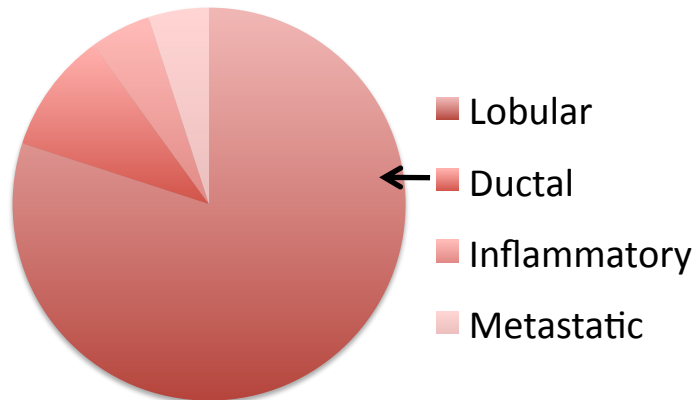
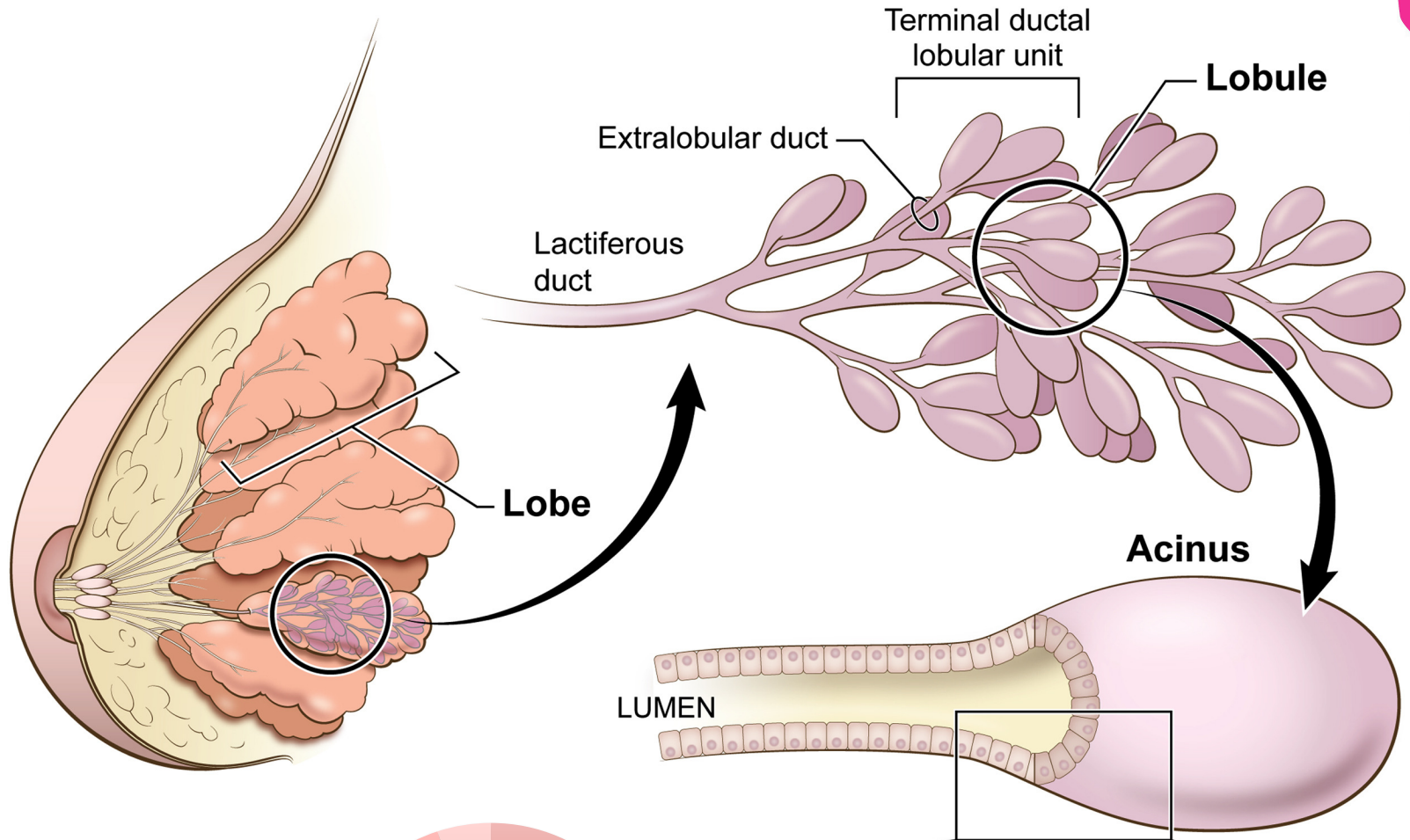


A

B

C

D

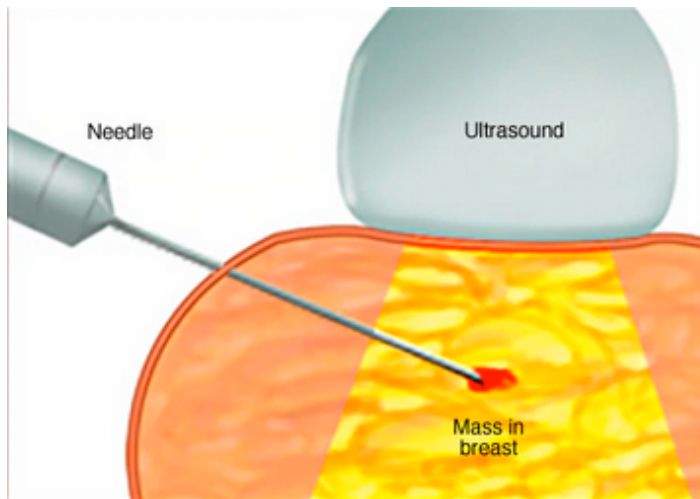
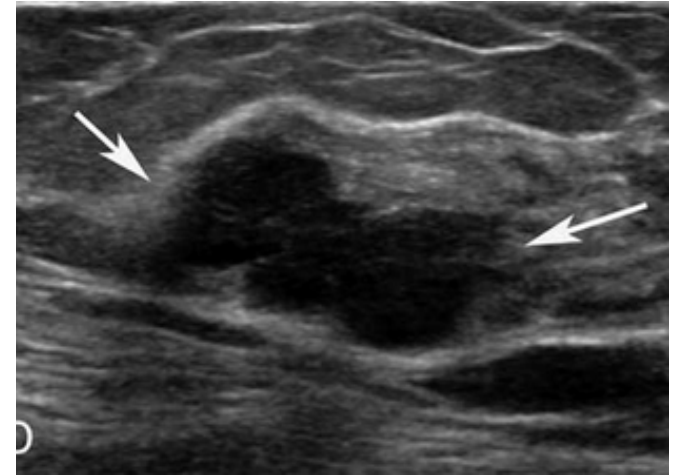


Procedures after an abnormal mammogram



Breast ultrasound – fluid-filled cyst or solid mass?

Ultrasound imaging uses sound waves to view internal structures and diagnose lumps or cysts

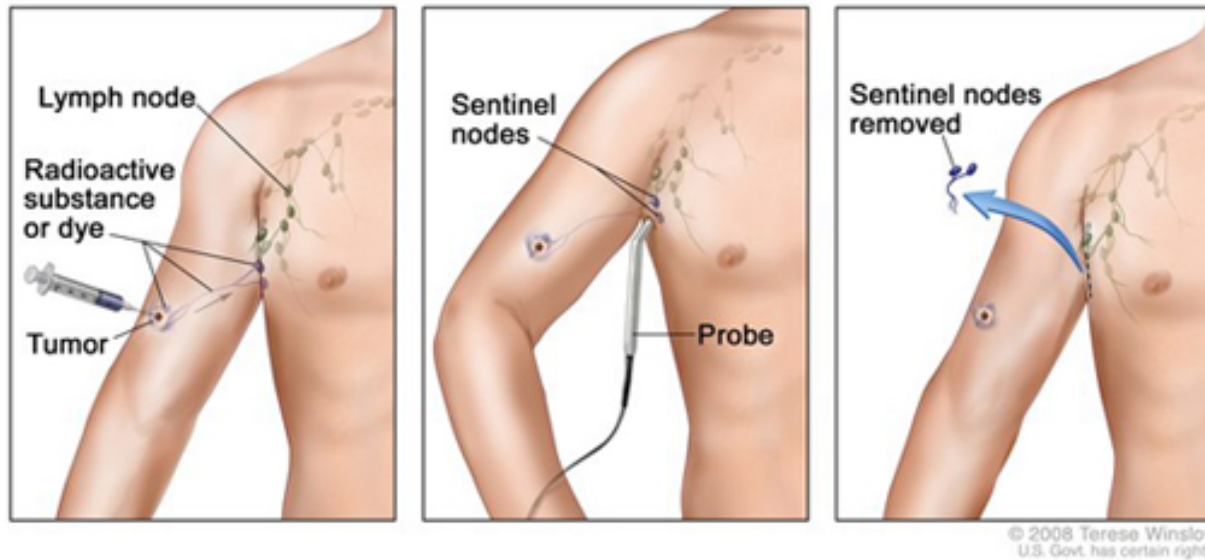


Biopsy (core needle or fine needle aspiration)

Removal of a cylinder of tissue or a small amount of fluid with tissue using imaging to guide the precise location of interest. A pathologist will view the cells for abnormalities.



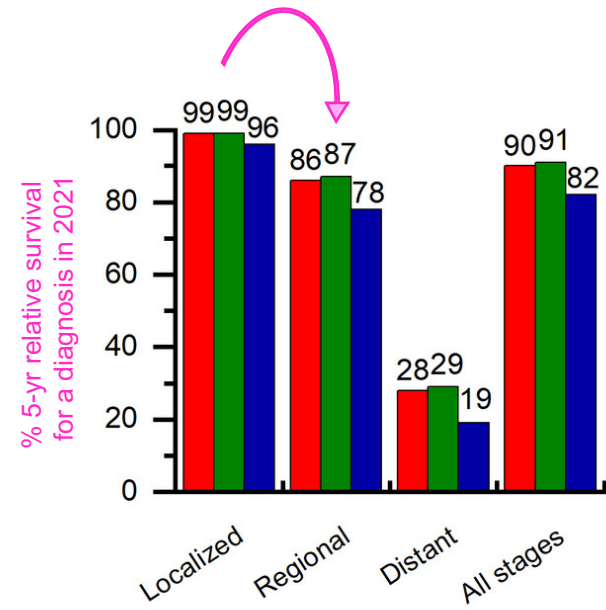
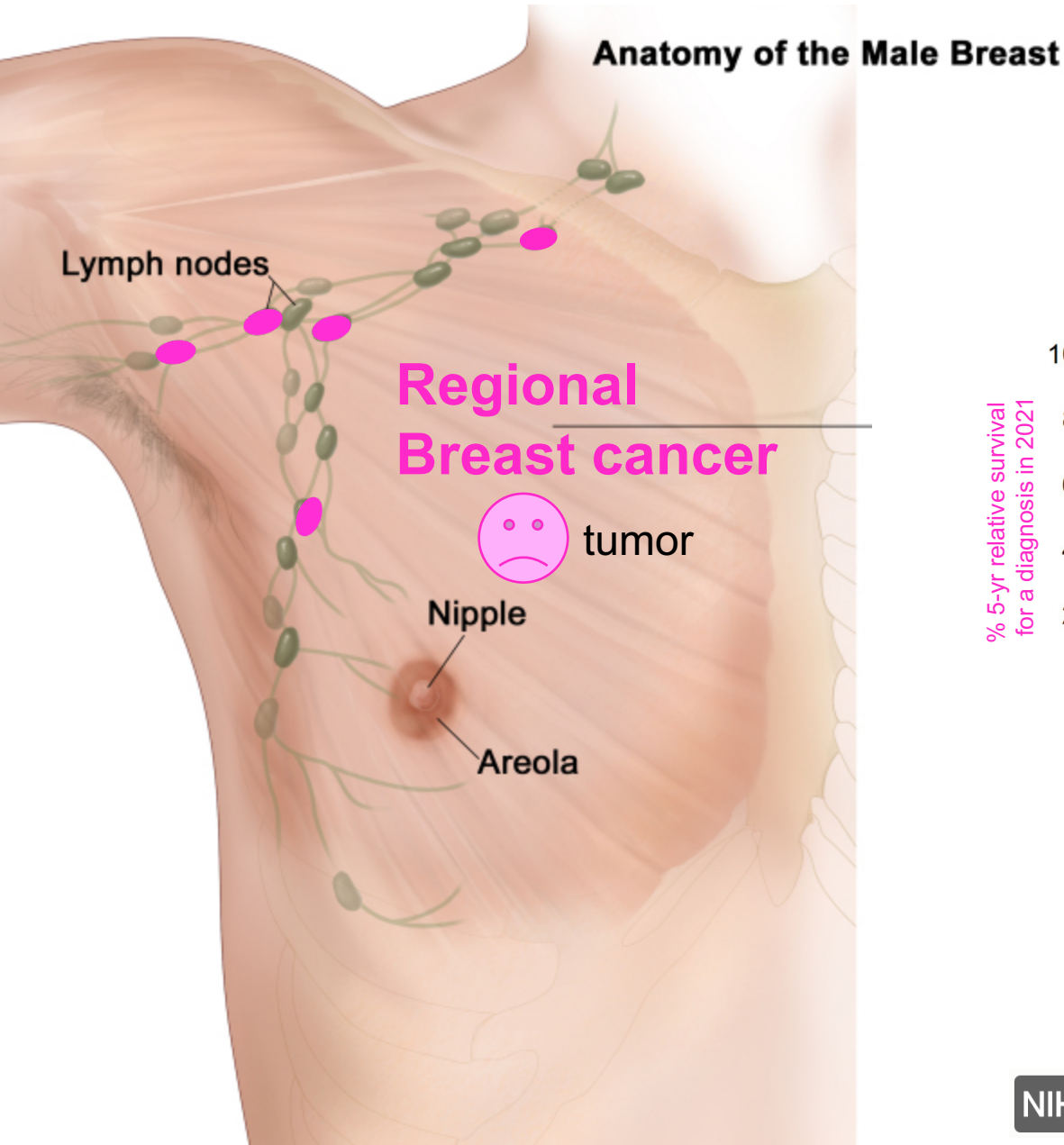
Sentinel lymph node biopsy



20 – 40 lymph nodes in this area

Breast cancer cells are likely to spread first to lymph nodes located in the axilla, or armpit area, near the affected breast.

A **radioactive agent** or **blue dye** is injected into the tumor prior to lymph node removal and check for the agent



Loco-regional treatment for T1, T2 or T3, N0 or N1, M0

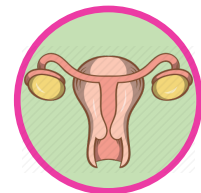


- **Surgery**: lumpectomy or mastectomy
 - Remove lymph nodes
 - Possible reconstruction surgery
- **Radiation** therapy to whole breast and any part of the axillary bed at risk
- **IF*** chemo is indicated, it will occur *before* radiation therapy



Why not chemotherapy?

- **Hormonal therapy** likely for 5-10 years



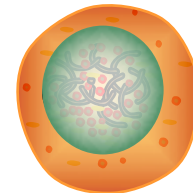
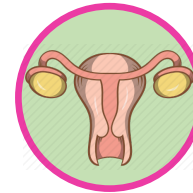
Breast cancer therapy & goals



- **Surgery** – potentially curative
- **Radiation** – potentially curative

- **Drug therapy** –

- targeted agents
- chemotherapy
- Anti-estrogen therapy
- immunotherapy



Treatment goal = cure disease and/or
reduce the risk of cancer recurrence

Stage IV Breast Cancer

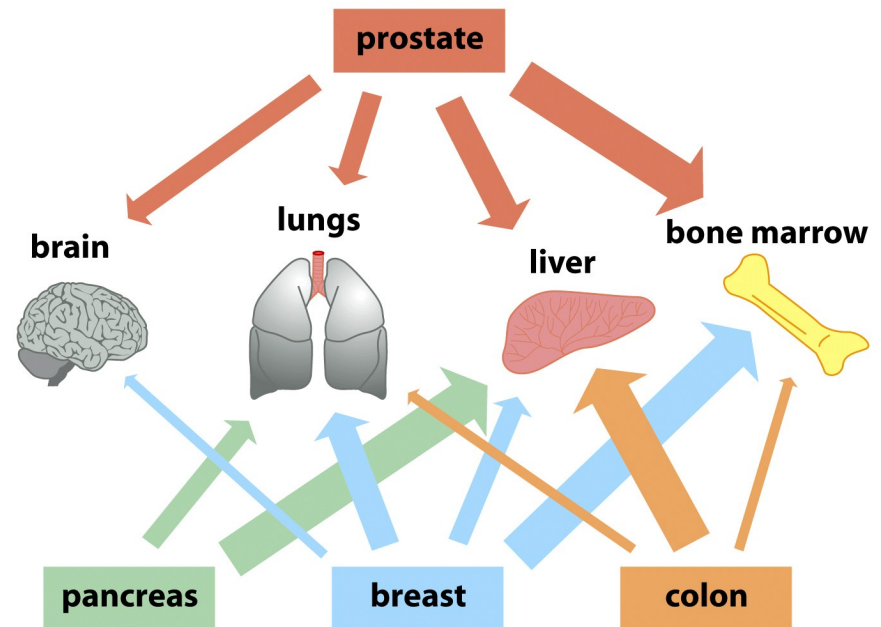
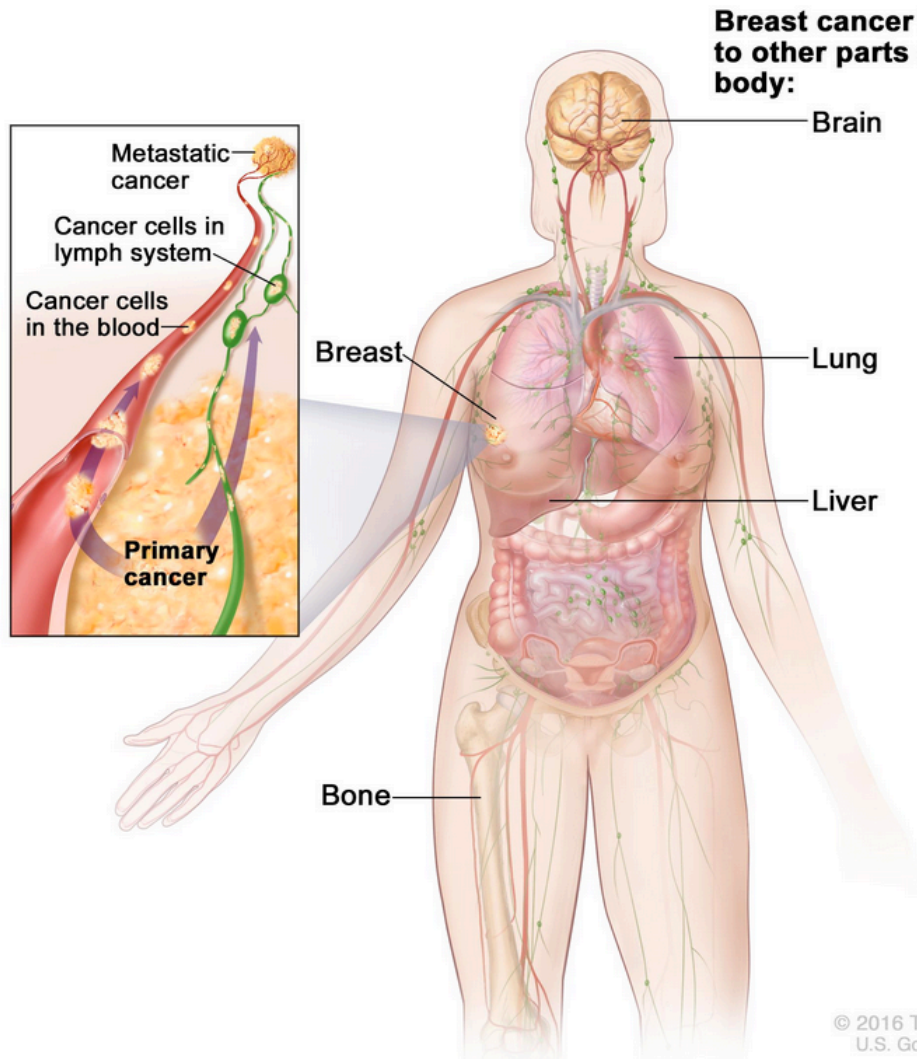
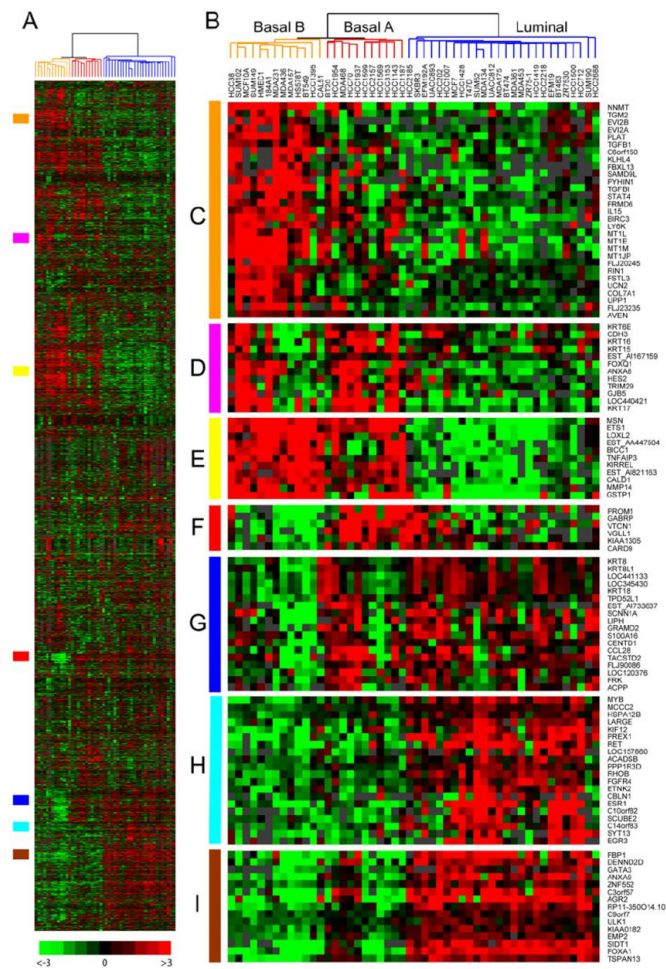
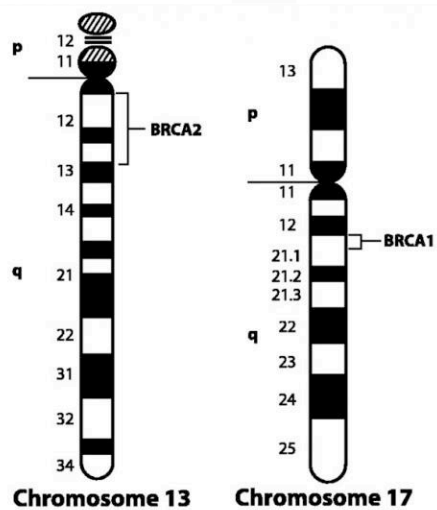
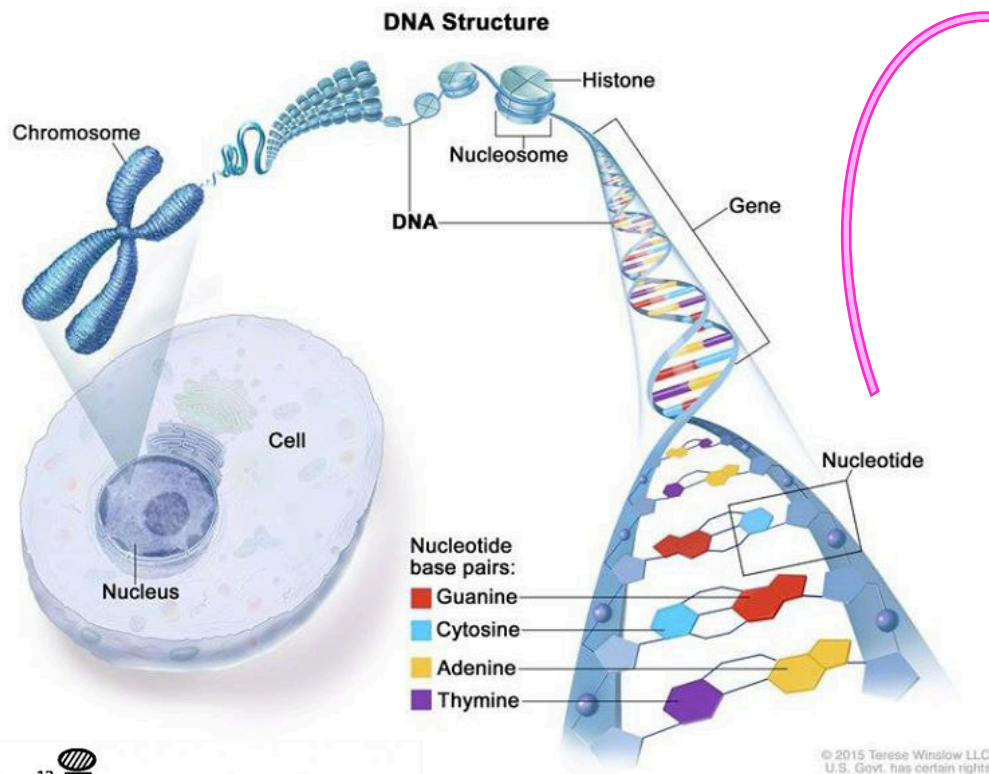


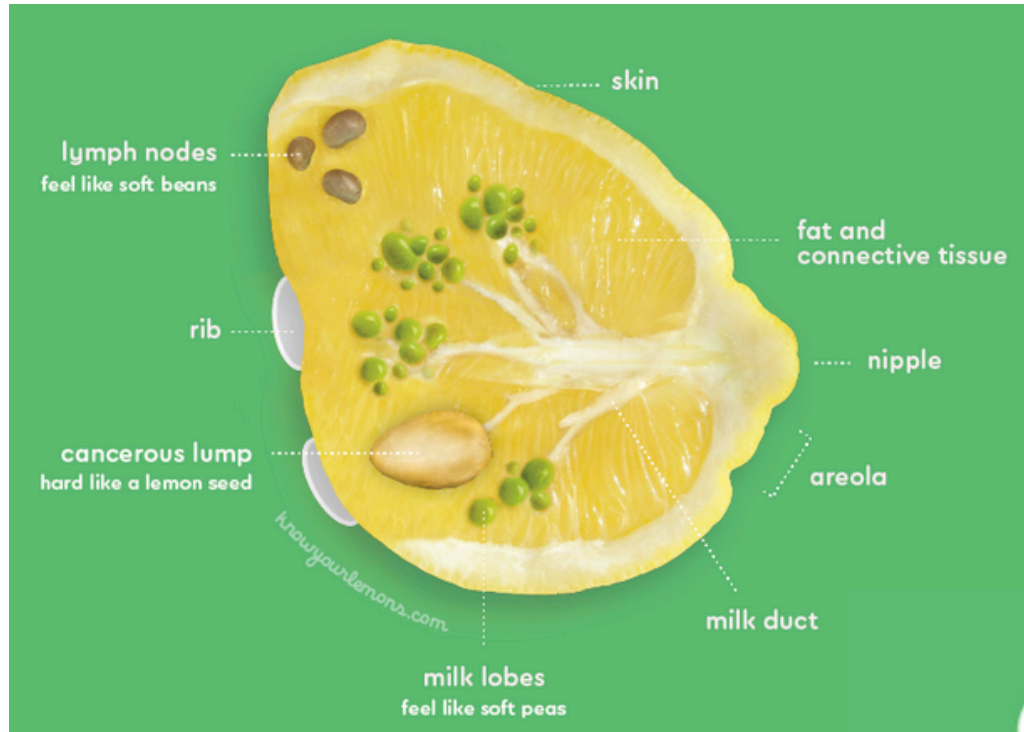
Figure 14.42 *The Biology of Cancer* (© Garland Science 2007)

© 2016 Terese Winslow LLC
U.S. Govt. has certain rights



There's an app for that!

Education on Self Breast Exams



A hard "seed" is analogous to a suspicious lesion (cancer?)



Thanks for your attention!



Source: The Atlanta Journal-Constitution