

# COMMON SOLID TUMORS

**BY**

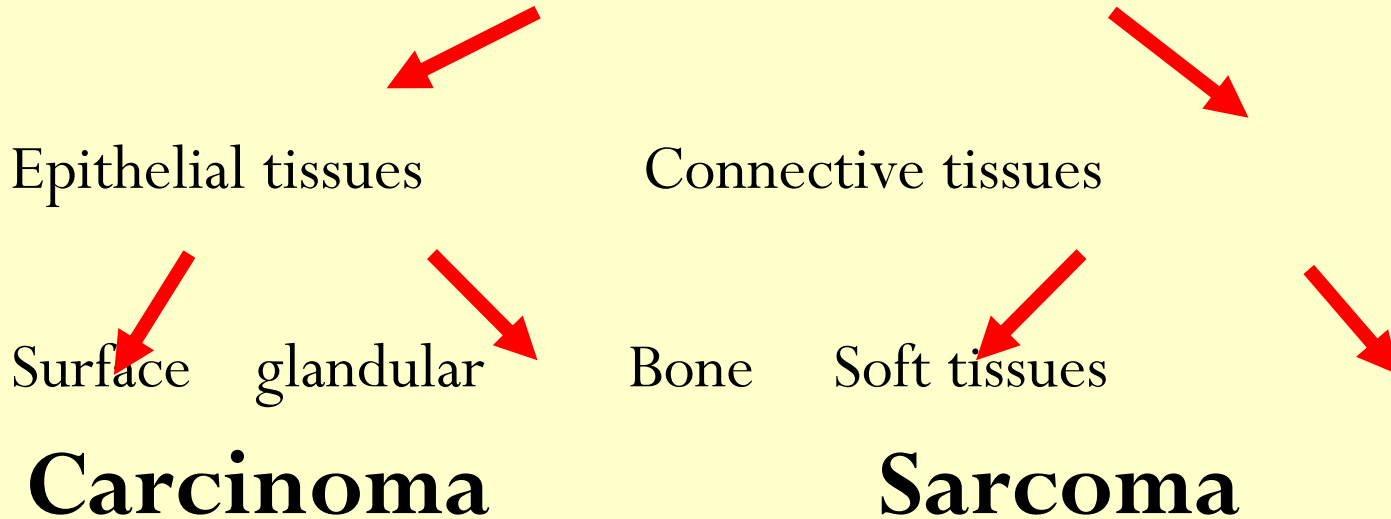
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# Objectives

1. pathological classification and staging of solid tumors
2. Common solid tumors world wide and in Saudi Arabia
3. Study of Two common solid tumors: breast cancer and colorectal cancer regarding:  
risk factors, clinical presentation , early detection, diagnostic tools, broad lines of management, and prevention.

# Classification Of Solid Tumors

## Solid Tumors



Malignant tumors are classified by the type of cell that the tumor cells presumed to be the origin of the tumor. These types include:

- Carcinoma: Cancers derived from epithelial cells. This group includes many of the most common cancers, breast, prostate, lung, pancreas, and colon.
- Sarcoma: Cancers arising from connective tissue (i.e. bone, cartilage, fat, nerve), each of which develop from cells originating in mesenchymal cells outside the bone marrow.

- Germ cell tumor: Cancers derived from pluripotent cells, most often presenting in the testicle or the ovary (seminoma and dysgerminoma, respectively).
- Blastoma: Cancers derived from immature "precursor" cells or embryonic tissue. These are also most common in children. *blastoma* as a suffix, with the Latin or Greek word for the organ or tissue of origin as the root. hepatoblastoma,
- Some types of cancer are named for the size and shape of the cells under a microscope, such as giant cell carcinoma, spindle cell carcinoma, and small cell carcinoma.

# General Staging of solid malignancies

**Early**

**local  
+/- Systemic**

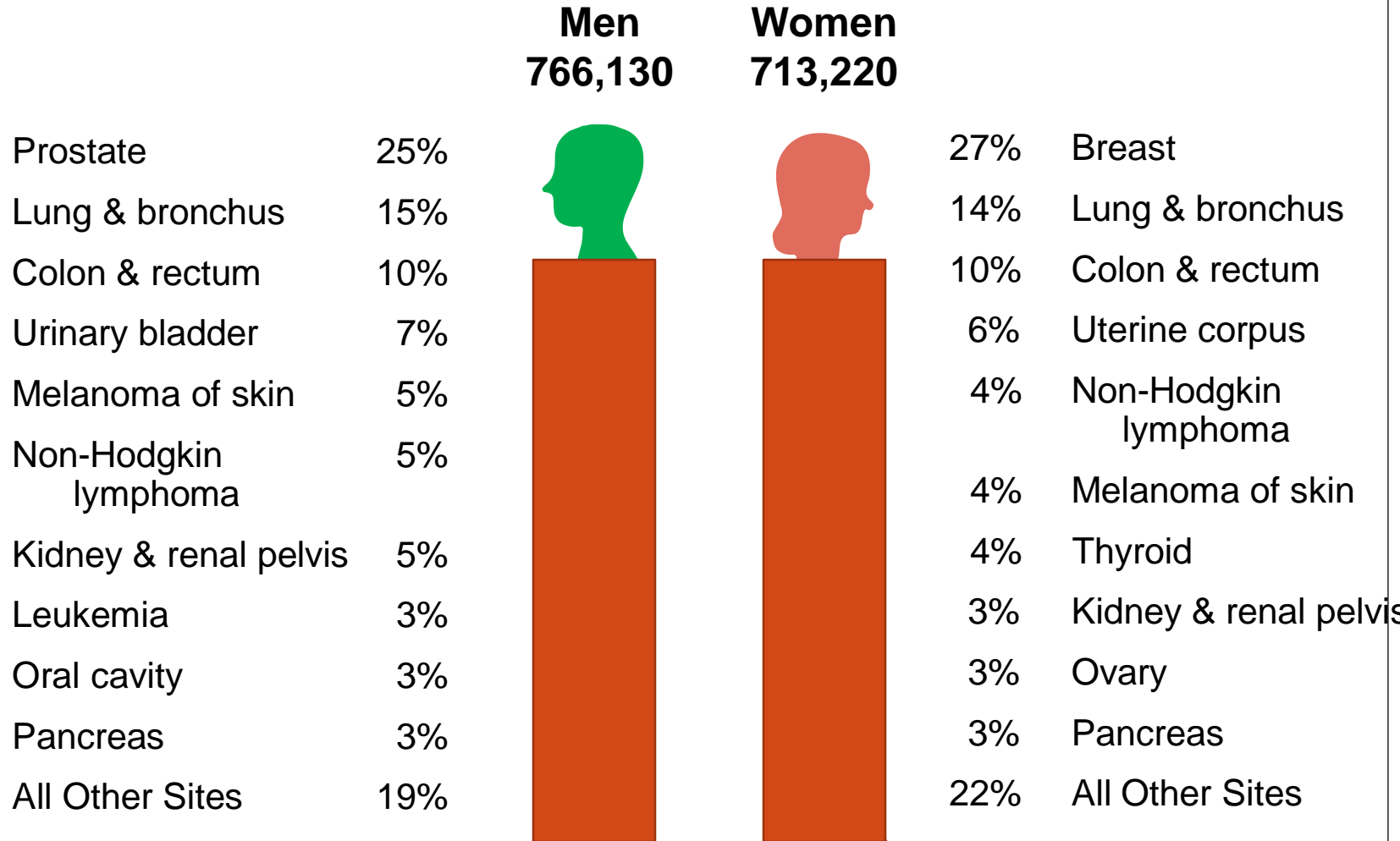
**Locally  
Advanced**

**■ local  
& Systemic**

**Metastatic**

**Systemic  
+/- Local**

## 2009 Estimated US Cancer Cases\*



\*Excludes basal and squamous cell skin cancers and in situ carcinomas except urinary bladder.

Source: American Cancer Society, 2009.

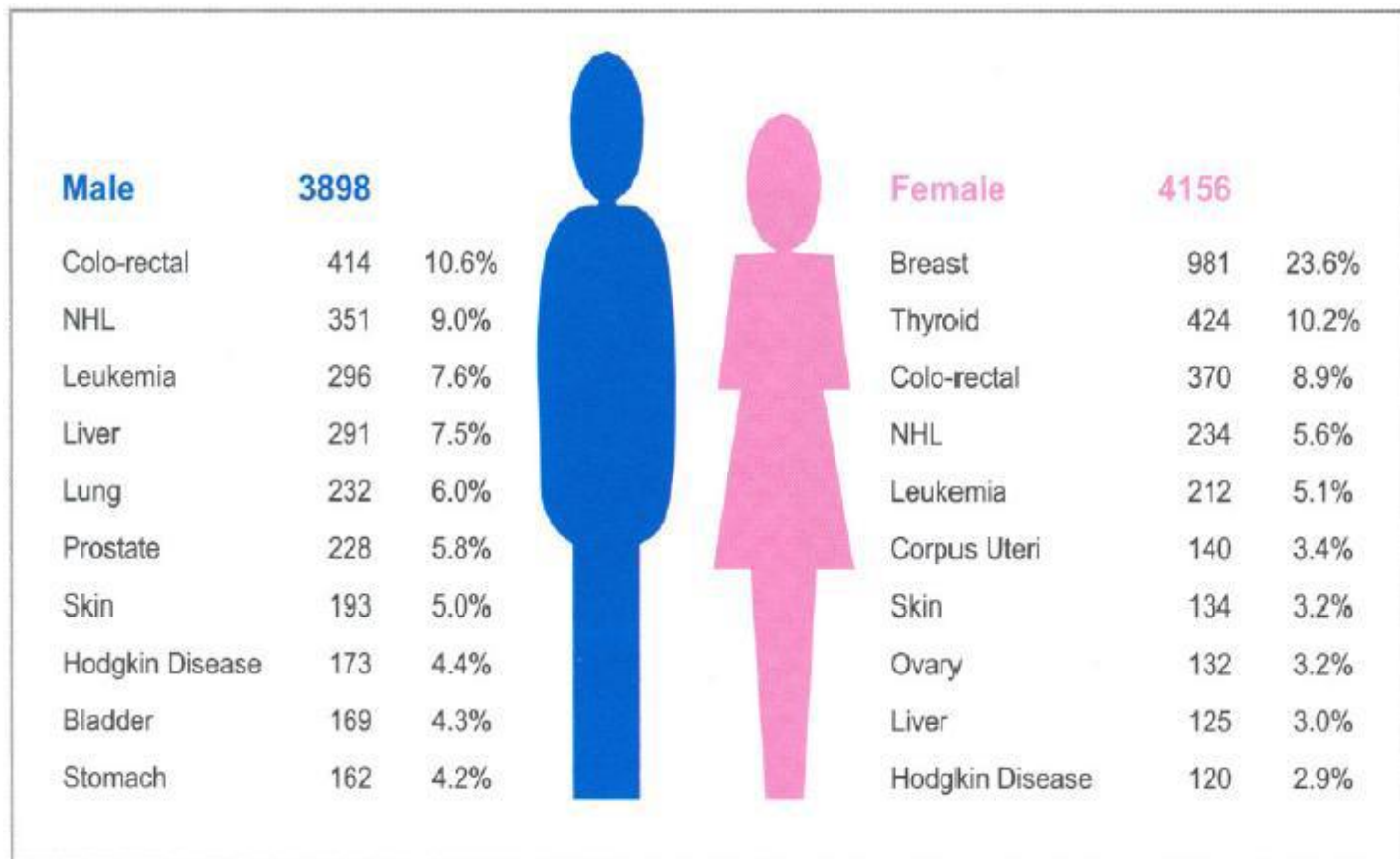


Figure 2.3 Ten Most Common Cancers among Saudis by Sex, 2006



# COMMON SOLID TUMORS

- In the U.S., The three most common cancers:
- **Men:** Prostate, lung, colorectal
- **Women:** Breast, colorectal, lung

- In the KSA., The three most common cancers:
- **Men:** colorectal, Lymphoma, leukemia
- **Women:** Breast, Thyroid, colorectal,

# STUDY OF SOLID TUMORS

- EPIDEMIOLOGY
- AETIOLOGY
- PATHOLOGY
- CLINICAL PRESENTATION
- STAGING
- MANGEMENT
- PROGNOSIS

- BREAST  
CANCER

- COLON  
CANCER

# Breast Cancer Facts

- **2<sup>nd</sup>** most common cancer.
- **1<sup>st</sup>** most common cancer in females.
- **2<sup>nd</sup>** leading cause of death.

# AGE-SPECIFIC INCIDENCE RATE (AIR) FOR FEMALE BREAST CANCER IN SAUDI

There were 981 female breast cancer cases for year 2006. Breast cancer ranked first among females accounting for 23.6% of all newly diagnosed female cancers (4,156) in year 2006. The ASR was 18.1/100,000 for female population. The five regions with the highest

ASR were Eastern region at 25.0/100,000, Riyadh region at 22.6/100,000, Makkah region at 18.0/100,000, Madinah region at 17/100,000 and Tabuk region at 17/100,000. The median age at diagnosis was 47 years (Range 19-107 years).

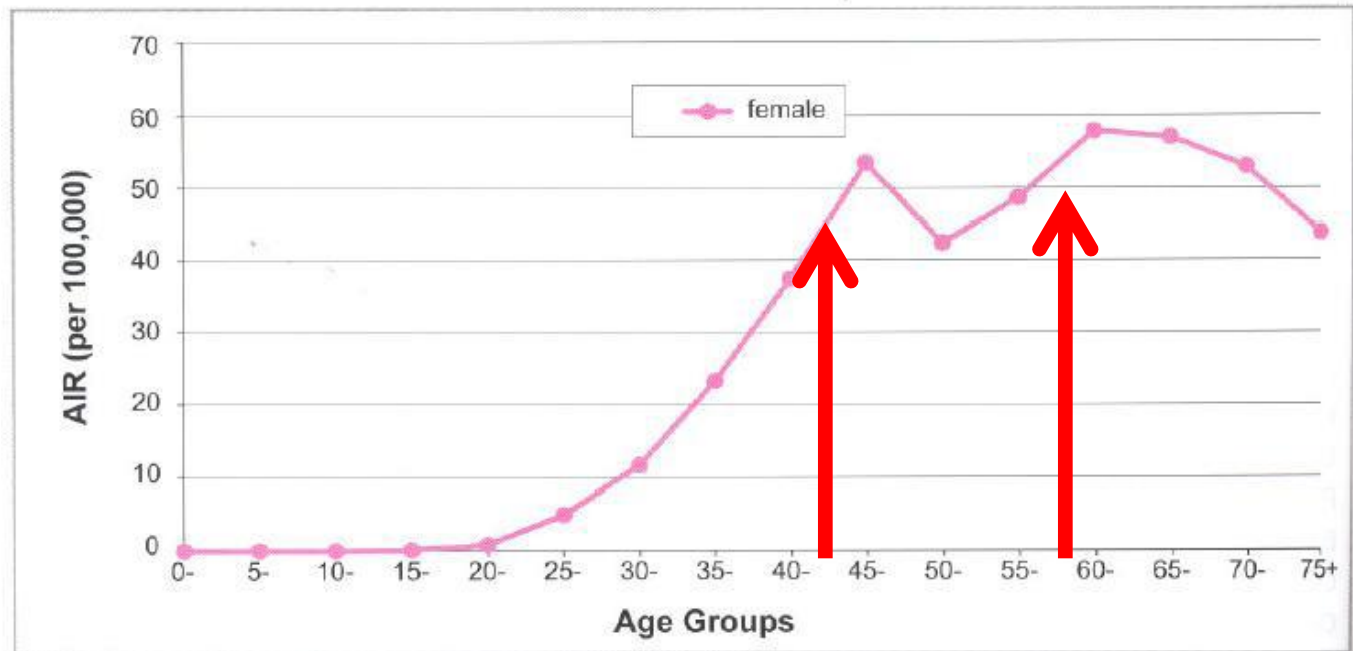


Figure 3.1.1 Age-Specific Incidence Rate (AIR) for Female Breast Cancer in Saudi Arabia, 2006

# Brest cancer staging



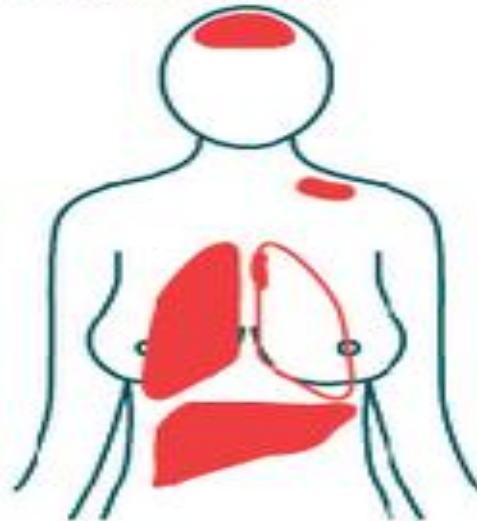
Stage 1  
Early disease: tumour confined to the breast (node-negative)



Stage 2  
Early disease: tumour spread to movable ipsilateral axillary node(s) (node-positive)



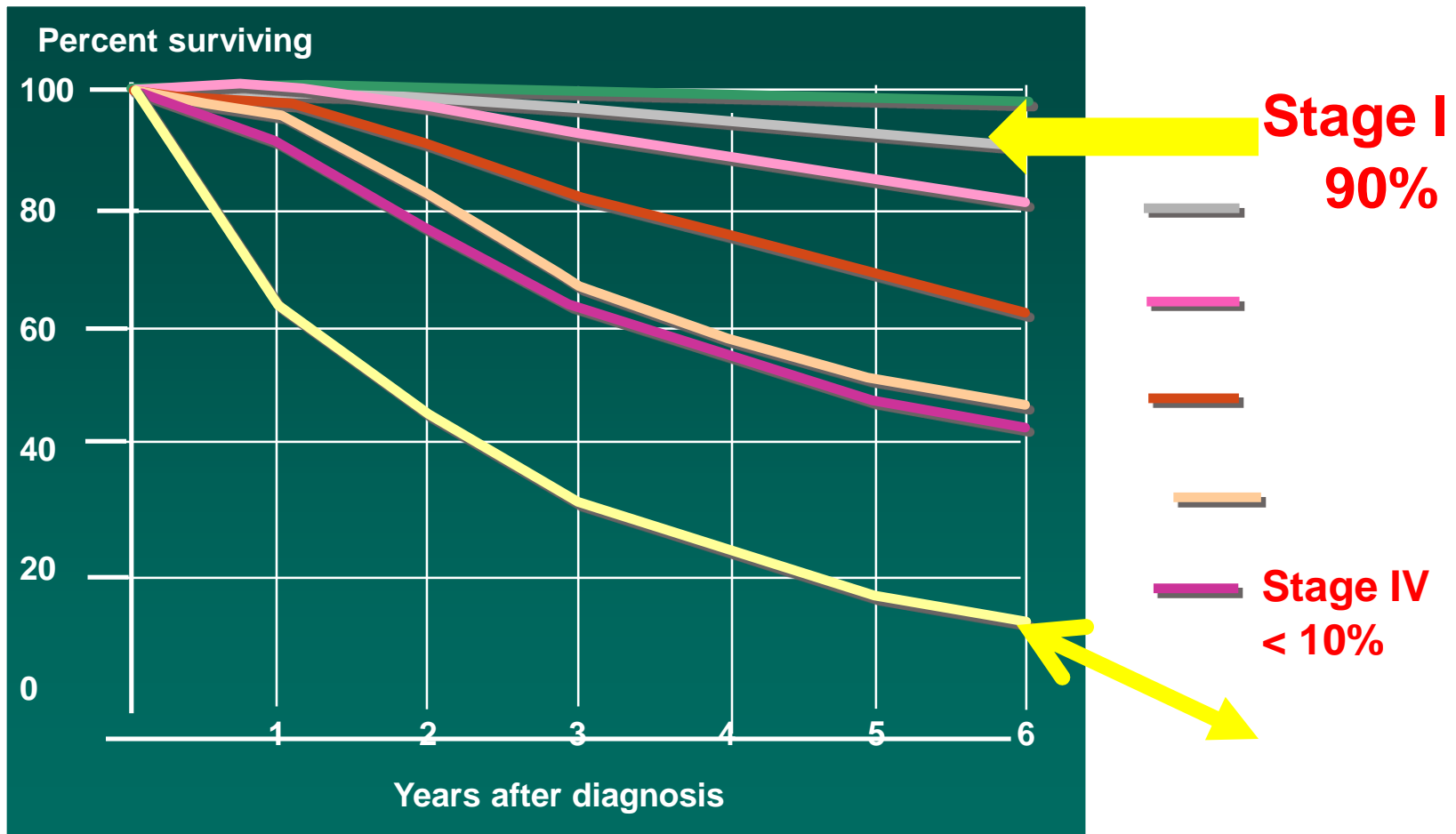
Stage 3  
Locally advanced disease tumour spread to the superficial structures of the chest wall; involvement of ipsilateral internal mammary lymph nodes



Stage 4  
Advanced (or metastatic) disease: metastases present at distant sites, such as bone, liver, lungs and brain and including supraclavicular lymph node involvement

# BREAST CANCER

## Survival by stage



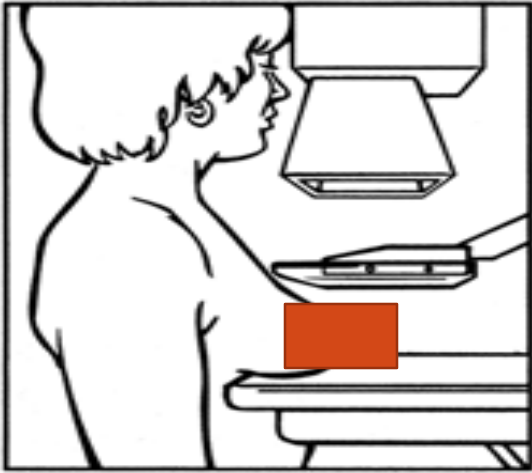
# It Is A Simple Equation

**LATE PRESENTATION  
+  
ADVANCED STAGE  
=  
POOR OUTCOME**

**EARLY PRESENTATION  
+  
EARLY STAGE  
=  
GOOD OUTCOME**



# A Good Breast Health Plan



1. Mammograms

2. Self Awareness  
(Monthly Self  
Exams) (BSE)



# Suspect Breast Cancer

**Why?  
When?  
What?  
Which?**

**Many good reasons  
to suspect breast  
cancer**

# Remember:

## **Breast cancer :**

- Most common cancer in females.**
- Wide age range 20 - +70y.**
- Breast cancer can occur during pregnancy ,during lactation.**
- Breast cancer can occur in pre, peri and post menopausal females.**

**Suspecting  
Breast  
Cancer**



```
graph TD; A([Suspecting Breast Cancer]) --> B[Is one of the most important steps in diagnosing Early Breast cancer];
```

**Is one of the most important  
steps in diagnosing Early  
Breast cancer**

# Risk factors

- History of breast cancer
- Family history of breast cancer, especially in first-degree relatives
- Benign breast diseases / atypical hyperplasia
- Early menarche, late menopause
- Late first pregnancy / no pregnancy
- Exogenous estrogens
- Radiation ( HD)

**What  
To do**

**If you Suspect Breast  
Cancer?**

**If you  
Suspect Breast  
Cancer**

- Do not just reassure the patient**
- Do not give hormonal therapy**
- Do not give antibiotics**



**If you  
Suspect Breast  
Cancer**

```
graph TD; A([If you Suspect Breast Cancer]) --> B[Careful history & Careful physical ex];
```

The diagram consists of a pink oval at the top containing the text 'If you Suspect Breast Cancer'. A black arrow points downwards from the bottom of this oval to a yellow rectangular box below. The background is divided into a light blue top section and a dark blue bottom section by a horizontal line.

**Careful history &  
Careful physical ex**

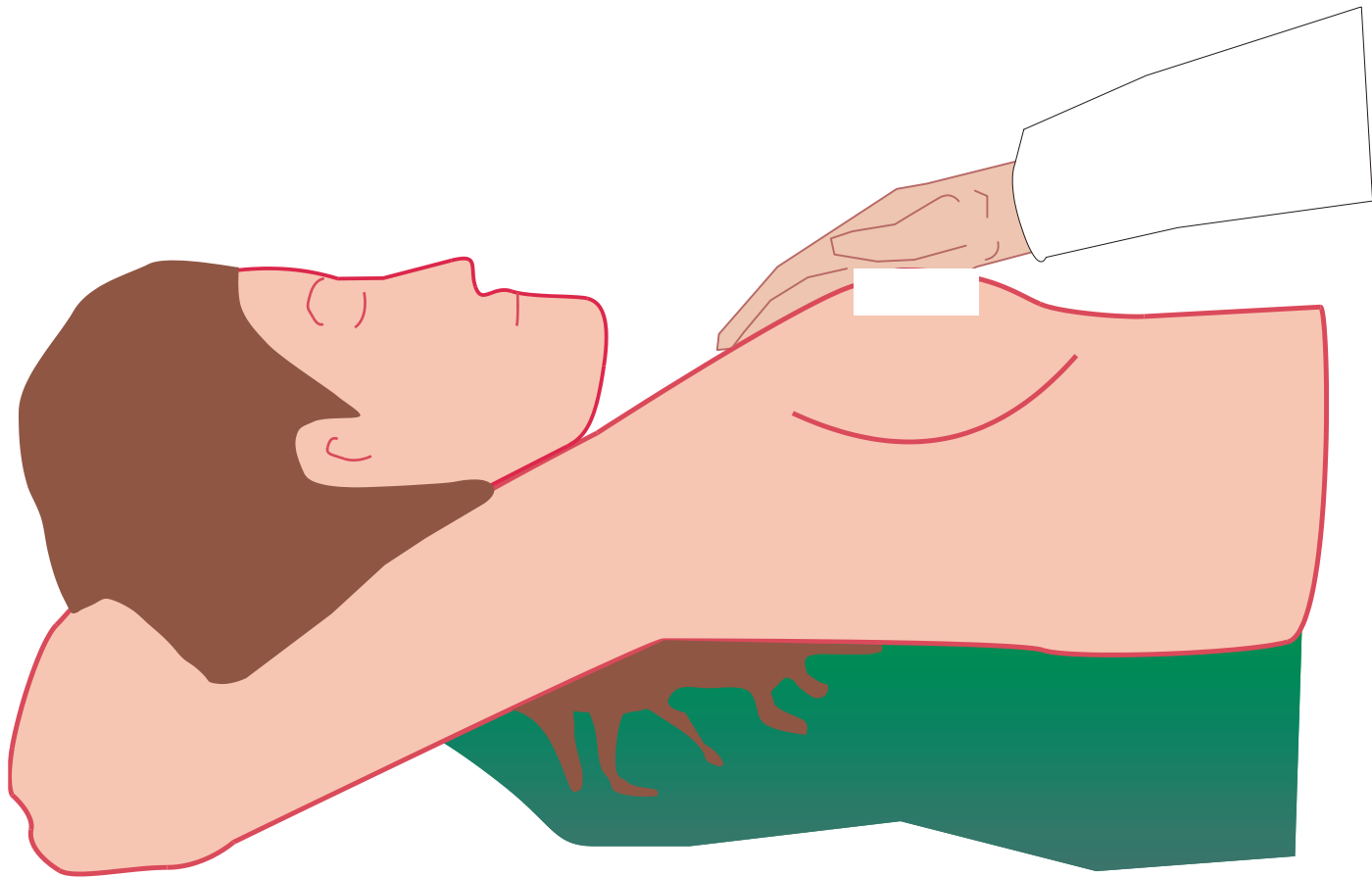
# Warning Signs

## Warning signs and symptoms:

- Painless lump or thickening  
(can be painful)
- Thickening or swelling that persist
- Nipple pain or retraction
- Nipple discharge
- Breast skin irritation or dimpling

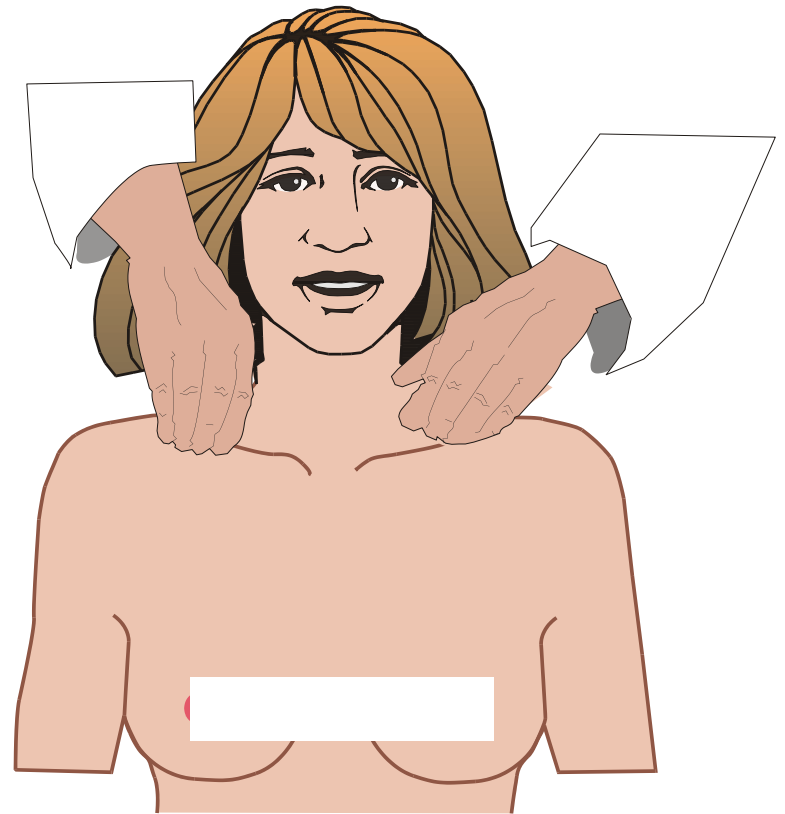
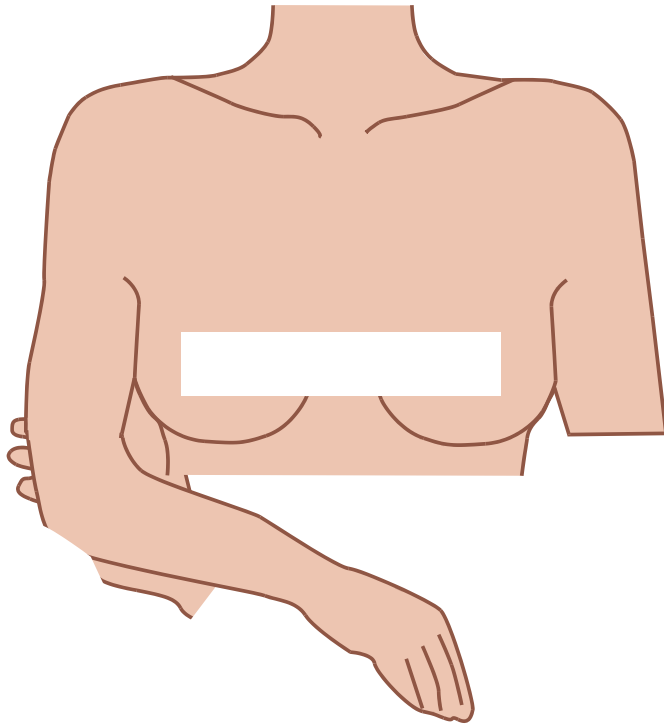
# BREAST CANCER

## Breast palpation



# BREAST CANCER

## Regional nodes assessment



Physical examination

-ve

Screening mammogram

Normal

Suspicious

FNA



Physical examination

+ve

Diagnostic imaging  
- mammogram  
- ultrasound

Palpable  
mass

Equivocal or  
suspicious

Normal

FNA

Short-term  
follow-up

**conclusion**

Suspecting Breast  
Cancer



**Is one of the most important  
steps in diagnosing  
Early Breast cancer.**

# Conclusion

**If you  
Suspect Breast Cancer**



- Careful Hist & Ex**
- Perform Bilateral mamogram  
+ breast US**
- +/- Fine needle aspiration**



# To improve patients Prognosis



1-EARLY DIAGNOSIS

2-EARLY & PROPER INTERVENTION

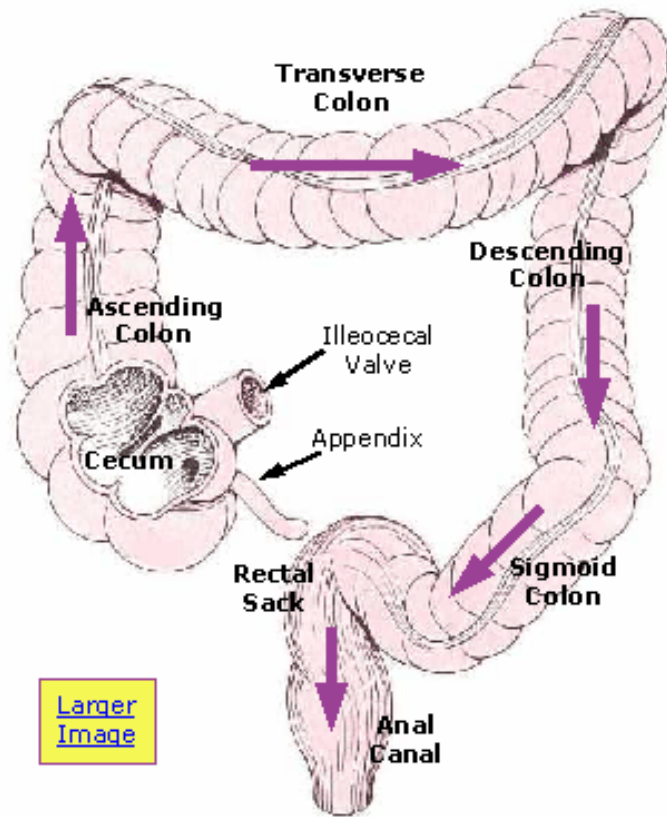
**LOCAL THERAPY**  
**SURGERY**  
**RADIOTHERAPY**

**SYSTEMIC THERAPY**  
**- CHEMOTHERAPY**  
**- HORMONAL THERAPY**  
**- BIOLOGICAL THERAPY**

COLON

CANCER

# What is the Colon



[Larger Image](#)

[Learn About Stool Formation](#)

- The Colon is a long, coiled, tubular digestive tract
- It basically acts as a waste processor
- Takes digested food in the form of Solid waste pushing it out of the rectum and anus
- The Colorectal tube is a prime location for the development and growth of small polyps or tumors

# Risk factors of colon cancer

- **Older age.** About 90 percent of people diagnosed with colon cancer are older than 50. Colon cancer can occur in younger people, but it occurs much less frequently.
- **A personal history of colorectal cancer or polyps.** If you've already had colon cancer or adenomatous polyps, you have a greater risk of colon cancer in the future.

# Risk factors of colon cancer

- **Inflammatory intestinal conditions.** ulcerative colitis and Crohn's disease, can increase your risk of colon cancer.
- **Inherited syndromes that increase colon cancer risk..** familial adenomatous polyposis and hereditary nonpolyposis colorectal cancer, which is also known as Lynch syndrome.

# Risk factors of colon cancer

- **Family history of colon cancer and colon polyps.** You're more likely to develop colon cancer if you have a parent, sibling or child with the disease. If more than one family member has colon cancer or rectal cancer, your risk is even greater.
- **Low-fiber, high-fat diet..**
- **A sedentary lifestyle.**

# Risk factors of colon cancer

- **Diabetes.** insulin resistance may have an increased risk of colon cancer.
- **Obesity.**
- **Smoking.** People who smoke cigarettes may have an increased risk of colon cancer.
- **Alcohol.** Heavy use of alcohol may increase your risk of colon cancer.
- **Radiation therapy for cancer**



# Risk Factors

- It can occur at any age but mostly if your of 45 years of age
- Have some type of Polyps( even though it is non-cancerous)
- Have had some other type of Cancer
- A blood relative with Colon Cancer esp. A Parent or a Sibling.
- Have an inflammatory disease
- Have a diet low in fiber and high in fats

- Constipation lead to long stagnation of waste in the colon
- This will allow the bacteria to act on these waste and produce carcinogenic material ,
- These materials will affect the lining mucosa of the large intestine
- Leading to colonic polyps and cancer

# Colon cancer

- It starts with a simple cell the mutates and grows into a polyps
- If a polyp is allowed to remain in the colon it can grow into a cancerous tumor that can invade other organs.
- Colon cancer is the second leading cause of cancer deaths



# Symptoms of Colon Cancer

- **A change in bowel habits**, including diarrhea or constipation or a change in the consistency of your stool
- **Rectal bleeding** or blood in your stool
- **Persistent abdominal discomfort**, such as cramps, gas or pain

# Symptoms of Colon Cancer can be vague

- Unexplained Fatigue
- Unexplained iron deficiency anemia
- Unexplained weight loss

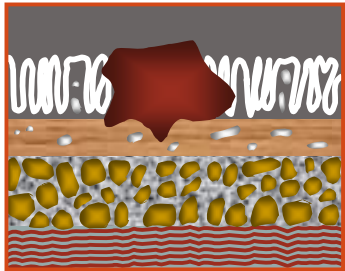


# Colon Cancer diagnosis

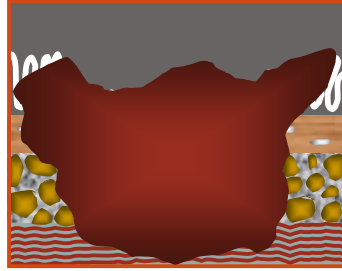
- 1- endoscopic biopsy
- 2- CT chest abdomen and pelvis

# Colon cancer staging

I



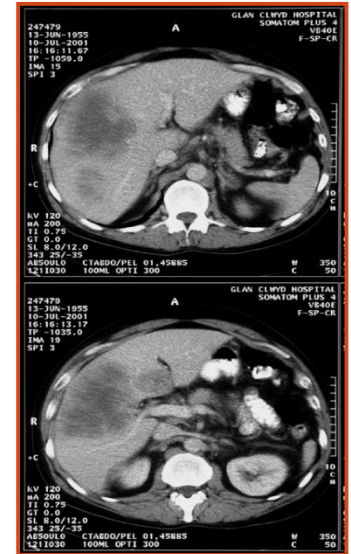
II



III



IV



**Confined  
To wall**

**Beyond  
the wall**

**Nodal  
involvement**

**Metastases**

5y OS= 90%

60-80%

30-60%

< 5%

# Early detection:

- Why does this contribute to a better survival?

**Early  
detection**

**=**

**Early  
stage**

**Better  
survival**



# Early detection:

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- 1- Colonoscopy,
- 2- Better imaging,
- 3- Better public and physician awareness.

**More cases are diagnosed at earlier stage of disease.**

**CAN WE PREVENT  
BREAST or colon  
CANCER?**

# Different Strategies for Cancer Prevention

Discover  
Etiological  
factors



Avoid these  
factors

-1-  
Passive  
Prevention

eg. SMOOKING, ASPESTOS

TRY TO AVOID THE  
Risk Factors for Breast Cancer

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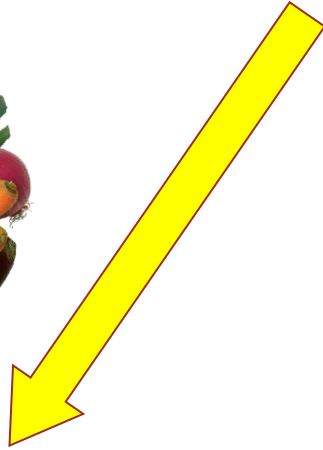
- **Weight Gain = obesity**
- **Estrogen & Progestin use**
- **Alcohol use**

-1-

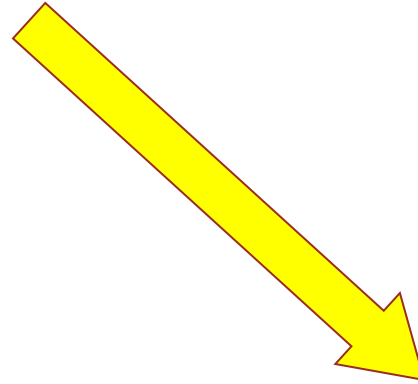
## Passive Prevention

- **General health maintenance**
  - Eat a healthy diet
  - Don't smoke
  - Don't drink too much
  - Exercise/ maintain

# NOT AN EASY TASK



Social change is  
difficult and  
takes  
a long time



Not good  
enough  
In high risk  
people



# Different Strategies for Cancer Prevention

Discover  
pre-malignant  
lesions



-2-  
Active  
prevention

Get rid of  
them before  
developing  
invasive cancer

eg. Colonic polyps & DCIS

-2-

Active  
prevention

- **Eliminate or prevent pre-invasive disease before invasion develops**

Chemoprevention

Surgery