

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 colo-rectal cancer regarding:
risk factors, clinical presentation , early detection, diagnostic tools, broad lines of management, and prevention.

Classification Of Solid Tumors

Solid Tumors

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graph TD; A[Solid Tumors] --> B[Epithelial tissues]; A --> C[Connective tissues]; B --> D[Surface]; B --> E[glandular]; D --> F[Carcinoma]; E --> F; C --> G[Bone]; C --> H[Soft tissues]; G --> I[Sarcoma]; H --> I;
```

Epithelial tissues

Connective tissues

Surface glandular

Bone Soft tissues

Carcinoma

Sarcoma

Cancers 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**

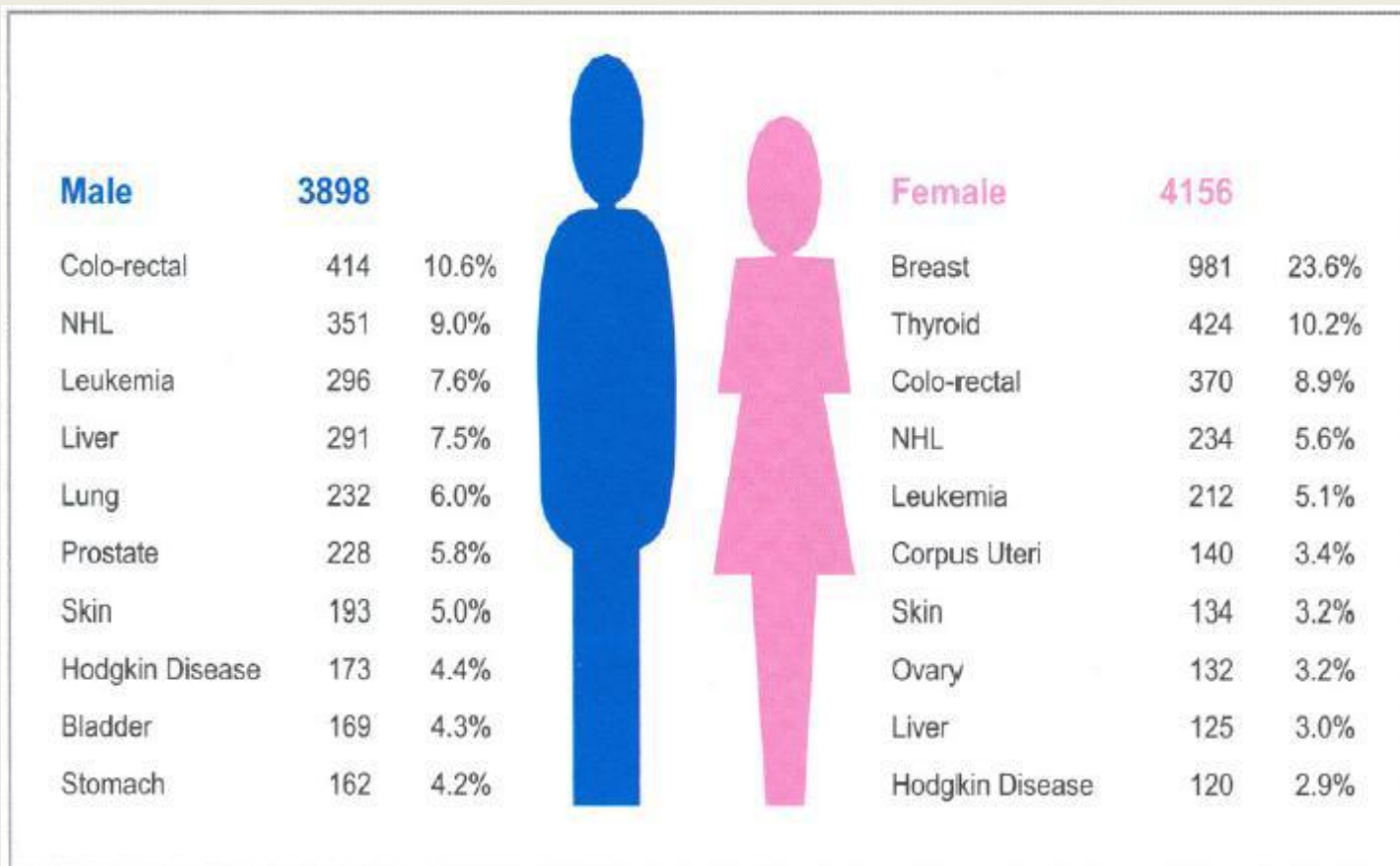


Figure 2.3 Ten Most Common Cancers among Saudis by Sex, 2006

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

- **2nd** most common cancer.
- **1st** most common cancer in females.
- **2nd** 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).

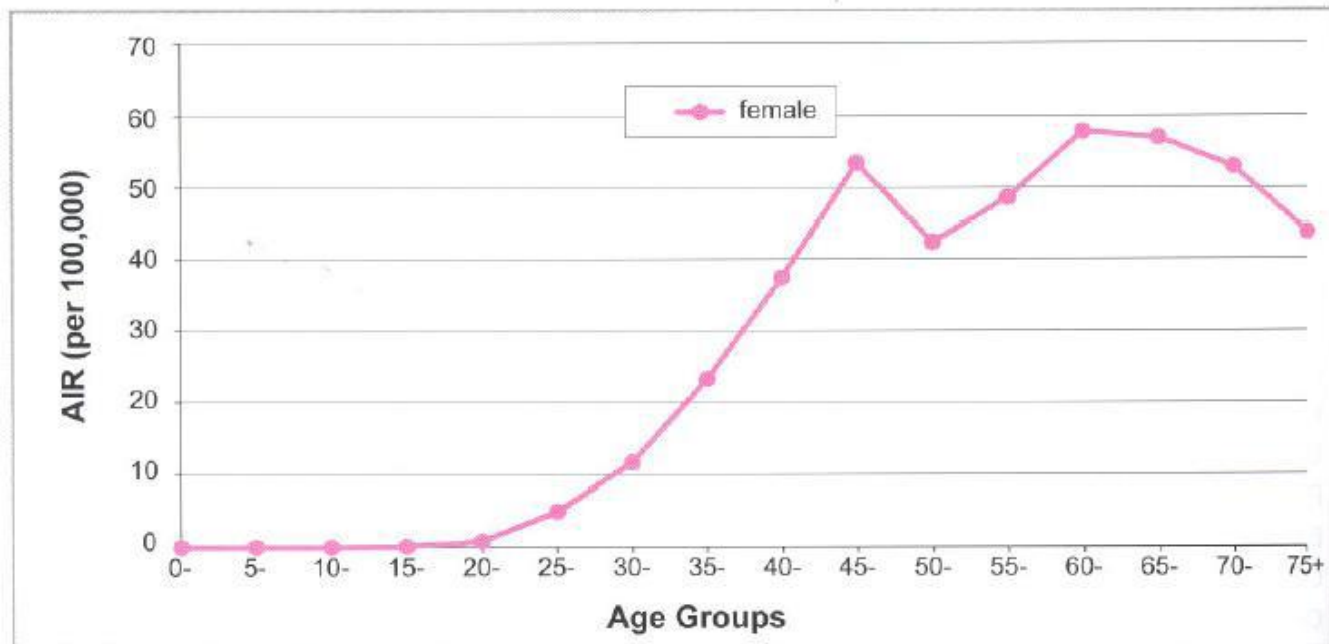
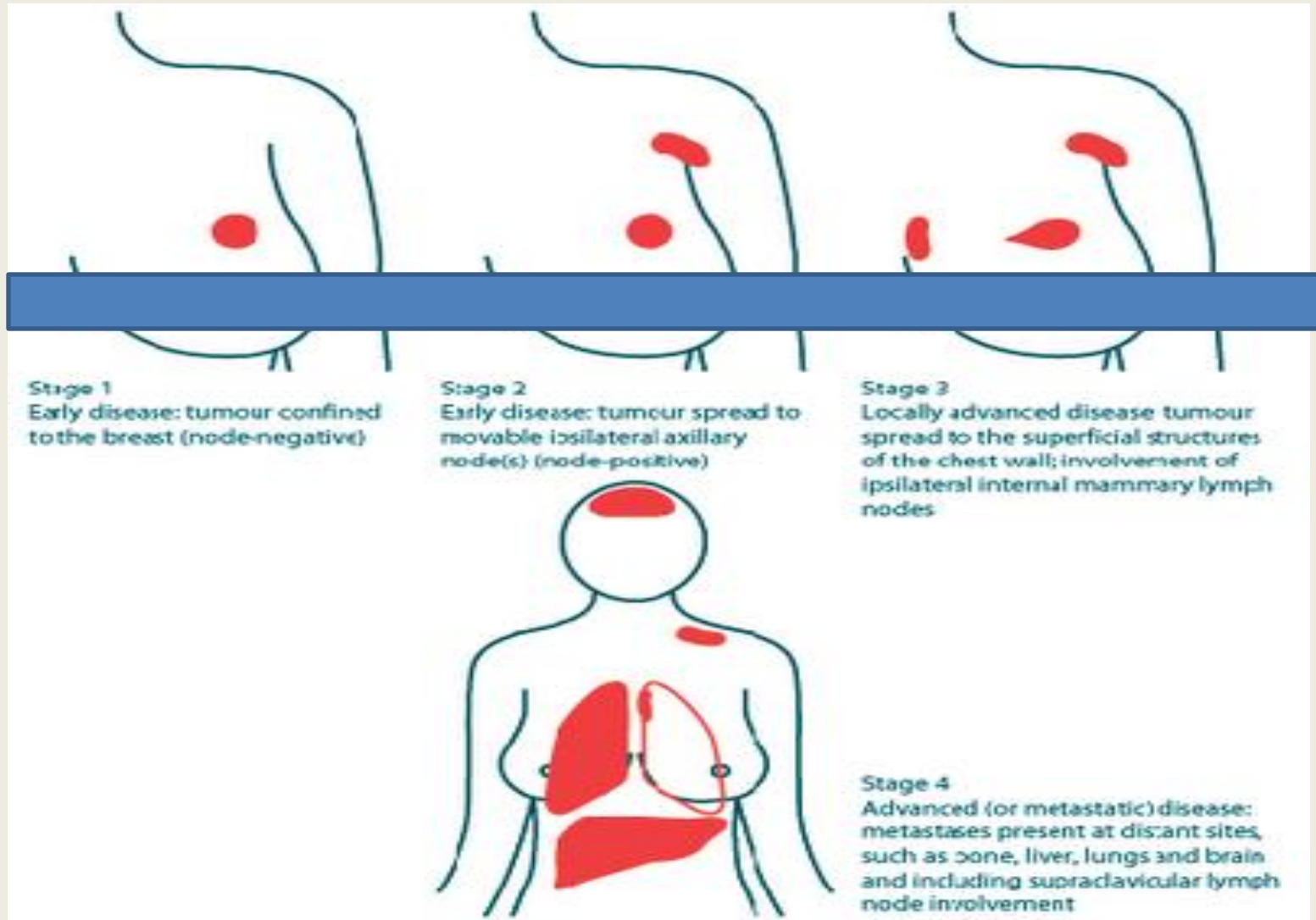


Figure 3.1.1 Age-Specific Incidence Rate (AIR) for Female Breast Cancer in Saudi Arabia, 2006

Risk factors

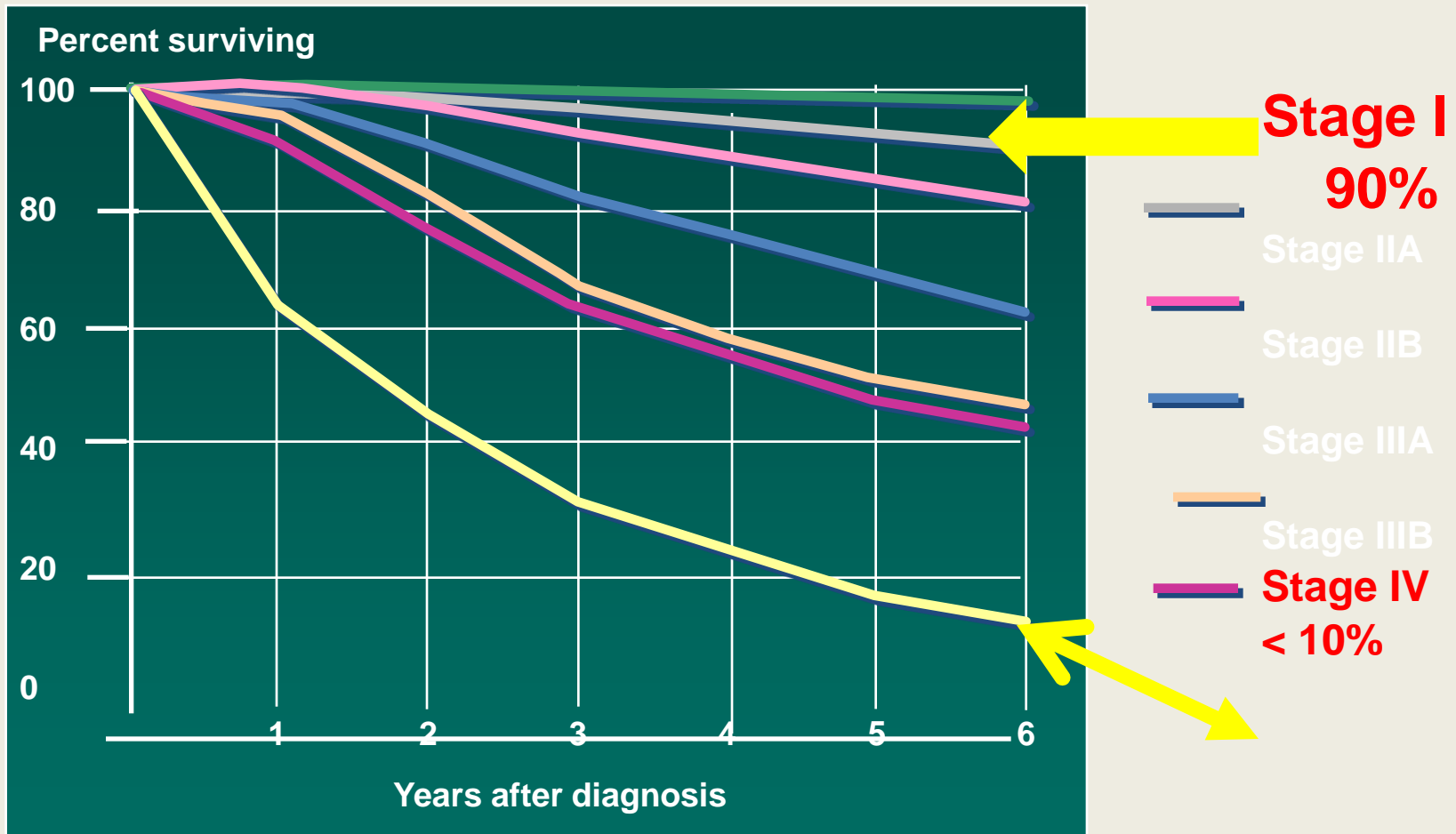
- **History of breast cancer**
- **Family history of breast cancer, especially in first-degree relatives**
- **Benign breast diseases / atypical hyperplasia**
- **Early menarche, late menopause**
- **Late first pregnancy/no pregnancy**
- **Exogenous estrogens**
- **Radiation (HD)**

Brest cancer staging



BREAST CANCER

Survival by stage

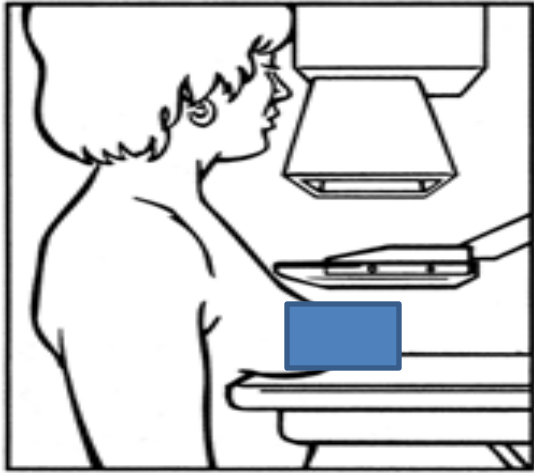


It Is A Simple Equation

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



**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**

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

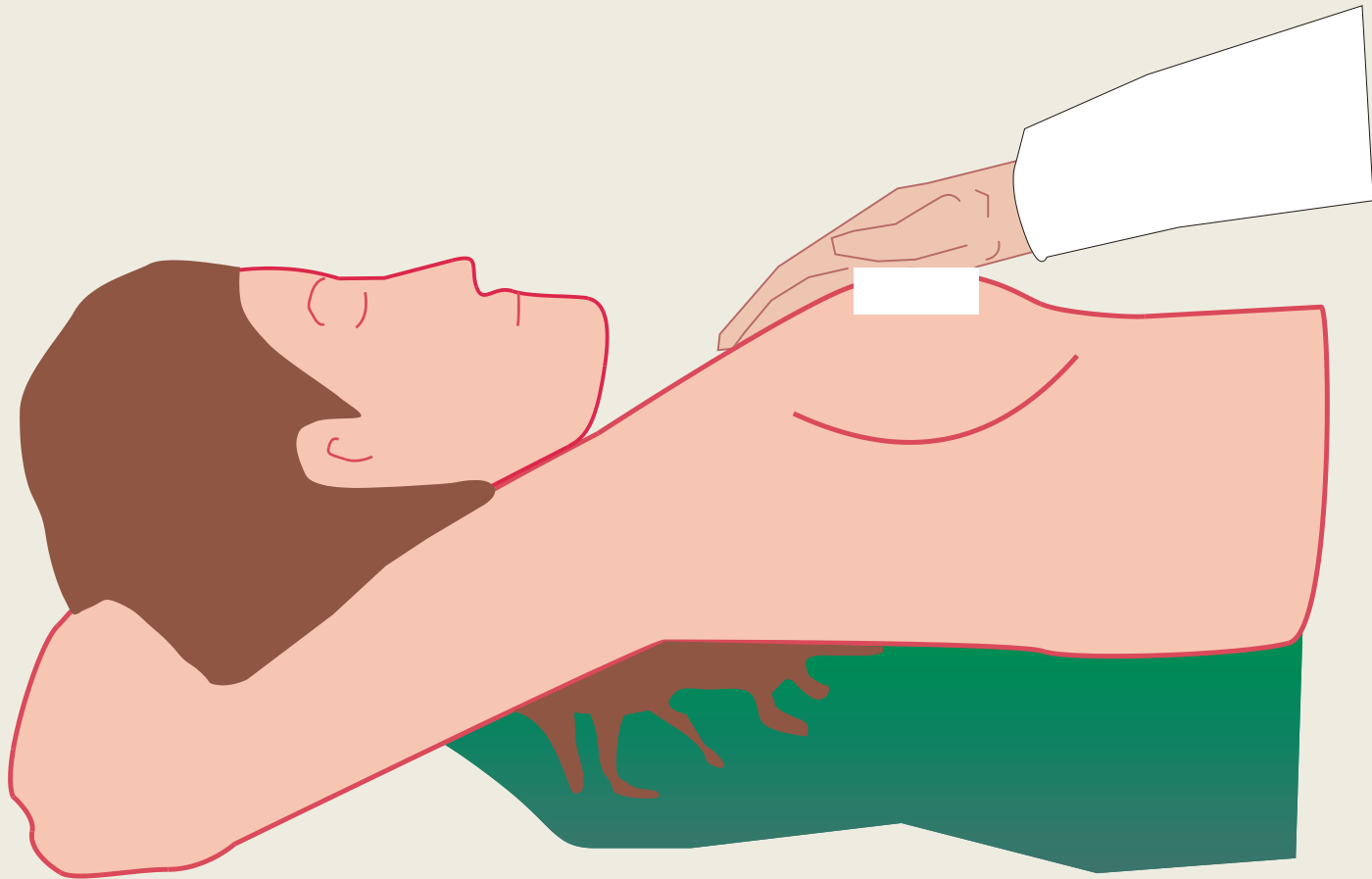
Warning Signs

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

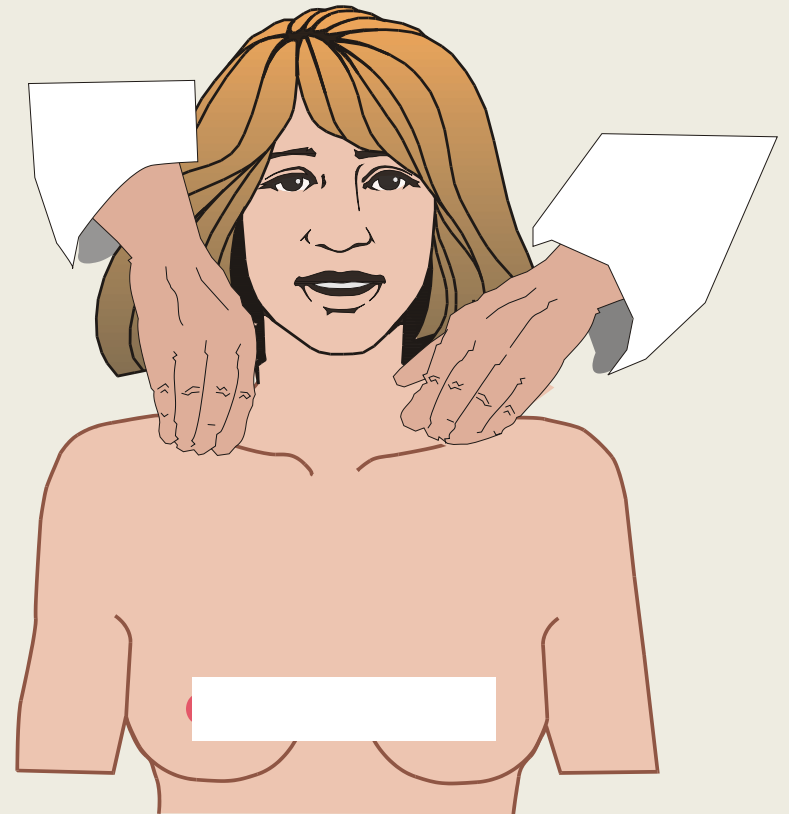
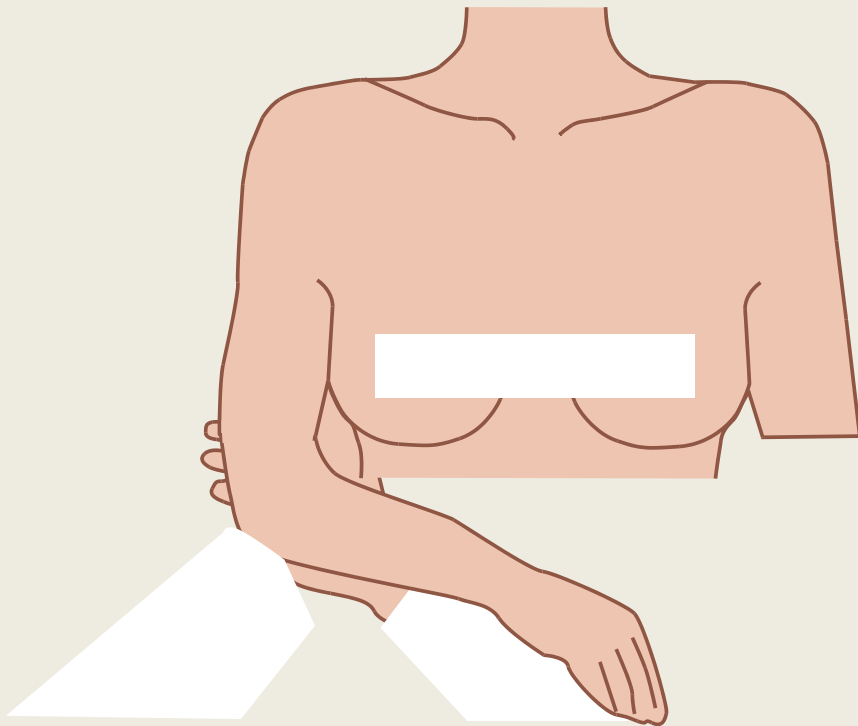
BREAST CANCER

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**



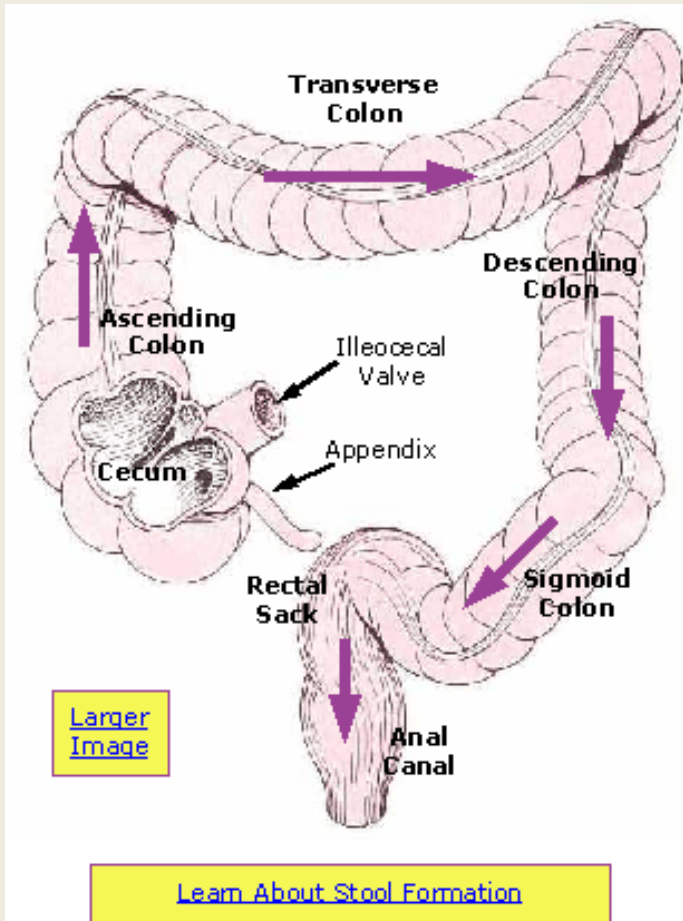
1-EARLY DIAGNOSIS
2-EARLY & PROPER INTERVENTION

LOCAL THERAPY
SURGERY
RADIOTHERAPY

SYSTEMIC THERAPY
- CHEMOTHERAPY
- HORMONAL THERAPY
- BIOLOGICAL THERAPY

COLON CANCER

What is the Colon



- 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

Colon; The Cancer Its Self

- 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
- A feeling that your bowel doesn't empty completely
- Weakness or fatigue
- Unexplained weight loss

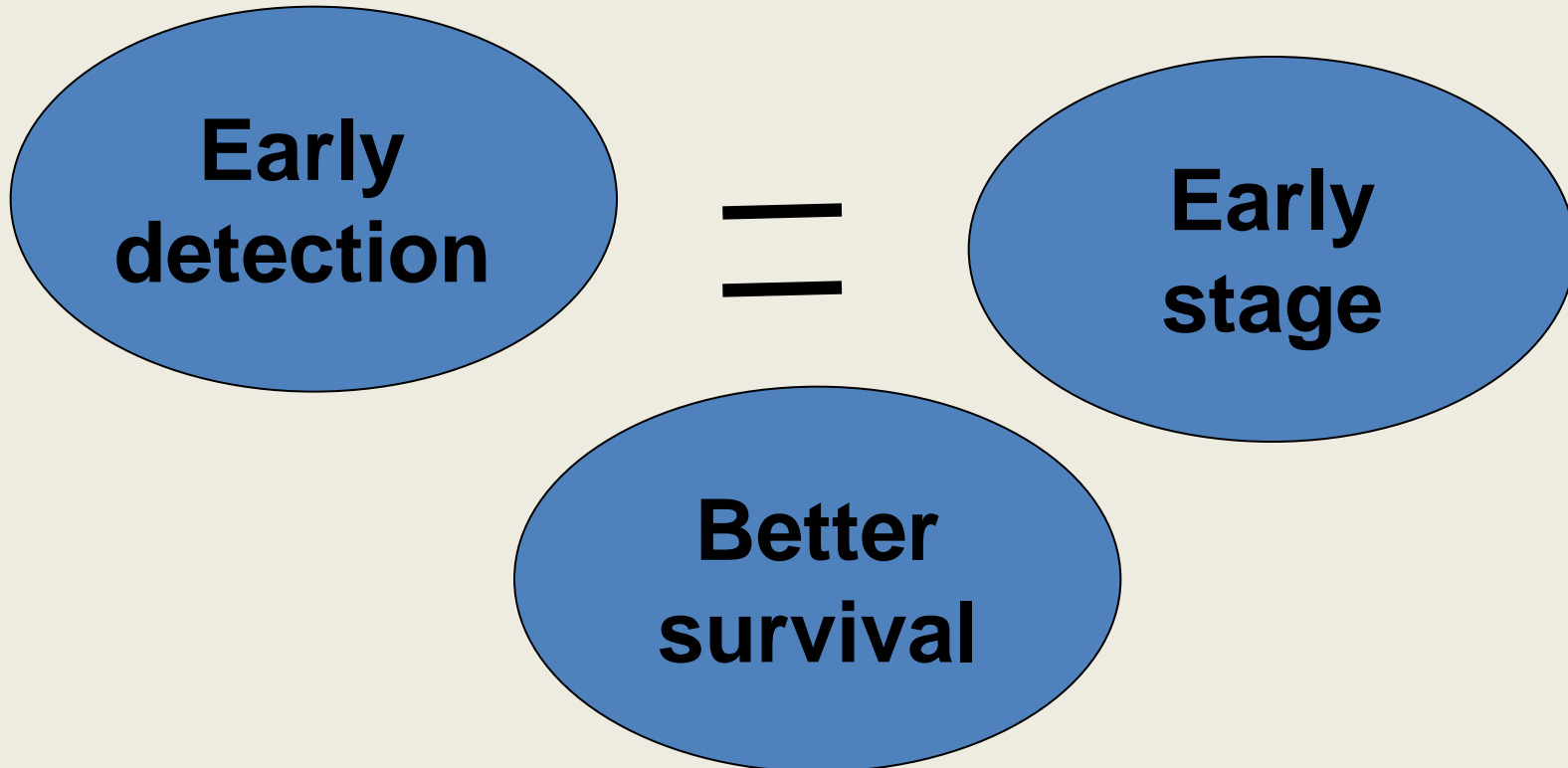
Symptoms of Colon Cancer

- And Unexplained Fatigue
- Unexplained iron deficiency anemia



Early detection:

- **Why does this contribute to a better survival?**



Early detection:

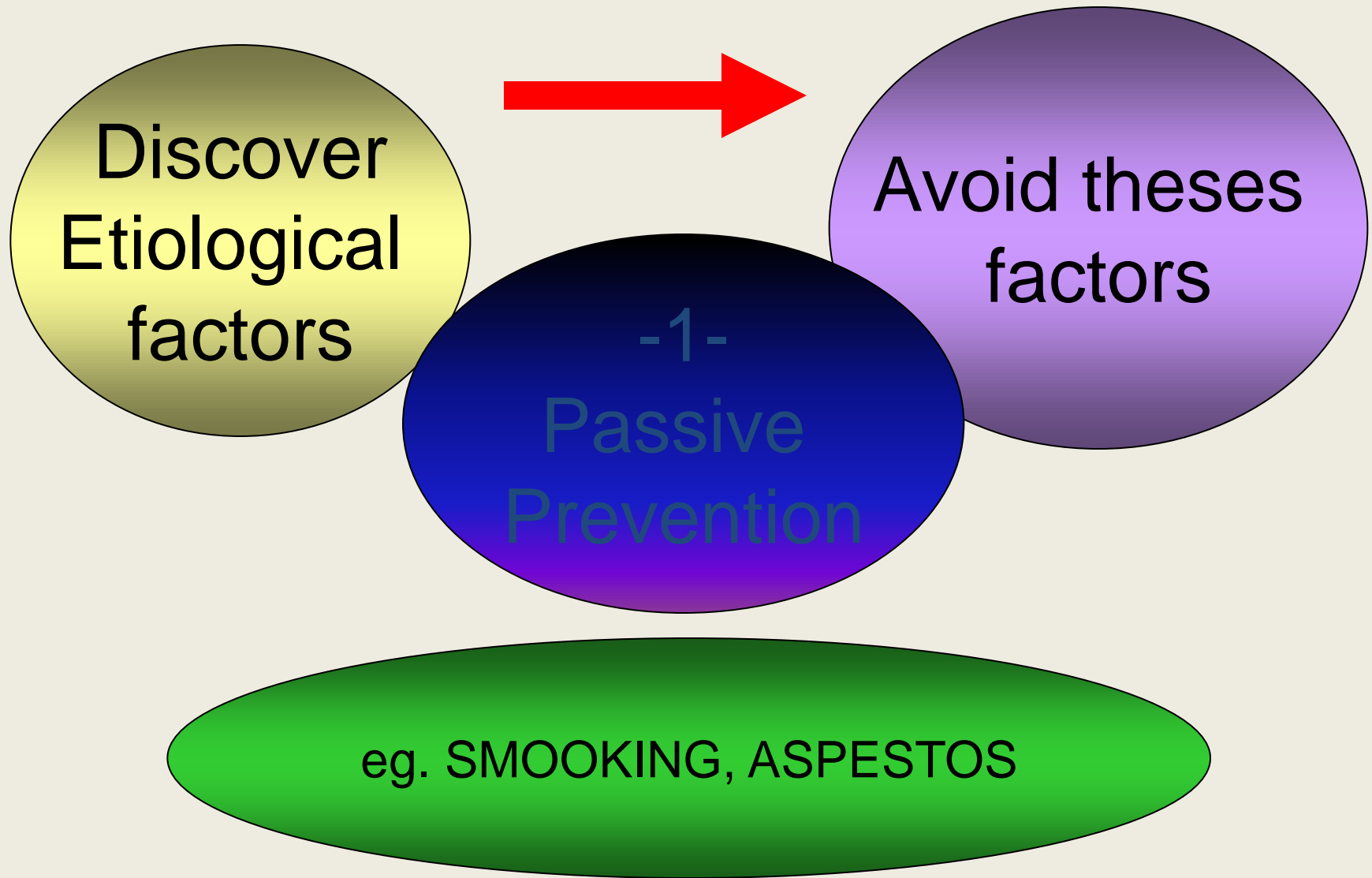
- **1- Colonoscopy,**
- **2- Better imaging,**
- **3- Better public and physician awareness.**

More cases are diagnosed at earlier stage of disease.

CAN WE PREVENT BREAST or colon CANCER?

MAY 2011

Different Strategies for Cancer Prevention



TRY TO AVOID THE
Risk Factors for Breast Cancer

- Weight Gain as an adult /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 optimal weight

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