

# Update in Internal Medicine 2023

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## Advanced Cancer in the Community Setting

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Estimated New Cases

			Males	Females			
Prostate	288,300	29%			Breast	297,790	31%
Lung & bronchus	117,550	12%			Lung & bronchus	120,790	13%
Colon & rectum	81,860	8%			Colon & rectum	71,160	8%
Urinary bladder	62,420	6%			Uterine corpus	66,200	7%
Melanoma of the skin	58,120	6%			Melanoma of the skin	39,490	4%
Kidney & renal pelvis	52,360	5%			Non-Hodgkin lymphoma	35,670	4%
Non-Hodgkin lymphoma	44,880	4%			Thyroid	31,180	3%
Oral cavity & pharynx	39,290	4%			Pancreas	30,920	3%
Leukemia	35,670	4%			Kidney & renal pelvis	29,440	3%
Pancreas	33,130	3%			Leukemia	23,940	3%
All Sites	1,010,310	100%			All Sites	948,000	100%



Estimated Deaths

			Males	Females			
Lung & bronchus	67,160	21%			Lung & bronchus	59,910	21%
Prostate	34,700	11%			Breast	43,170	15%
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Pancreas	26,620	8%			Pancreas	23,930	8%
Liver & intrahepatic bile duct	19,000	6%			Ovary	13,270	5%
Leukemia	13,900	4%			Uterine corpus	13,030	5%
Esophagus	12,920	4%			Liver & intrahepatic bile duct	10,380	4%
Urinary bladder	12,160	4%			Leukemia	9,810	3%
Non-Hodgkin lymphoma	11,780	4%			Non-Hodgkin lymphoma	8,400	3%
Brain & other nervous system	11,020	3%			Brain & other nervous system	7,970	3%
All Sites	322,080	100%			All Sites	287,740	100%

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Gland **Diagnose** Complications  
Treatment Prevention **DNA**  
**Risks** **PROSTATE** **TMRI**  
Cells **CANCER** **Doctors** Diet  
**Men** **Race**  
Tumor **Symptoms** Erectile Dysfunction  
Tissue **Incontinence** Metastasize **Biopsy**  
Screening **Abnormal Mutations**

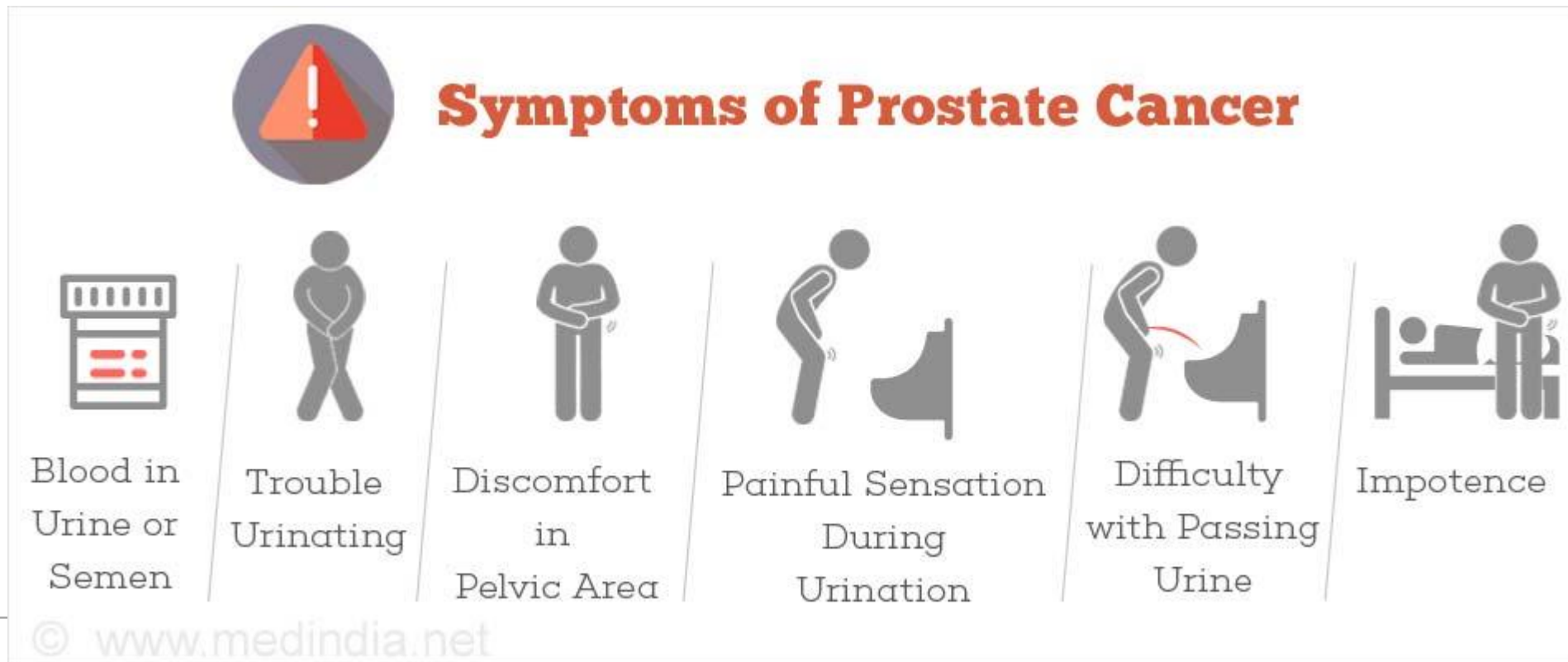
# Prostate Cancer

## ASYMPTOMATIC

- Most often diagnosed by PSA

## METASTATIC

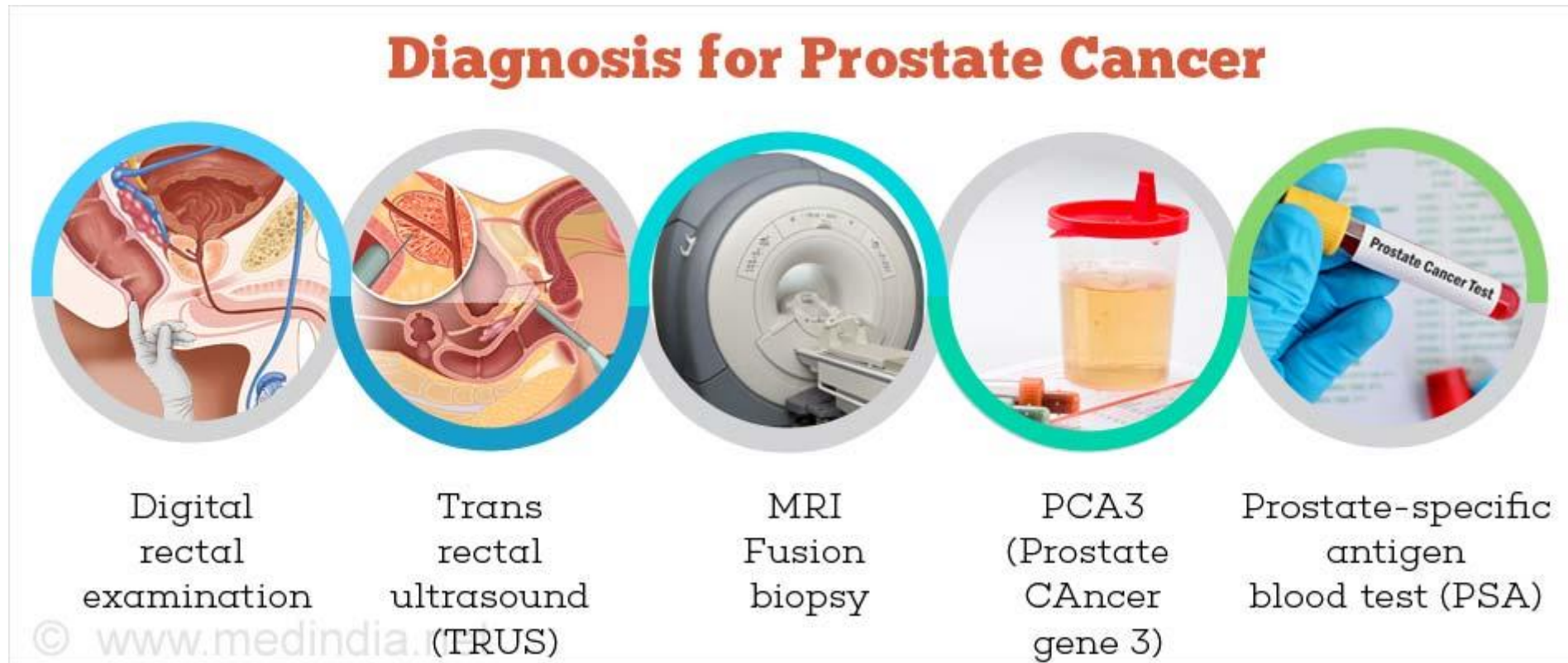
- Bone pain (Back pain)





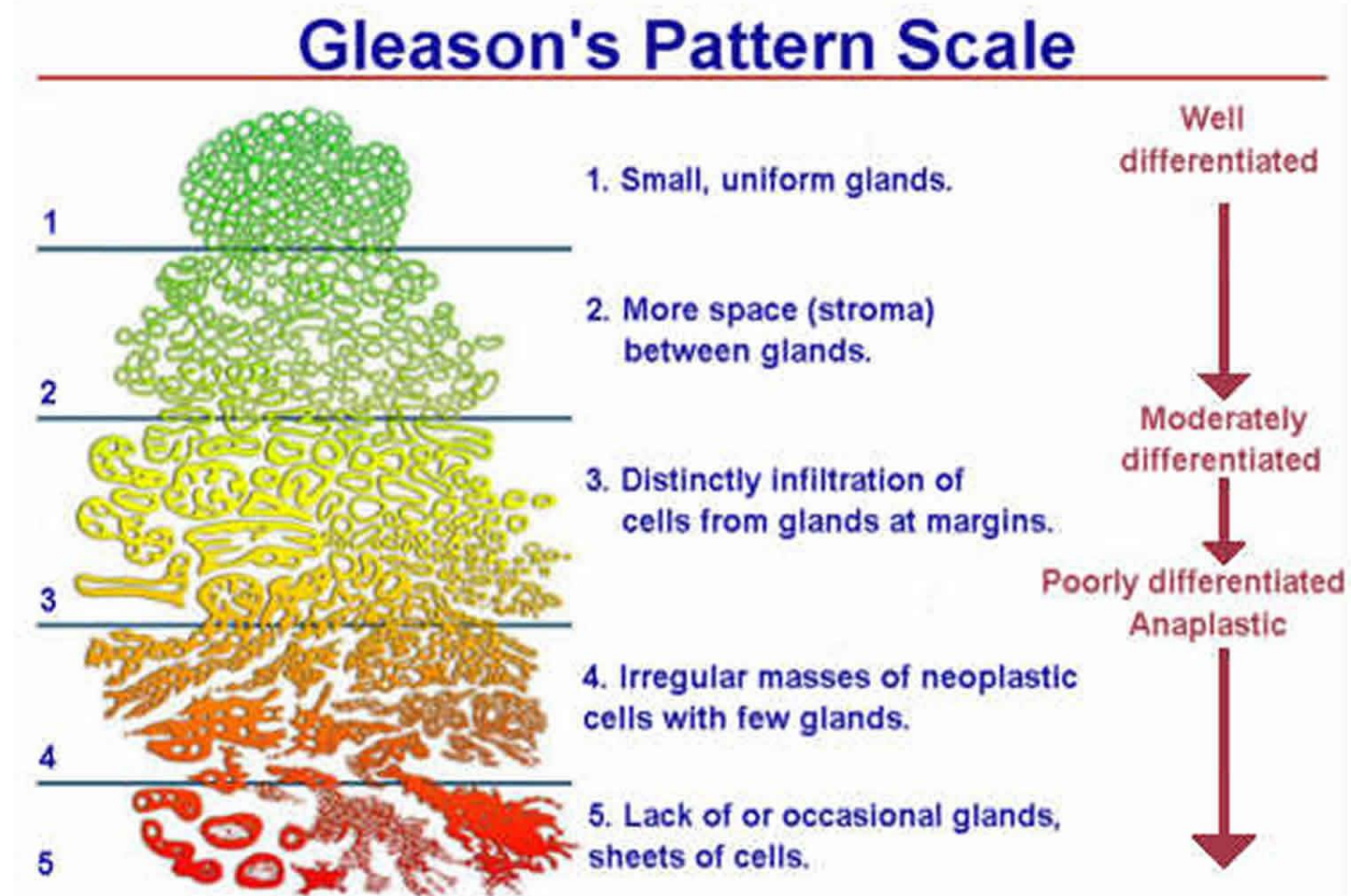
# Prostate Cancer

## Testing:

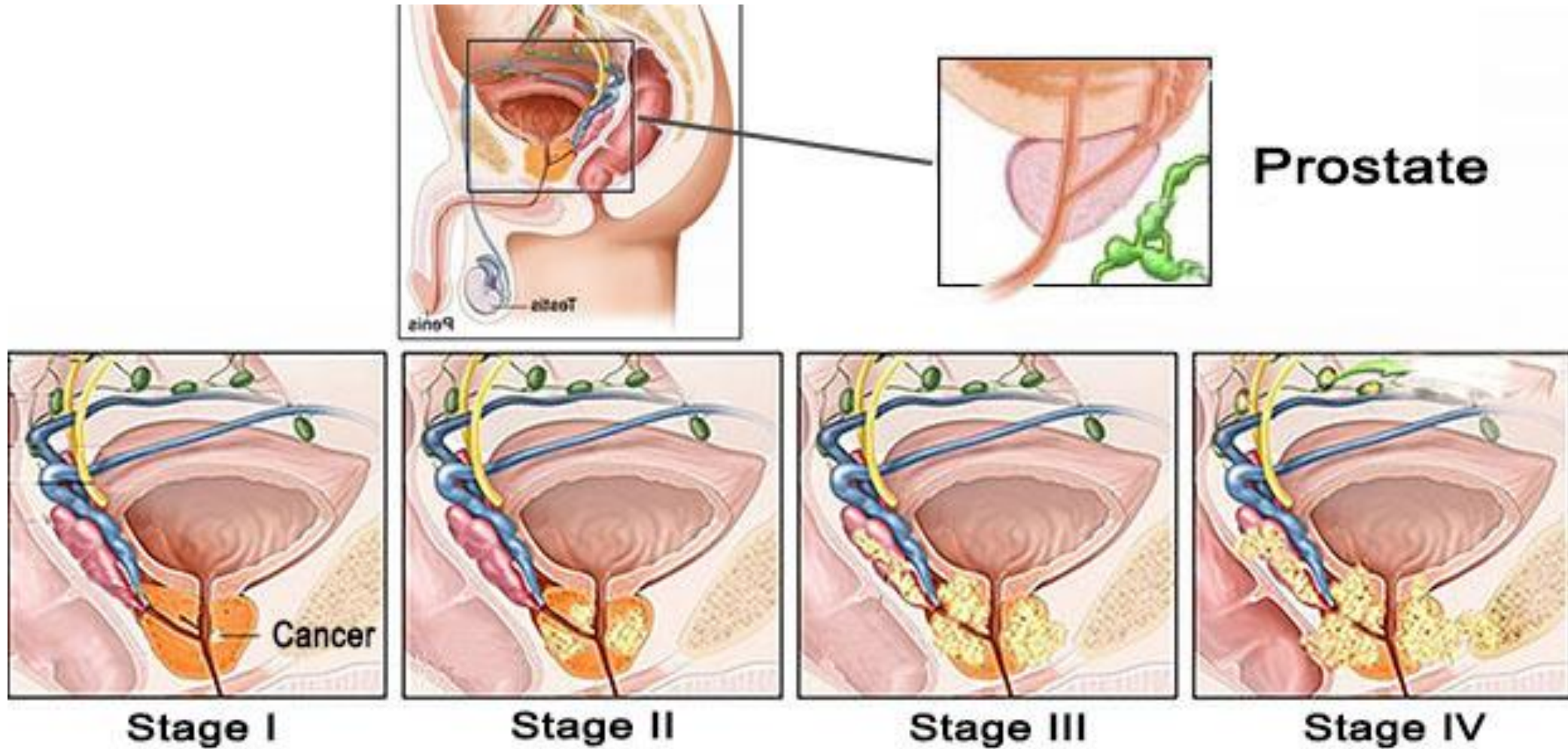




# Prostate Cancer



# Prostate Cancer



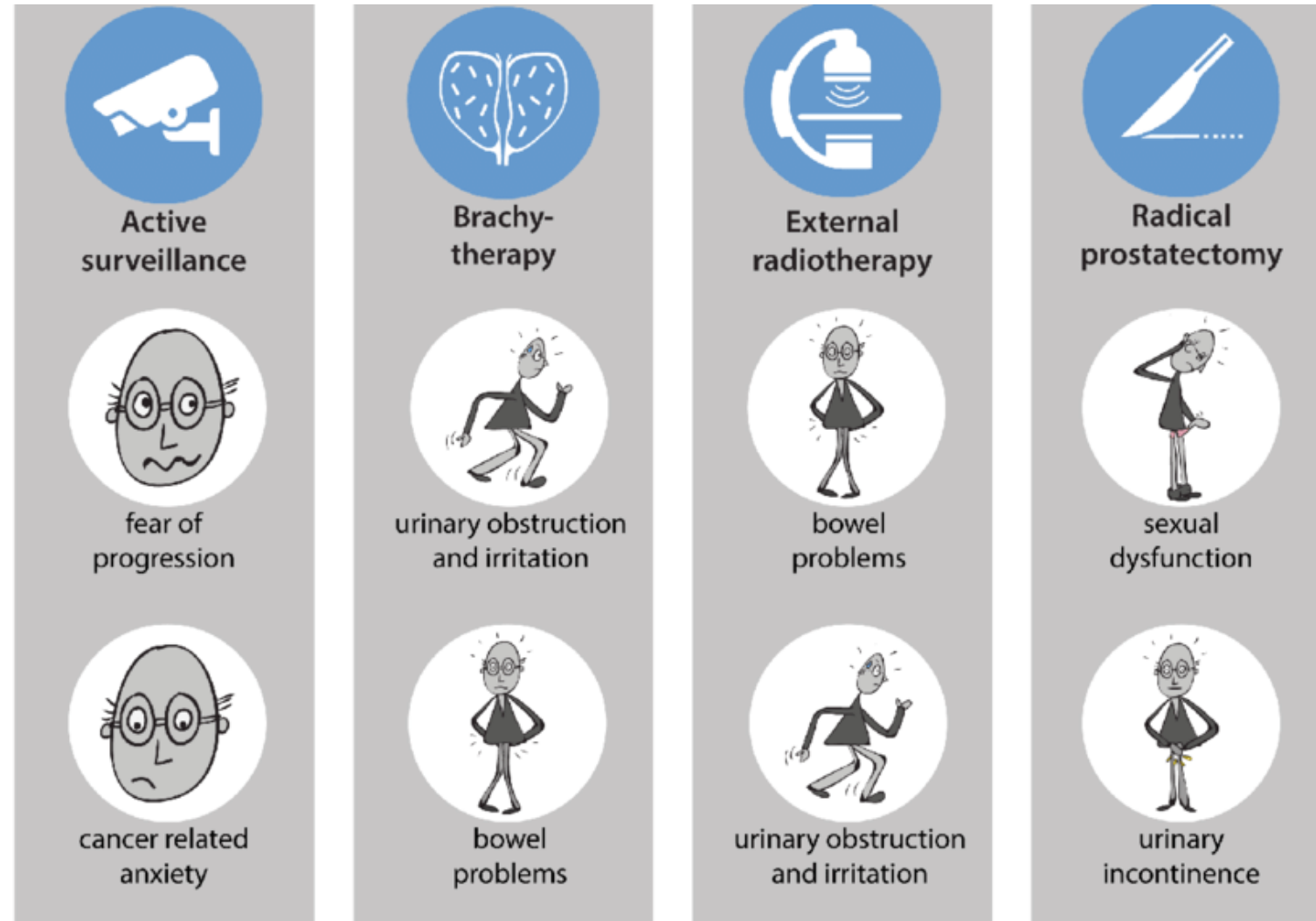
# Prostate Cancer - Pearls

- Acute urinary retention can increase PSA by 2 fold
- Prostatitis or UTI can falsely elevated the PSA

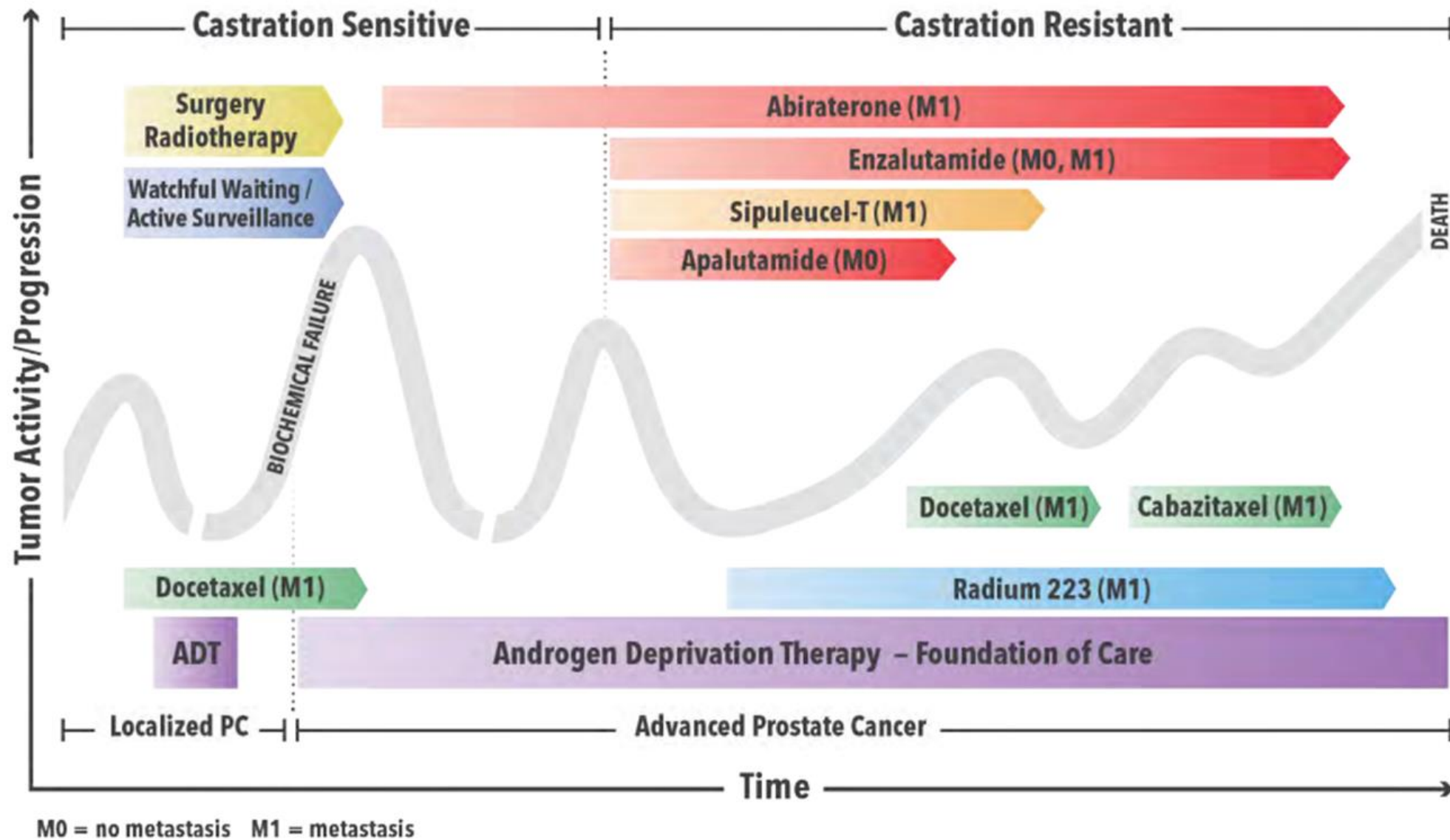


# Prostate Cancer – Localized Treatment

- Active Surveillance
  - Very low risk
  - Life expectancy > 10y
- Radiation
  - Intermed/High Risk →
  - ADT (leuprolide)
- Surgery



# Therapy Options in the Management of Prostate Cancer



# Prostate Cancer - Pearls

- Survival is no different for low-risk localized prostate cancer treated with active surveillance, surgery, or radiation
- Orchiectomy is a rapid acting and cost effective way to achieve androgen deprivation



# Prostate Cancer – Treatment Side Effects & Follow Up

- Radiation
  - Short term: enteritis, cystitis
  - Increased incidence of erectile dysfunction over time
- Prostatectomy
  - Urinary incontinence
  - Erectile dysfunction
- Androgen Deprivation Therapy
  - Bone loss (start calcium/ vitamin D, monitor DEXA)
  - Increased Cardiovascular Risk Factors (hypertension, lipids, HBA1C)



# Breast Cancer – Screening

## The Skinny on Breast Cancer Screening:

**THE CURB  
SIDERS**  
INTERNAL  
MEDICINE

Use **shared decision-making** to decide when to start and stop screening.

### Guideline Recommendation Clashes

**USPTF**

Mammograms every  
other year from 50-75

**American Cancer Society**

Yearly 45-54, Every other  
year 55+ (until < 10y life  
expectancy)

**American College of  
Radiology**

Start yearly at 40

Citation: USPTF 2016 Recommendations, ACS 2015 Guidelines, and  
ACR 2018 Update



# Breast Cancer - Testing

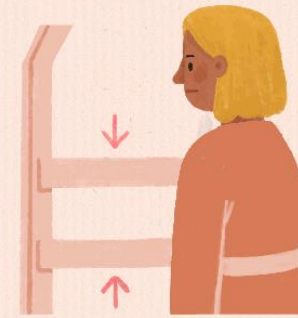
## Types of Breast Cancer Screening Tests



Breast exam



Breast ultrasound



Mammogram



Breast MRI



Breast biopsy

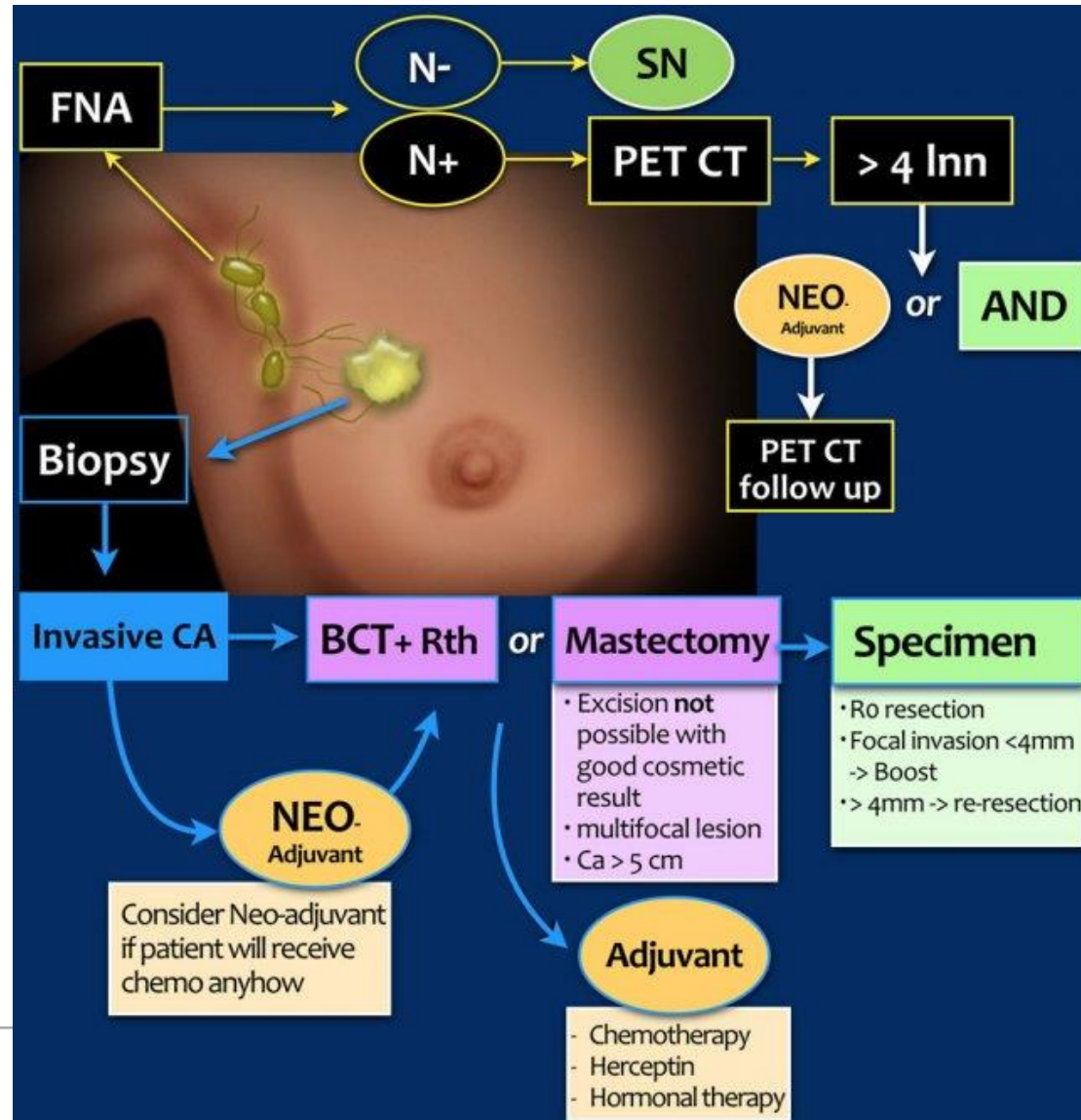


Staging

# Breast Cancer - Pearls

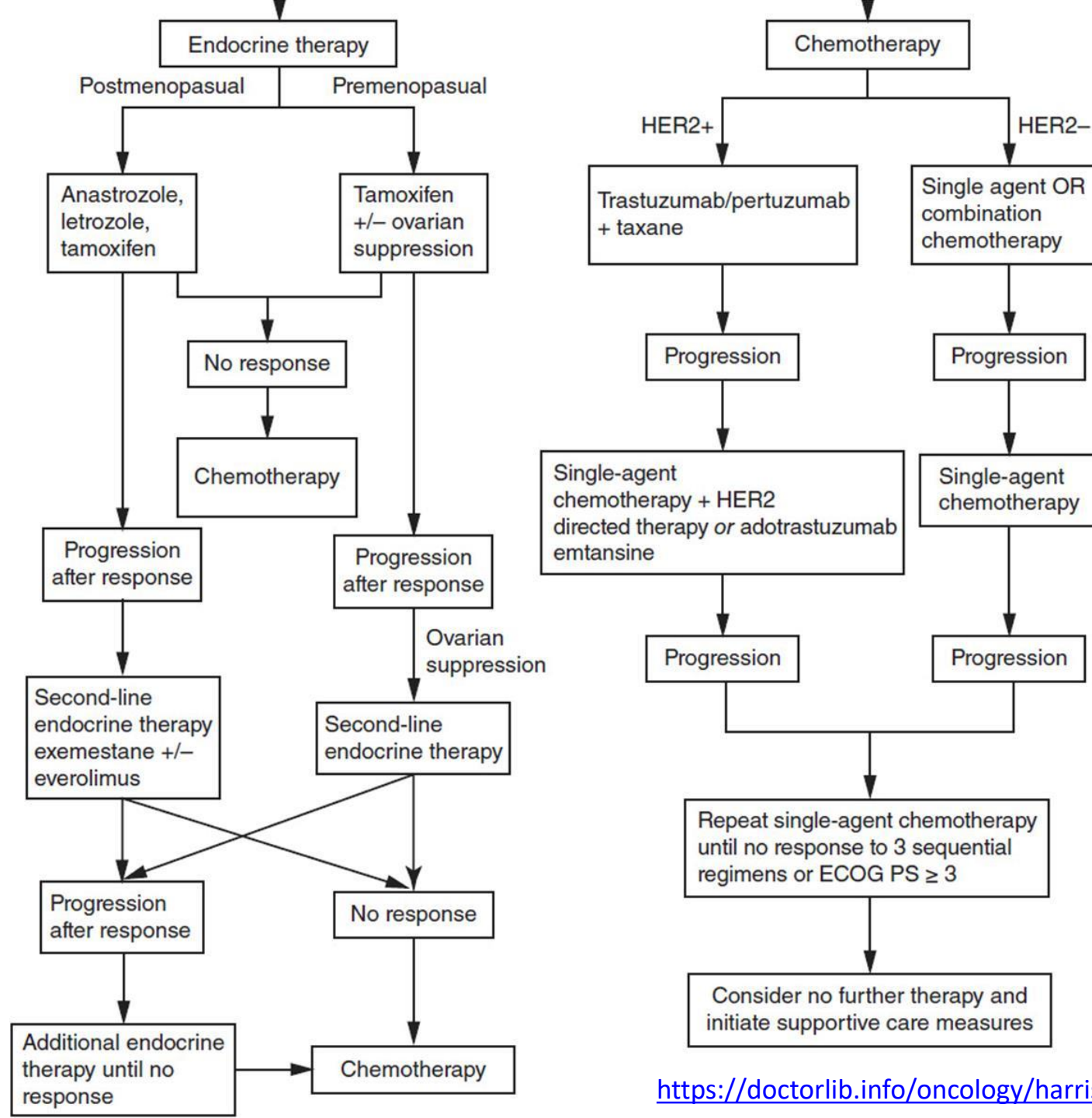
- Normal mammogram or ultrasound does not rule out breast cancer
- A breast lump should always be biopsied, even if mammogram is normal
- Scans and tumor markers are not routine in early stage breast cancer (DCIS, Stage I-II)

# Breast Cancer - Treatment



<https://radiologyassista nt.nl/breast/breast-cancer/staging-and-treatment-of-breast-cancer>





# Breast Cancer – Follow up

- Early stage breast cancer survivors go on to have yearly mammograms for life
- Surveillance MRI breast reserved for high risk patients (BRCA 1/2)
- Surveillance blood and imaging tests are not recommended

# Breast Cancer - Pearls

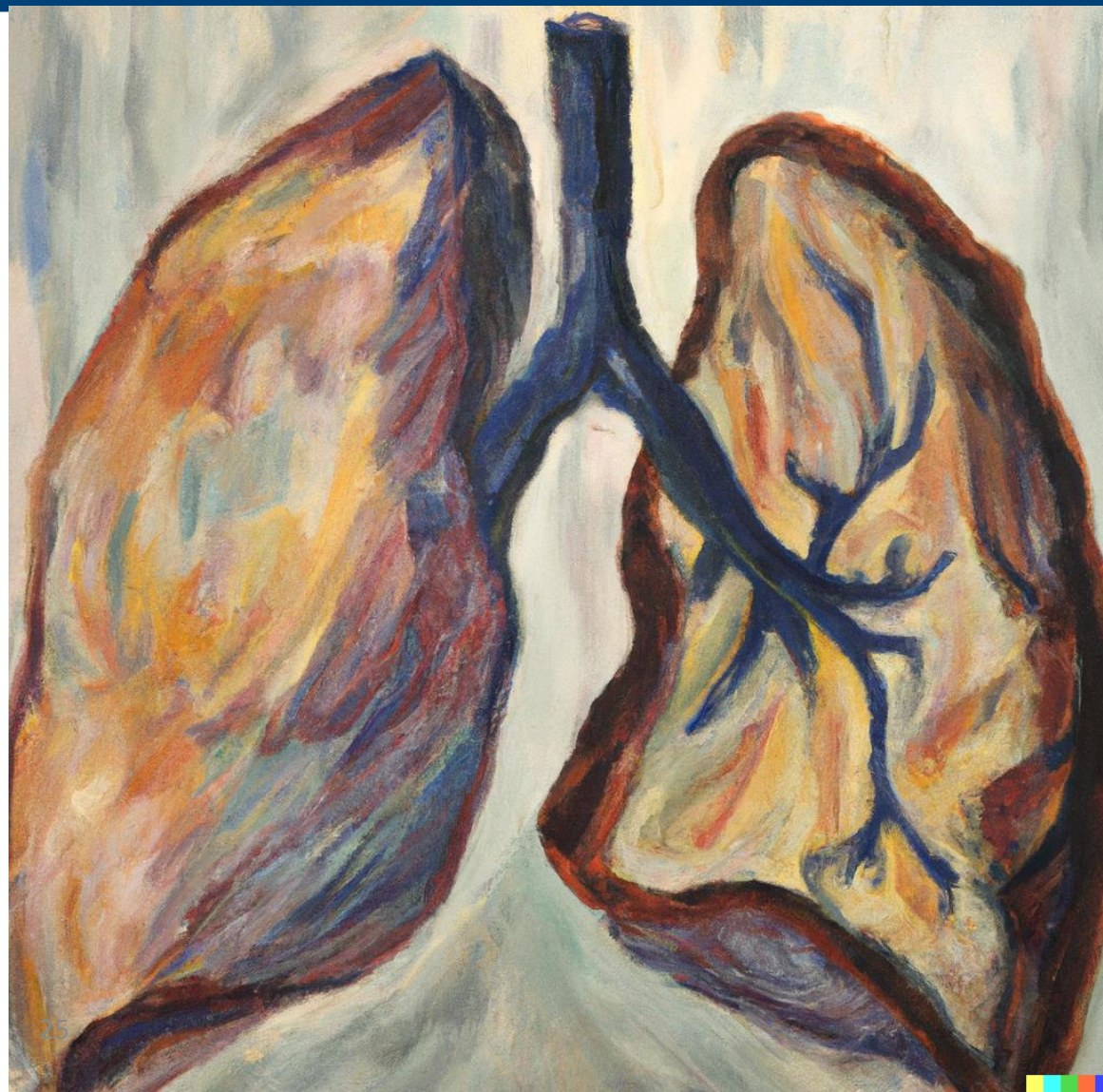
- Aromatase inhibitors are contraindicated in premenopausal women
- Pregnancy following breast cancer treatment does not increase risk of breast cancer recurrence
- Biopsy new metastatic lesions, 15% of primary tumor and metastases have different ER and HER2 status



# Case

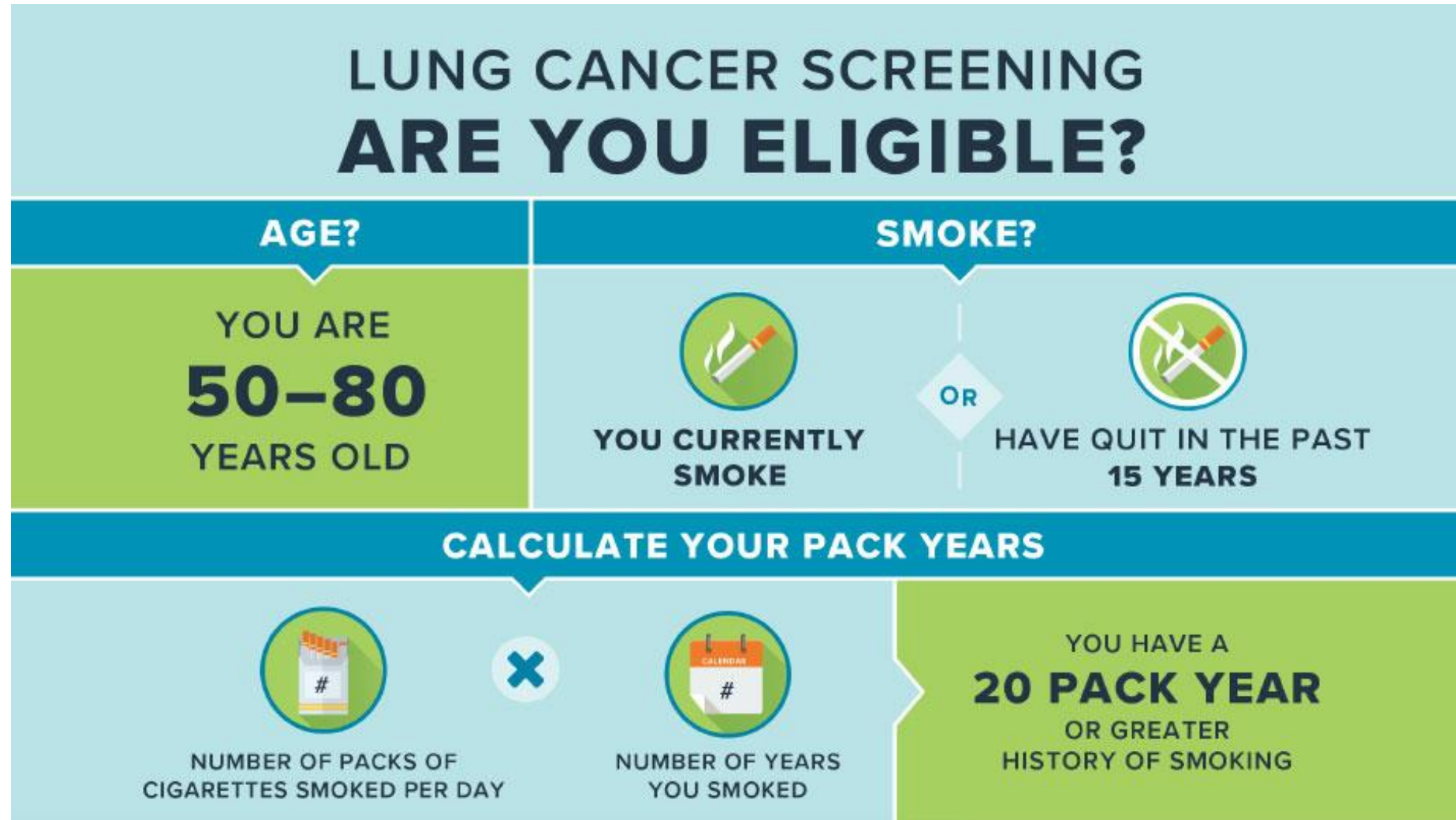
- 50 year old premenopausal woman has a 1.5 cm breast cancer removed by lumpectomy with negative surgical margins. Three axillary lymph nodes are positive. The tumor is ER negative, PR negative, and HER2 positive. Which is the best answer:
- A) Because margins are negative, the patient will not need post-operative radiation
- B) The patient should receive chemotherapy with trastuzumab
- C) The patient should start tamoxifen

# Lung Cancer



★ **GREAT** ★  
**AMERICAN**  
**SMOKE**  **OUT**  
BE A QUITTER. IT'S NEVER TOO LATE!

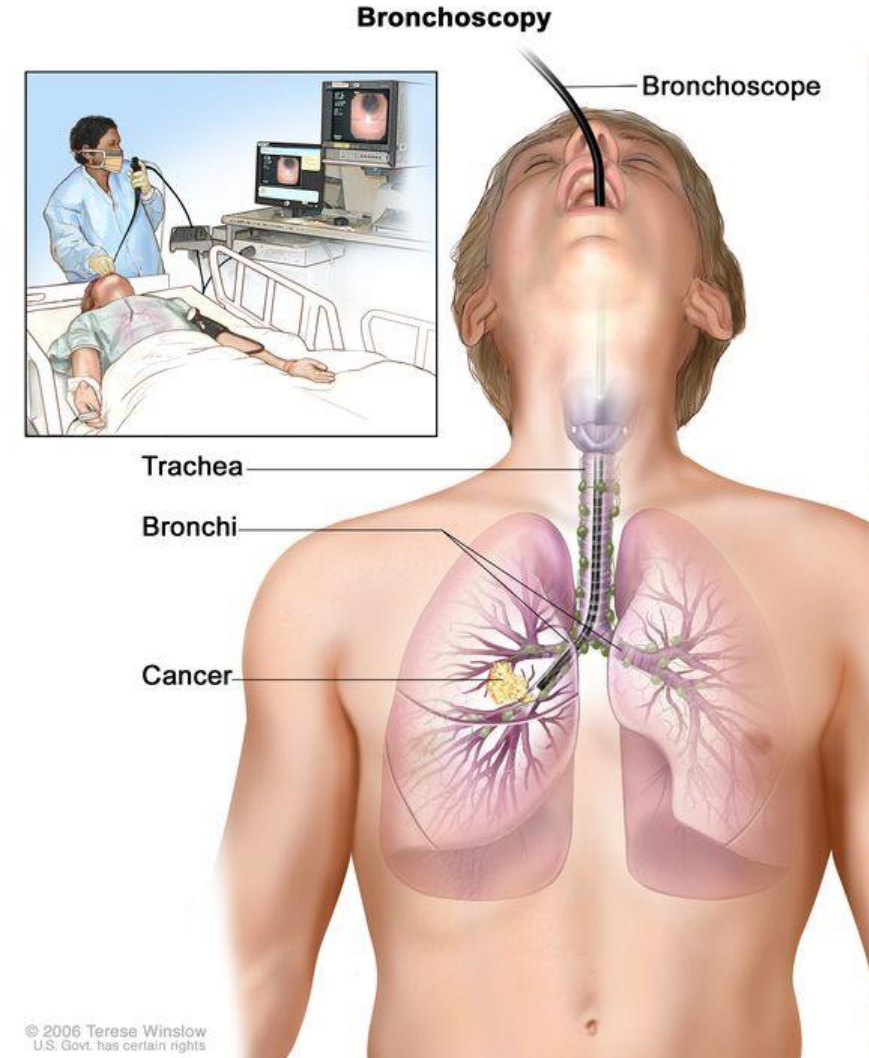
# Lung Cancer – Screening 2021





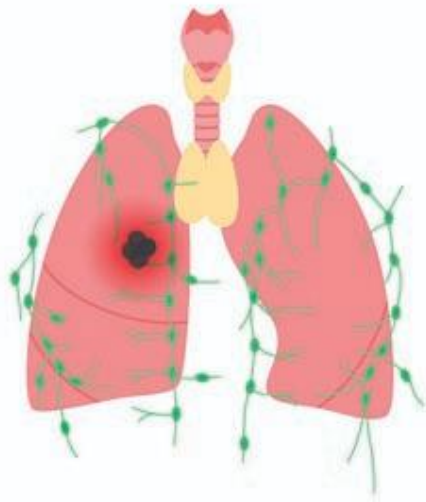
# Lung Cancer - Testing

- Biopsy can confirm histology
- Select the biopsy site that will simultaneously diagnosis and stage the disease (mediastinal lymph node)

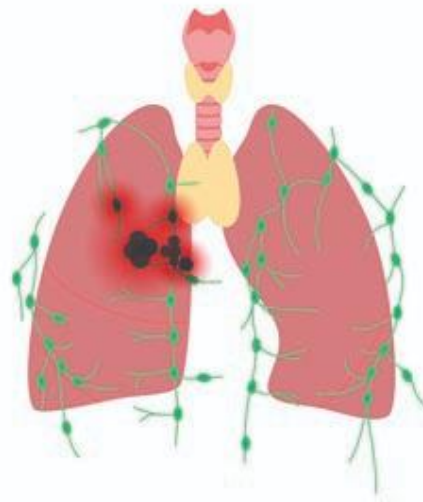


# Lung Cancer – Non Small Cell Lung Cancer

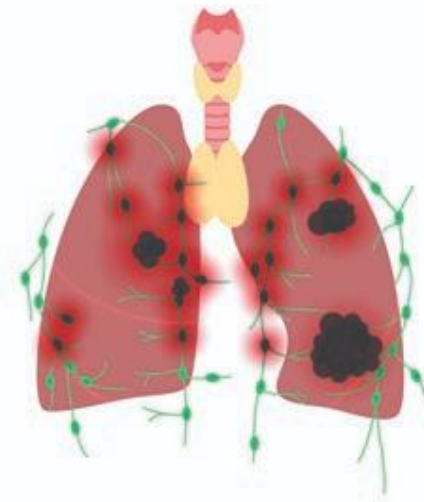
## LUNG CANCER STAGES



Stage I  
Tumor appears in the lung



Stage II  
Tumor in lymph nodes

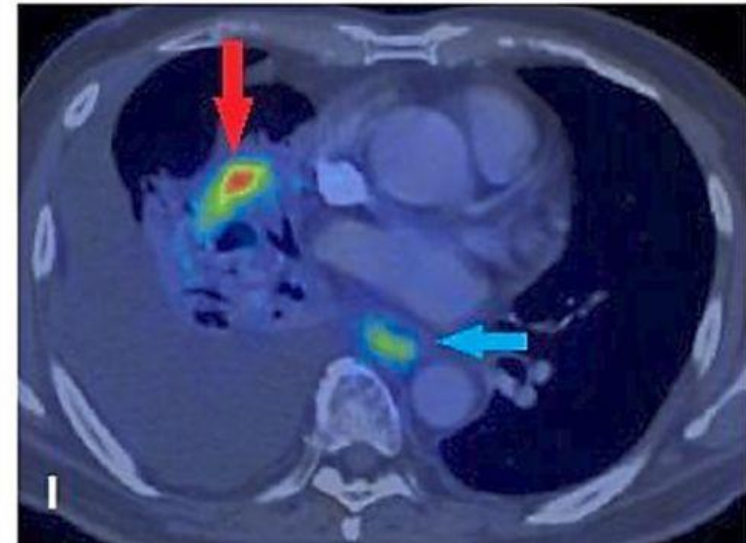
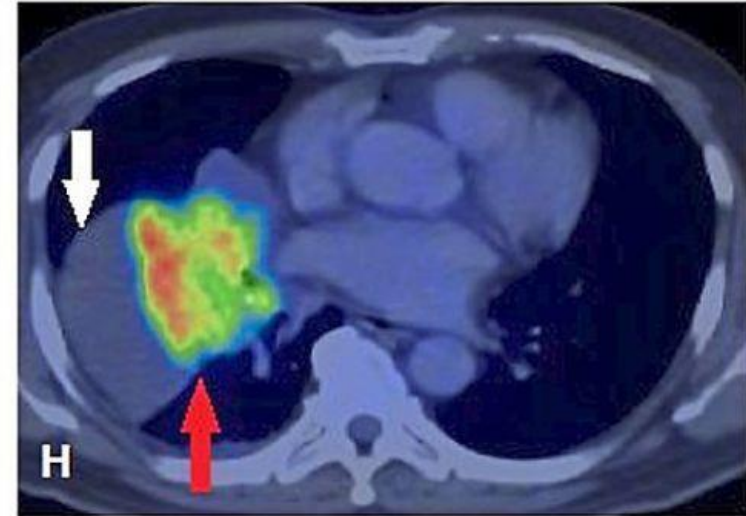
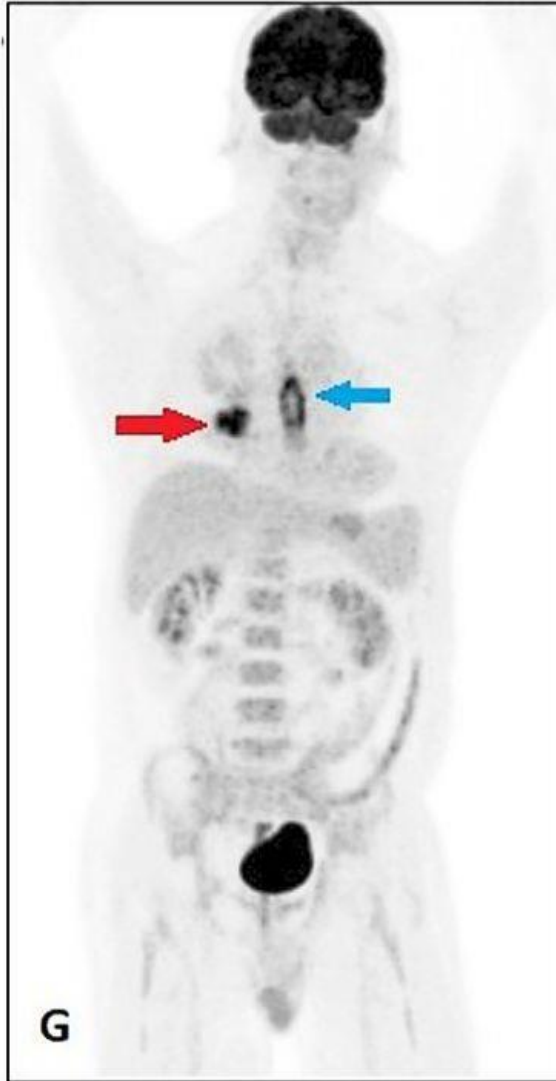
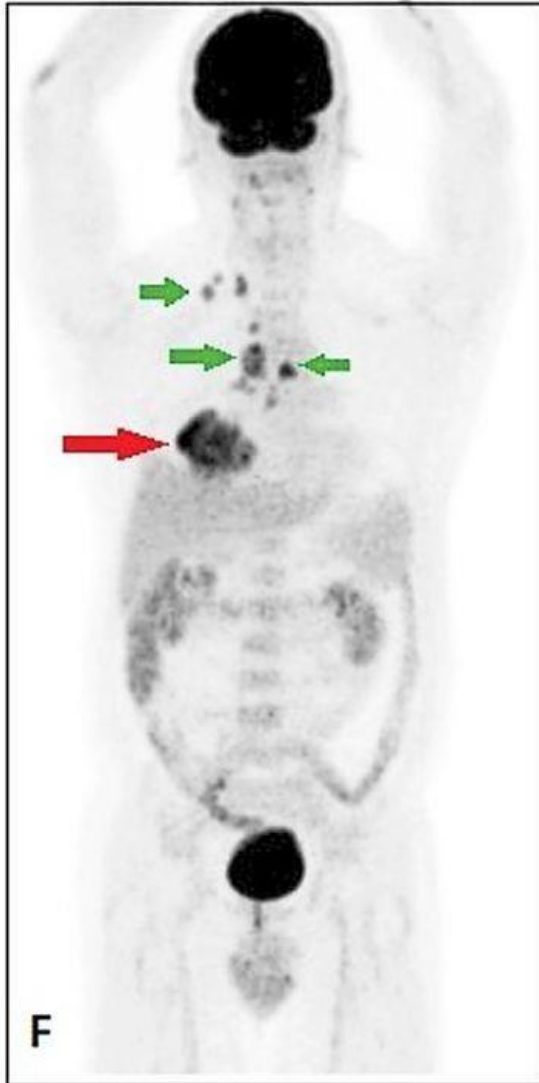


Stage III  
Tumor in surrounding tissues



Stage IV  
Tumor in other organs

# Lung Cancer - Testing

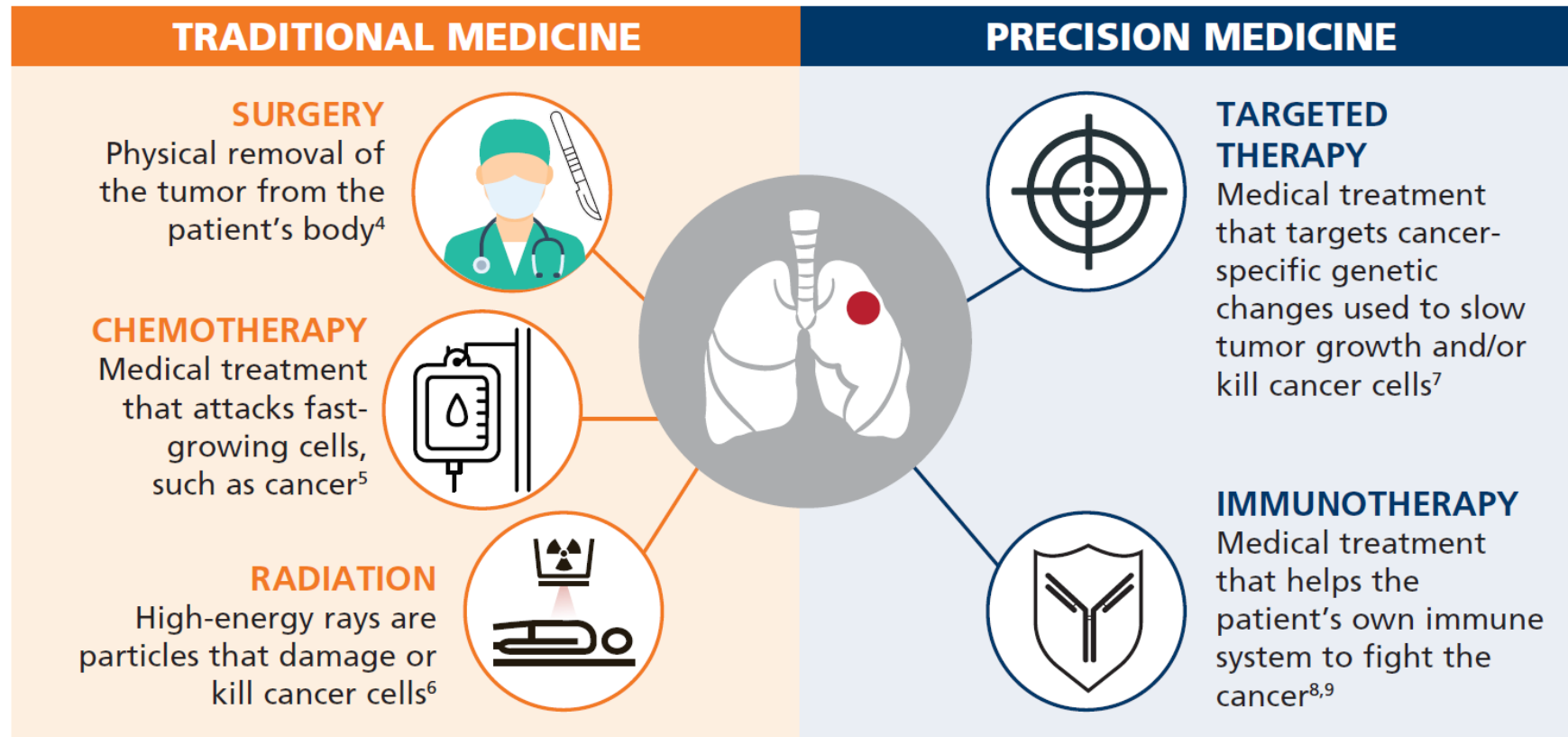


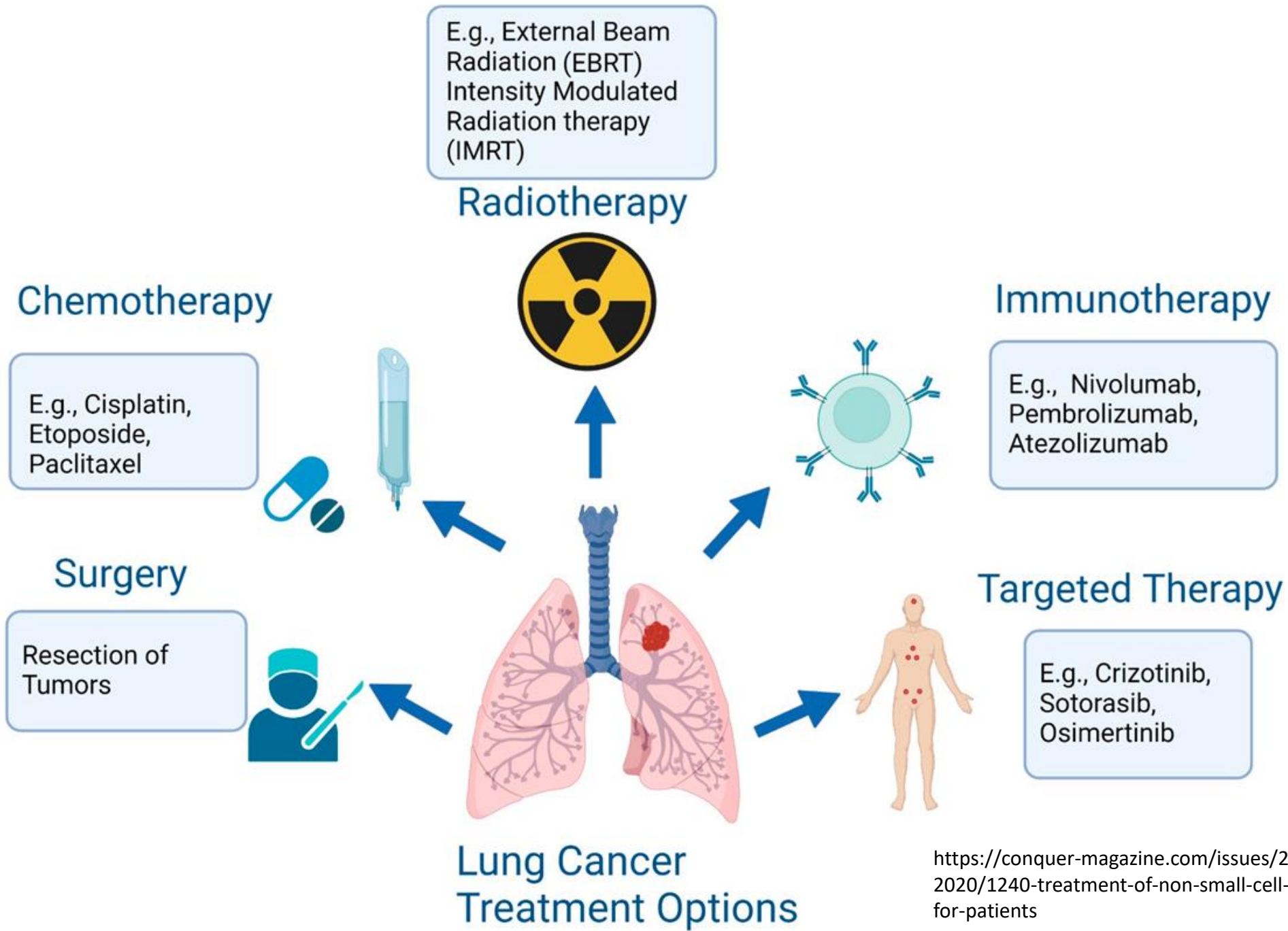


# Lung Cancer - Treatment

**FIGURE. Complementing Traditional Medicine with Precision Medicine**

Surgery, chemotherapy, and radiation have been the backbone of cancer treatment for decades, but recent advances are allowing doctors to further individualize their patients' treatment with precision medicine.<sup>2,3</sup>





<https://conquer-magazine.com/issues/2020/vol-6-no-2-april-2020/1240-treatment-of-non-small-cell-lung-cancer-a-guide-for-patients>

# Lung Cancer - Pearls

- Avoid chemotherapy if patient has poor performance status
- Pleural catheters may be needed for recurrent effusions
- Radiation is best for:
  - Pulmonary airway obstruction
  - SVC syndrome
  - Spinal cord metastases



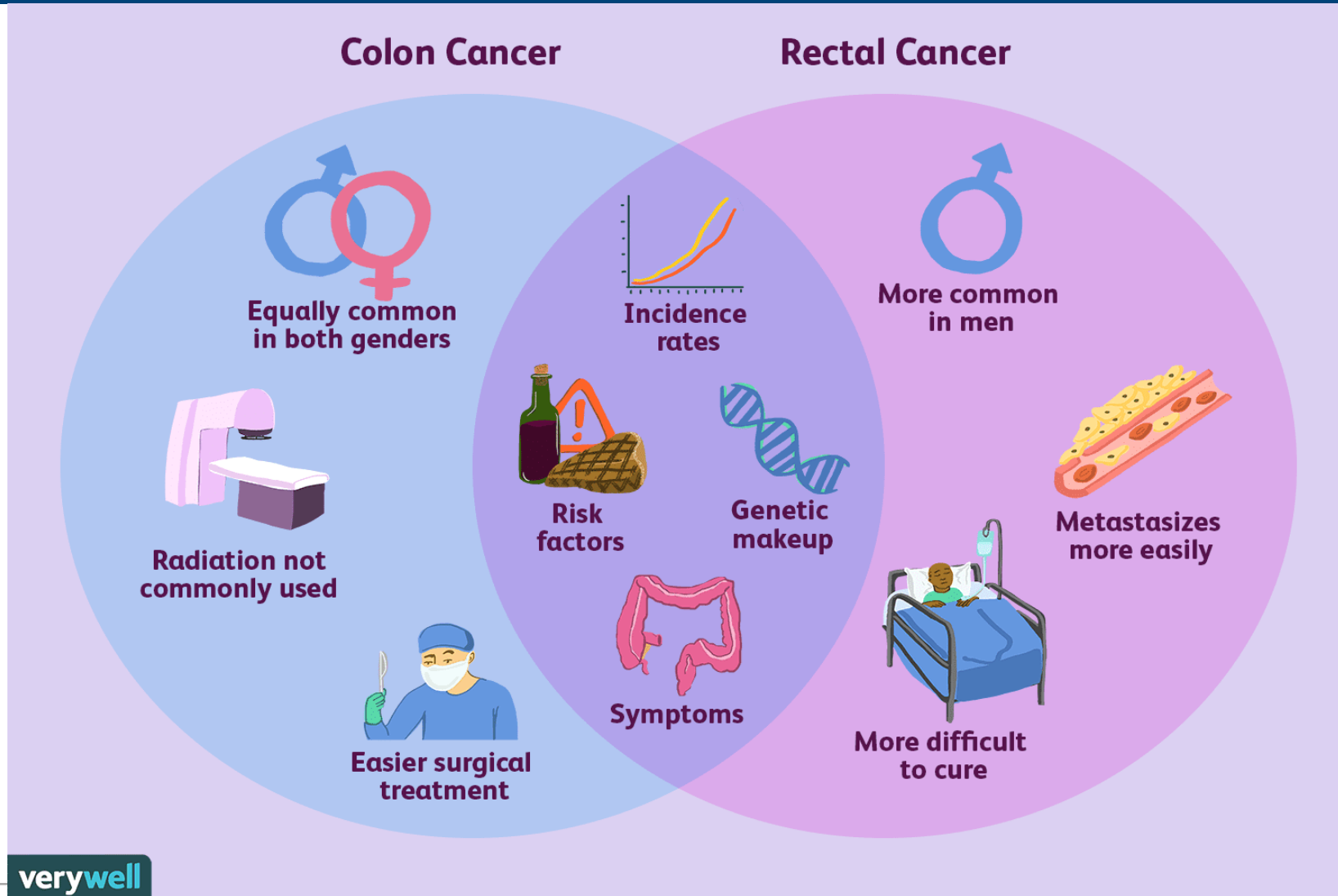
# YOUR REAR BUMPER NEEDS ATTENTION.

GET A COLONOSCOPY





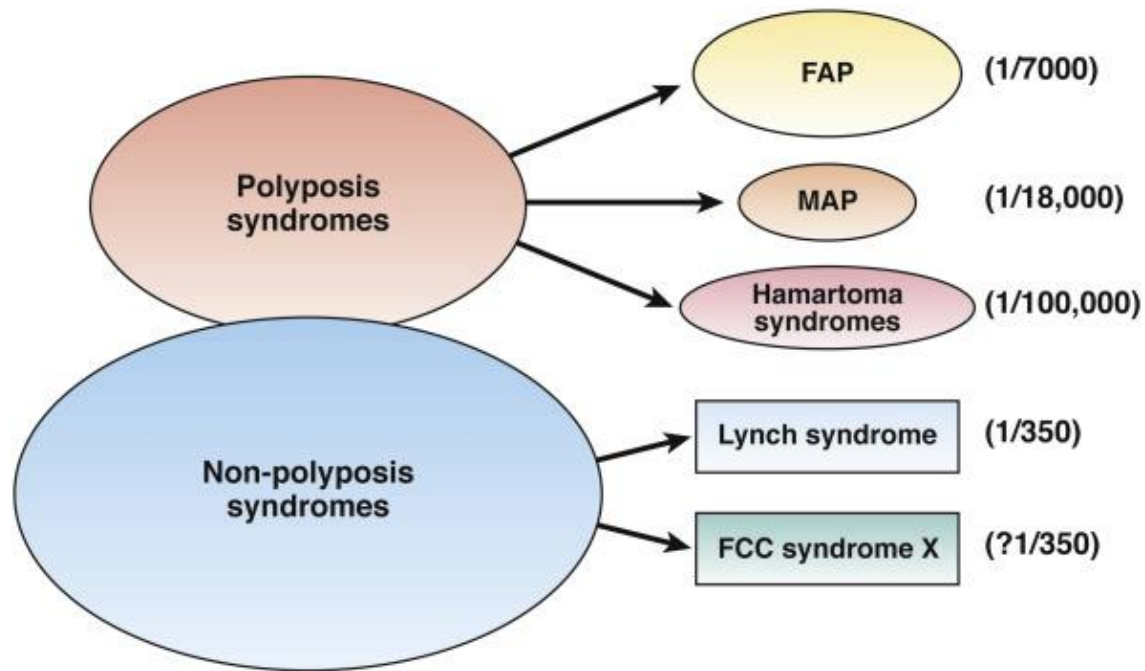
# Colorectal Cancer



verywell

[How Colorectal and Colon Cancer Differ \(verywellhealth.com\)](https://www.verywellhealth.com)

# Colorectal Cancer



## NON-MODIFIABLE RISK FACTORS

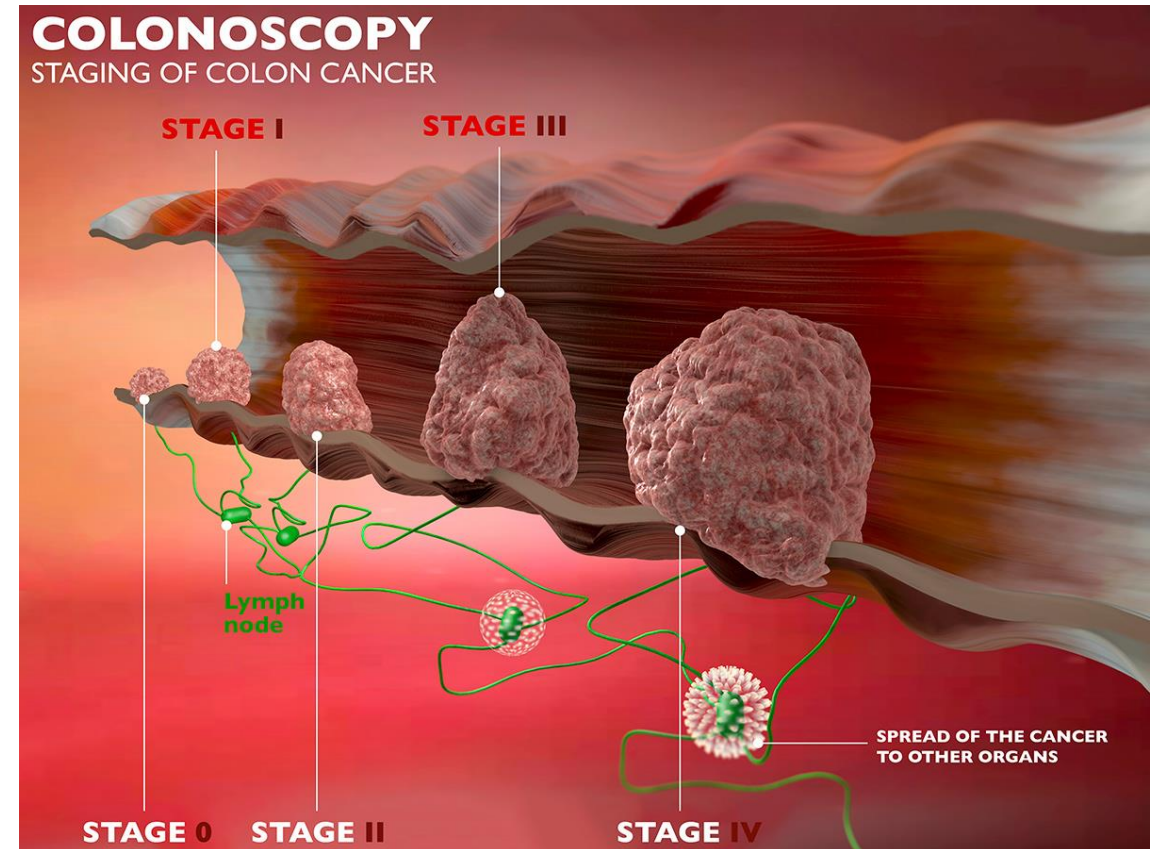
- ◆ Age >50
- ◆ Family history of colon cancer
- ◆ Personal history of colon polyp/cancer
- ◆ History of other previous cancers
- ◆ Genetic bowel conditions
- ◆ Inflammatory bowel disease (Crohns/UC)

## MODIFIABLE RISK FACTORS

- ◆ Low-fibre & high-fat diet
- ◆ Meat cooked in high temp (Charcoal/BBQ)
- ◆ Diet low in fruit & vegetables
- ◆ Heavy alcohol consumption
- ◆ Smoking
- ◆ Sedentary lifestyle
- ◆ Obesity

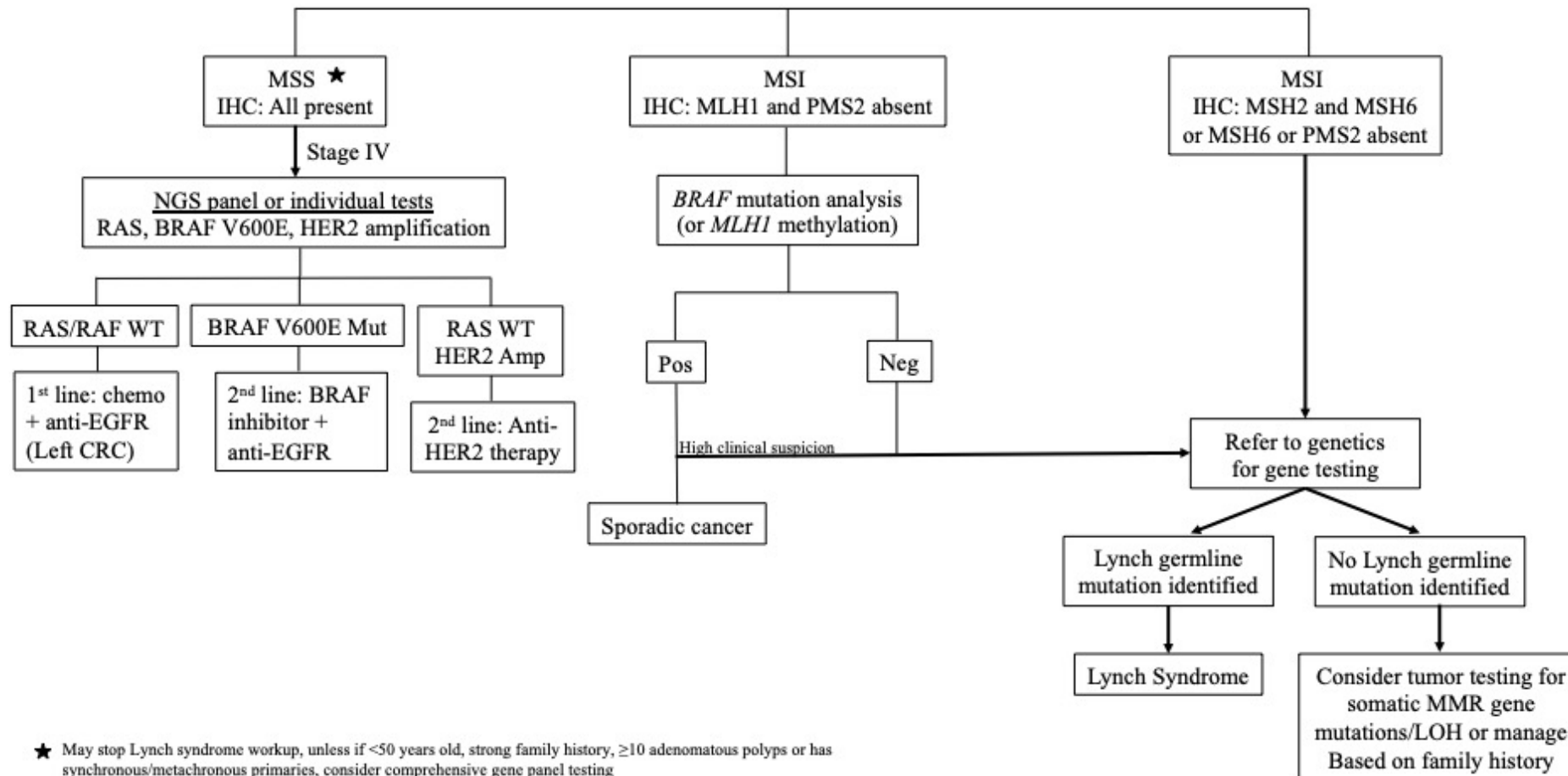
# Colorectal Cancer

- A single positive FOBT constitutes a positive screening test and requires a prompt colonoscopy
- Do not use CEA to screen for colon cancer



# Colorectal Cancer - Testing

## Colorectal Cancer Biomarker Testing



★ May stop Lynch syndrome workup, unless if <50 years old, strong family history, ≥10 adenomatous polyps or has synchronous/metachronous primaries, consider comprehensive gene panel testing



# Colorectal Cancer - Treatment

## TREATMENT OPTIONS BY STAGE

Stage 0 =  
Earliest stage of cancer

Stage IV =  
Most advanced stage of cancer

Stage	Surgery	Chemotherapy/Biologics	Radiation
Stage 0	Yes	No	No
Stage I	Yes	No	No
Stage II	Yes	Yes, for rectal and high risk colon cancers. FOLFOX or CapeOx	Yes, for rectal cancer. Given in tandem with 5-FU or Xeloda
Stage III	Yes	FOLFOX, CapeOx	Yes, for rectal cancer. Given in tandem with 5-FU or Xeloda
Stage IV	Yes, if the tumor is obstructive or blocking the bowel  Some patients become surgical candidates for liver, lung or peritoneal surgery  Usually not, if the tumor is not blocking the bowel	FOLFOX or FOLFIRI plus Avastin or Erbitux or Vectibix or Zaltrap, Stivarga, Lonsurf	Yes, for rectal cancer and in certain other cases  Interventional radiology for liver and lung metastases

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# Colorectal Cancer

## Follow up

- CEA every 6 months for 5 years
- Colonoscopy at 1 year & 3 years → then every 5 years
- CT chest, abdomen, pelvis yearly for 5 years.

# Take Home Points

- Prostate Cancer
  - patients often have long survival
  - need management of HTN, DM, bone health
- Breast Cancer
  - biopsy breast lesions even if imaging is negative
  - routine scans/labs not indicated for survivors
- Lung Cancer
  - smoking cessation & Low dose CT for lung cancer screening
- Colon Cancer
  - surgery can be curative for early stage
  - chemotherapy/metastatectomy → long term survival for select stage IV