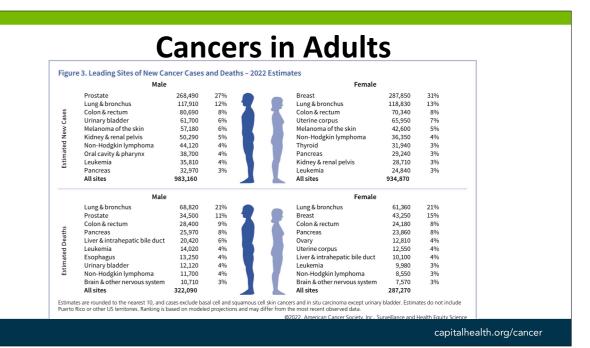


#### **CANCER STATISTICS U.S. 2022**

<u>Children</u>:10,470 children diagnosed <15yrs; 1050 deaths; 2nd leading cause of deaths; 85% 5 yr survival

Childhood cancer rates have been rising slightly for the past few decades.

**Teenagers**:5,000 to 6,000 adolescents (aged 15 to 19) are diagnosed with cancer each year; 500 to 600 deaths; 4th leading cause of death; 90% survival in girls and 83% survival in boys at 5 yrs



## SCREENINGS

- CHILDREN
- TEENAGERS
- WOMEN: BREAST, CERVICAL, UTERINE, OVARIAN
- MEN AND WOMEN: LUNG, PANCREAS, SKIN, HEAD AND NECK, COLORECTAL
- MEN:PROSTATE, TESTICULAR
- HIGH RISK: BLADDER, LIVER, ESOPHAGUS, STOMACH, ANAL
- NOT ALL CANCERS CAN BE SCREENED BUT BEING AWARE OF SYMPTOMS CAN HELP WITH EARLY DISCOVERY

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#### **Common Genetic Syndromes**

- BRCA1/2: risk of breast, ovary, prostate, pancreas
- Lynch Syndrome: uterine, colorectal, ovary, stomach, breast, brain, kidney, bile duct, small intestine
- Familial adenomatous polyposis: colon and rectal cancer
- Li fraumeni syndrome: brain, breast, sarcoma, leukemia
- Neurofibromatosis; tuberous sclerosis: brain tumors
- SCREENINGS ARE EARLIER WITH GENETIC SYNDROMES
- KNOW YOUR FAMILY HISTORY: INHERITED FAMILY SYNDROMES

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## **Cancers in Children**

- Leukemia
- · Brain and spinal cord tumors
- Neuroblastoma
- Wilms tumor
- · Lymphoma (including both Hodgkin and non-Hodgkin)
- Rhabdomyosarcoma
- Retinoblastoma
- · Bone cancer (including osteosarcoma and Ewing sarcoma)

#### **Cancer in teenagers**

- Lymphoma: hodgkins disease/ nonhodgkins lymphoma
- Leukemia
- Brain or spinal cord
- Thyroid
- Testicular
- Sarcoma
- Melanoma
- Ovarian (germ cell tumors)

## **Cancer Screening in Teenagers**

Cancers are often found later (at a more advanced stage) in teens than they are in other age groups.

No Real Screening in children or teens unless genetics: colorectal, thyroid, melanoma

FAP (Familial adenomatous polyposis) : many polyps starting 10 to 12 years and colorectal cancers by age 20 so colonoscopies start 10-15 years; (risk of other GI cancers); remove colon

MEN family history or FAP then thyroid increased risk so blood tests and ultrasounds

Family history of Melanoma then do skin exams and be safe in sun

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#### Signs of Cancers in Children /Teenagers

- · An unusual lump or swelling in the neck, belly, testicle, or elsewhere
- · Unexplained tiredness and loss of energy
- Easy bruising
- Abnormal bleeding
- Ongoing pain in one part of the body
- · Unexplained fever or illness that doesn't go away
- · Frequent headaches, often with vomiting
- Sudden eye or vision changes
- Loss of appetite or unplanned weight loss
- · A new mole or other spot on the skin, or one that changes in size, shape, or color

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#### **Decrease Risk factors in teenagers**

- Dont start smoking
- Healthy lifestyle: Proper diet and exercise
- Minimize amount of sexual partners
- Vaccines: HPV (Girls and boys should get 2 doses of the HPV vaccine between the ages of 9 to 12. And up to age 26 latest)
- Decrease exposure to the sun or tanning beds
- Minimize Exposure to radiation

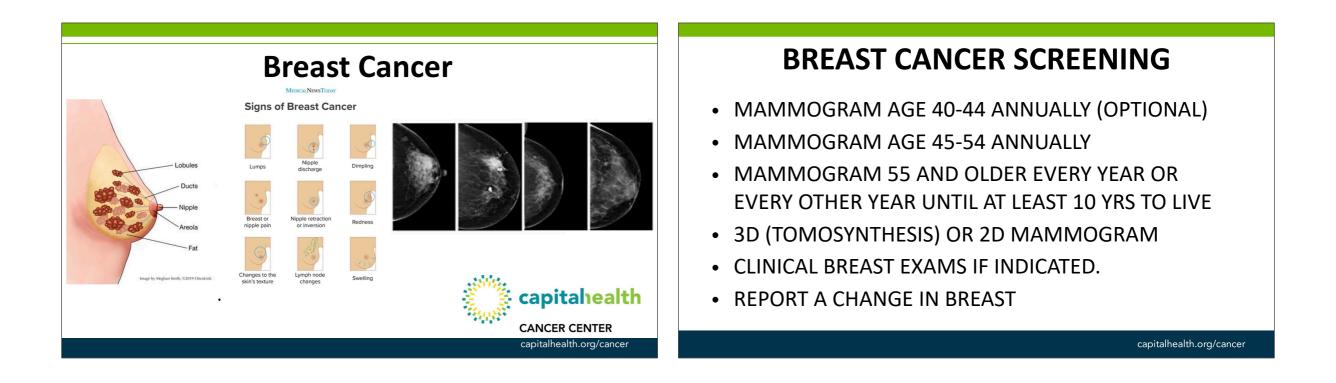
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#### **SCREENING IN WOMEN**





CERVICAL, UTERINE, OVARIAN

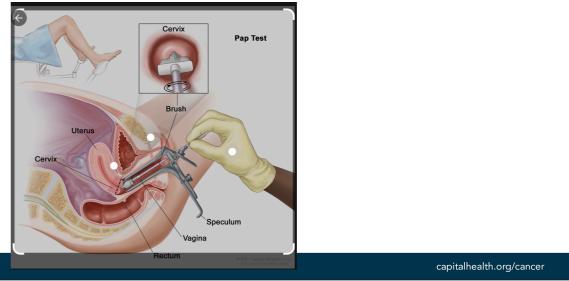


#### **BREAST: HIGH RISK SCREENING**

- MRI AND MAMMOGRAM EVERY YEAR STARTING AT AGE 30
- INDICATED: FOR >20% RISK OF DEVELOPING BREAST
  - BRCA1/2, FAMILY W BRCA1/2, XRT TO CW 10-30 YRS, GENETIC SYNDROMES: LI FRAUMENI, COWDEN, BANNAYAN-RILEY-RUVALCABA SYNDROME
  - DENSE BREASTS ON MAMMOGRAM MAY QUALIFY FOR MRI, PREVIOUS BREAST CANCER

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## **Cervical Cancer**



## **Signs of Cervical Cancer**

- · No signs or Symptoms with Early Stage
- Abnormal vaginal bleeding, such as bleeding after vaginal sex, bleeding after menopause, bleeding and spotting between periods, or having (menstrual) periods that are longer or heavier than usual. Bleeding after douching may also occur.
- An unusual discharge from the vagina the discharge may contain some blood and may occur between your periods or after menopause.
- Pain during sex
- · Pain in the pelvic region

Signs and symptoms seen with more advanced disease can include:

- · Swelling of the legs
- Problems urinating or having a bowel movement
- Blood in the urine

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#### **Cervical Cancer Screening**

- · Cervical cancer testing (screening) should begin at age 25.
- Those aged 25 to 65 should have a primary HPV test\* every 5 years. If primary HPV testing is not available, screening may be done with a Papanicolaou (Pap) test every 5 years
- · Pap test alone every 3 years.
- Those over age 65 who have had regular screening in the past 10 years with normal results and no history of CIN2 or more serious diagnosis within the past 25 years should stop cervical cancer screening.
- People who have had a total hysterectomy (removal of the uterus and cervix) should stop screening (such as Pap tests and HPV tests), unless the hysterectomy was done as a treatment for cervical cancer or serious pre-cancer. People who have had a hysterectomy without removal of the cervix (called a supra-cervical hysterectomy) should continue cervical cancer screening according to the guidelines above.
- People who have been vaccinated against HPV should still follow these guidelines for their age groups.

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## **Cervical Screening cont'd**

Cervical cancer screening should not stop once you have stopped having children.

If you have a history of a serious pre-cancer, you should continue to have testing for at least 25 years after that condition was found, even if the testing goes past age 65.

Those who are at high risk of cervical cancer because of a suppressed immune system (for example from HIV infection, organ transplant, or long-term steroid use) or because they were exposed to DES in utero may need to be screened more often. They should follow the recommendations of their health care team.

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#### **Risk Factors for Cervical Cancer**

- HPV: human papilloma virus (anus, cervix, penis, mouth and throat)
- Sexual activity at early age and multiple partners, multiple pregnancies, young age at first pregnancy
- Cigarette smoking
- Weakened immune system
- Chlamydia infection
- Diet low in fruits and vegetables
- Economics, Family History
- Long term use of oral contraceptives, DES exposure, IUD is protective

## **ENDOMETRIAL/UTERINE CANCER**



Endometrial (uterine) cancer

- Women should get regular Pelvic Exams but Pap Tests do not work
- At the time of menopause:
- Women should report any unexpected bleeding or spotting to their doctors
- Women with HNPCC or lynch syndrome: endometrial biopsy annually starting age 35 or hysterectomy after giving birth

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#### **Risk Factors for Endometrial cancer**

- Obesity
- Hypertension
- Diabetes
- Unopposed estrogens: late menopause, infertility, no births or estrogen use
- Genetics:HNPCC or Lynch syndrome
- Tamoxifen

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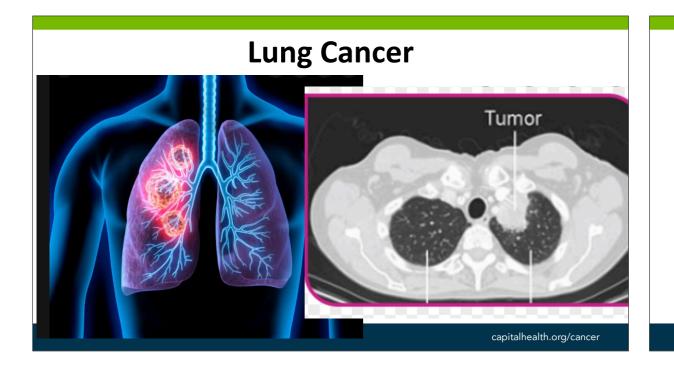
## **OVARIAN CANCER**

- No Screening for Low risk but for High Risk (Lynch syndrome, BRCA1,2)
- TVUS (transvaginal ultrasound) is a test that uses sound waves to look at the uterus, fallopian tubes, and ovaries by putting an ultrasound wand into the vagina. It can help find a mass (tumor) in the ovary, but it can't actually tell if a mass is cancer or benign. When it is used for screening, most of the masses found are not cancer.
- The CA-125 blood test measures the amount of a protein called CA-125 in the blood. Many women with ovarian cancer have high levels of CA-125. This test can be useful as a tumor marker to help guide treatment in women known to have ovarian cancer, because a high level often goes down if treatment is working

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#### **Cancers in women and Men**

- Lung,
- Colorectal,
- Head and Neck,
- Pancreas,
- Skin,
- Bladder, Liver, Esophagus, Stomach, Anal



#### Lung Cancer symptoms

- · A cough that does not go away or gets worse
- Coughing up blood or rust-colored sputum (spit or phlegm)
- Chest pain that is often worse with deep breathing, coughing, or laughing
- Hoarseness
- Loss of appetite
- · Unexplained weight loss
- Shortness of breath
- Feeling tired or weak
- · Infections such as bronchitis and pneumonia that don't go away or keep coming back
- New onset of wheezing

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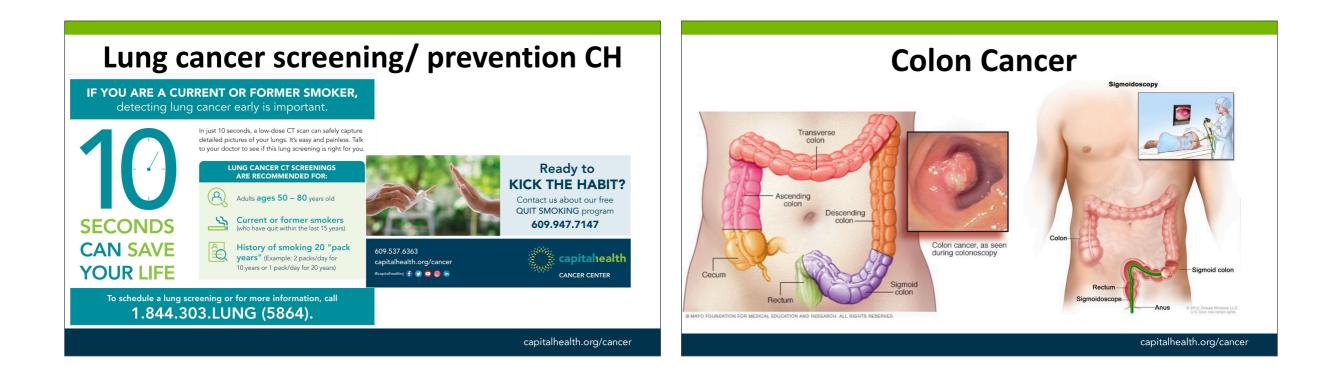
#### LUNG CANCER SCREENING

- LOW DOSE CTSCANS:
  - AGE 50-80
  - CURRENTLY SMOKE OR QUIT IN LAST 15 YEARS
  - 20 PACK YEAR
  - RECEIVE COUNSELING TO QUIT SMOKING
  - TOLD OF BENEFITS, LIMITATIONS, HARM TO SCREENING

# **Risk Factors for lung cancer**

- Cigarette Smoking
- Radon

- Asbestos
- Second hand smoke
- Exposure to certain chemicals: arsenic
- Family history
- Talc and talcum powder



## **Colon Cancer Symptoms**

- A change in bowel habits, such as diarrhea, constipation, or narrowing of the stool, that lasts for more than a few days
- A feeling that you need to have a bowel movement that's not relieved by having one
- · Rectal bleeding with bright red blood
- Blood in the stool, which might make the stool look dark brown or black
- Cramping or abdominal (belly) pain
- Weakness and fatigue
- Unintended weight loss

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#### **Colorectal Cancer Screening**

- Colonoscopy Screening CH
- Call 609-303-4444

## PREVENTABLE. TREATABLE. BEATABLE.

#### SCREENING GUIDELINES Colorectal cancer screenings a

- Colorectal cancer screenings are recommended as follows:
- ··· Individuals age 45 or older for those of average risk.
- Individuals with a high or increased risk:
- Any first-degree relative who was diagnosed with colorectal cancer or a high-risk polyp should have a colonoscopy beginning at age 40 or at 10
  - years younger than the age at diagnosis of the youngest affected relative: – If a relative was diagnosed before age
  - 60, or two first-degree relatives were diagnosed, then screening should occur every 5 years.
  - If a relative was diagnosed after age 60, then screening can follow for the average risk screening intervals.
- Having an increased risk factor such as Crohn's disease or ulcerative colitis, seek the advice of your gastroenterologist.

Colorectal Screening	COLORECTAL SCREENING
Beginning at age 45, both men and women should follow one of these testing schedules: <b>Tests that find polyps and cancer</b> Flexible sigmoidoscopy every 5 years*, or Colonoscopy every 10 years, or Double-contrast barium enema every 5 years*, or CT colonography (virtual colonoscopy) every 5 years* <b>Tests that primarily find cancer</b> Yearly fecal occult blood test (gFOBT)**, or Yearly fecal immunochemical test (FIT)**, or Stool DNA test (sDNA), interval uncertain** * If the test is positive, a colonoscopy should be done. ** The multiple stool take-home test should be used. One test done by the doctor in the office is not adequate for testing. A colonoscopy should be done if the test is positive. Some people should be screened using a different schedule because of their personal history or family history. Talk with your doctor about your history and what colorectal cancer screening schedule is best for you	<ul> <li>STOOL BASED TESTS: FIT, GUAIAC FOBT, STOOL DNA</li> <li>VISUAL TESTS: COLONOSCOPY, SIGMOIDOSCOPY, VIRTUAL COLONOSCOPY</li> <li>INDICATIONS (AVERAGE RISK): AGE 45 TO 75 ROUTINE, 76-85 IN GOOD HEALTH</li> <li>1 IN 5 COLORECTAL CANCERS ARE 20 TO 54</li> </ul>
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#### **COLORECTAL: HIGH RISK SCREENING**

- GENETICS/FAMILY HISTORY:LYNCH SYNDROME,FAMILIAL ADENOMATOUS POLYPOSIS
- Age 20 or 2 to 5 years before 1st relative diagnosed, colonoscopy every 1 to 2 yrs
- INFLAMMATORY BOWEL DISEASE: CROHNS, ULCERATIVE COLITIS
- RADIATION TO THE BELLY
- PREVIOUS COLORECTAL CA AND POLYPS

# **Risk Factors for Colon Cancer**

- Overweight
- Inactivity
- Family history (HNPCC, Lynch syndrome)
- Cigarette smoking
- Alcohol Use
- Diets high in Red meat and processed meats, low in fiber

## **HEAD AND NECK**



- Mouth(oral cavity),Throat(Oropharynx/larynx), Nose (Nasopharynx)
- Dental exam every 6 months to look for leukoplakia, sores, lumps

## Signs of Head and Neck Cancers

- · A sore on the lip or in the mouth that doesn't heal
- Pain in the mouth that doesn't go away
- A lump or thickening in the lips, mouth, or cheek
- A white or red patch on the gums, tongue, tonsil, or lining of the mouth
- A sore throat or a feeling that something is caught in your throat that doesn't go away
- Trouble chewing or swallowing
- · Trouble moving the jaw or tongue
- Numbness of the tongue, lip, or other area of the mouth
- Swelling or pain in the jaw
- · Dentures that start to fit poorly or become uncomfortable
- · Loosening of the teeth or pain around the teeth
- Voice changes
- A lump or mass in the neck or back of the throat
- Weight loss
- · Pain in the ear
- Trouble breathing, nasal stuffiness, nosebleeds, headaches, blurred vision

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# CANCER OF PANCREAS

- INDICATIONS: GENETIC OR STRONG FAMILY HISTORY: LYNCH SYNDROME, BRCA2,P16
- ENDOSCOPIC ULTRASOUND
- ERCP
- KRAS GENETIC TEST
- MRI
- CA-19-9 BLOOD TEST



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## **Symptoms of Pancreatic cancer**

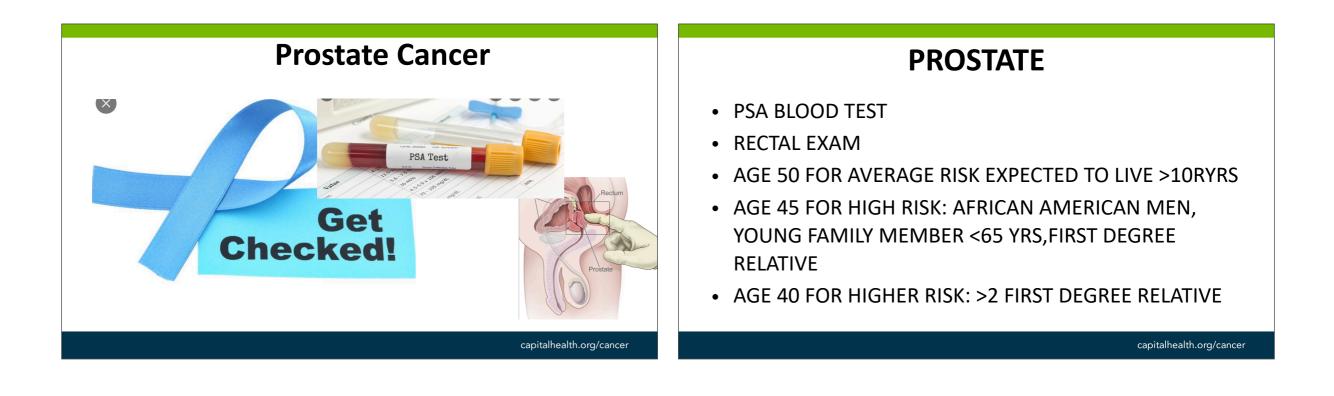
- Jaundice of skin and eyes
- Dark urine: Sometimes, the first sign of jaundice is darker urine.
- Light-colored or greasy stools
- Itchy skin
- Weight loss and poor appetite
- belly or back pain
- nausea/vomiting
- diabetes
- Blood clots

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## **Skin Cancer Risk Factors**

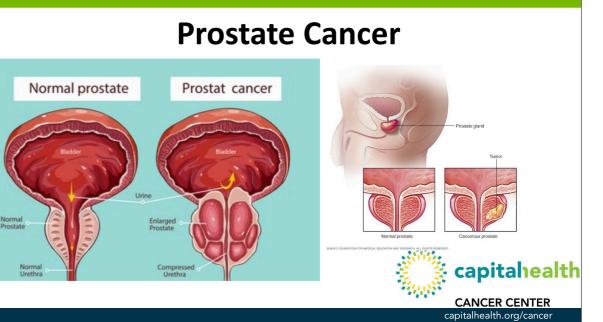
- Ultraviolet light exposure
- Psoriasis treatment, HPV, skin inflammation or injury
- Light colored skin and Moles
- Being Older and being Men
- Smoking
- Radiation Exposure & exposure to chemicals (arsenic)
- Xeroderma pigmentosa & basal cell Nevus syndrome
- Weakened immune system
- Family history/ genetics with melanoma

SKIN CANCER SCREENING	HIGH RISK CANCERS
<ul> <li>Skin Self Exam</li> <li>Exam by a Professional (DERMATOLOGIST)</li> </ul>	<ul> <li>Bladder cancer: People who had bladder cancer before</li> <li>People who had certain birth defects of the bladder or exposed to certain chemicals at work: urinalysis and see a urologist</li> <li>Liver cancer: cirrhosis, hemochromatosis, chronic hepatitis B infection so alphafetoprotein labs and liver ultrasound</li> <li>Stomach: endoscopy for people with FAP and Lynch syndrome</li> <li>Esophagus: barretts esophagus FH then endoscopies at age 40, bloom syndrome at age 20</li> <li>Anal: Anal warts; HPV; Men who have sex with men; women hx gyn cancers at pelvic exams &gt;45 when HPV 16; HIV, Immunocompromised ( transplants): (DRE) Rectal exam, anal pap test, anoscopy)</li> </ul>
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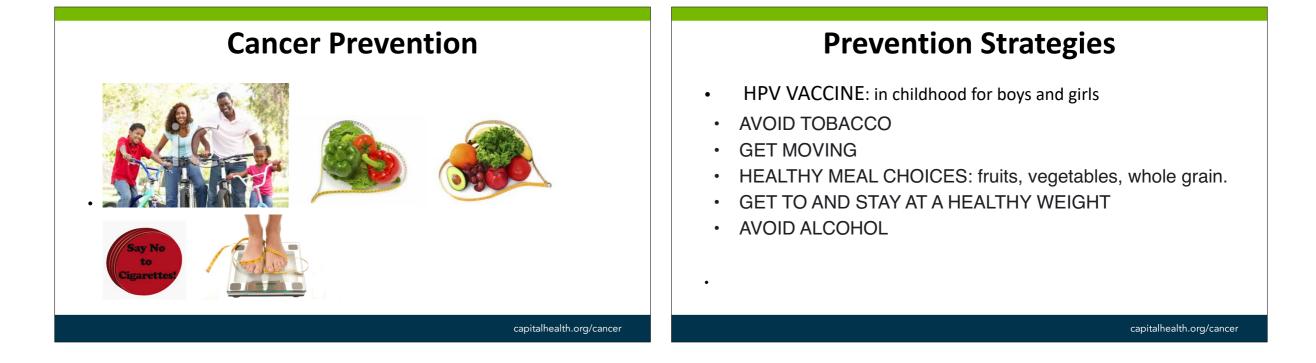


#### **Prostate Cancer Symptoms**

- Problems urinating, including a slow or weak urinary stream or the need to urinate more often, especially at night
- Blood in the urine or semen
- Trouble getting an erection (erectile dysfunction or ED)
- Pain in the hips, back (spine), chest (ribs), or other areas from cancer that has spread to bones
- Weakness or numbness in the legs or feet, or even loss of bladder or bowel control from cancer pressing on the spinal cord



TESTICULAR CANCER	TESTICULAR EXAM		
Signs: a lump on the testicle is the first symptom, or the testicle might be swollen or larger than normal. But some testicular cancers might not cause symptoms until they've reached an advanced stage.			
	LOOK HOLD FEEL REPEAT		
examining a man's testicles should be part of a general physical exam during a routine check-up.	Check your testicles     Hold your scrotum in     Feel each testicle and     Once familiar with       just after you've had a     your hands and feel     roll it between your     how your testicles       bath or shower, when     the size and weight of     thumb and finger. It     feel, keep an eye out		
Some doctors recommend that all men examine their testicles monthly after puberty since most common cancer 15 to 34 yrs old.	the muscles in the each testicle. It is should feel smooth. for any changes. If scrotum are relaxed, common for one It's normal to feel a you detect a change, making it easier for testicle to be slightly soft, tender tube don't freek out, just you to feel any lumps, larger or hang lower towards the back of see a doctor as soon		
Risk Factors: undescended testicle, previous germ cell tumor in one testicle, or a family history), you should seriously consider monthly self-exams and talk about it with your doctor.	growths or     than the other.     each testicle. You     as possible.       tenderness. Stand in     shouldn't feel any       front of the mirror.     pain when checking       Look for any swelling     your testicles.       on the skin of your     scrotum.		
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#### SUMMARY OF COMMON CANCER SCREENINGS

- NO SCREENING IN CHILDREN OR TEENAGERS SO LOOK FOR UNUSUAL SYMPTOMS
- WOMEN: AGE 25 PAPSMEAR AND PELVIC EXAM, AGE 40 MAMMOGRAMS or 30 with MRIS OF BREAST IF GENETICS,
- WOMEN AND MEN: AGE 45 FOR COLORECTAL or EARLIER IF GENETICS, AGE 50 FOR LUNG
- MEN: TEEN FOR TESTICULAR, AGE 45 FOR PROSTATE

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#### **Capital Health Screening Contacts**

SCREENING PROGRAMS		CANCER CENTER	609.537.6363
Bladder	609.303.4460		
Breast	609.394.6695	SPECIALIZED CENTERS	
Colorectal	609.303.4444	Capital Institute for	
Esophageal	609.537.5000	Neurosciences	609.537.7300
Lung		Center for Comprehensive	
Pancreas	609.537.5000	Breast Care	609.537.6767
Prostate	609.303.4460	Center for Digestive Health	609.537.5000
		Liver Center of Excellence	888.454.8370
RESOURCES/SERVICES		Lung Center	
Central Scheduling	609.394.6695	Sarcoma Center of Excellence	267.339.3662
Cancer Genetics Program	609.537.7043		