Keeping Healthy by Preventing and Reducing Cancer Risk

Center for Community Outreach and Engagement
Herbert Irving Comprehensive Cancer Center
Columbia University Medical Center
What We Will Learn

• Today we will learn about cancer
• What we know causes cancer
• How we can reduce our risk for some cancers
What is Cancer?

- Cancer occurs when the genes in cells become damaged (mutated)
- Cancer cells can continue to grow and spread to other parts of the body
Cancer Development

As damaged cells grow from mutated genes they can develop into cancerous tumors.
How do our Genes Become Damaged?

• We can inherit damaged genes from our parents
• Our genes can become damaged from exposures in our environment, such as air pollution and from sun exposure
• Our genes can also become damaged due to life style choices such as tobacco use
What are Cancer Risk Factors?

Cancer risk factors describe anything that increases the chances of developing cancer.
What are the Types of Cancer Risk Factors?

• There are some things that we can do to reduce our risk of getting cancer
• These are called **modifiable** risk factors
• These include....
Modifiable Cancer Risk Factors

- **Tobacco** use (lung, throat and oral)

- **Infections** such as HPV (cervical) Hepatitis B & C (liver)

- **Radiation** such as ultraviolet radiation from the sun (skin), Ionizing radiation from x-rays (leukemia, thyroid and breast)

- **Exposures to environmental substances** like air pollution, second hand smoke, asbestos (lung cancers), drinking water contaminated with arsenic (skin, bladder, lung cancers)
Modifiable Cancer Risk Factors

- **Fatty diets** and diets that include red meat and processed foods (colorectal)

- Drinking too much **alcohol** (mouth, esophagus, head and neck, liver, breast and colorectal)

- **Obesity** (postmenopausal breast cancer, colorectal, endometrial, liver, esophageal, upper stomach, kidney and pancreatic cancers)

- **Lack of physical activity** which increases our risk of colorectal cancer
What are the types of Cancer Risk factors?

There are some risks factors that we cannot control.....
Family History of Cancer is a Strong Risk Factor for Cancer

• When doctors ask about which diseases run in someone’s family, they are asking about family history.
• The information about our family history is used to help us understand our risk of diseases like cancer.
• Having a close family member with cancer may increase your risk of developing that cancer.
Family History and Genetic Testing for Cancer

• Genetic testing is often based on your own or your family history of cancer
• It begins with meeting with a genetic counselor
• The genetic counselor will ask questions about the diseases and causes of death of your family
• Based on the patterns of disease found in your family, the counselor may recommend genetic testing
• Your genes are tested on a small amount of blood
Primary prevention describes what can be done to stop cancer from occurring.
WAYS WE CAN STOP CANCER FROM OCCURRING

1. Avoid Tobacco Products
Avoiding Tobacco Products

PRODUCTS THAT YOU SMOKE:
• Cigarettes
• Cigars
• Pipe Tobacco
• Hookah
What is in a Cigarette?
Avoiding Tobacco Products

Vaporizers

• E-Cigarettes, and other Electronic Nicotine Delivery Systems
What are E-Cigarettes?

- E-cigarettes are electronic devices that heat a liquid or oils and produce vapor or a mist of small particles in the air.
- E-cigarettes come in many shapes and sizes. Most have a battery, a heating element, and a place to hold a liquid.
- Using an e-cigarette is sometimes called vaping.
- Some e-cigarettes look like regular cigarettes, cigars, or pipes. Some look like USB flash drives, pens, and other everyday items.
BECAUSE:

• One session of hookah pipe smoking lasts about 45 minutes to an hour (while a cigarette last just a few minutes)
• During that time hookah users may breathe in as much smoke as a cigarette smoker would from 100 or more cigarettes
Avoiding Tobacco Products

Tobacco sticks that dissolve in the mouth

• Smokeless Tobacco Products
  • Dip
  • Snuff
  • Snus
  • Chewing Tobacco
Health risks of smokeless tobacco include:

- Oral cancers (mouth, throat, cheek, gums, lips, or tongue)
- Dental problems (cavities, teeth staining, and gum disease)
- Pancreas cancer
- Esophagus cancer

Source: https://www.mayoclinic.org/healthy-lifestyle/quit-smoking/in-depth/chewing-tobacco/art-20047428
Smoking and Cancer

1 in 8 cancer cases are caused by smoking

1 in 5 cancer deaths are caused by smoking

Smoking can cause 16 types of cancer
Secondhand Smoke

- Secondhand smoke is smoke inhaled involuntarily from tobacco being smoked by others

- In infants and children effects include:
  - Wheezing and Coughing
  - Asthma attacks
  - Ear infections

- In adults effects include:
  - Coronary Heart disease
  - Stroke
  - Lung cancer
WAYS WE CAN STOP CANCER FROM OCCURING

2. Avoid the Sun and other Ultraviolet Radiation
How do the Sun and Tanning Lamps Affect our Skin?

- Radiation from the sun, even on cloudy days can damage your skin, causing:
  - Burns
  - Spots
  - Wrinkles
  - Skin cancer
Avoid Ultraviolet Radiation Exposure

• Seek the shade, especially between 10 AM and 4 PM
• Cover up with clothing, including a broad-brimmed hat and UV-blocking sunglasses
• Don’t get **sunburned and** avoid tanning
• Never use UV **tanning beds**
• Use a **broad spectrum** (UVA/UVB) use a water-resistant, broad spectrum (UVA/UVB) sunscreen with an SPF of 30 or higher
• Keep newborns out of the sun. Sunscreens should be used on babies over the age of six months
Seek Shade

Avoid Sunburns

Avoid Tanning beds and lamps

Cover your skin

Use sunscreen

Babies older than 6 months should use sunscreen
What is Skin Cancer?

- Skin cancer is the uncontrolled growth of abnormal skin cells.
- It occurs when unrepaired DNA damage to skin cells triggers mutations.
- These mutations can lead the skin cells to multiply and form malignant tumors that can spread to other parts of the body.
WAYS WE CAN STOP CANCER FROM OCCURING

3. Avoid Chronic Viral Infections
Avoid chronic infections

Cancer related chronic infections include:
HPV
Hepatitis B & C
What is HPV?

- The HPV is a **sexually transmitted** virus
- HPV is **transferred through tiny invisible breaks in the skin** during unprotected vaginal, oral or anal sex
- You can have the HPV virus and **not know it**
- You can develop symptoms **years** after you have sex with someone who is infected
- **9 out of 10** people have HPV at some time in their lives
- Condoms offer **some but not total** protection from HPV, as they don’t cover all of the genital skin
What diseases and cancer does HPV cause?

HPV is a sexually transmitted virus. Both men and women can be infected with HPV through sexual contact.

Some types of HPV can cause warts. Other types can cause cancer of the penis in men and cancer of the cervix, vagina and vulva in women. Still other types can cause mouth, throat, anus, and rectal cancers in both women and men.
How to Prevent HPV: Get the vaccine

• HPV vaccines prevent infection by certain types of human papillomavirus

• Available vaccines ARE NOT DANGEROUS and protect against either two, four, or nine types of HPV

• All vaccines protect against HPV type 16 and 18 that cause the greatest risk of cervical cancer

THE HPV VACCINE IS A CANCER PREVENTION VACCINE.
The HPV vaccine has been given at up to 21 years of age for males and 26 years for females.
What is Hepatitis?

• Hepatitis is an inflammation of the liver usually caused by a viral infection

• How do you get Hepatitis?
  • Contaminated food and drink
  • Blood
  • Sharing contaminated needles
  • Unprotected sex
  • Hepatitis can be passed from a mother to her newborn child at childbirth
Hepatitis can cause Liver Cancer

• The most common risk factor for liver cancer is long-term infection with Hepatitis type B virus or type C virus

• These chronic infections can lead to liver damage called cirrhosis that can cause liver cancer. Liver cancer is the most common cancer in many parts of the world
Hepatitis Vaccination Guidelines

- In INFANTS: routine vaccination three doses beginning at birth
- In CHILDREN: catch up vaccination: three doses for those that were not vaccinated at birth
- In ADOLESCENTS: (below age 19) catch up vaccination: three doses for those not vaccinated in infancy or childhood OR two dose for ages 11-15 years
- In ADULTS: (age 19 or older) 2 or 3 dose series depending on the brand

THERE IS NO VACCINATION FOR HEPATITIS C.
What Else Can We Do to Lower Our Risk of Getting Cancer?
Exercise Regularly
Maintain a healthy weight and eat a healthy diet

Eat a variety of healthy foods each day

ChooseMyPlate.gov
Maintain a Healthy Weight and eat a Healthy Diet

**AVOID** too much:
- Red meat
- Fatty and fried foods
- Processed foods
Get Tested and Treated for Hepatitis B and C
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THANK YOU!
WHAT ARE YOUR QUESTIONS?