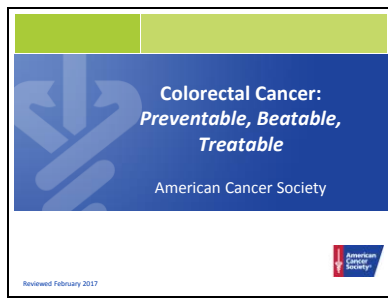
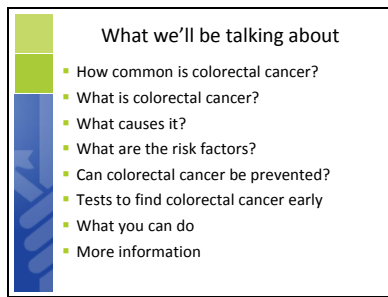


Slide 1

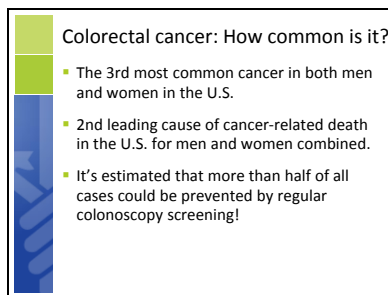


Slide 2



This is a summary of what we'll be talking about today.

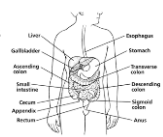
Slide 3



Slide 4

What is colorectal cancer?

- The **colon** (large bowel or large intestine)
 - A muscular tube about 5 feet long
 - Part of the digestive system
 - Absorbs water and salt from food
 - Stores waste matter
- The **rectum** is the last 6 inches of the digestive system.



Colorectal cancer is a term that is used to refer to cancer that develops in the colon or the rectum. These cancers are sometimes referred to separately as colon cancer or rectal cancer, depending on where they start. But colon cancer and rectal cancer have many features in common and we will be discussing them together today.

After food is chewed and swallowed, it travels through the esophagus (ih-**sof**-uh-gus) to the stomach. There it is partly broken down and then sent to the small intestine, also known as the small bowel. The small intestine is the longest part of the digestive system - about 20 feet. The small intestine continues breaking down the food and absorbs most of the nutrients.

The small bowel joins the colon in the right lower abdomen. The colon (also called the large bowel or large intestine) is a muscular tube about 5 feet long. The colon absorbs water and salt from the food and serves as a storage place for waste matter.

The waste material that's left after going through the colon is known as feces or stool. It goes into the rectum, the last 6 inches of the digestive system. From there it leaves the body through the anus.

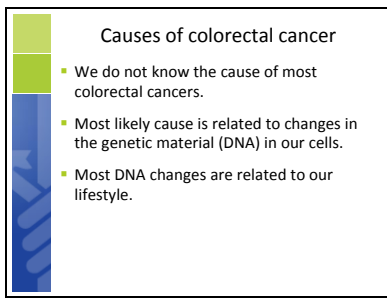
Slide 5

What is colorectal cancer?

- Cancer is the growth of abnormal cells.
- Cancer cells can invade and damage normal tissue.
- Colorectal cancer starts in the colon or the rectum (parts of the digestive system).
- ColoRectAl Cancer is often abbreviated as CRC.

In most people, colorectal cancers develop slowly over several years. Before a cancer develops, a growth of tissue or tumor usually begins as a non-cancerous polyp on the inner lining of the colon or rectum. I'll show you a picture of a polyp in a few slides. Some polyps can change into cancer but not all do.

Slide 6



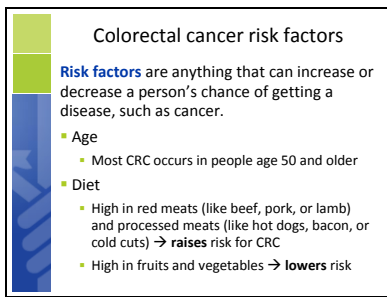
Causes of colorectal cancer

- We do not know the cause of most colorectal cancers.
- Most likely cause is related to changes in the genetic material (DNA) in our cells.
- Most DNA changes are related to our lifestyle.

Inherited gene mutations: those that can be passed on to children; these cause a small number of colorectal cancers. Inherited mutations affect all the cells in the body.

Acquired gene mutations: changes that take place during a person's life. These changes only affect the cells that grow from the one cell where the changes began (but this can mount up to a large tumor over the course of years); most cases of colorectal cancer are caused by these types of changes.

Slide 7



Colorectal cancer risk factors

Risk factors are anything that can increase or decrease a person's chance of getting a disease, such as cancer.

- Age
 - Most CRC occurs in people age 50 and older
- Diet
 - High in red meats (like beef, pork, or lamb) and processed meats (like hot dogs, bacon, or cold cuts) → **raises** risk for CRC
 - High in fruits and vegetables → **lowers** risk

A risk factor is anything that affects your chance of getting a disease such as cancer. Different cancers have different risk factors. For example, exposing skin to strong sunlight is a risk factor for skin cancer, using tobacco is a risk factor for lung, bladder, and many other kinds of cancer. But risk factors don't tell us everything.

Having a risk factor, or even several risk factors, does not mean that you will get the disease. And some people who get the disease may not have any known risk factors. Even if a person with colorectal cancer has a risk factor, it's often very hard to know how much that risk factor contributed to the cancer.

Still, researchers have found several risk factors that may increase a person's chance of developing colorectal cancer.


Age: Younger people can and do get colorectal cancer, but the chances go up a lot after age 50.

Diet: Eating foods high in fiber, such as fruits, vegetables, and whole grains can lower risk, but so far no benefit has been seen from fiber supplements .

Slide 8

Colorectal cancer risk factors

- Physical activity
 - Less active → raises risk
- Overweight
 - Obesity → raises risk of having and dying from CRC
- Smoking → raises risk
- Alcohol use → raises risk
- Type 2 diabetes → raises risk



Physical activity: Increasing activity may help reduce your risk.

Overweight: Obesity is a risk that has been shown to raise the risk of colon cancer in both men and women, but the link seems to be stronger in men. Not only does it raise the risk of getting colorectal cancer, obesity raises the risk of dying from it.

Smoking: Cancer-causing substances found in tobacco and tobacco smoke are swallowed and can cause digestive system cancers, including colorectal cancer.

Alcohol: Colorectal cancer has been linked to the use of alcohol.

Diabetes: People with type 2 (adult onset) diabetes have an increased risk of developing colorectal cancer. Both type 2 diabetes and colorectal cancer share some of the same risk factors (such as excess weight). But even after taking these into account, people with type 2 diabetes still have an increased risk.

Slide 9

Colorectal cancer – major risk factors

Some adults have risk factors that make them much more likely to develop CRC than others:

- Those with inflammatory bowel disease such as
 - Ulcerative colitis
 - Crohn’s disease
 (Irritable bowel disease is not a risk factor.)

These are some other significant risk factors to consider.

Slide 10

Colorectal cancer – major risk factors

- People who have had adenomatous polyps
- People from families with adenomatous polyps, CRC, or certain inherited syndromes
- Those who have had CRC in the past
(Risk is even higher if the CRC occurred at a younger age)

Talk to your doctor right away if you or people in your family have any of these major risk factors.

CRC = colorectal cancer
adenomatous polyp = ad-**no**-muh-tus or ad-uh-**NO**-muh-tus **pa**-lip

Your doctor can help you figure out if you have major risk factors and whether or not you should start screening at a younger age, or be screened more often.

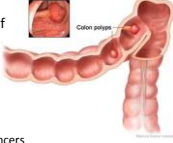
Slide 11

Risk factors – polyps

A polyp is a growth of tissue in the lining of an organ.

There are 2 main types of colorectal polyps:

- **Hyperplastic**
Very small chance they'll grow into cancer
- **Adenomatous**
Most colon and rectal cancers start as adenomatous polyps ("adenomas")



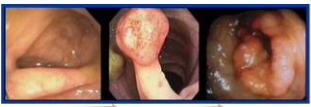
Here is a picture of polyps. Again, remember that most colorectal cancers start in polyps—this is an important in screening because some screening tests allow polyps to be removed at the time the test is done—hopefully, before they’ve become cancer.

There are other types of polyps besides these. Talk with your doctor about any polyps that you or a family member has had to find out whether they affect your cancer risk.

Slide 12

Polyps

Colorectal cancer can develop from a polyp.



Normal colon to Adenoma to Carcinoma

The transition from normal colon lining → to polyp → to invasive cancer.

This is usually a lengthy process; it takes 10 – 15 years in many cases.

This long time for development of cancer provides a unique opportunity for cancer prevention through polyp detection and removal.

Slide 13

Preventing colorectal cancer

- Many colorectal cancers could be prevented with regular screening.
- Screening is testing to find a disease in people who have no symptoms.
- **Why screen?**
 - To find and remove polyps before they become cancer
 - To find CRC early – when it's small and has not spread, and when treatment can be more effective

We will get into the details of the ACS screening recommendations a little later.

Slide 14

How is CRC screening done?

Types of tests for CRC screening:

- Tests that can find both polyps and colorectal cancer
- Tests that mainly find cancer

There are several different tests that can be used to screen for colorectal cancers. These tests can be divided into these 2 broad groups.

Slide 15

Tests that can find both polyps and cancer

- ✓ Flexible sigmoidoscopy
- ✓ Colonoscopy
- ✓ Double contrast barium enema (DCBE)
- ✓ CT colonography ("virtual colonoscopy")

- These tests look inside the colon to find abnormal areas.
- They are done with a lighted tube put in through the rectum or with special x-ray tests.
- If polyps are found they can be removed before they develop into cancer, so these tests can help prevent cancer.
- These tests are preferred if they are available and if a person is willing to have them.

sigmoidoscopy = **sig**-moid-**AH**-skuh-pee

colonoscopy = **ko**-lun-**AH**-skuh-pee

colonography = **ko**-lun-**AH**-gruh-fee

These tests look at the structure of the colon itself to find any abnormal areas. This is done either with a scope (a thin, flexible, lighted tube) inserted into the colon through the rectum or with special imaging (x-ray) tests. Polyps found before they turn into cancer can be removed, so these tests can help prevent colorectal cancer.


Keep in mind that, though we are talking about these as screening tests, some of these same tests may be used if your doctor finds something abnormal or suspects a problem. In those cases, they are not being used as screening tests, but diagnostic tests. The diagnostic test most often used is colonoscopy. For instance, if you have blood in your stool and it's not clear exactly why, your doctor may want to do a colonoscopy to find out what's causing it. In that case, the colonoscopy is not a screening test.

Slide 16

Colonoscopy

A thin, lighted tube is put in through the anus and rectum and passed up into the colon to look for abnormal areas.

Tissue can be taken from any areas of concern and polyps can be removed.



For this test, the doctor looks at the entire length of the colon and rectum with a colonoscope (ko-**LAHN**-uh-**scope**). It's put in through the rectum into the colon. The colonoscope has a video camera on the end that's connected to a display monitor so the doctor can see and closely examine the inside of the colon. Special instruments can be passed through the colonoscope to remove any suspicious looking areas such as polyps, if needed.

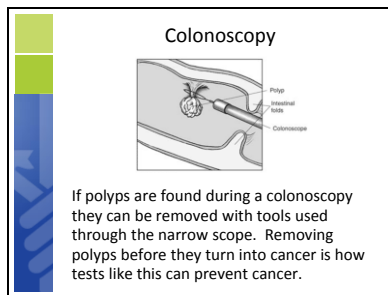
Colonoscopy may be done in a hospital outpatient department, in a clinic, or in a doctor's office. The test itself usually takes about 30 minutes, although it may take longer if a polyp is found and removed. Before the colonoscopy begins, the person is given a sedating medicine through a vein (IV) to make them feel comfortable and sleepy during the procedure. They may be awake, but they won't be

aware of what's going on and may not remember the procedure afterward.

The day before/the prep: The colon and rectum must be empty and clean so the doctor can see their inner linings during the test. Laxatives (liquids, pills, or both) must be taken the day before the test and possibly an enema that morning. Patients often consider the bowel preparation to be the most unpleasant part of the test.

Flexible sigmoidoscopy uses a similar, though shorter, lighted tube. Only the lower one-third of the colon is checked with this test.

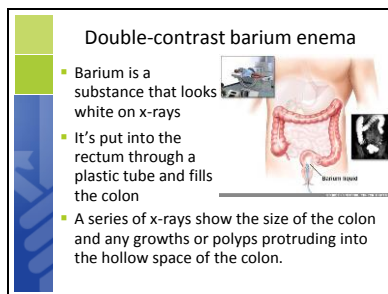
Slide 17



If a small polyp is found, the doctor may remove it. Over time some small polyps may become cancer—this is why they are usually removed. This is done by passing a wire loop through the colonoscope to cut the polyp from the wall of the colon with an electrical current. The polyp can then be sent to a lab to be checked under a microscope to see if it has any cells that have changed into cancer. If a tumor or other suspicious area is seen, the doctor can take a sample (biopsy) through the colonoscope.

If a polyp or suspicious area is found during a sigmoidoscopy, it may be removed or biopsied during the procedure. Even if it is, a colonoscopy will be done (at a later date). That allows the doctor to make sure that there are no other polyps or suspicious areas in the colon.

Slide 18



In this test, a series of x-rays of the entire colon and rectum are taken after the patient is given an enema with a barium solution and air is put into the colon.

The barium and air help to outline the colon and rectum on the x-rays.

The same type of “prep” as used in colonoscopy must be done to empty the bowels before this test.

If anything is seen, a colonoscopy must be done.

Slide 19

CT colonography

- Air is pumped into the colon through a flexible tube
- CT scans are then done
- Special computer programs create both 2-dimensional x-ray pictures and a 3-dimensional "fly-through" view of the inside of the colon and rectum, which lets the doctor look for polyps and cancer.




Image of polyp found with virtual colonoscopy

CT colonography uses virtual reality technology to produce a 3-D visualization of the entire colon and rectum.

Because it's less invasive than standard colonoscopy and sedation is not needed, virtual colonoscopy may cause less discomfort and take less time to perform. As with standard colonoscopy, a thorough cleansing of the colon is necessary before this test.

Slide 20

Tests that mainly find cancer

- ✓ Guaiac-based Fecal occult blood test (gFOBT)
- ✓ Stool DNA tests (sDNA)

- All of these test the stool for hidden blood or other changes that may be signs of cancer.
- They are less invasive and easier to do.
- They are less likely to find polyps than the other types of tests.
- Colonoscopy will be needed if results are abnormal.

These test the stool (feces) for signs that cancer may be present. These tests are less invasive, easier to do, and can often be done at home – but they are less likely to find polyps.

Slide 21

ACS Colorectal Cancer Screening Guidelines

At age 50, both men and women should begin regular screening and have one of the screening tests listed here or on the next slide:

Tests that find both polyps and cancer

- Flexible sigmoidoscopy (FSIG) every 5 years*, or
- Colonoscopy every 10 years, or
- Double-contrast barium enema (DCBE) every 5 years*, or
- CT colonography (virtual colonoscopy) every 5 years*

*Colonoscopy should be done if anything is found by these tests

More information on any of these tests is available at cancer.org or by calling 1-800-227-2345.

Slide 22

ACS Colorectal Cancer Screening Guidelines

At age 50, both men and women who have an average risk of CRC should begin regular screening and have one of the screening tests listed here or on the previous slide:

Tests that find mainly cancer

- Guaiac-based fecal occult blood test (gFOBT)*
- Stool DNA test (sDNA) every 3 years*

*Colonoscopy should be done if anything is found by these tests

-gFOBT (Guaiac based fecal occult blood test) – annual testing of spontaneously passed stool specimens

More information on any of these tests is available at cancer.org or by calling 1-800-227-2345.

Slide 23

ACS Colorectal Cancer Screening Guidelines

Adults who are at higher risk for CRC should talk with a doctor about their medical history to decide the best screening test and schedule for them. They may need to start screening earlier.


The American Cancer Society has specific guidelines for adults who are at higher risk for CRC.

Some people at higher risk may need to start screening at a younger age, be screened more often, and/or be screened with colonoscopy.

More information is available at cancer.org or by calling 1-800-227-2345.

Slide 24

So what can you do to prevent and beat colorectal cancer?



Slide 25

What you can do

- Stay at a healthy weight
- Be active
 - ✓ At least 150 minutes of moderate or 75 minutes of vigorous intensity activity per week, or an equivalent combination, preferably spread throughout the week
- Limit sedentary behavior



These are some risk factors you can control.

Get to and stay at a healthy weight throughout life.

- Be as lean as possible throughout life without being underweight.
- Avoid excess weight gain at all ages. For those who are currently overweight or obese, losing even a small amount of weight has health benefits and is a good place to start.
- Engage in regular physical activity and limit consumption of high-calorie foods and beverages as key strategies for maintaining a healthy weight.

Children and adolescents should engage in at least 1 hour of moderate or vigorous intensity activity each day, with vigorous intensity activity occurring at least 3 days each week.

Moderate intensity activities are those that require effort equivalent to that of a brisk walk.

Vigorous intensity activities generally engage large muscle groups and cause a noticeable increase in heart rate, breathing depth and frequency, and sweating.

Sedentary behavior = sitting, lying down, watching television or other forms of screen-based entertainment

Being more physically active than usual, no matter what one's level of activity, can have many health benefits.

Slide 26

What you can do

- Eat right
 - ✓ Choose foods and beverages in amounts that help you get to and stay at a healthy weight
 - ✓ Eat at least 2½ cups of vegetables and fruits each day
 - ✓ Choose whole grains
 - ✓ Limit red meats (like beef, pork, or lamb) and processed meats (like hot dogs or luncheon meats)
- Limit alcohol
 - ✓ No more than 2 drinks a day for men and 1 for women

More risk factors you can control.

The recommended limit of alcohol is lower for women because of their smaller body size and slower metabolism. These limits refer to daily consumption, and do not justify drinking larger amounts on fewer days of the week.

If asked: In the United States, a standard drink is equal to

--12 ounces of beer

--8 ounces of malt liquor

--5 ounces of wine

--1.5 ounces or a “shot” of 80-proof distilled spirits or liquor (such as gin, rum, vodka, or whiskey)

[From the Centers for Disease Control and Prevention, website: www.cdc.gov/alcohol/faqs.htm#standDrink]

Slide 27

What you can do

- If you are age 50 or older, get tested for colorectal cancer.
- Talk with a doctor about which screening test is best for you.
- Talk with a doctor about your medical history and your family history to find out if you need to start testing earlier or have more frequent tests.

Talk with your doctor about any polyps or previous colon or rectal cancers you have had. Be sure to check with your family about any colon or rectal cancers that they might have had, and how old they were when they were diagnosed, so you can tell your doctor.

Slide 28

What you can do

- Screening tests offer the best way to prevent CRC or find it early. Finding cancer early gives you a better chance for successful treatment.
- Early CRC usually has no symptoms. Don't wait for symptoms to occur. Again — treatment is most effective when CRC is found early.

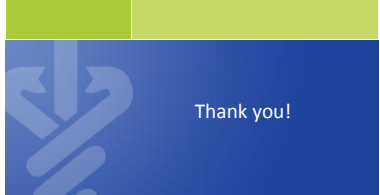
Slide 29




More information

You can get more information on colorectal cancer on our website, www.cancer.org/colon, or call 1-800-227-2345 and talk with one of our cancer information specialists.



Slide 30



Thank you!



Slide 31



We **save lives** and create more birthdays by helping you stay well, helping you get well, by finding cures, and by fighting back.

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