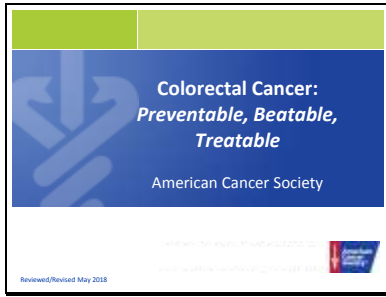


Slide 1

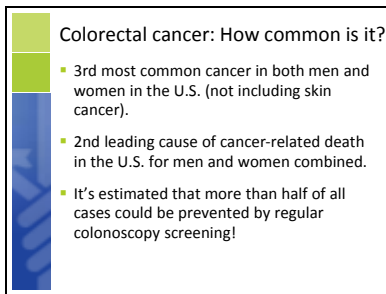


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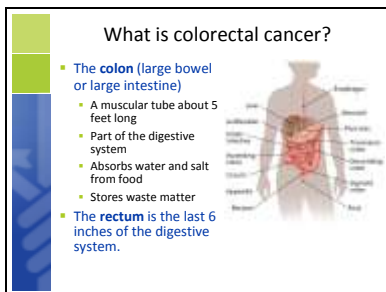


This is a summary of what we'll be talking about today.

Slide 3



Slide 4



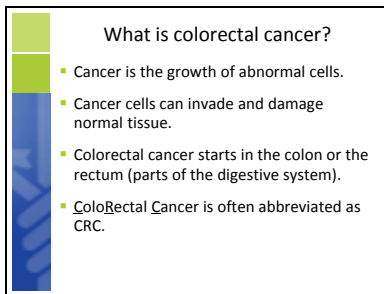
Colorectal cancer is a term that is used to refer to cancer that develops in the colon or the rectum. These cancers are sometimes referred to separately as colon cancer or rectal cancer, depending on where they start. But colon cancer and rectal cancer have many features in common and we will be discussing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

After food is chewed food 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

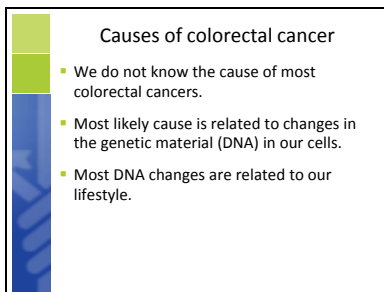


What is colorectal cancer?

- 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
 - Studies show significant increased incidence in those under age 55 from 2004-2014
- 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.

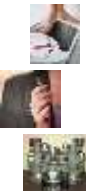
Age: Studies show increasing incidence in younger people, but the chances go up a lot after age 50.

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
- Those who have had radiation to the abdominal or pelvic area to treat a previous cancer

(Irritable bowel disease is not a risk factor.)

These are some other significant risk factors to consider. Note regarding people who have had radiation to the abdomen or pelvic area to treat a prior cancer: Most of these people will need to start having colonoscopies at an earlier age (depending on how old they were when they got the radiation), and might need to be screened more often than normal (such as at least every 5 years).

Slide 10

Colorectal cancer – major risk factors

- People who have had adenomatous polyps
- People who have family members with adenomatous polyps or FAP, CRC, or certain inherited syndromes such as Lynch syndrome (HPNCC)
- People who have had CRC in the past (Risk is even higher if 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.

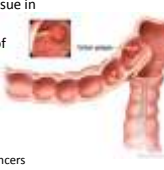
Slide 11

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.



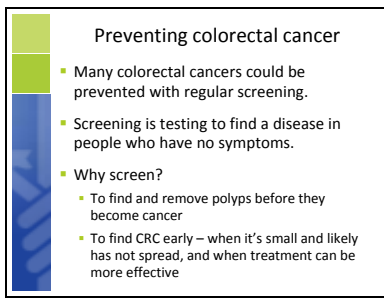
Normal colon to Adenoma to Carcinoma

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

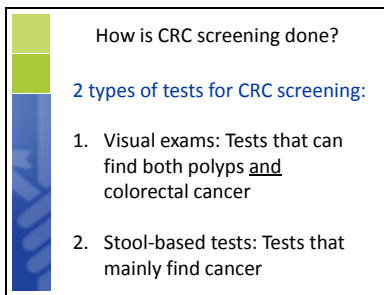


Preventing colorectal cancer

- 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 likely 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



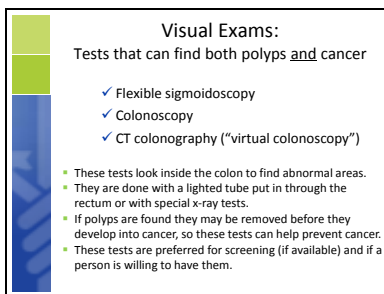
How is CRC screening done?

2 types of tests for CRC screening:

1. Visual exams: Tests that can find both polyps and colorectal cancer
2. Stool-based tests: 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



Visual Exams:
Tests that can find both polyps and cancer

- ✓ Flexible sigmoidoscopy
- ✓ Colonoscopy
- ✓ CT colonography (“virtual colonoscopy”)

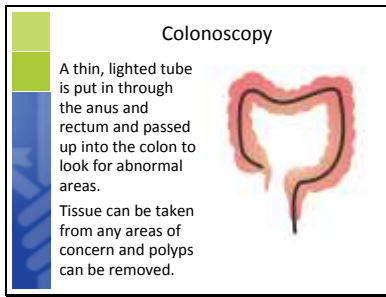
- These tests look inside the colon to find abnormal areas.
- They are done with a lighted tube put in through the rectum or with special x-ray tests.
- If polyps are found they may be removed before they develop into cancer, so these tests can help prevent cancer.
- These tests are preferred for screening (if 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 that is found during a stool-based test, and it's not clear exactly why, a colonoscopy is recommended to find out what's causing it. In that case, the colonoscopy is not a screening test.

Slide 16



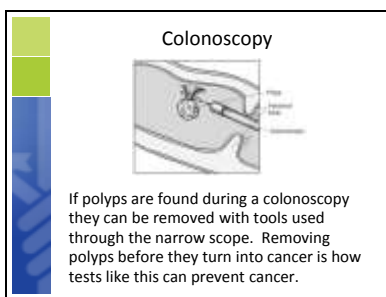
For this test, the doctor looks at the entire length of the colon and rectum with a colonoscope (ko-**LAHN**-uh-**scope**). It's put in through the rectum into the colon. The colonoscope has a video camera on the end that's connected to a display monitor so the doctor can see and closely examine the 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.

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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.

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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.



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.

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Stool-based Tests:
Tests that mainly find cancer

- ✓ Fecal immunochemical test (FIT)
- ✓ 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 visual exams.
- 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. Abnormal tests will need a colonoscopy as follow-up.

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ACS Colorectal Cancer Screening Guidelines: 2018

- At age 45, both men and women at average risk should begin regular screening either with a sensitive stool-based test, or with a visual exam that looks at the colon and rectum.
- People who are in good health and with a life expectancy of more than 10 years should continue regular colorectal cancer screening through the **age of 75**.

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

For people **ages 76 through 85**, the decision to be screened should be based on a person's preferences, life expectancy, overall health, and prior screening history. People **over 85** should no longer get colorectal cancer screening.

*For screening, people are considered to be at average risk if they **do not** have:

A personal history of colorectal cancer or certain types of polyps

A family history of colorectal cancer

A personal history of inflammatory bowel disease (ulcerative colitis or Crohn's disease)

A confirmed or suspected hereditary colorectal cancer syndrome, such as familial adenomatous polyposis (FAP) or Lynch syndrome (hereditary non-polyposis colon cancer or HNPCC)

A personal history of getting radiation to the abdomen (belly) or pelvic area to treat a prior cancer

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ACS Colorectal Cancer Screening Guidelines: 2018

Test options for colorectal cancer screening:

- Stool-based tests: Tests that mainly find cancer
 - Highly sensitive fecal immunochemical test (FIT) every year*, OR
 - Highly sensitive guaiac-based fecal occult blood test (gFOBT) every year*, OR
 - Multi-targeted stool DNA test (MT-sDNA) every 3 years* (*Abnormal findings will need a colonoscopy as follow-up.)
- Visual (structural) exams
 - Colonoscopy every 10 years, OR
 - CT colonography (virtual colonoscopy) every 5 years, OR
 - Flexible sigmoidoscopy (FSIG) every 5 years

There are some differences between these tests to consider, but the most important thing is to get screened, no matter which test is chosen. It's important to talk about which tests might be good options for each individual, and to the insurer about coverage.

If a person chooses to be screened with a test other than colonoscopy, any abnormal test result should be followed up with colonoscopy.

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ACS Colorectal Cancer Screening Guidelines: 2018

Adults who are at higher risk for CRC might need to start screening before age 45, be screened more often, and/or get specific tests.

Higher risk individuals are those with a family or personal history of colorectal cancer and certain types of polyps, other bowel disorders, or a known hereditary colorectal cancer syndrome.

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

Higher risk individuals include those with:

A strong family history of colorectal cancer or certain types of polyps

A personal history of colorectal cancer or certain types of polyps


A personal history of inflammatory bowel disease (ulcerative colitis or Crohn's disease)

A known family history of a hereditary colorectal cancer syndrome such as familial adenomatous polyposis (FAP) or Lynch syndrome (also known as hereditary non-polyposis colon cancer or HNPCC)

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

Slide 23

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



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.

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]

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What you can do

- If you are age 45 or older and at average risk, 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 are at higher risk, need to start testing earlier, or should have more frequent or different 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.

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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.

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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.

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Thank you!

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Slide 30

Get the facts

The same facts and create your holidays.
By helping you stay well, helping you get well,
by finding cancer, and by fighting back.
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