

Screening for Colon Cancer

In Alberta, cancer of the large bowel (colon and rectum) is the fourth most commonly diagnosed cancer and the second leading cause of cancer death. Colon cancers develop from non-cancerous polyps. Polyps are mushroom-like growths. Approximately 15% - 20% of people over age 50 have polyps. Only a few of them ever turn into a cancer. However, 6% of people develop bowel cancer at some time during their life. Colon cancer is easily cured if detected early. But because many cancers are detected late, approximately 40% of people die because of their bowel cancer. Colon cancers can be prevented altogether if polyps are detected and removed before they have a chance to become cancerous.

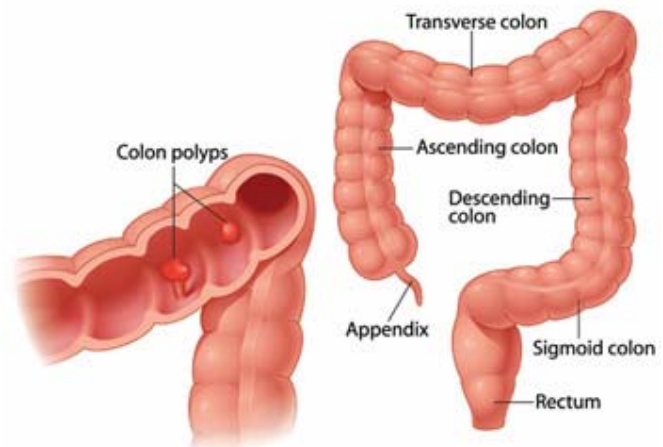
Screening means looking for polyps or cancers in people who **do not** have symptoms.

SYMPTOMS OF A POLYP:

- The majority do not cause any complaints
- Rarely they can bleed
- Very rarely they can cause diarrhea

SYMPTOMS OF A COLON CANCER:

- Usually occur late in course of colon cancer
- Visible blood in the stools
- Anemia or a low blood count
- Weight loss
- Regular pain in your stomach or abdomen
- A persistent change in the bowel pattern



WHO IS AT A HIGHER RISK FOR DEVELOPING COLON CANCER:

- A history of colon cancer in a first-degree relative (mother, father, brother, sister, son, daughter)
- A history of a polyp in a first-degree relative, especially if younger than 60 years of age
- People with a personal history of colon cancer or polyps
- People with inflammatory bowel disease (Crohn's disease, ulcerative colitis)

REASONS TO SCREEN FOR COLON CANCER

- To prevent colon cancer from developing: Since most cancers develop from polyps, if one can detect and remove a polyp a future cancer may be prevented
- To decrease colon cancer deaths: If one can detect the cancer at an early stage, it may be more successfully treated resulting in a lower chance of dying from that cancer

METHODS TO SCREEN FOR COLON CANCER:

Commonly Available Tests Appropriate for Those at Average Risk for Colon Cancer

There are several ways to detect polyps and cancers. At this time, no single test has been shown to be definitely superior. However, there are advantages and disadvantages to each of the tests and one test may be better for a given person than another test.

1. Test of stools for blood (Fecal occult blood test) yearly or every two years

- This test is performed at home. You receive a test kit from your doctor or lab. At home, you put a small piece of stool on a test card. You do this for three bowel movements in a row. Then you return the test cards to the lab. The stool samples are checked for blood.
- A single test detects 10% of polyps and 40% of cancers.
- Annual testing will detect as many as 80% of bowel cancers.
- Approximately 2% - 3% of people who do not have a cancer or polyp will have a falsely positive test resulting in further testing.
- The risk of dying from bowel cancer was reduced by 18% in research studies, but should be even higher than this if a person always does the test each year.

2. Sigmoidoscopy every five years

- This test is performed in a doctor's office or hospital clinic. A flexible videoscope is used to examine the left side of the colon. A fleet enema is used before the test to clean out that part of the bowel. If a polyp or cancer is seen, a colonoscopy is required to examine the rest of the bowel and to remove the polyp. There is strong evidence that sigmoidoscopy reduces the risk of developing and dying from colorectal cancer.
- About 40% - 60% of all polyps and cancers are within the reach of the sigmoidoscope.
- In research studies, the risk of dying from bowel cancers was reduced by about 60%.

3. Combination of stools for blood plus sigmoidoscopy

- The two tests described above can be combined.
- It is not clear how much is gained by this combination.

4. Air contrast barium enema every 5 years

- This test is performed at an x-ray clinic. To outline the bowel on an x-ray, a chalky liquid (barium) and air is put into the bowel through a tube inserted into the rectum. If this test is positive, a colonoscopy is required to confirm the findings and remove any polyps.
- It will detect 60-70% of polyps (dependent on size) and 85% of cancers.
- The test can be falsely positive if residual stool is mistaken for a polyp.
- This test is no longer readily available in the Calgary Health Region

5. Colonoscopy every 10 years

- This test is performed at the Colon Cancer Screening Centre. A flexible videoscope is used to examine the entire large bowel. This is a day procedure that is usually performed with sedation given through a needle into a vein. The day before the test, the bowel is cleaned out by taking a powerful laxative. If a polyp is identified, it can usually be removed at the same time.
- This is the most accurate test for detecting polyps and cancers.
- It will detect 80-90% of polyps (dependent on size) and at least 95% of cancers.
- It has never been studied alone in a research study, but there is strong evidence that it should reduce the risk of developing and dying from bowel cancer more than any of the other tests.

Risks and Complications of Tests

- No medical test is without some risk, however small
- Because all people with a positive fecal occult blood test, sigmoidoscopy or air-contrast barium enema need to undergo a colonoscopy, they will be exposed to both the risks of the initial test and the colonoscopy.

Colonoscopy

- Complications can result from the colonoscopy itself and from the sedation.
- 1/1000 risk of a serious complication
 - hole in the bowel (requires surgery to fix)
 - bleeding, usually only occurs if polyp removed (may require blood transfusions and repeat colonoscopy or surgery to stop)
 - heart or lung complications from sedation
 - severe dehydration, kidney troubles or chemical imbalance from bowel preparation
- These complications can generally be treated successfully, but rarely, especially in people with significant medical problems, could result in death. Estimated risk of death from colonoscopy is 1/10,000.

Sigmoidoscopy

- 1/10,000 risk of a hole in the bowel

Air-Contrast Barium Enema

- 1/25,000 risk of a hole in the bowel
- Exposure to a small amount of radiation

Fecal Occult Blood Test

- No real risks of the test itself

SCREENING RECOMMENDATIONS

Several organizations have developed guidelines for colon cancer screening. These do not always agree. The Colon Cancer Screening Centre follows the most recent recommendations, which are those developed by the American Cancer Society and the US Multi-Society Task Force on Colorectal Cancer.

AVERAGE RISK INDIVIDUAL SCREENING RECOMMENDATIONS:

- An average risk individual is someone without symptoms of bowel cancer, who has no family history of bowel polyps or cancers and does not have inflammatory bowel disease.
- It is recommended that all individuals undergo screening starting at age 50.
- Canadian guidelines recommend the use of annual fecal occult blood tests.
- Guidelines from the Canadian Association of Gastroenterology and several American organizations, including the American Cancer Society, recommend that any of the five commonly available tests can be used.

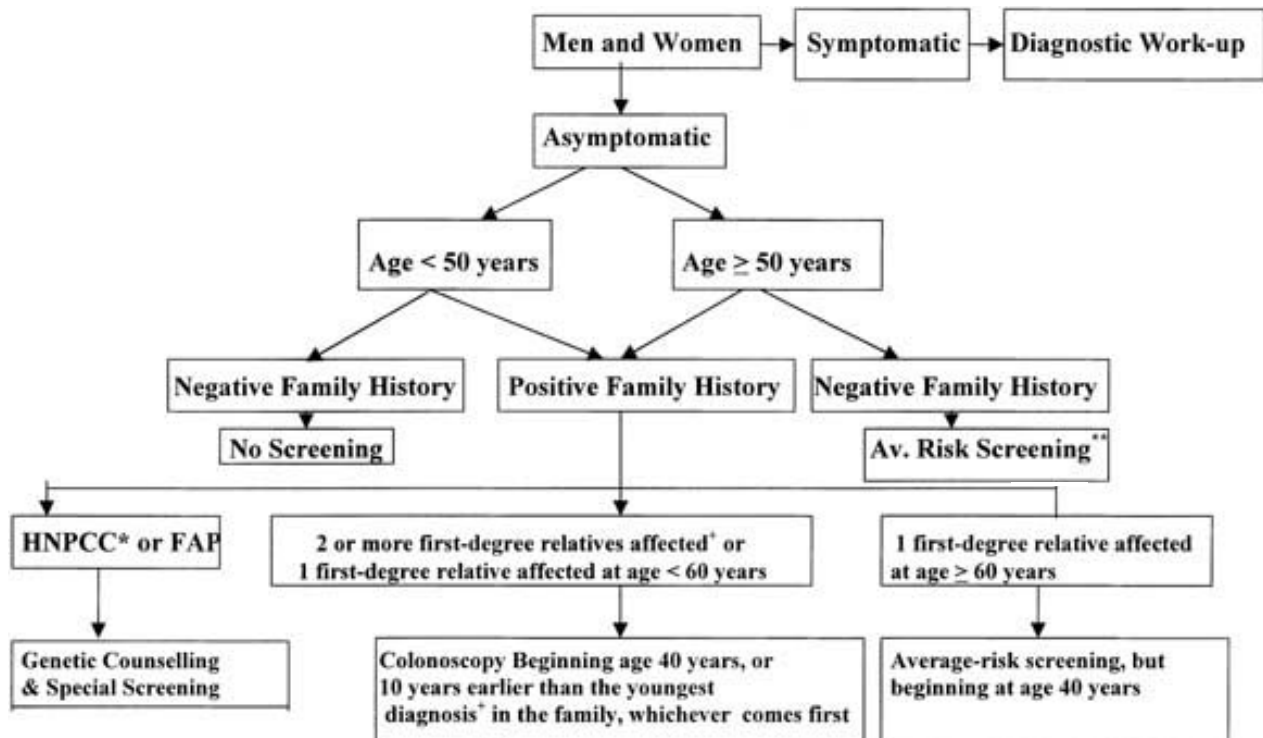
FAMILY HISTORY OF COLORECTAL CANCER OR POLYP:

To start at approximately age 40 (or 10 years younger than age of relative at diagnosis)

- Prefer use of colonoscopy, especially if relative's polyp or cancer developed before age 60. If relative less than 60, recommended that colonoscopy be done every 5 years.

SCREENING RECOMMENDATIONS FOR A PERSON WHO HAS A SIGNIFICANT POLYP:

- If a polyp is seen and removed at a colonoscopy, ongoing testing is required to detect and remove new polyps.
- Follow-up colonoscopy usually occurs 3 year or 5 years after initial polyp is removed depending on how well the colon was seen at colonoscopy and the number and size of polyps removed.
- If normal, follow-up colonoscopy in 5 years



GENERAL RECOMMENDATIONS FOR CANCER PREVENTION

1. **Maintain a healthy life-style: eat a healthy diet, don't smoke and exercise regularly.**
2. Eat 5 – 10 servings of vegetables and fruits daily
 - raw better than cooked
 - include deep yellow vegetables
 - include green cruciferous vegetables (broccoli, cabbage, brussel sprouts)
3. Reduce total fat intake to less than 25-30% of total calories and saturated fat to less than 10% of total calories
 - Avoid butter and margarine
 - Use low fat salad dressing
 - Avoid tropical vegetable oils, such as palm and coconut oil, and use corn, sunflower, and sunflower oils
 - Use skim milk and low fat cheeses and yogurts
 - Avoid fast foods, snack foods and luncheon meats
 - Avoid many baked goods, such as croissants, cakes, cookies
 - Eat smaller portions of lean meat, fish and poultry
4. Eat more fibre-rich foods (25 - 35 grams a day)
 - Wheat bran cereals (Kellogg's All-Bran Buds)
 - Whole grain foods
 - Fruits and vegetables
5. Limit salt, alcohol and caffeine
6. Limit salt-cured, smoked, and nitrite-preserved foods
7. Stop smoking!
8. Exercise regularly!
9. Maintain a health body weight – avoid obesity
10. Consume adequate calcium (1000 mg per day if less than age 50, 1200 mg if over 50) and folate (400 micrograms) each day through food sources or supplements
11. Protect yourself from the sun

For additional information about colorectal cancer

Colon Cancer Screening Centre	www.colonscreeningcentre.com
Calculate your risk for cancer	www.yourdiseaserisk.harvard.edu
Canadian Cancer Society	www.cancer.ca
Canadian Health Network	www.canadian-health-network.ca