



# Colon Cancer: Screening and Prevention

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explains Andrew Warner, MD, chair of the Gastroenterology Department at Lahey Clinic.

President Bush made national headlines in June when he stepped down from the presidency for 20 minutes to undergo a routine colon cancer screening. With an estimated 90 million Americans at risk for colon cancer, Bush brought important publicity to the need for people age 50 and older to have regular colonoscopies.

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Colon cancer is one of the leading causes of cancer death in the United States, second only to lung cancer. The good news is that colonoscopies have proven to reduce the risk of colon cancer by up to 90 percent.

The colon is a hollow tube—which would be about five feet in length if stretched out straight—that connects the end of the small intestine to the rectum and serves to store unabsorbed food until it is eliminated from the body. Colon cancer almost always begins with a protrusion of tissue into the colon, known as a polyp. An estimated 10 percent of the general population have one or more non-cancerous polyps, or “adenomas,” which may eventually develop into cancerous polyps, or “carcinomas,” if they are not removed. President Bush has a history of adenomas, all of which were detected and removed during regular screenings.

There are three main methods used to screen people for colorectal cancer. Colonoscopy, the examination of the entire colon using a flexible tool called a colonoscope, is the “gold standard” for screening, according to Warner. During the procedure, which Warner says is painless, a colonoscope is used to examine the walls of the colon and to remove any polyps. Lahey Clinic uses colonoscopes that combine fiber-optic and video technology, so that clear images of the colon wall may be projected onto a screen for the physician to examine. With older technologies, physicians had to look directly through the colonoscope.

Other options for screening include sigmoidoscopy, an examination of the rectum and lower colon, and fecal occult blood tests (FOBT) to check for hidden blood in the stool, which may be indicative of polyps. “Sigmoidoscopy combined with fecal occult blood testing is a reasonable alternative to colonoscopy,” says Warner. “While sigmoidoscopy looks at only the first third of the colon, the majority of polyps are in reach of the sigmoidoscope.” Warner recommends that patients with average risk have sigmoidoscopy every five years, combined with a yearly FOBT, or a colonoscopy every 10 years beginning at age 50.

One question that many people ask is if there is anything they can do to prevent colon cancer. “The answer is they really can’t,” says Warner. “That’s why it is so important to have regular screenings done.” While the exact causes of colorectal cancer remain unknown, the National Cancer Institute has identified some risk factors that have been shown to increase a person’s chance of developing colorectal cancer: age, a personal history of polyps or cancer, inflammatory bowel disease, a family history of colorectal cancer, and possibly a diet that is high in fat and low in fiber.

Most colon cancers are nonhereditary and sporadic, leaving scientists to explore which environmental factors might trigger colon cancer. “There is an increase in the number of cases of

colon cancer beginning in the Great Lakes and extending up into New England,” says Lawrence Rusin, MD, Colon and Rectal Surgery.

Physicians do know that at least two types of colon cancer—Hereditary Nonpolyposis Colorectal Cancer (HNPCC) and Familial Adenomatous Polyposis (FAP)—are hereditary. Patients who have been diagnosed with colon cancer may choose to be tested for the presence of genetic mutations (see sidebar). Monitoring patients with hereditary colon cancer is important, because the genetic mutation that causes colorectal cancer is a known trigger for other cancers.

Meanwhile, Lahey Clinic is actively involved in researching a new method for colon cancer screening that may eventually come to replace testing for blood in the stool. “The disadvantage of current technologies that test for blood in the stool is that the false positive rate among patients who have a positive test is somewhere around 80 to 90 percent,” explains Michael Glick, MD, Gastroenterology.

Glick is the principal investigator at Lahey Clinic for a nationwide study that involves testing patients for fragments of genetic material in the stool that may be a sign of polyps or cancer. “The goal is to learn how accurate these gene markers are in detecting the cancer that is ultimately found during colonoscopy, and to compare the sensitivity of the gene markers with the old stool blood test,” he said.

The study is designed to enroll people of different age brackets, and Lahey Clinic is still looking for participants between the ages of 65 and 80 who have no known genetic predisposition to colon cancer and who have never had a screening. If you are interested in learning more about the study, please contact Hydie Judge in the Lahey Clinic Research Office at 781-744-3932.

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## Nora Waystack's family has come to Lahey Clinic for generations.

It was partly because of this, she said, that doctors discovered she had colon cancer this year at a stage when it was easily treatable. "We have a long history here at Lahey. My father was treated for colon cancer at the Clinic in 1968," she explains. "Doctors know I have a family history."

Since her mother was diagnosed with ovarian cancer at an early age, 54-year-old Waystack has made a point to schedule herself for regular physicals and colonoscopies. At the same time, her physicians make cancer screenings a priority. She is now a survivor of four different types of cancer, which one could never tell after meeting Waystack, a youthful and upbeat woman who works as a real estate broker in Newburyport, Mass.

Today, Waystack is walking in her mother's footsteps as an advocate of preventive health care. She met with Colleen Rogers, a genetic counselor at Lahey Clinic, who creates family "pedigrees" of patients. The pedigree compiles information, including which of the patient's relatives have had cancer, the types of cancer, and the ages at diagnosis. The information is archived in the hereditary tumor registry. Waystack hopes this will be of help to future generations, most notably her 28-year-old son, Paul. "It is important to keep track of your family history, and if there seems to be a pattern, you should make a point to get screened regularly," she says.

Waystack recently chose to be tested for Hereditary Nonpolyposis Colorectal Cancer (HNPCC), which is caused by a mutation in the gene that triggers the body's ability to repair its own DNA. Doctors suspect that she may have the mutation because of her family history and her own predisposition to cancer. "HNPCC is inherited dominantly, so that of all your children, half of them are probably going to have the genetic mutation. By testing the parent for the gene, we can tell if the children are at risk," says Lawrence Rusin, MD, Colon and Rectal Surgery. Rusin is the specialist Waystack consulted when she first learned that she had colon cancer.

Waystack points out that it is important for people to be aware if they have a predisposition to colon cancer, so that they can begin having colonoscopies early in life. Often, she says, there are no clear symptoms. The day before Waystack was diagnosed with colon cancer, she had spent hours playing tennis with her friends and said she was feeling better than ever.

Waystack speaks fondly of Katie Couric, co-anchor of NBC's "Today" program, who launched a national campaign two years ago to raise awareness of colon cancer. The campaign most notably included a television series, "Confronting Colon Cancer," during which Couric underwent a colonoscopy on camera as a way of demystifying the exam for viewers.

"I so admire what Katie Couric did," says Waystack, who hopes to make educating others a priority in her own life. For her, this is another way of moving forward. "It think it's a matter of attitude and faith, and trying to create something positive out of this," she says.

# Screening for Future Generations

