The thought of looking inside people’s colons for a living certainly makes my non-physician friends shake their heads. Patients regularly ask me how I could ever do this for a living. Even my 4-year-old asks me every day when I get home if I washed my hands. The reason I find my work so gratifying is simple: I save lives. With every colon polyp I remove, I can prevent cancer.

Cancer of the colon and rectum is second only to lung cancer as the leading cause of cancer death in Minnesota. According to the Minnesota Cancer Surveillance System, there were more than 2,400 new cases and 890 deaths from colorectal cancer in 2006, the most recent year for which statistics are available. The good news is that colorectal cancer screening can prevent the disease from occurring.

**Risk factors and symptoms**

The single most important risk factor for colorectal cancer is genetics. Your overall lifetime risk of getting colon cancer is about 6 percent. However, if you have a parent or a sibling who had colorectal cancer before the age of 50, your lifetime risk increases to as much as 24 percent. While most people should have their first screening colonoscopy at age 50, screening should start at age 40 for those with a family history. Obesity, diabetes, heavy tobacco use, heavy alcohol use, lack of regular exercise, and a diet high in red meat and low in fresh fruits and vegetables may also increase your risk of colorectal cancer.

Unfortunately, colorectal cancers do not often cause symptoms until they are advanced. Blood loss from tumors is usually noticed in the stool. Additional symptoms include shortness of breath, abdominal pain, changes in the caliber of stool, and/or progressive constipation, especially when tumors begin to obstruct the colon. Ultimately, a colonoscopy is needed to diagnose colorectal cancer.

**Screening can be preventive**

More than 95 percent of colorectal cancers start out as growths called “adenomatous polyps.” Over 25 percent of people over age 50 have these polyps, and evidence suggests that one in 10 will turn into cancer if not removed. One objective of screening colonoscopy is to remove these polyps before they can evolve into cancer.

Colorectal cancer screening also prevents cancer deaths by finding cancer in its early stages, when it is more treatable and, therefore, more surviv-
able. When the cancer is detected early, the five-year survival rate exceeds 90 percent. However, when colorectal cancer grows through the bowel wall and spreads to other organs, only 10 percent of patients will survive five years.

**Colorectal cancer screening options**

New colorectal screening guidelines were published last year by the U.S. Preventive Services Task Force (USPSTF) and an American Cancer Society (ACS) consortium. The USPSTF endorses fecal occult blood testing, flexible sigmoidoscopy, and colonoscopy as proven screening methods; the ACS screening guidelines also include computed tomography colonography (CTC) and fecal DNA testing.

The **fecal occult blood test (FOBT)** looks for trace amounts of blood in the stool. It is by far the least expensive and least invasive way to screen for colorectal cancer. Because cancers and large polyps often bleed intermittently, stool samples must be collected from three separate bowel movements. False positives are common with FOBT, so patients who test positive are instructed to have a colonoscopy rather than repeat the stool test.

Because FOBT is not an effective test to identify the presence of polyps, it does not decrease the risk of getting colorectal cancer. However, it remains one of the recommended screening tests for colorectal cancer because it is easy to do, non-invasive, inexpensive, widely available, and the only colon cancer screening test that some people are willing to do. FOBT does save lives, just not as frequently as other screening options.

Newer **fecal-immunochemical tests (FIT)** may be somewhat more sensitive in testing for blood from the large intestine and vary in the number of samples needed. While these tests are slightly more expensive, one advantage to FIT is that it does not require that patients avoid aspirin, red meat, or vitamin C prior to testing, as FOBT does.

Flexible sigmoidoscopy and colonoscopy allow doctors to examine the bowel directly for polyps and cancer. With both procedures, a flexible tube with an attached camera is inserted into the anus and advanced slowly through the colon. However, there are key differences between the two techniques.

**Flexible sigmoidoscopy** is usually done without anesthesia and requires only an enema for preparation. This method of screening looks at the first 2 feet of the 5-foot-long large intestine. If a polyp is found, it is biopsied; if it is adenomatous—most polyps larger than 5 mm are—the patient is sent for a full colonoscopy.

A large Veterans’ Administration study found that flexible sigmoidoscopy identifies 48 percent of patients with advanced polyps or colon cancer—even in the unseen portion of the colon—because polyps found in the first 2 feet of colon trigger a colonoscopy of the entire colon. While the ACS consortium promotes flexible sigmoidoscopy every five years as a stand-alone screening option, the USPSTF recommends that patients screened with flexible sigmoidoscopy also have an annual FOBT.

**Colonoscopy** remains the “gold standard” for colorectal cancer screening and prevention, but it is also the most expensive and invasive. The test is recommended every 10 years, beginning at age 50 for most people. Colonoscopy requires a full bowel purge, which is accomplished by modifying the diet and drinking a non-absorbable solution the day before the procedure that flushes the colon. Patients are given pain medication and a sedative prior to the colonoscopy procedure.

Many of my patients feel that bowel preparation is the worst part of the colonoscopy. However, good preparation is essential for the doctor to fully examine the colon and rectum and to allow polyps to be painlessly removed from the intestinal wall.

Bowel preps come in two basic forms: (1) non-absorbable liquids that flush out the colon and (2) osmotic medications that work by causing the bowel to secrete large amounts of fluid. Osmotic medications can cause dehydration, which can worsen pre-existing kidney conditions. Fleet’s Phosphosoda, a prep used for decades, was recently pulled off the market for this reason; several other medications, including Visicol and OsmoPrep, are now required to have black-box warnings on their package inserts because of this very low, but real risk.

Our practice, Minnesota Gastroenterology, has recently begun using Miralax (an over-the-counter laxative) mixed with a sports drink the day before the procedure, followed by a...
bottle of magnesium citrate the morning of the exam.

Several newer ways to screen for colorectal cancer have made the list of options recommended by the ACS consortium. However, they are not acknowledged by the USPSTF. These include computed-tomography (CT) colonography and DNA-based fecal screening.

With **CT colonography**, patients still must complete a full bowel purge. During the procedure, a catheter is inserted into the rectum to inflate the colon with carbon dioxide. X-rays are then taken and special software is used to try to identify polyps. Because polyps cannot be removed during CT colonography, patients with large polyps must be sent for a colonoscopy. A large study published recently in the New England Journal of Medicine found that CT colonography misses 10 percent of cancers and large polyps. In addition, it is not covered by most insurance companies and is not widely available.

**DNA-based fecal screening** looks for abnormal genetic material in the stool. Currently, DNA tests are not readily available, testing is very expensive, and the benefits compared with FOBT screening are not yet that impressive.

**Flat polyps and other studies**

There was much concern generated by the press last year after the Journal of the American Medical Association published a paper about flat polyps. The authors of this Veterans’ Administration study sprayed dye in the colon to help identify non-protruding polyps and found a startling number of flat polyps. However, this study has been widely criticized, since the majority of the polyps found during the study were visible without dye. Experience with this technique at Minnesota Gastroenterology has not shown it to have any added benefit for average-risk screening colonoscopies.

Media attention also has resulted from a recent Canadian study that reported a high number of deaths from colorectal cancer among people who had undergone a colonoscopy in the three years prior to diagnosis. In this analysis, published in the Annals of Internal Medicine, the reduction in colorectal cancer attributed to screening colonoscopy was only 60 percent to 70 percent, rather than the 90 percent prevention rate usually quoted. What the mainstream media did not report was that approximately 70 percent of the individuals participating in the study did not have a complete colonoscopy. Moreover, over 30 percent of the procedures were performed by providers other than trained gastroenterologists or surgeons.

Research in recent years has shown that the amount of time the endoscopist spends viewing the colon is directly related to the number of polyps that are found. The quality of bowel preparation and the skill and experience of the doctor are also very important factors. Studies have shown that doctors must conduct 150 colonoscopies under the mentoring of an experienced endoscopist before they can reliably do a good job. The fact that doctors can attend a weekend training program and start offering the procedure the following week is a concern.

**Get screened!**

Colorectal cancer is one of only a few cancers that can be prevented by regular screening. As co-chair of the Minnesota Colorectal Cancer Task Force, I hear many reasons why people do not get screened. Fear, embarrassment, the “ick” factor, not being told by their physician to have it done, and “I just never got around to it” are all common. Not getting screened for colorectal cancer is like not wearing your seatbelt. Get around to it!

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