
Preventing Colorectal Cancer: The Role of PCPs in Counseling and Screening

by Rosalyn Baxter-Jones, MD, MBA

Approximately 67,000 women are diagnosed with colorectal cancer each year. Annual screening is a simple, effective method for reducing the incidence and mortality of the disease, but screening is still drastically underutilized. The following article provides up-to-date information on screening and counseling women at average or higher risk for colorectal cancer.

Although colorectal cancer is the most preventable form of cancer, data from the Centers for Disease Control and Prevention suggest only 21% of average-risk people in the United States are adequately screened for colorectal cancer using a triple-slide, take-home fecal occult blood test (FOBT).¹ In a recent survey of Ob/Gyns, 86% identified themselves as the primary care physician (PCP) for their patients.² Along with other PCPs, Ob/Gyns are in a crucial position to dramatically reduce both the incidence and mortality of colorectal cancer by recommending and performing annual screening. However, in order to take advantage of this unique position as a first line of defense, PCPs need up-to-date information and a desire to educate and motivate their patients to be tested.

To gain a perspective on the significance of the health risk posed by this disease, it is important to note that colorectal cancer is more common in women than uterine, ovarian, and cervical cancer. It affects 1 in 18 women over their lifetime and is the third-leading cause of cancer death among women in the United States. Approximately 67,000 women are diagnosed with the disease each year, and

more than 28,600 women will die from it this year alone.

Colorectal cancer can take years to develop. However, if detected early, 90% of these cancers can be treated successfully. Most cancers of the colon and rectum develop from adenomatous polyps—the grape-like growths that form on the inner lining of the colon and rectum. As the cancer grows and invades surrounding tissues, it destroys the underlying adenoma from which it arose—in effect, masking its origins. Since a long time can elapse between the appearance of polyps and their progression to cancer (the 10-year “polyp dwell time”), there is a window of opportunity for effective screening.^{3,4} This window of opportunity, which makes early and successful intervention possible, is not available with any other cancer, and it is imperative that healthcare providers make full and frequent use of it. Unfortunately, only 37% of colorectal cancers are detected early. National Health Interview Surveys have consistently shown screening rates for colorectal cancer to be well below those for mammography. Patients frequently report that their physician did not recommend colorectal cancer screening.

Risk Factors

The risk of colorectal cancer varies among individuals. Consequently, for screening purposes, it is convenient to categorize people as either (1) *average risk*, which includes individuals who are 50 years of age or older, are asymptomatic, and have no other risk factors for colorectal cancer, or (2) *increased risk*. Individuals at increased risk are those with the following risk factors: close relatives (brothers, sisters, mother, father) who have had either colorectal cancer or an adenomatous polyp; family history of familial adenomatous polyposis; family history of hereditary nonpolyposis colorectal cancer; personal history of adenomatous polyps; personal history of colorectal cancer; or personal history of inflammatory bowel disease (IBD).⁴ Individuals who already exhibit symptoms suggestive of the presence of colorectal cancer would not be included in either of these categories and require an appropriate diagnostic evaluation.

Other factors that may increase the risk of colorectal cancer include lack of regular physical activity, obesity, a diet high in fat and low in fiber, tobacco use, and excessive alcohol consumption. Screening guidelines for people at in-

creased risk vary depending upon the type of risk factors.

Screening Guidelines: Average Risk

For individuals at average risk of colorectal cancer who are 50 years of age or older (asymptomatic with no other colorectal cancer risk factors), the following screening guidelines are recommended:

- Colonoscopy every 10 years. This invasive test permits visualization of the entire colon, detection and removal of polyps, and biopsy of cancers. It has not been assessed in randomized clinical trials for its effect on colorectal cancer mortality.^{4,5}
- Triple-slide FOBT every year. This noninvasive, take-home test utilizes cards for collecting fecal samples; tests containing stool samples are mailed or delivered to the physician or laboratory. Randomized clinical trials show that yearly testing is more effective than testing every two years.^{4,5}
- Flexible sigmoidoscopy every 5 years. Sigmoidoscopy is an invasive test that is highly sensitive and specific for lesions within reach of the instrument, but it cannot detect polyps and lesions located in the upper two-thirds of the colon. It has not been assessed in randomized clinical trials for its effect on colorectal cancer mortality.^{4,5}
- Combined annual FOBT and flexible sigmoidoscopy every 5 years. This combined screening method may correct some of the limitations of either method used alone. The American Cancer Society prefers this method to either test alone.⁴
- Barium enema every 5 years. A double-contrast barium enema utilizes x-rays to visualize the gastrointestinal tract. This invasive test has not been assessed in randomized clinical trials for its effect on colorectal cancer mortality.⁴

Screening Guidelines: Increased Risk

For individuals who have multiple first-degree relatives with colorectal cancer or a single first-degree relative with cancer diagnosed at younger than 60 years of age,

the following screening guidelines are recommended:

- Consider beginning screening at age 40 (or 10 years younger than the age at diagnosis of the youngest affected first-degree relative), whichever is earlier.
- Colonoscopy every 3 to 5 years.
- Flexible sigmoidoscopy every 5 years.
- FOBT every year.

The Physician's Role in Prevention

The issue of screening clearly has an impact on providers as well as on patients. The most frequent causes of litigation involving healthcare professionals are failure to screen, failure to diagnose, and deviation from the standard of care.³

The attitudes and beliefs of patients also contribute to the low rate of colorectal cancer screening. In addition to a lack of knowledge about colorectal cancer and how it can be prevented, many women are reluctant to discuss colon cancer and its symptoms with their PCP. Some women simply may be embarrassed by the topic, while others do not believe they are at risk for the disease. In other cases, women prefer not to know, thinking that once diagnosed, nothing can be done to treat the disease. It is not surprising, therefore, that the recent survey of 1,000 Ob/Gyns revealed that fewer than 50% of their patients requested screening for colorectal cancer.² In the face of these attitudes and assumptions, it is important for Ob/Gyns to educate patients about this disease and its risk factors, while encouraging them to undergo annual screening. By doing so, physicians can improve the prospects of detecting colorectal cancer at an early stage and facilitate timely treatment.

Fortunately, many Ob/Gyns are responding to the diagnostic challenge of colorectal cancer by screening and presenting vital information about this cancer and its risk factors to their patients. In two recent surveys of Ob/Gyns,^{2,6} 92% of respondents reported feeling a responsibility to screen average-risk female patients for colorectal cancer. Furthermore, while 85% of Ob/Gyns surveyed

Ob/Gyns Want to Help²

- "I didn't do it [colorectal cancer screening] at first because I felt it would chase patients away. I recently started screening, and in the process, I picked up six cancers."
- "Colorectal cancer is a silent killer, and the cure rate is great if caught in enough time to provide good treatment."
- "We [gynecologists] are the only physicians they see on a yearly basis."
- "I discuss why we're doing triple-slide [tests], and I give them instructions on triple-slide, take-home FOBTs."

indicated they knew and followed the colorectal cancer screening guidelines issued by the American Cancer Society, 22% said they felt they were not performing enough patient counseling regarding colorectal cancer. These physicians expressed a desire to obtain educational materials to assist in informing and motivating patients to accept proper FOBT screening.

The following findings were less encouraging: 43% of Ob/Gyns surveyed believed that a single-slide, in-office FOBT and a digital rectal examination (DRE) are as accurate as a triple-slide, take-home test; furthermore, 64% of Ob/Gyns surveyed prefer to use an in-office FOBT with a DRE to screen patients instead of a triple-slide, take-home FOBT. This is an alarming statistic, because an FOBT performed at the time of a DRE has not been shown to be effective and is not a recommended screening approach for colorectal cancer.⁷

Since most cancers of the colon and rectum develop from adenomatous polyps, and since some large polyps may bleed, a guaiac-based test for the peroxidase activity of hemoglobin may be a good indicator of the presence of blood in the stool and, consequently, the presence of polyps. Again, a single-specimen FOBT

obtained by DRE has questionable value and is not a substitute for a triple-slide, take-home FOBT, which has two advantages: It uses samples from different areas of the same stool sample and uses multiple samples obtained over a 3-day period.⁴ Therefore, the following organizations recommend an annual triple-slide, take-home FOBT instead of a single-slide, in-office FOBT with DRE: the Gastrointestinal Consortium,⁴ the American College of Gastroenterology,⁸ the American Cancer Society,⁹ and the U.S. Preventive Services Task Force.¹⁰

Once an FOBT has indicated the possible presence of blood in the stool, a complete diagnostic evaluation of the colon, primarily with a colonoscopy, is recommended. Most polyps identified during the colonoscopy can be removed during the procedure by polypectomy. In this way, prevention is achieved before symptoms even occur. Taken together, this sequence of actions constitutes one of

Table.
Advantages of the Triple-Slide FOBT.

- Noninvasive
- Simple, convenient patient preparation
- Prepared in the privacy of the home
- Clinically validated as a first-line protocol
- Proven history of use for 30 years
- Widely available
- Proven clinical sensitivity and specificity

the most powerful prevention strategies available.^{3,11} The result is a reduction in both the incidence and mortality of colorectal cancer.

Effectiveness of Triple-Slide FOBTs

The advantages of triple-slide, take-home FOBT screening are listed in the Table. The effectiveness of annual screening using this method has been demonstrated in numerous clinical trials involving hundreds of thousands of participants worldwide over the past 30 years. Among these

are randomized, controlled trials that establish the effectiveness of this test in reducing both the incidence and mortality of colorectal cancer. For example, in an 18-year, randomized, controlled trial of 46,551 participants, screening with a triple-slide, take-home FOBT reduced colorectal cancer mortality by at least 33%.^{12,13} Furthermore, the same trial also found a 20% reduction in colorectal cancer incidence, which was attributed to the removal during colonoscopy of premalignant adenomatous polyps found on a triple-slide FOBT.¹⁴

Population-based screening programs also have demonstrated the effectiveness of FOBT screening. In a 5-year, population-based screening program of 21,978 patients, screening with the Hemoccult II® SENSEA® triple-slide, take-home FOBT achieved a high detection rate and a shift in tumor stage toward smaller tumors.¹⁵ According to the authors of this study, the triple-slide, take-

home FOBT “offers high sensitivity and specificity in the form of a noninvasive, home-performed, low-cost technology.”

A reduction in colorectal cancer mortality by means of triple-slide, take-home FOBT screening also has been established in randomized, controlled clinical trials in which the FOBT was administered every 2 years, although there was less of a reduction in mortality than with annual administration. In a 10-year trial with 152,850 participants, biennial screening with the Hemoccult® FOBT reduced colorectal cancer mortality by 15%.¹⁶ In another 10-year trial involving 137,485 participants, biennial screening with the same FOBT reduced colorectal cancer mortality by 18%.¹⁷

Proper Administration of Triple-Slide FOBTs

The triple-slide, take-home FOBT consists of two main components: (1) the three test slides (or cards) containing guaiac paper, used by the patient to collect stool samples on three different days, and (2) the developing solution (used at the laboratory), which contains a stabilized mixture of hydrogen peroxide, denatured ethyl alcohol, and an enhancer, in an aqueous solution.

Preparation of slides by patients. Each slide (card) has two small boxes. After collecting the sample as instructed in the test kit, the patient applies a thin smear of stool from two different locations of the stool to each of the two small boxes. After the test card flap is closed, the slide is stored in a location free from heat, light, and chemicals (no refrigeration or moisture-proof enclosures, such as plastic bags, are used) until all three slides have been used and air-dried overnight. The patient then mails or delivers the slides to the physician or laboratory, using an approved mailing pouch.

Physicians should instruct patients to not collect stool samples if blood is visible in the stool or urine, to avoid contact between the stool sample and toilet bowl water, and to return the slides no later than 14 days after collecting the first stool sample.

The following drug and diet guidelines also apply: For 7 days before and during stool collection, avoid NSAIDs (except acetaminophen). For 3 days before and during stool collection, avoid vitamin C in excess of 250 mg/day from supplements, citrus fruits, and juices; avoid red meats (beef, lamb, liver); and eat a well-balanced diet including fiber.

Development of slides. The laboratory technician (or physician) applies developer directly to the two smears on each of the three slides. The developed slides are interpreted within 60 seconds. Any trace of blue on or at the edge of any smear is positive for occult blood. As a quality-control measure, the Performance Monitor® areas also must be developed on every card.

As a follow-up measure for abnormal FOBT screening results from average-risk people (i.e., a positive test on any sample), physicians should recommend an accurate examination of the entire colon and rectum by colonoscopy.^{4,5}

Conclusions

Ob/Gyns and other PCPs who provide healthcare to women through menopause and beyond have a significant opportunity to reduce both the incidence and mortality of colorectal cancer by discussing it openly with their patients and recommending annual screening. Fortunately, colorectal cancer is the most preventable type of cancer, but physicians must take advantage of the resources available to them—both by educating their patients and by recommending annual triple-slide, take-home FOBT screening instead of relying upon DREs and in-office, single-slide FOBTs. By taking an active role as leaders in the fight against colorectal cancer, Ob/Gyns and other PCPs will be in a better position to achieve optimum health outcomes for their patients and dislodge colorectal cancer from its current standing as the third-leading cause of cancer death among women. ■

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