

# Spotlight on Health

## Colorectal Cancer Screening

Colorectal cancer (CRC) is the third most common cancer and the second leading cause of cancer death.<sup>1</sup> However, effective screening methods make it one of the most preventable cancers. Nine of every 10 people whose CRC is found early and treated appropriately are still alive 5 years later.<sup>2</sup> But not enough people who meet screening criteria are getting screened. In 2014, about 65% of adults in the United States were up-to-date with CRC screening; 7% had been screened but were not up-to-date; and 27% had never been screened.<sup>2</sup>

This newsletter will review CRC, discuss current screening recommendations, and describe an effective and convenient screening method that patients can perform in the privacy of their homes.

### How Colorectal Cancer Develops and Who Is at Risk

Most CRCs begin as adenomatous polyps that progressively enlarge, become dysplastic, and eventually become malignant.<sup>3</sup> This process can take 10 or more years.<sup>3</sup> The majority of colon cancers are sporadic (70%); 20% present as familial clustering, and 10% present as inherited syndromes.<sup>4</sup>

The most important risk factor for CRC is age: approximately 90% of CRC occurs in persons 50 years of age or older.<sup>1</sup> Individuals with a first-degree relative with CRC have an approximately 2-fold greater risk than the average risk population.<sup>5</sup> Other risk factors include excessive alcohol consumption, smoking, lack of exercise, being overweight or obese, and a diet high in fat and cholesterol and low in fiber.<sup>3</sup>

### The Effectiveness of Screening

Screening programs for CRC can help reduce the incidence of CRC and death from the disease, because most early-stage cancers are curable (Sidebar 1).<sup>6</sup> Compared with no endoscopic screening, a screening colonoscopy is associated with a 67% reduction in the risk of death from CRC.<sup>8</sup> The effectiveness of screening is in large part due to the slow progression from formation of a polyp to malignant transformation.

### When Screening Should Begin

The United States Preventive Services Task Force (USPSTF) recommends that all men and women 50 to 75 years old have regular CRC screening.<sup>9</sup> Since African Americans have the highest incidence and mortality rates compared to other races,<sup>9</sup> screening is recommended beginning at age 45.<sup>10</sup> Persons at higher risk for CRC should begin screening earlier. For example, patients with a first-degree family member (mother, father, brother, sister) who has had CRC should have a first screening colonoscopy at an age 10 years younger than when the relative was diagnosed. Screening guidelines differ for individuals with inherited syndromes and familial clustering.<sup>10</sup> After 75 years of age, frequency is determined by a person's general health.

### Options for Screening<sup>9</sup>

Several options are available for CRC screening. Some, such as colonoscopy, allow direct visualization of lesions in the colon. The basis of stool-based testing is that polyps can bleed as they grow, and occult blood can be detected in the stool. The recommended screening frequencies below are for a person without any risk factors. They may be different for persons with an increased risk.



### Colorectal Cancer Survival Rates by Disease Stage<sup>7</sup>

Stage	Percent of Cases	5-Year Relative Survival (%)
Localized: confined to primary site	39	89.9
Regional: spread to regional lymph nodes	35	71.3
Distant: Metastasis to distant sites	21	13.9
Unstaged	4	35.4

### Direct visualization tests<sup>9</sup>

- Colonoscopy every 10 years
- Flexible sigmoidoscopy every 5 years
- Flexible sigmoidoscopy every 10 years plus fecal immunochemical test (FIT) every year
- Computed tomography (CT) colonography every 5 years

The USPSTF notes that the availability of flexible sigmoidoscopy has decreased in the United States in favor of colonoscopy, and that there is insufficient evidence about the potential harms of extracolonic findings with CT colonography.

### Stool-based tests<sup>9</sup>

- Guaiac fecal occult blood test (gFOBT) performed every year
- FIT performed every year
- FIT-DNA performed every 1 or 3 years (suggested by manufacturer)

The USPSTF notes that FITs exhibit better accuracy than gFOBT, can be performed on a single specimen, and generate results that are not affected by diet. They also note that FIT-DNA specificity is lower than FIT, resulting in more false-positive results, diagnostic colonoscopies, and adverse events per screening test.

A positive stool-based test should be followed up with colonoscopy.

### How Healthcare Providers Can Help Improve Screening Rates

Patients may not get screened because they don't understand how important screening is to reducing the chance of getting CRC. Another reason is that patients may not know when screening should begin. Patients may also be fearful of having a colonoscopy, or have an aversion to handling stool. Healthcare providers can help improve screening rates by starting the conversation, explaining the gFOBT and FIT methods, and recommending an appropriate screening method based on risk and patient preference. They can also address any fears a patient may have about CRC screening.<sup>2</sup>

### How the Laboratory Can Help

Quest Diagnostics offers the InSure ONE<sup>®</sup> test (test code 11290). The test only requires that a patient brush the surface of the stool in the toilet with the supplied brush after a bowel movement. The patient then dabs the brush on the test card and then mails the card to the lab. If patients decline any of the recommended screening tests (colonoscopy or stool test), Quest Diagnostics offers the ColoVantage<sup>®</sup> (methylated Septin 9) test (test code 16983). This is a blood test that detects DNA released into the blood from cells that are becoming malignant.<sup>10</sup>

#### QuestDiagnostics.com

Quest Diagnostics Incorporated and its subsidiaries (Quest) complies with applicable federal civil rights laws and does not discriminate on the basis of race, color, national origin, age, disability, or sex. ATTENTION: If you speak **English**, language assistance services, free of charge, are available to you. Call 1.844.698.1022. ATENCIÓN: Si habla **español (Spanish)**, tiene a su disposición servicios gratuitos de asistencia lingüística. Llame al 1.844.698.1022. 注意：如果您使用繁體中文 (Chinese)，您可以免費獲得語言援助服務。請致電 1.844.698.1022。

Quest, Quest Diagnostics, any associated logos, and all associated Quest Diagnostics registered or unregistered trademarks are the property of Quest Diagnostics. All third-party marks—<sup>®</sup> and <sup>™</sup>—are the property of their respective owners. ©2018 Quest Diagnostics Incorporated. All rights reserved. SH7504 3/2018

### References

1. Cancer facts and figures, 2017. American Cancer Society website. <https://www.cancer.org/research/cancer-facts-statistics/all-cancer-facts-figures/cancer-facts-figures-2017.html>. Accessed January 10, 2018.
2. Centers for Disease Control and Prevention. Vital signs: colorectal cancer screening test use—United States, 2012. *MMWR Morb Mortal Wkly Rep.* 2013;62:881-888. [https://www.cdc.gov/mmwr/preview/mmwrhtml/mm6244a4.htm?s\\_cid=mm6244a4\\_w](https://www.cdc.gov/mmwr/preview/mmwrhtml/mm6244a4.htm?s_cid=mm6244a4_w). Accessed January 10, 2018.
3. Hadjipetrou A, Anyfantakis D, Galanakis CG, et al. Colorectal cancer, screening and primary care: A mini literature review. *World J Gastroenterol.* 2017;23:6049-6058.
4. Recio-Boiles A, Cagir B. Cancer, Colon. *StatPearls [Internet]*. Treasure Island (FL): StatPearls Publishing; 2017-2017 Dec 18. <https://www.ncbi.nlm.nih.gov/books/NBK470380/>. Accessed January 10, 2018.
5. Wilschut JA, Steyerberg EW, van Leerdam ME, et al. How much colonoscopy screening should be recommended to individuals with various degrees of family history of colorectal cancer? *Cancer.* 2011; 117:4166-4174.
6. Brenner H, Stock C, Hoffmeister M. Colorectal cancer screening: the time to act is now. *BMC Med.* 2015;13:262. doi: 10.1186/s12916-015-0498-x
7. Cancer stat facts: colorectal cancer. National Cancer Center Surveillance, Epidemiology, and End Results Program website. <https://seer.cancer.gov/statfacts/html/colorect.html>. Accessed January 10, 2018.
8. Doubeni CA, Corley DA, Quinn VP, et al. Effectiveness of screening colonoscopy in reducing the risk of death from right and left colon cancer: a large community-based study. *Gut.* 2018; 67:291-298.
9. US Preventive Services Task Force, Bibbins-Domingo K, Grossman DC, et al. Screening for colorectal cancer: US Preventive Services Task Force recommendation statement. *JAMA.* 2016;315:2564-2575.
10. Rex DK, Boland CR, Dominitz JA, et al. Colorectal Cancer Screening: Recommendations for Physicians and Patients From the U.S. Multi-Society Task Force on Colorectal Cancer. *Gastroenterology.* 2017;153:307-323.