

Hybrid screening strategy emerges for colorectal cancer

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A strategy that combines two effective colorectal cancer screening methods, fecal immunological test and colonoscopy, may improve prevention and detection of colorectal cancer and reduce costs, according to a new study in *Clinical Gastroenterology and Hepatology (CGH)*, the official clinical practice journal of the American Gastroenterological Association.

The study used a [simulation model](#) to test a hybrid screening strategy consisting of annual or biennial fecal immunological test at younger ages (50 to 65 years of age), combined with a single colonoscopy when the patient is 66 years old. This approach led to substantial reductions in colorectal [cancer incidence](#) and mortality, comparable to those of the currently recommended strategies, and reductions in costs. Adherence to colonoscopy at age 66 is critical to maintain the effectiveness of this hybrid screening program.

"Although colonoscopy is recognized as the most comprehensive colorectal examination, its role in screening is viewed very differently across health-care systems. Fecal immunochemical tests are emerging as the tests of choice in many population-based [colorectal cancer screening](#) programs," said Uri Ladabaum, MD, MS, study author from the Division of Gastroenterology and Hepatology at Stanford University School of Medicine. "This modeling study suggests that a hybrid screening approach of fecal immunological test at younger ages and then a well-timed single colonoscopy in the mid-sixties offers the potential to deliver health benefits that are similar to those of the current screening strategies with lower resources demand."

Colorectal cancer is the second leading cause of cancer deaths among men and women in the U.S., according to the Centers for Disease Control and Prevention. This form of cancer is largely preventable through proper screening. The AGA, in conjunction with U.S. Multi-Society Task Force

on Colorectal Cancer, the American Cancer Society and the American College of Radiology, has developed guidelines for [colorectal cancer screening](#). The guidelines identify colonoscopy and fecal immunological test as two of several possible screening strategies, beginning at age 50 for all average risk people. The guidelines place an emphasis on screening tests that can detect premalignant lesions (e.g. colonoscopy), as opposed to primarily early-stage cancer (e.g. guaiac-based fecal occult blood tests).

The current U.S. Preventive Services Task Force guidelines¹ call for regular screening of both men and women for colorectal [cancer](#), starting at age 50 years and continuing until age 75 years, by regimens including: annual high-sensitivity fecal immunological test; flexible sigmoidoscopy every five years (possibly combined with high-sensitivity fecal immunological test every three years); or screening colonoscopy at intervals of 10 years.

Researchers of this study conducted a simulation trial with virtual patients to compare several different screening strategies combining fecal immunological test, flexible sigmoidoscopy and colonoscopy, against the currently recommended regimens. They used the Archimedes model, which simulates human physiology, diseases, interventions and health-care systems on a large scale.

"Uptake of screening, and adherence over time, are key determinants of the effectiveness of [screening](#)," added Dr. Ladabaum. "Hybrid strategies might have the advantage of requiring adherence with yearly or biennial testing for a limited number of cycles, and then with a single well-timed colonoscopy. Whether adherence with such a program is better than with fecal immunological test over longer periods, or with several colonoscopies through the years, is a question worthy of further research."

Large-scale clinical studies are needed to test the findings of this simulation.

More information: ¹ U.S. Preventive Services Task Force. Recommendations for adults: cancer. Rockville, MD: U.S. Preventive Services Task Force; 2011. Accessed Aug. 21, 2013. Available at www.uspreventiveservicestaskforce.org/adultrec.htm.

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