

# New test measures DNA methylation levels to predict colon cancer

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An investigational DNA methylation test could alter the screening landscape for colorectal cancer, according to data presented at the American Association for Cancer Research special conference on Colorectal Cancer: Biology to Therapy, held here Oct. 27-30, 2010.

Colorectal [cancer](#) is the third leading cause of cancer, and the second leading cause of [cancer mortality](#). While celebrities continue to undergo public [colonoscopies](#) in an effort to increase awareness, only 60 percent of adults age 50 and older have undergone recommended screening, according to the Centers for Disease Control and Prevention.

David Ahlquist, M.D., professor of medicine and a consultant in gastroenterology at the Mayo Clinic in Rochester, said much of that low rate may be due to inconveniences associated with conventional approaches.

"There is definitely an incentive and legitimate justification to be designing a screening approach that is user friendly, affordable and has the ability to detect pre-cancers," said Ahlquist. "The noninvasive stool DNA test we have developed is simple for patients, involves no diet or medication restriction, no unpleasant bowel preparation, and no lost work time, as it can be done from home. Positive tests results would be followed up with colonoscopy."

The test that Ahlquist and colleagues evaluated is under development by Exact Sciences, a molecular diagnostics company in Wisconsin.

The test, which is not yet approved by the FDA, is conducted using a stool sample and works by detecting tumor-specific DNA alterations in cells that are shed into the stool from pre-cancerous or cancerous lesions.

In this first clinical validation study presented at the AACR conference, which included 1,100 patients, the researchers detected 64 percent of precancerous adenomas greater than 1 cm and 85 percent of cancers. Polyps over 1 cm are considered the most likely to progress. Furthermore, cancers and precancerous adenomas were detected equally well on both sides of the colon.

Colorectal cancer rate detection was 87 percent for cancers considered to be in the most curable stage (stage I-III) and 69 percent for the most advanced stage (stage IV).

Further clinical trials are planned for next year, according to Exact Sciences.

Provided by American Association for Cancer Research

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