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After Negative Colonoscopy, Rescreening with Other Tests May Be Effective

According to a new modeling study, people who have a [colonoscopy](#) that finds no precancerous [polyps](#) (a negative colonoscopy) at age 50 can be rescreened beginning at age 60 with one of three alternative methods rather than having colonoscopies every 10 years, without affecting their life expectancy. Rescreening with one of the alternative methods—highly sensitive [fecal occult blood testing](#) (HSFOBT), [fecal immunochemical testing](#) (FIT), or [computed tomographic colonography](#) (CTC or "virtual colonoscopy")—would also cause fewer complications and cost less.

These [results](#), from the NCI-funded [Cancer Intervention and Surveillance Modeling Network](#) (CISNET) team from the University of Minnesota School of Public Health and their colleagues, were published November 6 in the *Annals of Internal Medicine*.

Most current guidelines recommend rescreening with colonoscopy 10 years after an initial [negative](#) colonoscopy. However, these recommendations are not based on results from randomized trials. "There are ongoing trials of colonoscopy, but none of them have reported results yet," said lead author Dr. Amy Knudsen.

The researchers used a model called [SimCRC](#), which was used to inform the 2008 update of the United States Preventive Services Task Force [guidelines on colorectal cancer screening](#). Dr. Knudsen and her colleagues used the model to simulate five different rescreening strategies: no further screening, colonoscopy every 10 years, HSFOBT every year, FIT every year, or CTC every 5 years.

Two adherence scenarios were evaluated: one in which people received the tests as scheduled (perfect adherence) and one that mimicked real-life adherence, as recorded in several published studies (imperfect adherence).

The results were the same in both scenarios: all four rescreening methods reduced the number of deaths from colorectal cancer compared with no rescreening, and the difference among the four methods was small. For example, the imperfect-adherence scenario yielded between 6.1 and 6.7 deaths per 1,000 persons for all four screening methods. (See the table.)

Rescreening with colonoscopy not only produced the highest rates of perforation (tears in the colon) and other complications, but it was the most expensive strategy. Rescreening with one of the other three screening methods produced lifetime savings of up to \$495 per person, compared with imperfect adherence with colonoscopy. (See the table.) At a population level, these savings could add up to nearly \$3 billion for HSFOBT or FIT, and \$0.6 billion for CTC, over the lifetimes of the estimated 6.5 million people who had negative colonoscopy results in 2008.

"Models can be helpful to inform [population] guidelines overall. On an individual level, decisions should be made in consultation with one's doctor," concluded Dr. Knudsen.

Screening Methods Compared (Imperfect Adherence)

| Screening Method | Deaths per 1,000 People | Estimated Lifetime Savings Per Person, Compared with Colonoscopy |
|--|--------------------------------|---|
| Colonoscopy | 6.4 | n/a |
| Fecal immunochemical testing | 6.4 | \$450 |
| Computed tomographic colonography | 6.1 | \$91 |
| Highly sensitive fecal occult blood test | 6.7 | \$495 |

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