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NEWS

# RSNA Press Release

## Virtual Colonoscopy Effective Screening Tool for Adults over 65

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### At A Glance

- CT colonography, or virtual colonoscopy, is effective in screening older adults for colorectal cancer.
- CT colonography requires no sedation and has a shorter recovery time than optical colonoscopy.
- The American Cancer Society estimates that only half of the U.S. population over the age 50 is being screening as recommended for the disease.

OAK BROOK, Ill. — Computed tomography (CT) colonography can be used as a primary screening tool for colorectal cancer in adults over the age of 65, according to a new study published online in the journal *Radiology*.

Some previous medical studies have found no significant difference in the diagnostic accuracy of CT colonography, also known as "virtual colonoscopy," and traditional optical colonoscopy. This study looks at whether both exams are as effective for adults over 65 as they are for adults between 50 and 65 years of age.

In the study, C. Daniel Johnson, M.D., professor and chair of radiology at Mayo Clinic in Scottsdale, Ariz., and a team of researchers conducted a follow-up analysis of data from the National CT Colonography Trial, in which 2,600 patients over the age of 50 underwent both virtual and optical colonoscopies at 15 centers around the country.

Dr. Johnson's team analyzed trial data from 477 patients over the age of 65 and 2,054 patients between the ages of 50 and 65 who were screened with the two procedures for clinically significant pre-cancerous growths called polyps. Patients in the study were comprised of both men and women at predominantly an average risk for colorectal cancer.

*C. Daniel Johnson, M.D.*

Cancerous lesions 1 centimeter or larger were found in 6.9 percent of patients in the 65 and older group and in 3.7 percent of the younger patients.

There was no significant difference in the accuracy of CT colonography for the detection of large and intermediate-sized cancers in the older participants compared to the younger participants. Sensitivity and specificity among the older and younger groups were 0.82 and


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0.83 and 0.92 and 0.86, respectively.

"We found no statistical difference in the diagnostic performance between the two patient groups," Dr. Johnson said. "This is good information for patients of any age, as they can consider CT colonography as a valid option for colorectal cancer screening."

Colorectal cancer is the third most commonly diagnosed cancer in both men and women and the third leading cause of cancer deaths in the U.S. According to the American Cancer Society (ACS), a decline in colorectal cancer incidence rates over the last two decades is largely attributable to screening tests that allow polyps to be removed before they progress to cancer.

"I don't believe there is any screening test that can intervene as early in the biology of the tumor as colorectal cancer screening," Dr. Johnson said. "We have the opportunity to detect pre-malignant polyps, remove them and prevent an entire class of cancers."

Despite the effectiveness of colorectal cancer screening, the ACS estimates that only half of the U.S. population over the age 50 is being screened as recommended for the disease. Experts point to cost and a lack of access to health care as contributing factors.

Although both optical and virtual colonoscopy procedures typically require the use of laxatives to empty the colon prior to the test, there are major differences between the two exams.

In the traditional colonoscopy, an optical instrument called a colonoscope allows a physician to visually examine the colon and to remove polyps by passing a wire loop through the scope. In this procedure, the risk of perforating the bowel is higher and sedation is required.

"For the older patient, the risks of and recovery from sedation are issues," Dr. Johnson said.

Introduced in the 1990s, CT colonography produces cross-sectional, three-dimensional images of the entire colon and rectum. While the CTC exam itself is quicker to perform and about half the cost of the optical colonoscopy, it involves exposure to low doses of radiation and it must be repeated more often. When polyps 6 millimeters or larger are detected by CT colonography, the patient must undergo an optical colonoscopy to have them removed. In addition, incidental CT findings outside the colon might require additional follow-up.

"There isn't a fight between CT colonography and colonoscopy, but there is a fight in medicine against colon cancer," Dr. Johnson said. "We want patients to be screened. CT colonography is a preferred test for some patients and should be an option. Patients should talk to their doctor and choose the best option for them."

# # #

"The National CT Colonography Trial: Assessment of Accuracy in Participants Aged 65 and Older." Collaborating with Dr. Johnson were Benjamin A. Herman, S.M., Mei-Hsiu Chen, Ph.D., Alicia Y. Toledano, Sc.D., Jay P. Heiken, M.D., Abraham H. Dachman, M.D., Mark D. Kuo, M.D., Christine O. Menias, M.D., Bettina Siewert, M.D., Jugesh I. Cheema, M.D., Richard G. Obregon, M.D., Jeff L. Fidler, M.D., Peter Zimmerman, M.D., Karen M. Horton, M.D., Kevin J. Coakley, M.D., Revathy B. Iyer, M.D., Amy K. Hara, M.D., Robert A. Halvorsen Jr, M.D., Giovanna Casola, M.D., Judy Yee, M.D., Meredith Blevins, S.M., Lawrence J. Burgart, M.D., Paul J. Limburg, M.D., M.P.H., and Constantine A. Gatsonis, Ph.D.

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