

# Terms Standardized for CT Colonography Results

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WASHINGTON — As more clinicians practice computed tomographic colonography, they will learn the language in which to report their findings, Dr. Michael Zalis said at a meeting on CT colonography sponsored by the AGA (American Gastroenterological Association) Institute.

“We need to organize our reporting in response to the growth of CTC,” said Dr. Zalis, a radiologist specializing in abdominal imaging and intervention at Massachusetts General Hospital, Boston.

The American Cancer Society and a task force representing several other medical societies have endorsed CTC as a colorectal screening method, which means that Medicare coverage of CTC will likely increase, he added.

There are many benefits to using a standard set of terms to report CTC findings, Dr. Zalis said. Standard language can make patient management easier. For example, as CTC becomes more common, a patient may have an exam performed by one practitioner in one location and a follow-up visit with someone else in another location—even another state.

Common terms not only facilitate comparisons across sites, they also facilitate large-scale analysis of CTC by the government and by insurance carriers, Dr. Zalis noted. But standard CTC reporting terms also help physicians track their personal quality metrics on items such as false-positive rates and call back rates, he said.

The CT Colonography Reporting and Data System (C-RADS) project was a collaborative effort that developed terms and guidelines for CTC with categories for describing colonic and extracolonic findings.

Whether CTC will be regulated in the same way as mammography remains to be seen, but the establishment of C-RADS may prepare clinicians to handle similar regulation if it develops.

“For CT colonography, the target of detection is a precursor to colon cancer, the advanced adenoma, usually defined as a lesion greater than 1 cm in size,” Dr. Zalis said.

“The vast majority of even the inter-

mediate-size lesions that we observe are not the advanced adenomas,” he said. And only about 5% of polyps between 0.6 cm and 1 cm are advanced adenomas, according to findings from large surgical series, he said.

The C-RADS characterization of polyps uses a scale from 0 (inadequate prep) to 4 (colonic mass, likely malignant). For example, a C1 means no visible abnormalities of the colon and no polyps of 6 mm or larger. (See box.)

The C-RADS criteria recommend not reporting diminutive lesions that are less than 6 mm in size.

“Hyperplastic polyps per se are not the target for screening in colorectal carcinoma,” Dr. Zalis said. “We are not being cavalier, but we are going to recognize that the clinical significance of these lesions is very small.”

When a clinician finds intermediate polyps (6-9 mm), the C-RADS criteria recommend reporting the polyps and opting for short-interval surveillance if there are one to two; the criteria recommend considering optical colonoscopy for patients with three or more midsized polyps.

“Polyps grow slowly, and any intermediate polyps tend to be stable and may even regress over time,” Dr. Zalis explained.

Patients with polyps that are 10 mm or larger should be referred for a follow-up colonoscopy, as should patients with three or more polyps in the 6- to 9- mm category, he said.

And a patient with a potentially malignant colonic mass should be sent for a surgical consultation.

The screening interval for optical colonoscopy is 10 years. CTC might approach that at some point, but for now the recommended interval is 5 years, Dr. Zalis said.

“We are early in our experience with CTC and the data aren’t there yet to support a longer interval,” but that interval may increase with more data,” he noted.

Extracolonic findings must be documented and classified in the interest of good patient care, although fewer than 10% of patients will have clinically significant extracolonic findings, Dr. Zalis said. “But the findings will be there, so they have to be handled in an appropriate way.

## Classification of CTC Findings

These 10 categories, provided by Dr. Zalis, represent the C-RADS classification of colonic and extracolonic findings on computed tomographic colonography, with a few examples (but not a comprehensive list) for each category:

### Colonic Findings

► **C0:** Inadequate study/awaiting prior comparisons. Use this category in cases of inadequate prep or insufflation, or when the image can’t be read because of excess fluid or feces.

► **C1:** Normal colon or benign lesion. Use this category for cases of no polyp greater than 6 mm, and continue routine screening.

► **C2:** Indeterminate lesion. Use this category for cases of fewer than three polyps 6-9 mm.

► **C3:** Polyp, possibly advanced adenoma. Use this category for cases of three or more polyps 6-9 mm or any polyp 10 mm or larger; a follow-up colonoscopy is recommended.

► **C4:** Colonic mass, likely malignant. Use this category when a lesion compromises the bowel lumen, or there is

evidence of extracolonic invasion; surgical consultation is recommended.

### Extracolonic Findings

► **E0:** Limited exam. Use this category when an exam is compromised by an artifact so that evaluation of extracolonic soft tissues is limited.

► **E1:** Normal exam or anatomic variant. Use this category when no extracolonic abnormalities are visible, or if there is an anatomic variant such as a retroaortic left renal vein.

► **E2:** Clinically insignificant finding. Use this category when no work-up is indicated, such as for simple cysts or a vertebral hemangioma.

► **E3:** Likely insignificant finding, incompletely characterized, such as a minimally complex renal cyst. Use this category when a work-up may be needed, based on practice and patient preference.

► **E4:** Potentially significant finding. Use this category for a solid renal mass or liposarcoma, and be sure to communicate the details to the referring physician.

“We have to carefully balance the mandate to identify clinically significant findings with the costs of each false positive,” he said. “We don’t want to be causing unnecessary work-ups for obviously benign lesions.”

Although CTC has limitations, an attentive clinician can do a reasonable characterization of extracolonic findings and can reduce the likelihood of extracolonic work-ups and the resulting costs.

The C-RADS classification of extracolonic findings ranges from 0 (technical failure) to 4 (a potentially significant finding, such as a renal mass or liposarcoma. (See box.)

Details of clinically significant findings classified as E4 should be communicated to referring physicians according to accepted practice guidelines, Dr. Zalis said.

There are limitations with C-RADS, and the intent was to come up with a practi-

cal reporting scheme based on the data that were available, Dr. Zalis said.

Surveillance and screening intervals, especially for small polyps, and more advanced decision models will be forthcoming. And additional reporting for CTC may include some sort of confidence indicator, he said.

A confidence indicator would allow an interpreting clinician to communicate a level of confidence to an endoscopist so he or she can decide how hard to look for something before declaring that it is a false positive.

“Of course there will be nuances that we can’t capture on the first round, but we needed to start somewhere, and we expect the criteria will expand with experience,” he added.

Dr. Zalis disclosed that he has received grant and research support from GE Healthcare Inc. ■

# Colonoscopy May Be Overused in Patients at Low Risk

BY ALICIA AULT  
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SAN DIEGO — Physicians may be conducting surveillance colonoscopy too often on low-risk patients and not enough on high-risk patients, according to results of a substudy of the Polyp Prevention Trial presented at the annual Digestive Disease Week.

Dr. Adeyinka Laiyemo, a cancer prevention fellow at the National Cancer Institute, said that colonoscopy resources need to be managed more effectively,

based on the substudy’s findings. He presented data on behalf of his colleagues at NCI and the University of Pittsburgh Cancer Institute.

The Polyp Prevention Trial was a 4-year, multicenter, randomized, controlled trial of a low-fat, high-fiber, fruit and vegetable diet on adenoma recurrence. The diet was not found to be effective. However, when that study ended in 2000, 1,297 subjects agreed to be followed prospectively. The aim was to determine utilization and yield of

surveillance colonoscopy in the community, said Dr. Laiyemo, who briefed reporters.

Most studies of surveillance have been based on physician surveys, generally asking them about hypothetical cases, he said. This study followed the actual use of colonoscopy, as reported by patients and through medical record reviews.

Patients were followed for a mean of 6.2 years. Of the 1,297 patients, 774 (60%) had a repeat colonoscopy during the follow-up period. There were 431 pa-

tients who were considered low risk because they had one or two nonadvanced adenomas at baseline and no adenoma recurrence at the end of the Polyp Prevention Trial. Thirty percent had a repeat colonoscopy within 4 years. This is sooner than recommended, Dr. Laiyemo said.

There were 55 patients who were considered high risk because they had an advanced adenoma and/or three or more nonadvanced adenomas at baseline and at the end of the original study. Only 41% had a surveil-

lance colonoscopy within the recommended 3 years, and 64% had a repeat exam within 5 years.

After examining the yield of these colonoscopies, the researchers determined that only 4% of the lowest risk group had significant lesions at the 6-year mark, compared with 40% of the highest risk group, Dr. Laiyemo said. “This leads us to realize that we need to improve our use of colonoscopy resources,” he said.

Dr. Laiyemo made no conflict-of-interest disclosures. ■