

## Ivy Ventures Alert

# CT Colonography Picking up Steam as a Screening Method for Colorectal Cancer

Last month, a high-profile report in the New England Journal of Medicine ("NEJM") endorsed CT colonography ("CTC") as a primary screening tool for colorectal cancer, which is the second leading cause of cancer death among both men and women in the U.S.<sup>1,2</sup> Up until now, optical colonoscopy has been the primary screening method which involves snaking a long tube with a small video camera through the large intestine. Although effective, optical colonoscopy is invasive, involves sedation and a missed day of work. It is because of these drawbacks that 40% of patients who should be screened for colon cancer aren't screened, contributing to 50,000 deaths from the disease each year in the United States<sup>1,3</sup>. CT colonography represents a significant opportunity to more widely screen for colorectal cancer and capture a brand new source of CT referrals. Ivy wants to develop an individual strategy for you to be the "first mover" to offer superior CT colonography (sometimes referred to as Virtual Colonoscopy "VC") services in your market. Our view is that CT providers with a clear, well developed, and aggressively promoted CTC program will stand to capture a disproportionate share of this attractive new piece of the imaging market. Ivy recommends that development of a high-quality CTC program become a high priority immediately for its imaging clients.

## Opportunity

The NEJM study along with the American Cancer Society's inclusion of CTC as a testing option comparable to traditional colonoscopy were two of the three remaining puzzle pieces required for CT colonography to become a widely used screening technique. The last piece of the puzzle is for the Centers for Medicare and Medicaid Services ("CMS") to determine whether or not to

1

[http://www.ajc.com/services/content/health/stories/2008/09/18/colon\\_cancer\\_x\\_ray.html?cxtype=rss&cxsvc=7&cxcat=9](http://www.ajc.com/services/content/health/stories/2008/09/18/colon_cancer_x_ray.html?cxtype=rss&cxsvc=7&cxcat=9)

Stobbe, Mike (2008-09-18). "Colon X-ray seen as effective at spotting cancer." *The Atlanta Journal-Constitution*.

<sup>2</sup> <http://content.nejm.org/cgi/content/short/359/12/1207>

(2008-09-18) "Accuracy of CT Colonography for Detection of Large Adenomas and Cancers." *New England Journal of Medicine*.

<sup>3</sup> <http://www.cdc.gov/media/pressrel/2008/r080313.htm>

(2008-03-13). "New Study Shows Colorectal Cancer Screening Rates Increasing Among U.S. Adults." Centers for Disease Control and Prevention.



widely cover CTC procedures, a decision many experts believe will have a positive outcome because CT is cheaper, less intrusive, and will persuade more people to get screened for colon cancer. CMS's expected National Coverage Analysis completion date is 2/17/09 and as is the trend, commercial payors will likely follow suit. Currently, Medicare only reimburses for CTC using two Category III CPT codes (0066T and 0067T) for a narrow set of indications (including pre-op cancer staging, patient inability to complete an optical exam, and patients for which an optical colonoscopy is contraindicated) but that could change after the CMS completes its coverage analysis. If CMS approves reimbursement for CTC as an alternative to optical colonoscopy, CT providers across the country will see patients converting to Virtual Colonoscopy and even more people choosing to get screened for the first time.

It should be noted that CTC is a screening, not a treatment, technique and it cannot remove polyps like traditional optical colonoscopy. Opponents of CTC ask why patients should get a CTC procedure if they may need an optical colonoscopy if an abnormality is found. However, the vast majority of patients have a normal colon and only 8% of patients will require an optical colonoscopy after CTC<sup>4</sup>. CTC is also shown to have far fewer complications than optical colonoscopy such as colon perforation or anesthesia complications.

The American Cancer Society guidelines for the screening of colorectal cancer are listed in Table 1 and apply to people over 50 with an average risk of developing colon cancer. People at increased or high risk of colon cancer due to the risk factors listed in Table 2 may need to follow a more intensive screening schedule.

**Table 1: Colorectal Cancer Screening Guidelines for Adults over 50**

- Annual Testing Options that Primarily Find Cancer
  1. Guaiac-based fecal occult blood testing (gFOBT) every year
  2. Fecal immunochemical test (FIT) every year
  3. Stool DNA test (unclear how often this is needed)
- Testing Options Every 5-10 Years to Find Both Polyps and Cancer
  1. Flexible sigmoidoscopy every 5 years
  2. Colonoscopy every 10 years
  3. Double contrast barium enema every 5 years
  4. CT colonography (virtual colonoscopy) every 5 years

<sup>4</sup> <http://www.medscape.com/viewarticle/564041>

Nelson, Roxanne (2007-10-10). "Virtual Colonoscopy May Be Used First in Screening for Colorectal Cancer." *Medscape Medical News*.



**Table 2: Colorectal Cancer Risk Factors Requiring More Intensive Screening**

- History of Colorectal cancer
- History of Colorectal Polyps
- History of inflammatory bowel disease IBD:
- Family history of colorectal cancer
- Genetic Susceptibility (FAP and Lesser Syndrome)
- Ethnic background (Eastern European Jews have highest risk)
- Race (African Americans have highest risk)
- Diet & Obesity
- Smoking and Alcohol
- Diabetes

CTC exams cost approximately \$1,200 while optical colonoscopies cost up to \$3,000 and more if polyps are removed; insurers pay about 40% of that charge<sup>5</sup>. Providers that currently offer CTC as a cash pay option typically charge between \$750-\$1,000 for this procedure. According to the U.S. Census Bureau, 76.8 million Americans are over the age of 50 and should be regularly screened for colorectal cancer. Assuming a conservative average reimbursement of \$400/exam, the potential annual market for CTC procedures is over \$6 billion. Currently over 30 million people (40% of the population over 50) do not follow screening guidelines for colorectal cancer. If healthcare providers can capture even half of the unscreened population with CTC exams, the opportunity is over \$1 billion annually.

Although reimbursement for CTC procedures is not yet widely available, the procedure is generating a lot of buzz in the industry and all signs point towards widespread coverage in the next 6-9 months (see Table 3).

**Table 3: Timeline of CT Colonography Developments**

2001	CT colonography enters the market as a screening technique
2003	Dr. Perry Pickhardt leads a University of Wisconsin clinical trial confirming the efficacy of virtual colonoscopy
2004	Department of Defense Advances in Medical Practice provides grant money to support a clinical trial that ultimately supports CT colonography as a screening method for colorectal cancer
2007	Study conducted by Dr. Pickhardt and published in <i>Cancer</i> finds CTC to be the cheapest and safest way to reduce colon cancer mortality in individuals 50 years and older
Mar. 2008	American Cancer Society adds CT colonography to its list of

<sup>5</sup> <http://www.cnn.com/2007/HEALTH/10/03/virtual.colonoscopy.ap/index.html> (2007-10-03). "X-ray colonoscopy may be more available soon." *CNN*.



	recommended screening methods
Mar. 2008	CMS initiates National Coverage Decision process to evaluate the available evidence for screening CTC and determine if a national coverage determination is warranted
Mar. 2008	American Gastroenterological Association supports new guidelines favoring tests that prevent colorectal cancer, including CTC
Sept. 2008	ACRIN trial results published in the New England Journal of Medicine show CT colonography's accuracy comparable to optical colonoscopy
Feb. 2009	Expected CMS National Coverage Analysis completion

### **Technology and Professional Recommendations**

The American College of Radiology has the following guidelines for the performance of CT colonography, which are outlined in table 4.

**Table 4: ACR Guidelines for CT Colonography<sup>6</sup>**

- CT colonography is optimally performed on a multidetector CT scanner. Slice collimation of  $\leq 3$  mm with a reconstruction interval of  $\leq 1.5$  mm is optimal. The breathhold should not exceed 25 seconds.
- Networking capability should be available to transfer the image data to a workstation with specialized software for CT colonography interpretation.
- Supervising and interpreting physicians should have reviewed at least 50 cases in one or more of the following formats:
  - Formal hands-on interactive training on CT colonography interpretation
  - Supervision with a CT colonography-trained physician(s) acting as a double reader
  - Correlation of CT colonography and endoscopy findings in patients who undergo both procedures
- The quality controls specific to the CT colonography study are:
  - Complete anatomic coverage of the colon and rectum.
  - Adequate colon distention and overall imaging quality. Each segment of the colon should be distended and free of most fluid and stool in at least one position. Suboptimally visualized colon should be scanned again. The use of decubitus views may be helpful in cases of suboptimal distention and excessive fluid.

<sup>6</sup> [http://www.acr.org/EducationCenter/ACRFutureClassroom/ct\\_colonography.aspx](http://www.acr.org/EducationCenter/ACRFutureClassroom/ct_colonography.aspx)

## **Next Steps**

Ivy believes CT Colonography will be one of the most significant opportunities for its clients to generate considerable new CT volume in the next few years. We want to develop an individual strategy for your facility to lead your market in this profitable and strategic new service. Specifically we'd like to address if you currently meet the guidelines to perform CT Colonography, and if not, what you can do to gain this capability.

The key elements of a successful CT colonography program are:

- Having the appropriate CT equipment (16 slice or better, 3D post processing software, CO<sub>2</sub> insufflator)
  - Optional CTC tools such as CAD and fecal tagging/subtraction should be evaluated to assist reading radiologists and help yield the best results
- Having radiologists trained to interpret CT Colonography
- Having a protocol to move people with suspicious findings into an appropriate optical colonoscopy/follow up program
- Having targeted marketing materials – including copies of the ACS guidelines – to provide to appropriate referring physicians, especially Internal Medicine and Family Practice physicians
- Integrating CT Colonography into your existing gastrointestinal clinical program and marketing strategy

Ivy will work with you to develop a detailed marketing plan to include CT colonography as a part of your diagnostic imaging brand. CT colonography marketing will reach a new audience of patients and physicians who in the past did not refer colorectal screenings to radiology. Therefore it is important that we work together to identify these new targets. Our plan is to educate physicians and attract appropriate referrals for CTC studies.

Please contact Ryan Kokemor or Milan diPierro at your earliest convenience to set up a conference call or meeting to discuss your strategy for CT colonography.

## **Follow Up Reading**

[http://www.cancer.org/docroot/NWS/content/NWS\\_1\\_1x\\_Prevention\\_the\\_Focus\\_of\\_New\\_Colon\\_Cancer\\_Screening\\_Guidelines.asp](http://www.cancer.org/docroot/NWS/content/NWS_1_1x_Prevention_the_Focus_of_New_Colon_Cancer_Screening_Guidelines.asp)

<http://www.healthimaging.com/content/view/12153/89/>

<http://content.nejm.org/cgi/content/short/359/12/1207>