



## NOT ALL VIRTUAL COLONOSCOPY SYSTEMS ARE EQUAL

### IN COLON CANCER DETECTION, STUDY REVEALS

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-- Viatronix V3D System Cited as More Reliable, Versatile, and Efficient than Other Virtual Colonoscopy Systems in Use --

**STONY BROOK, NY** – It does not take much imagination to understand why many people resist having a colonoscopy, even if they are aware that colorectal cancer is the second leading cause of cancer deaths in the United States. But that resistance may soon diminish, thanks to a major study in which Viatronix' V3D-Colon virtual colonoscopy system was shown not only to rival the accuracy of the traditional optical colonoscopy, but to offer features and results far superior to other existing virtual colonoscopy systems.

Demonstrating clearly that not all virtual colonoscopies are equal, the study – published in the December 2003 issue of the *American Journal of Roentgenology* and *The New England Journal of Medicine* – found the Viatronix V3D-Colon system to be dramatically more reliable and accurate than either the GE Navigator or Vital Images Vitrea 2 systems. Not only did V3D-Colon provide the highest-quality images and the most thorough screening, it offered physicians the most features and greatest ease of use in viewing, manipulating, and examining 100% of the colon to detect and identify polyps, the most common precursor of colon cancer. In addition, in some cases, V3D-Colon outperformed optical colonoscopy, long considered the “gold standard” of colorectal cancer screening.

“After performing a direct comparison of three different virtual colonoscopy systems, we determined that only one system, the Viatronix system, was capable of a primary time efficient 3D reading, which I believe is necessary for sensitive detection of polyps,” said Perry J. Pickhardt, M.D., author of the study, whose credentials include Staff Radiologist for the National Naval Medical Center, Assistant Professor of Radiology for the Uniformed Services University of the Health Sciences, and currently Associate Professor of Radiology at the University of Wisconsin Medical School.

“Translucency rendering is a very effective 3D tool found only with the Viatronix system,” he added. “This allows the radiologist to see what a polyp is made of and cut down significantly on false positive findings.”

Virtual colonoscopy, also referred to as CT colonography, offers a non-invasive alternative to the traditional optical colonoscopy, which requires that a long, flexible fiber-optic

scope be inserted into the rectum and maneuvered up to five feet along the length of the colon.

By contrast, V3D-Colon combines the sophisticated computer imaging of a CT scan with breakthrough medical diagnostic software technology to provide a patient-friendly yet incredibly accurate tool for viewing the colon. With the Viatronix system, a thin rubber tube is inserted only one inch into the rectum in order to distend the colon with carbon dioxide. Then, two 20-second CT scans send the patient's data to a computer system, where the Viatronix preprocessor reconstructs a three-dimensional model of the patient's colon and electronically "cleanses" the data of debris (stool) remnants in the colon. The data is then transmitted to a reading station where physicians can automatically conduct an interactive, three-dimensional "fly through" examination of the patient's colon on the computer screen.

"Despite the fact that timely and accurate screening can prevent colorectal cancer, the traditional invasive colonoscopy is so uncomfortable, with unpleasant preparatory requirements of fasting and harsh colon cleansing, that patients often refuse medical advice and delay or opt out of the screening," says Zaffar Hayat, COO of Viatronix, Inc. "With our V3D-Colon procedure, virtually all of the risk and discomfort of a colonoscopy is eliminated, while, equally important, the physician's ability to visualize polyps is greatly enhanced."

The non-invasiveness of the V3D procedure is itself a benefit to patients, eliminating not only the physical discomfort of a conventional colonoscopy, but also the inherent risk of the colon walls being perforated by the optical scope. Adding to that, however, is the fact that a Viatronix virtual colonoscopy requires no sedation, so patients can resume normal activities immediately after the short 15-minute procedure. Plus, there is no pre-exam fasting or harsh colon-cleansing necessary. Patients simply follow a special low-residue diet of easily digestible foods, accompanied by a pleasant-tasting drink containing a small amount of barium, two days prior to the procedure. The barium enables the system's software to electronically remove any stool remnants from the bowel images, so there is no need for enemas or vigorous laxative purging.

The benefits to physicians are equally remarkable, particularly when compared to other virtual colonoscopy systems in use. The Viatronix V3D system offers diagnosticians far greater capabilities for manipulating and analyzing the scanned images with a high-resolution visualization system that can detect polyps as small as three millimeters in size. In addition, instead of simply running the automatically generated fly-through examination forward and backward, the Viatronix software allows operators to manually turn, zoom, and rotate the images at will in a "live" volume rendering, dramatically increasing the opportunity to locate and identify polyps. Because of that image manipulation, they are able to view the entire surface of the colon, even behind folds – as opposed to only 70 percent that can typically be seen in an optical colonoscopy. A complete examination can be conducted in less than 15 minutes.

The V3D provides an automatically computed centerline for "live" guided navigation, augmented by a fully integrated flight control for precise mapping. Should any suspicious areas or polyps be found, that mapping enables physicians locate them easily in a follow-up scan or during an optical colonoscopy for removal. Also, any sections that are missed are

automatically “tagged” and reported to physicians, enabling them to go back and review the surfaces for 100 percent coverage.

In addition, unlike other colonoscopic techniques, images produced by the Viatronix system show realistic shading and reflected light, providing greater detail and depth perception, and eliminating the “washout” effect that could cause a polyp to be overlooked. The V3D-Colon is also the only system that incorporates a technique called translucent rendering, which can be used to take a virtual look inside a suspected polyp for more accurate identification and analysis.

The V3D System is a patented technology, with additional patents having been awarded to several of the system’s enhancements, including electronic cleansing, transparent rendering, and interactive navigation, among others. Viatronix has installed commercial units in a growing number of imaging centers and hospitals nationwide. For further information regarding Viatronix V3D-Colon, call 1-866-887-4636 or log on to [www.viatronix.com](http://www.viatronix.com).

### **About Viatronix, Inc.**

Viatronix is a leading innovator and developer of diagnostic 3D imaging software, which enables physicians to interactively view patients’ vital organs and anatomical structures. The Viatronix PACS-integratable V3D-Explorer has patent protected technology that enables 3D visualization of organs from patient data acquired by standard imaging equipment via minimally invasive or non-invasive methods. The Viatronix V3D-Colon allows physicians to interactively view the colon reconstructed from a CT scan, providing visualization of the inner surface of the colon, including polyps. The Viatronix V3D-Calcium Scoring aids physicians in determining the amount of calcium plaque accumulation in the coronary arteries. Viatronix, through application of its V3D technology, is developing additional innovative products that will be useful for earlier detection of diseases, treatment planning, and follow-up evaluation.

Viatronix, Inc. is located in Stony Brook, NY. For further information, call toll free (866) 887-4636 or log on to [www.viatronix.com](http://www.viatronix.com).

### **FAST FACTS ABOUT COLON CANCER ...**

- Colon cancer is the second leading cause of cancer death in North America, and leading cause of cancer death among non-smokers.
- Although colorectal cancer can strike at any age, 90% of cases are diagnosed in individuals over 50. Both men and women are at equal risk for colorectal cancer.
- Most colon cancer begins as small, non-cancerous polyps in the lining of the large intestine. Polyps grow very slowly, usually at the rate of 1mm per year, making this type of cancer very preventable.
- As a polyp grows larger than 10mm, the likelihood of becoming cancerous dramatically increases, which is why screening every few years is strongly recommended. There are usually

no symptoms until the cancer has progressed.

- When detected at an early, localized stage, colon cancer has a 5-year survival rate of approximately 90% -- yet only 37% of cancers are discovered at that early stage.

- Fewer than 35% of people 50 and older have had a colonoscopy.

### **... AND THE VIATRONIX VIRTUAL COLONOSCOPY**

- Virtual colonoscopy is rapidly becoming the preferred diagnostic tool for colorectal cancer by both doctors and patients. According to a study reported in the March 2003 issue of the *American Journal of Gastroenterology*, almost 58 percent of patients experiencing both a traditional optical colonoscopy and a virtual (CT) colonoscopy said they would prefer CT colonography in the future.

- The Viatronix V3D system carries negligible risk and is non-invasive. The thin rubber tube is inserted only 1” into the rectum, while two 20-second CT scans collect data that offers physicians a 3D computerized “fly through” of the patient’s colon.

- The procedure takes only 10-15 minutes (vs. 45-60 for conventional colonoscopy); and because no sedation is necessary, patients can resume normal activity immediately afterward.

- No rigorous pre-exam fasting is required; patients follow a special two-day diet of easily digestible foods along with a pleasant-tasting drink containing a small amount of barium.

- With the Viatronix V3D system, physicians can view the entire surface of the colon, versus only 70% with an optical colonoscopy. Segments of the scan can be turned, rotated, and enlarged as desired, to detect polyps as small as 3mm, even when they are hidden behind folds; and a technique called translucent rendering even provides a look inside a suspected polyp.

- In an independent study published in the December 2003 issue of the *American Journal of Roentgenology* and *The New England Journal of Medicine*, Viatronix V3D-Colon far outperformed two other virtual colonoscopy systems – GE’s Navigator and Vital Images’ Vitrea 2 – in image quality, accuracy, reliability, navigational features and capabilities, and image evaluation tools, among other attributes. V3D-Colon was favored in more than 92% of responses for polyp conspicuity, 3D effect, and likeness to optical colonoscopy.

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