

Superior polyp detection and improved clinical performance for CT Colonography (CTC)

Benefits include:

- Detects all types of potential colonic polyps (pedunculated, sessile, flat, fluid submerged)
- Identifies colon polyps to aid in the reading process
- Integrates with specialized CTC reading environments
- Improves accuracy, productivity and workflow
- Streamlines the reading process and improves consistency
- Positive effect on readers sensitivity

Challenge

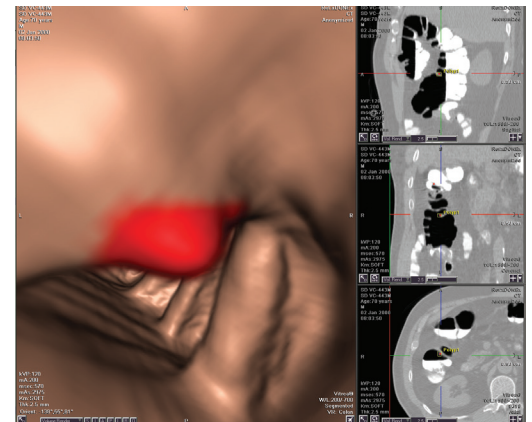
As the volume of CT Colonography (also known as Virtual Colonoscopy) exams increase reader fatigue can occur after interpreting multiple exams and computer-aided detection (CAD) becomes invaluable in assuring accuracy. This is particularly important in less experienced readers as CAD increases sensitivity significantly.¹⁻³

Colorectal cancer is the third most commonly diagnosed cancer and the third leading cause of cancer death in both men and women in the US. In the past decade, colorectal cancer has emerged as one of the most preventable common cancers.⁴

CTC has been shown to be highly effective in the detection of polyps and adenomas in the colon.^{5,6} It is possible, however, for radiologists to have difficulty visualizing polyps, even with careful study review.⁷ CAD for CTC has been shown to be effective in the detection of colonic polyps⁸ and to have a positive effect on reader sensitivity.^{9,10}

VeraLook can be used with a wide variety of patient preparation protocols and can analyze images with or without stool tagging.

VeraLook uses sophisticated image processing software to identify colon polyps in CTC images, which can help to streamline the reading process and improve workflow for radiologists while supporting greater accuracy in colon cancer screenings. Indicated for use as a second read,



VeraLook is designed to enhance clinician accuracy and effectiveness by improving detection of colonic polyps — pedunculated, sessile, flat and fluid submerged.¹⁰ In addition, the software may improve clinical confidence in interpreting exams, particularly for less experienced readers.⁸

The technology, which is used in conjunction with industry leading advanced CTC software applications, is commercially available in leading healthcare facilities in the U.S., Canada and Europe.

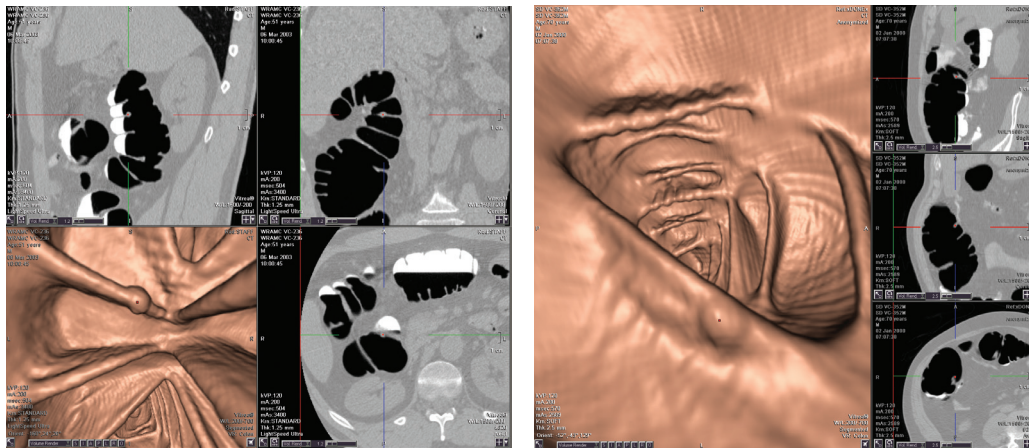
Superb algorithms detect more polyps

VeraLook uses advanced algorithms to detect and highlight potential polyps and adenomas in virtual colonoscopy exams — pedunculated, sessile, flat and fluid submerged — on images taken with a wide variety of patient preparation protocols and with or without stool tagging. VeraLook image analysis uses:

- **Image Processing** to identify/detect all areas in the image with polyp-like patterns.
- **Pattern Recognition** to extract mathematical attributes from suspicious regions in the image based on their features (geometry, morphology, brightness, curvature, texture) and compare them to attributes of known polyps.
- **Artificial Intelligence** to classify and score suspicious regions based upon their correlation with known polyps.

Seamless integration may improve workflow

- Clear identification of potential polyps on the 3D “fly-through” view and all 2D CT images
- Easy-to-navigate summary panel and quick, “bookmark” access to all detected regions
- Rapid analysis of the original CT images — all CT system manufacturers are supported



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2. Taylor et al, "Influence of Computer-aided Detection False Positives on Reader Performance and Diagnostic Confidence for CT Colonography", *AJR Am J Roentgenol* 2009; 192: 1682-1689.
3. Burling et al, "Virtual Colonoscopy: Effect of Computer-assisted Detection (CAD) on Radiographer Performance", *Clin Radiol* 2008; 63: 549-556.
4. American Cancer Society. *Colorectal Cancer Facts & Figures 2014-2016*. Atlanta: American Cancer Society, 2014.
5. Pickhart et al, "Computed tomographic virtual colonoscopy to screen for colorectal neoplasia in asymptomatic adults", *NEJM* 2003; 349: 2191-2200.
6. Johnson et al, "Accuracy of CT colonography for detection of large adenomas and cancers", *NEMJ* 2008; 359: 1207-17.
7. Doshi et al, "CT Colonography: False-Negative Interpretations", *Radiology* 2007; 244: 165-173.
8. Summers et al, "Computed tomographic virtual colonoscopy computer-aided polyp detection in a screening population", *Gastroenterology* 2005; 129: 1832-1844.
9. Petrick et al, "CT colonography with computer-aided detection as a second reader: Observer performance study", *Radiology* 2008; 246: 148-156.
10. Dachman et al, "Effect of Computer-aided Detection for CT Colonography in a Multireader, Multicase Trial", *Radiology* 2010; 256: 827-835.