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ADVANCED IMAGING TECHNOLOGY INCREASES POLYP AND ADENOMA DETECTION RATES

*Clinical outcomes confirm leadership position
of Olympus EVIS EXERA II 180 Platform*

Results of three recently conducted clinical studies have confirmed superiority of the **EVIS EXERA II 180** series High Definition (HD) endoscopy system from **Olympus America, Inc. (Center Valley, PA)** over standard definition (SD) endoscopy systems. As the first system in the world to deliver both 1080i HDTV and Narrow Band Imaging™ (NBI) technologies, the EVIS EXERA II 180 Platform enables visualization of even the finest details during endoscopic procedures. Using the full portfolio of the system's features, physicians involved in each of the three studies were able to increase detection rates of both polyps and adenomas during colonoscopy.

It is well known that colonoscopy is accepted as the gold standard for colorectal cancer (CRC) screening; however, it is also known to have diagnostic limitations.¹ Recent studies have indicated that the increased levels of contrast, detail, and color reproduction produced by high-definition endoscope technology can improve the quality of these examinations and may facilitate more thorough diagnoses when compared to older technology with standard definition formats.

Clinicians at Lafayette General Endoscopy Center (Lafayette, LA) conducted a retrospective study comparing polyp and adenoma detection rates *prior* to the introduction of HD technology with those same rates using HD colonoscopes. The study included patients who were over the age of 50 who had undergone screening colonoscopy and were asymptomatic. More than 1,000 patient charts were included in the study. From July 2005

to June 2006, 325 patients had colonoscopies performed with traditional equipment (Olympus 160 series). The second group included 706 patients who underwent colonoscopy screening from August 2007 to July 2008 with HD equipment (Olympus HD 180 series).^{*} Results revealed a 39.9% increase in total polyps detected in the data collection after implementation of HD technology (59.96% vs. 42.86%).² There was also an increase of 62.5% in the adenoma detection rate (39% vs. 24%).²

Stephen G. Abshire, MD, Chief Investigator of the study, comments, "We demonstrated quite a striking increase in the polyp and adenoma detection rate. I believe this increase can be directly attributed to the HD equipment. The improved optics gave us an increased depth-of field and we were better able to pick up flat polyps, whereas I think many of these polyps would have been missed with standard white light."

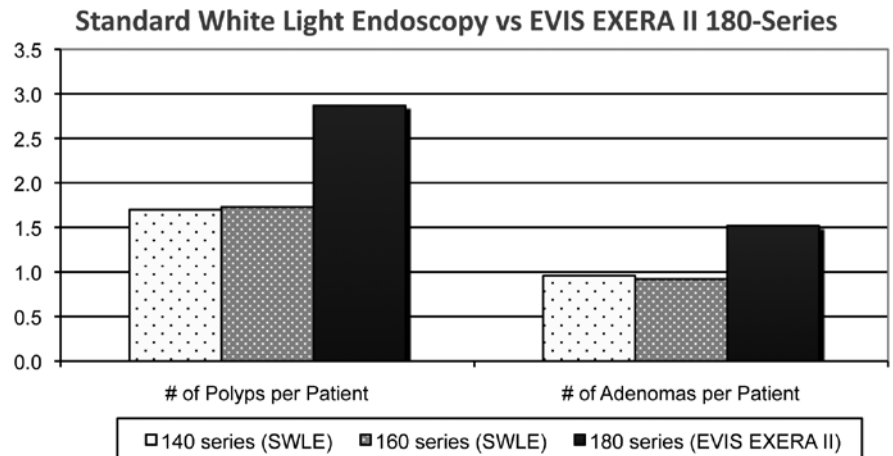
Dr. Abshire also says, "I'm glad we made the investment when we did—at the very start of the advent of high-definition technology. I think, by far and away, our patients have benefited substantially from this technology and I'm glad that we are able to be able to afford it and to be able to offer it to our patients."

A second retrospective case control study compared standard-definition white light (SDWL) colonoscopy to high-definition white light (HDWL) colonoscopy using the Olympus 140 and 160 series and the Olympus 180 series colonoscopes. When used in conjunction with the new high-definition Olympus endoscopes, the HDTV signal from the new CV-180

video processor more than doubles the number of scan lines produced by conventional systems, giving gastroenterologists remarkably clear views of anatomical structures and fine capillaries. The study looked at the effectiveness of HDWL for adenoma detection, to determine if the results in a controlled clinical trial could be generalized to clinical practice setting. Study results revealed that the use of HDWL colonoscopy resulted in a statistically significant increased adenoma detection rate in a general clinical practice setting.³ A total of 2011 patients participated in the study, of which 1188 patients were assigned to SDWL, and 823 were assigned to HDWL. Adenomas were detected more frequently in HDWL group than in the control SDWL group (28.55% vs. 23.40%).³

The top-level Olympus 180 colonoscopes offer the widest field of view ever available in a colonoscope. By increasing the field of view from 140° to 170°, the colonoscopist is able to view peripheral areas and even behind the folds with smaller deflection of the scope tip, potentially decreasing the miss-rate and improving orientation inside the colon. “The wider angle field of view allows you to look at a much bigger area without having to manipulate the tip of the endoscope too much,” notes Nooman Gilani, MD, Chief of Endoscopy, Carl T. Hayden, VA Medical Center (Phoenix, AZ). “There are several other features of the new technology that are a big improvement over the older generation colonoscopes. There is no question about it. With stunning HD images, you can make a clear distinction between the normal and abnormal-looking tissue. The NBI capability allows for an enhanced view of the mucosal surface.”

Comparison of the Number of Polyps Detected per Patient⁴



In the results of a third retrospective study, Dr. Gilani and his colleagues discovered an increase in the polyp detection rates when they started using the new colonoscopes. “We took a retrospective look at our database, starting with December 2007. We looked backwards at screening colonoscopies performed using the Olympus HD 180 colonoscope, as well as with the Olympus 160 and 140 colonoscopes, until we reached 100 procedures for each scope. We found that with the newer 180 colonoscopes, we were able to detect 2.87 polyps per patient who had polyps. With the 160, it was 1.73 and using the 140, it was 1.7. Similarly, there were more adenomas detected with the 180 scopes compared to the other two colonoscopes. There were no differences in detection of advanced neoplasia in any of the three scopes.”⁴ Dr. Gilani says the ultimate goal is to reduce the development of CRC. “Increased detection may translate into decreased risk for cancer in the future.”

For more information about the EVIS EXERA II Universal Imaging Platform, or other products from

Olympus America, please call 800-848-9024, or visit the company’s website at www.olympusamerica.com.

*The twelve months from July 2006 through July 2007 were not used in this study because it was the time during which the Center was undergoing transition from SD equipment to HD equipment and a mixture of the Olympus 160 and 180 colonoscopes were used.

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