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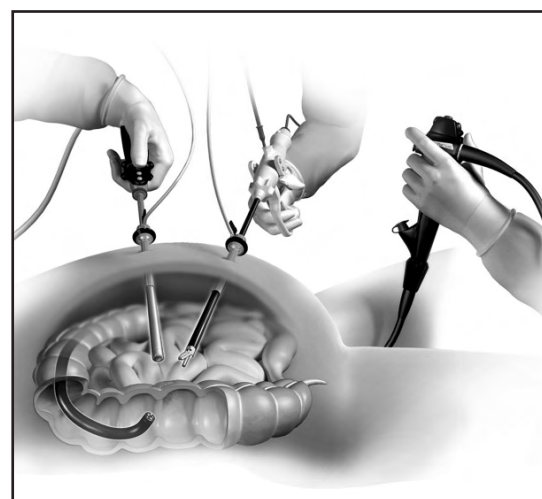
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REPRINT

**UCR-CO₂ INTRA-LUMINAL INSUFFLATION UNIT
BY OLYMPUS SURGICAL AMERICA***A New Intra-Operative Platform for Advanced Laparoscopy*

Olympus Surgical America (Orangeburg, NY) has introduced a new Carbon Dioxide (CO₂) insufflation unit for use during advanced laparoscopic procedures. While CO₂ insufflation during endoscopy is not novel, this unit has special significance for certain emerging surgical indications. This unit is designed to overcome the challenges associated with the bowel distention and slow absorption characteristics that normally occur with air insufflation during endoscopy.

CO₂ insufflation has been shown over the past decade to be safe and less painful than air insufflation during and after routine endoscopic procedures. The *new* Olympus **UCR CO₂ Intra-luminal Insufflation Unit** quickly and easily permits carbon dioxide insufflation instead of air to be used during advanced laparoscopic procedures, and is easily used in the operating room during endoscopic procedures. The rapid absorption characteristics of CO₂ from the bowel lumen has opened up a new dimension of possibilities for surgeons to perform intra-operative endoscopy immediately before, during, or after a surgical procedure to visualize and evaluate the intestinal lumen, identify and treat polyps, tumors, or bleeding sites, or check for anastomotic leaks, all without concern for bowel distension associated with the systemic CO₂ absorption. This technique has the potential to improve patient outcomes as well as reduce pain and discomfort normally associated with air insufflation during endoscopic procedures.



The new Olympus UCR CO₂ Intra-luminal Insufflation Unit quickly and easily permits carbon dioxide insufflation instead of air to be used during advanced laparoscopic procedures.

By combining the UCR CO₂ Intra-luminal insufflation unit with the Olympus EVIS EXERA II™ universal platform, this high-definition imaging system will provide the flexibility to perform more thorough endoscopic observations and minimally invasive surgery by allowing surgeons to switch between a laparoscope and colonoscope or gastroscope, or perform combined laparoscopic and endoscopic procedures in the operating room.

Advancements in intra-operative endoscopy have been limited by the use of air for insufflation because insufflation with air, via upper or lower endoscopy, results in prolonged bowel distension. "When air is used, the potential space inside the abdominal cavity becomes obliterated

because the intestine is so distended,” notes Jeffrey W. Milsom, MD, Section Chief of Colon and Rectal Surgery, the Jerome J. Decosse Professor of Colon & Rectal Surgery, and Professor of Surgery at Weill Medical College of Cornell University in New York City, and one of the surgeons who collaborated with Olympus on the development of the system. “As we pursued new procedures that could combine laparoscopy and endoscopy, we already knew that patients were more comfortable in outpatient endoscopy procedures if they had CO₂ as the insufflating gas. We also knew that when you used air for insufflation, the bowel became so distended, you couldn’t see anything from the laparoscopic side.” Dr. Milsom continues, “What we found when we inflated the colon with CO₂ was that there was a surprising lack of distention of the intestines and, as soon as we stopped insufflating, we could almost watch the intestine decompress. It is a dramatic difference.”

Dr. Milsom comments that the Olympus CO₂ insufflating system is “very much what we consider an enabling technology. It’s simple, it’s safe, and it has opened up a world in which we can now do combined, or simultaneous, laparoscopic and endoscopic procedures.” Dr. Milsom explains that they use it most commonly with patients who have very difficult polyps: perhaps ones that cannot be removed during a routine colonoscopy because the polyp is too large or cannot be visualized. “The standard option for polyp


removal in these situations would be a surgical resection. Now, instead of the patient undergoing a partial resection of the intestine, the patient can have a combined procedure, which is simpler for the patient and also much safer.” He continues: “A colonoscopy is done at the beginning of the operation using CO₂, minimizing bowel distention. A laparoscopic surgeon can next make small incisions in the abdomen, perform laparoscopy, and maneuver the colon, or even invaginate the wall of the colon, which will allow the endoscopist to remove the polyp. Although there is a risk of perforating the colon or thinning out the wall during removal, the laparoscopic surgeon is right there, so that if need be, he or she can put in a few stitches and a potential problem can be avoided. This combined approach would be impossible with routine air insufflation.”

Clinical studies have confirmed that a CO₂-based system is safe and effective and has an absorption rate about 150 times quicker than that of an air-based system. Dr. Milsom points out, “From carefully monitoring patients in the operating room, we have been able to show that CO₂ insufflation is very safe and has no adverse effects.” Insufflation of CO₂ is also advantageous in upper gastrointestinal tract surgery for the same reasons if an EGD endoscopy is indicated.

Dr. Milsom closes by saying “The combined procedure that I’ve described is just the tip of the iceberg for what we foresee as the

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potential of the CO₂ insufflation unit. We will be doing more sophisticated and more complicated intestinal procedures through an endoscope, and the fact that you are able to do this safely without the patient getting intestinal distension is extremely important. We envision that this will be a key component of very advanced surgical endoscopic techniques.” CO₂ insufflation should obviously be considered for use during routine endoscopic procedures as well, since it is more comfortable for most patients. 

To Learn More

For more information about the Olympus UCR-CO₂ Intra-luminal Insufflation Unit or the EVIS EXERA II™ universal platform, please visit the company’s Web site at www.olympussurgical.com, or call 1-800-548-5515.