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Wireless Capsule Endoscopy

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Wireless Capsule Endoscopy

You may have already heard of the new Wireless Capsule Endoscopy by Given Imaging Ltd. It has been featured on Oprah and has also had exposure through the *Wall Street Journal*, *The New England Journal of Medicine* and numerous other publications. For those of you who have not, Given Imaging Ltd. is a high technology company focused on solutions for GI diagnostics, with the company's corporate headquarters located in Yoqneam, Israel, and North American operations located in Atlanta, Georgia. They have developed The Given Diagnostic Imaging System, which is a small-bowel wireless endoscopy that is made up of 1) a video capsule that is ingested by the patient, 2) a wireless recorder worn on the belt, and 3) a computer workstation to collect the data. The capsule is swallowed by the patient and transmits images to the recorder as it works its way through the patient's digestive tract, until it is naturally excreted. While the images are being captured, the signal strength is used to determine the capsule's position in the body during its passage through the gut. The capsule is propelled by peristalsis without requiring a pushing force. The system allows more than nine hours of continuous recording and transmits about 50,000 images. Throughout the entire procedure, the patient is free to walk around and carry on normal activities.

Once the capsule is transported through the patient's system, a computer workstation, equipped with Given's proprietary RAPID (Reporting and Processing of Images and Data) software, is used to process the data. A short video clip and additional relevant information, transmitted from the digestive tract, are then produced. With the RAPID workstation physicians are able to view, edit, and archive the video and save individual images and short video clips. So far human trials have shown successful image transmission from the stomach, small bowel, and cecum, as well as a higher diagnostic yield for the capsule endoscopy, in comparison to traditional diagnostic tools such as push enteroscopy. Not surprisingly, patients in the trials have indicated a strong preference for swallowing an encapsulated camera over submitting to a more traditional endoscopic exam.

The Office of Health Policy and Clinical Outcomes has been working with Given Imaging Ltd. in developing a framework for an economic analysis for this exciting new technology. Office staff have reviewed the published literature and spoken with GI clinicians at Jefferson and other academic centers in order to develop a synthesis of the epidemiology, diagnostic options, and costs of diagnosing obscure GI bleeds. This research will help inform the design of economic and outcomes studies of the promising new technology. The Office also is advising the approach to provider, consumer, and payer education, to ensure that the new technology is used appropriately.

For more information on Wireless Capsule Endoscopy, visit www.givenimaging.com.

About the Author

Reuel May is a Research Project Assistant in the Office of Health Policy and Clinical Outcomes at Thomas Jefferson University.