

PRESS RELEASE

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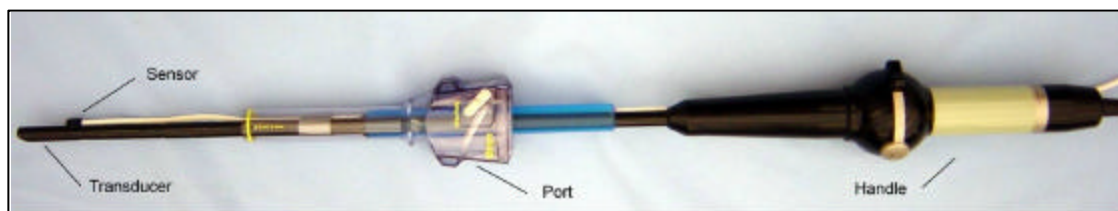
Miniaturized Sensors Aid Intraoperative Visualization

Ascension and CIMIT to Show New Minimally Invasive Tools at Major Gastrointestinal Conference

BURLINGTON, VERMONT; March 30, 2005: Ascension Technology and the Center for Integration of Medicine and Innovative Technology (**CIMIT**) have developed a new medical imaging tool that gives a surgeon a 3D roadmap of the anatomy for performing pancreatic and liver interventions.

The device, called **IRLUS** (Image Registered Laparoscopic Ultrasound System), provides a new way to visualize, in 3D, pancreatic and liver landmarks and stage cancers in these organs. Prior to IRLUS, it was difficult for clinicians to use minimally invasive laparoscopic ultrasound to identify pancreatic structures and vessels. Limited acoustic windows and constrained probe movements hampered easy identification. IRLUS solves the problem by combining real-time laparoscopic ultrasound images with preoperative CT data. The surgeon can now clearly see a 3D rendering of the ultrasound image plane overlaid on a patient's segmented anatomy.

IRLUS consists of a laparoscopic transducer and a surgical pointing device, both of which are tracked in real-time by Ascension's 1.8 mm wide microBIRD sensors and a laptop computer. Visualization software running on the laptop aligns preoperative CT data with real-time laparoscopic images to provide the physician with spatial cues for correct interpretation of the ultrasound images.



microBIRD sensor mounted near tip of a laparoscopic probe. It continuously tracks the precise position and orientation of the probe tip in real time.

Recent research has shown that IRLUS is a helpful adjunct to many other laparoscopic procedures, increasing the ability of surgeons to correctly identify anatomic landmarks. It also improves the efficiency of traditional ultrasound, by displaying real-time ultrasound images in the context of preoperative 3D imaging.

The IRLUS system will be exhibited at **SAGES** (www.sages.org), the annual conference of the Society of American Gastrointestinal Endoscopic Surgeons on April 15-17, 2005 in Ft. Lauderdale, Florida.

The SAGES conference in 2005 will be co-located with the annual Spring meetings of the American Hepato-Pancreato-Biliary Association (**AHPBA**) and the American College of Surgeons (**ACS**). Conference attendees are invited to visit booth # 512 for a hands-on opportunity to experience the IRLUS system. Ascension will also demonstrate its newest microBIRD feature – a flat transmitter that negates the distorting effects of carbon steel and iron alloys. To date, these distorters have limited the acceptance and use of magnetic guidance devices in medical imaging.

For more information about Ascension (Burlington, VT) visit www.ascension-tech.com. For more information about CIMIT (Cambridge, MA), visit www.cimit.org. The two organizations are presently collaborating in the development of medical imaging and simulation systems using pulsed DC magnetic guidance and localization as the enabling technology.

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