



## James Ellsmere, MD

## Young Clinician Award 2006

### Investigator Profile

#### Education

- BEng, Dalhousie University, Halifax NS, Electrical Engineering
- MD/BSc, Dalhousie University, Medicine/Biomaterials
- MSc, MIT, Medical Informatics

#### Clinical /Professional Appointment

- Minimally Invasive Surgery Fellow, Beth Israel Deaconess Medical Center



#### Honors and Awards

Dr. Ellsmere has been awarded many honors in medicine and engineering for advances in medical device development and minimally invasive surgical techniques. Some of honors he received include the General Electric Award for engineering design and innovation, the SCIEX Award for quality and innovation in instrumentation design, and the CIMIT Fellowship at MGH among others. Dr. Ellsmere authored or co-authored 27 peer-reviewed publications in top medical journals. The Harvard Medical School Surgeon-in-Chief describes Dr. Ellsmere as “extraordinarily well prepared for a career in research in which high technology joins minimally invasive surgery to improve the lot of minimally invasive patients.”

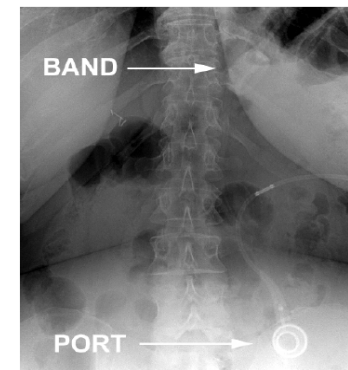
### Impact on Care

- Obesity affects 25% of the American population causing serious medical conditions, more than 300,000 deaths each year in the US alone and carries annual healthcare costs of about \$100 million
- Over 200,000 LAP-BANDs have been sold worldwide as of Nov 2005 with 17% of bariatric procedures performed via gastric banding
- This tool has the potential to decrease unscheduled trips to fluoroscopy and reduce ionizing radiation exposure by allowing safe access in an office setting
- The method may be translatable and improve the use of other ports including, long term venous access, soft tissue expanders & analgesic pumps
- It is anticipated that this tool will improve LAGB outcomes and in turn ultimately increase the number of patients who choose weight loss surgery to improve their health

### Abstract

In the past few years, the number of implanted ports has been increasing rapidly. Much of this has been driven by Laparoscopic Adjustable Gastric Banding (LAGB). Ideally, accessing a port can be performed in the office or at the bedside by palpating the port and then inserting a needle into it. If the port is not palpable or it is difficult to access with a needle, the physician will use imaging to direct the needle into the port. This requires either an unscheduled procedure in radiology or scheduling another visit. Either scenario is problematic for both physicians and patients. We present here a general method for the safe and efficient access of implanted ports and a plan to evaluate the method in both phantom and animal models. The system consists of two major components—an external port locator and a passive beacon device that is attached to the port at time of implementation.

We anticipate that the method will be broadly applicable, not just to LAGB, but also other ports such as those used for long term venous access, soft tissue expanders and analgesic pumps. Our long term goal is to make port access sufficiently safe and reliable that it is easily accomplished in an office setting without imaging system support.



An x-ray following gastric banding showing location of band and port.