CAMIS

The Centre for the Advancement of Minimally Invasive Surgery

Executive Summary

CAMIS was established in 2005 to facilitate the adoption and integration of minimally invasive surgery (MIS) in the Capital Health Region, then one of the largest Regional Health Authorities in Canada.

After moving into a custom designed, multipurpose training facility and offices at the Royal Alexandra Hospital, the four full-time staff members of CAMIS have fulfilled the vision of CAMIS by establishing Edmonton, the University of Alberta, and the Royal Alexandra Hospital as a nationally recognized leader in minimally invasive surgical management, education, training, and research. Their mission: to ensure patients have access to safe, leading edge minimally invasive surgery; and, health care professionals are provided with appropriate training in minimally invasive surgical care in an environment dramatically changed from only a few years ago. The volume of advanced minimally invasive surgery has increased, a new vision for surgical operating environments has been developed, and this vision has been successfully adopted by Alberta Health Services (AHS) with widespread implementation of Stryker iSuites.

Successful industry partnerships with Stryker, and Johnson and Johnson/Ethicon Endosurgery have been forged on the anticipated success of CAMIS and have contributed to the development of comprehensive, multi-disciplinary training initiatives. This includes the development of a Minimally Invasive Surgery Curriculum for Surgery Residents at the University of Alberta and an innovative mentoring program for surgeons in practice.

CAMIS has successfully collaborated and partnered with regional programs including Telehealth, Simulation, and Weight Wise. CAMIS leadership have served in an advisory capacity for regional and academic initiatives including the development of the Health Sciences Education and Research Commons (HSERC) at the Edmonton Clinic.

CAMIS and Edmonton are recognized as a resource for surgical teams across the country planning to adopt minimally invasive surgical techniques. In further recognition of its success, CAMIS has accepted numerous applications for surgery electives; minimally invasive and bariatric surgery fellowships; research fellowships; as well as recruitment requests.
Forward Planning

CAMIS will build upon its achievements in the next phase of its development and evolution. In a new system of provincial governance CAMIS is well positioned to fulfill provincial objectives of service delivery, access, sustainability, capacity and optimization of outcomes. CAMIS has been recognized for leading in innovation at an Alberta Health Services Board Meeting (December 10/08). CAMIS has and will continue to attract residents, fellows, physicians and surgeons to Edmonton to expand service delivery, educational and training opportunities. With the development of a provincial approach to bariatric medicine and planning for a Bariatric Surgical Centre of Excellence, aggressive recruitment of bariatric surgeons will be facilitated by the success of CAMIS.

Enhanced operational capacity and educational facilities at CAMIS will deliver an expanded MIS curriculum to surgery trainees, surgeons and nurses. These will be facilitated with the purchase of advanced simulators for multi-disciplinary training, dramatically expanded capacity for live specimen surgery at the SMRI and exploration of educational opportunities for nurses.

CAMIS will recruit clinical and research fellows internationally through participation in the MIS Fellowship Council Match.

The establishment of a Chair in Minimally Invasive Surgery will extend and enhance the mandate of CAMIS by recognizing, supporting and promoting clinical innovation, research and education in MIS.

Further partnership discussions with industry will identify new opportunities to fulfill the objectives of CAMIS.

CAMIS will continue to support and embrace innovation in key areas of MIS including robotic surgery, NOTES/Endoluminal Surgery, and new models for innovative approaches to learning.

CAMIS is in discussion with the Society of American Gastrointestinal and Endoscopic Surgeons (SAGES) to establish an annual SAGES Advanced MIS Course for surgery residents in Edmonton.

CAMIS has developed a proposal to support mentorship in MIS; as well as published a Consensus Statement on Mentorship.
CAMIS Milestones

A. Clinical Services

Goals
- Facilitate the safe performance of advanced MIS procedures
- Further develop, investigate, and report on innovations in MIS

Achievements
- Facilitated an increased volume and range of advanced MIS through mentoring of surgeons and surgical teams
- Developed a vision and algorithm for the evolution of the surgical environment by integration of Stryker iSuites in the Edmonton area
- Developed a MIS/Bariatric Surgery Program, forming the basis for the Weight Wise Program
- Incorporated standardized orders for MIS gastrointestinal surgery
- Formation of a Robotic Surgery Program, contribution to da Vinci Robot purchase, and support for training of multi-disciplinary surgical teams
- Reported the first robotic gastric bypass in Canada, December 2008
- Reported the first robotic abdominal resection in Canada for rectal cancer, May 2009
- Reported the first endoluminal pouch reduction surgery (StomaphyX) for patient following gastric bypass, February 2009
B. Teaching and Education

Goals

- Development of curricula for surgery trainees
- Development of innovative teaching paradigm for surgeons

Achievements

- **MIS Resident Curriculum**
  - monthly resident training: presentations, skills labs, wet lab surgery
  - presentations videotaped, edited and uploaded to CAMIS website
  - videoconference presentations by national speakers from across Canada

- **Mentoring for surgeons**
  - RAH: Drs. D. Schiller, A. Plewes, R. Hallgren, C. deGara, D. Davey
  - Red Deer: Dr. L. Farries, bariatric surgery
  - Sturgeon: Dr. N. MacEachern, Dr. A. Cadili, colorectal
  - Lloydminster: Dr. S. Reddy, Dr. K. Naidoo and Dr. M. Singh, inguinal hernia repair
  - Fort Saskatchewan: Dr. O. Farooq
  - Kelowna: Dr. A. Kluftinger

- **MIS GI Fellowship**
  - Dr. Belinda Hsi (July 1, 2006 – June 30, 2007)
  - Dr. Ghassan Hadi (July 1, 2007 – June 30, 2008)
  - Dr. Iyad Eid (July 1, 2008 – June 30, 2009)
  - Dr. Carlos Menezes (July 1, 2009-July 1, 2010)

- **Nursing education**
  - Regional attendance at SAGES, CSF, ORNAA

- **Medical student lecture series in MED 546**

- **CME Courses, including wet labs:**
  - Bariatric Surgery, May 11 & 12, 2009
  - HALS, December 3 & 4, 2009

- **Purchase of advanced VR Simulator (Lap Mentor), with a second simulator on loan from Johnson & Johnson/Ethicon**
C. Research

Goals

- Develop MIS research team to build research activities in MIS
- Establish nationally recognized research program
- Conduct clinical, operational innovative research in MIS

Achievements

- Research Assistant recruited October 2007
- MIS Research Fellowships established December, 2008

Research Themes

1. Training Models in MIS
   - Mentoring for surgeons in practice
2. Surgical Device Trials
   - StomaphyX
   - EsophyX
3. Innovation in MIS
   - Robotic Surgery
4. Surgical Education
   - Digitization of surgical movements for training
5. Clinical Outcomes for MIS
   - Color II Trial Site
Regional Successes

- CAMIS as a vehicle for MIS advancement
  - Changed surgical practice at major AHS site
  - Strategy developed for integrated ORs
  - Recognition of team training needs (multiple services/sites)
  - Input to regional policy making through committee involvement

- CAMIS as a hub for multiple surgical services and sites
  - Human resources; training support

- Nurse training
  - Nurses from RAH, UAH, Stollery, Sturgeon and Red Deer sponsored to attend conferences and courses

- Urology - Canadian Urology Association (CUA) Annual Meeting
  - Co-sponsored, with BEAMcast, the CUA Annual Meeting, June 2008
  - CAMIS Regional Director and Administrative Assistant coordinated the broadcast of two live surgeries, including a robotic prostate surgery in 3-D, to the Shaw Conference Centre from the Royal Alexandra Hospital
  - Provided honorariums for the two guest speakers at the evening symposium
  - Provided rental equipment, catering, printing and a closing celebration event

- Gynecology
  - Sponsored Dr. C. Dolhaniuk to attend AAGL Las Vegas
  - Sponsored Dr. V. Capstick and two Registered Nurses to attend robotic training in USA
  - Sponsored Guest Speaker, Dr. Krisztina Bajzak, from St John’s, NL, for Gynecology Resident Seminar

- Pediatric Surgery
  - Sponsored Dr. I. Bratu to attend training courses at IRCAD, Strasbourg, France

- General Surgery
  - Dr. C. Sample and colleagues to attend NOTES course at IRCAD, Strasbourg, France
  - Sponsored Dr. Farries from Red Deer and Therese Harmse, RN, Red Deer General Surgery OR Team Leader, to attend SAGES, Phoenix, AZ, April 2009
  - On-going sponsorship for residents to attend SAGES MIS courses in both Canada and the USA
National Successes

- National Consensus Conference on Implementation of Advanced MIS
  - International membership, hosted by CAMIS and CPL, June 1, 2007
  - Consensus statement published in CJS

- Recruits attracted to Edmonton
  - Dr. Arya Sharma, Medical Director, Weight Wise
  - Dr. Shahzeer Karmali, MIS Surgeon

- CAMIS participation in MIS Fellowship Council matching system
  - MIS Clinical Fellowship: MIS/Bariatric Surgery

- Surgical teams observation of MIS suites, procedures, and clinics:
  - Victoria (Dr. N. Nguyen)
  - Kamloops (Dr. Kluftinger)
  - Credit Valley (Dr. Wolfson)
  - St. Catherines (Dr. G. Harpur)
  - Lethbridge (Dr. T. Gomes)
  - Medicine Hat (Dr. C. Nohr)

Key presentations featuring CAMIS and the University of Alberta


Birch DW. Bariatric Surgery in Canada: *Dismantling the Barriers*. Annual Meeting of the Newfoundland Surgical Society. Feb 2008

Birch DW. *Towards sharing curriculum content: a standardized curriculum template*. CUSEC Meeting, Montreal, Nov 29 2007


Business Plan

- **Chair in MIS**
  - targeting top-up funding to $1M to approach RAH Foundation and to commence recruitment for MIS Chair

- **SMRI Lab**
  - Extend support to facilitate wet labs (8-10 surgery stations)
  - Fully equipped MIS stations:
    - basic instrumentation: dissectors, graspers, suction, etc.
    - advanced instrumentation: needle drivers
    - endomechanicals: trocars, staplers, clip appliers, etc.
    - harmonic scalpels: generators, 5mm ACE

- **Expand number and variety of CME courses**

- **Achieve Fellowship Council Accreditation**

- **Achieve recognition as a Bariatric Surgery Centre of Excellence**

- **Web-based Resident Curriculum**
  - teaching seminars available for residents, surgeons, etc., at AHS/CAMIS website

Operational Plan

- **Expansion of CAMIS skills lab**

- **Space allocation for research projects and training equipment**

- **Administration staff (FTE)**

- **Recruiting**
  - RAH Bariatric surgeons
  - Contribution to a recruitment plan for the region