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### Leading the Laparoscopic Revolution 30

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The ICENI Centre, part of Essex Rivers Healthcare NHS Trust, has an international reputation as a centre of excellence in laparoscopic (keyhole) surgery. This has been due to the pioneering work of Professor Roger Motson, who introduced laparoscopic surgery to Colchester in 1989. Modern surgery has now moved irreversibly towards a minimally invasive approach and Professor Motson has built a team of surgeons and specialist nurses to adapt to this change and drive laparoscopic training forward. The benefits of laparoscopic surgery to patients and the healthcare system are immense and include less pain, smaller wounds and shorter inpatient hospital stay as well as traditional inpatient surgery moving to day stay surgery. Delivering a high quality service in combination with a continuing commitment to training are the core principles underpinning the ICENI Centre. The first training course was conducted in 1992.

#### **Laparoscopic Surgery**

Laparoscopic surgery involves placing several ports into the abdomen. The latter can be inflated with carbon dioxide through these ports. A telescope with an integrated camera system can also be passed through one of the ports and special instruments designed for laparoscopic surgery are passed through the others. A range of procedures both diagnostic and therapeutic can be performed. These include bowel resections, hernia surgery, liver and gallbladder surgery, vascular surgery and simple diagnostic procedures. Because the incisions are small compared to a big open wound and tissues are handled with far less trauma, patients tend to have less pain and discomfort. Recovery is quicker due to earlier mobilisation and consequently hospital stay is much shorter.

#### **Resolving Capacity Issues**

Many hospitals have problems with delivery of elective general surgical procedures due to the volume of emergency admissions. The service delivery is further hampered by stringent financial controls and government driven targets. This situation is improving with changes in emergency admission processes. Although great inroads have been made towards resolving the capacity problems within these hospitals, further developments are required to resolve the capacity and demand issues that national and local health economies are facing.

Increasing the laparoscopic approach gives hospitals the opportunity to increase the utilisation of the Day Surgery Unit (DSU) and reduce inpatient hospital stay. This development will enable hospitals to deliver both local and national targets.

#### **Developing the Infrastructure for Laparoscopic Surgery**

Although the ICENI Centre installed the first purpose built integrated laparoscopic operating theatres in 2001, there was a need to upgrade and expand the facility. This was because the technology had advanced, for example flat screen monitors with acceptable image characteristics became available, ultrasonic generators for tissue cutting and coagulating came of age and optics in the telescope and camera systems improved in terms of image quality.

An integrated laparoscopic operating theatre combines high quality laparoscopic camera systems, gas insufflators and dissection energy sources with the capability of having all equipment being remote in a separate unit with essential equipment suspended on ceiling mounted pendants. This means that delicate equipment does not have to be moved unnecessarily, there are no cables to cause accidents and equipment can be moved into place easily once a patient has been moved onto the operating table. All instrumentation can be controlled manually within the operative field or using voice control. In addition to this we specified a high quality image link to the hospital's education centre (for training courses) as well as the outside world via ISDN line connection.

A business case was drawn up for two integrated operating theatres as described above as well as training simulators, specialist nurses and administrative staff to run a full time training facility. The case was based on:

- 1) Reducing inpatient stay, guaranteeing hospital admission and reducing waiting lists with negligible detrimental impact on other services within general surgery or other surgical specialities.
- 2) Increasing DSU utilisation.
- 3) Attracting external referrals from other hospitals due to our own expertise.
- 4) Increasing educational activities to the benefit of the regional health sub-economy.

In November 2005 two laparoscopic operating theatres were launched at the ICENI Centre.

#### **Expanding the Centre**

The next phase of development will be the appointment of a fifth laparoscopic gastrointestinal surgeon and a second laparoscopic nurse. The portfolio of courses has already expanded from 10 to 16 training courses per year. There is a broad range of courses covering all laparoscopic procedures which are suitable for all grades of surgeon. The ICENI Centre is committed to maintaining the highest standards of training and currently has places available for three junior surgeons as well as two laparoscopic fellows. In addition, the ICENI Centre works closely with the Association of Laparoscopic Surgeons of Great Britain and Ireland in training senior surgeons. Because of the numbers of surgeons in the ICENI team they are able to offer a Preceptorship programme whereby surgeons visit Colchester with a team of their own and then set up training at their own hospital with an ICENI surgeon and nurse acting as mentors to guide the safe adoption of new laparoscopic techniques at other UK and European hospitals. The ICENI Centre has a commitment both nationally and on a European level for laparoscopic training.

The next capital investment will be for a new training centre building capable of housing the administrative staff, simulators and dry labs and the audiovisual hub. Lecture theatres and seminar rooms will be included.

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