ALS GBI
Association of Laparoscopic Surgeons of Great Britain & Ireland

ALS newsletter

Editor's Introduction

Welcome to the first ALS newsletter of 2012. When you do an internet search (google.co.uk) for "ALS" you get over 2,500 million hits! Sandwiched between Amyotrophic lateral sclerosis and Al's beef, the ALS comes in second place, and 2011 has proved to be an extremely successful year for the ALS. The organisation has had the most popular ASM in its history with a record number of members. The recent ASM, held in Cardiff, was a technological tour de force and, as well as this year's AUGIS ASM, is reported on within.

Strangely there is an unanticipated aspect to minimally invasive surgery. The general public have come to consider surgery, especially that performed laparoscopically, to be very routine, complication-free and painless. A recent comment (from a non-medical relative) that "preparing Christmas lunch is more stressful than your operations" and from a patient "you just pull it [the gallbladder] out, don't you?" typifies this belief. The current CEPOD theatre provision and staff recommendations are comparatively new and were driven by quite shocking mortality statistics; most of us remember the difficulties once associated with providing an emergency service. Thus, in keeping with this, the manner in which we treat emergencies has radically altered. The provision for laparoscopic treatment of acute conditions has become very much more widespread in the last few years and, whilst some hospitals struggle to provide an out of hours laparoscopic appendectomy, forward thinking centres perform up to 90% of cases this way.

With the Olympics coming to London, 2012 promises to be an exciting time in the UK. This week the NHS in England announced that 2012 will be a "key year" with £20bn in efficiency savings to be made by 2015, according to the head of the NHS Confederation, Mike Farrar. The days of increased spending and expansion thus seem to be over. A reduction in tariffs has spurred us to optimise our day case service with an ever increasing repertoire of cases deemed suitable without any compromise in outcomes or, most importantly, safety. We stand at the forefront of innovation and are ready to embrace any and all technologies that may advance our "craft" and improve the patient journey/experience.

This is my last newsletter for the ALS and I must thank the past President Mike Rhodes, the current President Tim Rockall and especially Jenny and Sarah for their support over the last few years. I leave the ALS committee in a stronger and more secure position than when I started and will watch, with great interest, the direction our specialty pursues in the forthcoming years.

Mr Paras Jethwa, Newsletter Editor

President's Introduction

It is a great honour to be elected the 9th President of this Association. The ALSGBI is an Association that has steadily grown in membership and stature since its formation 18 years ago– it wasn't long ago that the annual conference could be accommodated in the facilities of a district general hospital and we are now in a position to have to consider our venues carefully far in advance in order that we can achieve, for example, what we have recently achieved in Cardiff in November. Cardiff, on the basis of several parameters, was our most successful conference to date.

It can be easy to think that in an era when laparoscopy forms a significant part of the interest of many sub-specialty associations that the ALS may have a diminishing role and value but I genuinely believe that nothing could be further from the truth. The ALS has become almost unique, firstly in the format of its annual conference with its dedication to live surgery and secondly with its multi-speciality involvement, which promotes the dissemination of techniques between groups we may otherwise rarely see. Over the years the ALS conferences have featured urology, gynaecology, bariatrics, paediatrics, vascular and endocrine surgery as well as the core abdominal GI specialities. In addition we have striven to keep bang up to date with technological advances as they have come along, whether they have matured or not - robotics, natural orifice surgery, single port surgery, and now 3D. And through our mutual interest in technology and innovation we are able to maintain a very healthy relationship with our industry partners, which is so important to us.

It is increasingly difficult for each successive incoming President to make a list of things that they hope to achieve. For my part I simply want to leave it bigger, better and more popular than it is now and with a greater voice and influence over the training and teaching of laparoscopic surgery in the UK.

I hope you enjoy this newsletter and may I encourage you to join our Association, or if you are already a member please encourage your colleagues to join if you feel they would benefit from what we have to offer. Becoming a member has never been easier, and can be done with a simple click of the button on the front page of our website at www.alsgbi.org

My special thanks go to B.Braun for sponsoring this newsletter.

Professor Timothy Rockall, President

ALS COUNCIL 2012

ALS Executive

President
Professor Tim A Rockall

Past President
Mr Mike Rhodes

Honorary Secretary
Mr Mark N Vipond

Honorary Treasurer
Mr Donald Menzies

Director of Education
Mr Peter C Sedman

Members of ALS Council

Midlands
Mr Martin S Wadley

Trent
Mr Paul C Leeder

Ireland
Mr J Andrew Kennedy

Oxford & Wessex
Mr Charles J Ranaboldo

Northern & Yorkshire
Mr Simon PL Dexter

North West & Mersey
Mr Milind S Shrotri

Scotland
Professor Zygmunt H Krukowski

North Thames
Professor Stephen JD Chadwick

Anglia
Mr Timothy Justin

South Thames
Professor Amir Nisar

Wales
Mr Umesh P Khot

South & West
Mr Nicholas Davies

AUGIS Representative
Mr Ian J Beckingham

ACPGBI Representative
Mr A Mark Gudgeon

ASiT Representative
Vacant

ALS Representative at European Association of Endoscopic Surgeons
Professor Roger W Motson

ALTS Chair
Mrs Jane P Bradley-Hendricks

Deputy ALTS Chair
Ms Alice E Jones

Editorial Secretary
Mr Paras Jethwa

Audit Director
Mr C Richard B Welbourn

Website Director
Mr David Mahon

RCS Bariatric Tutor
Mr David F Hewin

RCS MIS Tutor
Ms Avril AP Chang

Mrs Jenny Treglohan, Executive Officer
jtreglohan@asgbi.org.uk
Tel +44(0)20 7973 0305
www.alsgbi.org

Mrs Sarah Williams, Business Manager
swilliams@asgbi.org.uk
Tel +44(0)20 7304 4777
www.alsgbi.org

SAVE THE DATE
ALS ASM 2012 Cork
29 & 30 Nov 2012

ALS Industry Partners

Platinum

COVIDIEN

Ethicon Endo-Surgery

STORZ

stryker

Gold

Applied Medical

B BRAUN SHARING EXPERTISE

ETHICON HERNIA SOLUTIONS Together for life

OLYMPUS

Silver

BARD DAVOL INC. TECHNOLOGY TECHNIQUE TRAINING TRUST

COOK MEDICAL

elemental HEALTHCARE

Fisher & Paykel HEALTHCARE

GORE

Lotus

mantis

SIGH

Teleflex MEDICAL

Reflections on the Presidency 2009 to 2011

It was a pleasure to hand over the Presidential chain of office to Tim Rockall at our Annual Scientific Meeting in Cardiff last November, knowing the Association is in good shape. The meeting in Cardiff broke all records for attendance and feedback on the surgical and academic programme has been very positive. It was also a pleasure for me to hold the meeting in Cardiff, where I grew up and also spent some of my time in surgical training.

The two years as President passes in an instant and it is amazing how much work and effort is needed just to achieve one or two small initiatives. Thankfully during my Presidency I was fortunate to have an excellent Council and Executive, helping some of our initiatives come to fruition. The National Laparoscopic Theatre Audit, started by my predecessor, Mike Parker, has expanded and gone online during the last two years, thanks to the work of the ALS Audit Officer, Richard Welbourn. The National Bariatric Database has reported its first year of results and ALS were delighted to be at the heart of that initiative and I was pleased to serve with Alberic Fiennes on the management panel for that database. Perhaps the most significant change during my Presidency was the submission of a laparoscopic assessment module to the ISCP which was developed by Peter Sedman, the ALS Education Officer. Once incorporated into the surgical curriculum, this will be an essential module to pass before committing to undertake training in laparoscopic surgery and unlike all previous laparoscopic educational initiatives in the UK it will require much practice by the trainee and it is quite easy to fail!

The discussions about the need for more "general gastrointestinal surgeons" to provide both upper and lower GI elective surgery as well as care for abdominal emergencies means that ALS will remain at the heart of general surgery and continue to flourish. It has been an honour to serve as President for the last two years and my final thanks go to Jenny and Sarah in our London office, the longest serving staff within the ALSGBI and of course the best - well I would say that!

Mr Michael Rhodes
Past President

ALS Annual Scientific Meeting, Cardiff 2011 – To Infinity and Beyond!

17 & 18 November 2011

My only previous trip to Cardiff was in 2003 as part of an organ transplant team arriving on a cold wet evening receiving peculiar stares from the hangers-on outside A&E. Thus arriving this November seemed to be strangely nostalgic!

The origins of Cardiff (Caerdydd), currently the largest city in Wales and the tenth largest city in the UK, can be traced back to 4 000 years BC with archaeological evidence showing that Neolithic people had settled in the area about 1,500 years before either Stonehenge or the Great Pyramid of Giza was completed! Cardiff now is home to the Millennium stadium (a dubious venue of the "London" 2012 Olympics) and voted in a recent poll as the number one "Friday night out" in the UK, narrowly beating the City of Newcastle and the doctors' mess in Colchester!

This year's ASM was the most successful in the Association's history with a record number of attendees and a very progressive program. Live operating was hosted by the Morriston Hospital, Swansea and featured a number of advanced bariatric procedures with the first day ending with a 2 hour feature of 3D laparoscopic surgery (from the MATTU) showcasing cases including an adrenalectomy, oesophagectomy & distal pancreatectomy. Whilst, in my opinion, not as big a leap forward as normal resolution to full high definition, once everyone had become accustomed to the glasses, the 3D images became quite natural and it was easy to see how this technology could well become the standard in years to come.

The meeting was well supported by our industry partners and also by Mercedes Benz. Now if I had the money an SLS-AMG would suit me very well, I am quite sure. Who needs to privately educate your children or have a big house when a car is this utterly fabulous! Donations to my fund should be sent to the ALS office! Of interest was the very little emphasis, unlike in previous years, on single incision surgery devices or instruments. The tidal wave of interest in this novel technique seems to have dispersed and whilst we have the odd ripple left the surge of public demand, in the UK at least, does not seem to have materialised.

After an excellent day of live operating from Swansea and a two hour session about 3D surgery, the Conference Dinner was held in The National Museum of Wales. The food was excellent and our after-dinner speaker, Robert Croft, kept the audience spell-bound with his tales of derring do on the cricket pitch.

After a day of live operating dominated by bariatric surgery, it is not surprising that our two keynote lectures also covered bariatrics. Christine Ren-Fielding spoke on new horizons in surgery for morbid obesity, giving us all a fascinating insight into the current state of play and new interventions, just over the horizon. George Fielding debated with Peter Sedman on whether limited resources for weightloss surgery were best spent on laparoscopic gastric banding and the audience were split 50/50 at the end of what was a fascinating debate. Presentations in lecture, poster and DVD format were to a very high standard. The winner of the "2011 David Dunn Medal" for the best oral presentation was awarded to Mr E MacDonald for his paper "Laparoscopic versus Open Resection for Colorectal Cancer. Early outcome data from a large regional database." The 2011 ALS Best Laparoscopic DVD Prize was won by Mr N Carter for his presentation "Superior Mesenteric Artery Syndrome - Laparoscopic duodenojejunostomy". Finally the 2011 ALS Best Laparoscopic Poster Prize was won by Mr R Maitra for his poster entitled "Medium term results of laparoscopic colorectal surgery from a National Training Centre".

At the end of the Annual Scientific Meeting the Presidency was handed over to Professor Tim Rockall of Guildford and delegates were reminded that next year's meeting is in Cork, Ireland. We hope to see you all there.

Mr Paras Jethwa, Newsletter Editor
Mr Michael Rhodes, Past President

SAVE THE DATE
ALS ASM 2012 Cork
29 & 30 Nov 2012

Anaesthesia for laparoscopic surgery

From 1994 onwards there has been a sharp increase in research in laparoscopic surgery and anaesthesia with the ALSGBI formed in this year (figures 1&2 show the number of publications per year on the combined topics of laparoscopic surgery and anaesthesia and, also the percentage of the total publications for that year in PubMed). Most of the early research was in gynaecologic surgery where the technique for laparoscopic surgery was pioneered and, subsequently the use of minimally invasive surgery was expanded to many other general surgical procedures. There is currently and quite rightly a great deal of enthusiasm for laparoscopic surgery: this is primarily due to the reduction in surgical stress, improvements in postoperative pain and facilitation of earlier discharge. Whilst initially reserved for ASA I and II patients, it has been shown that it might be an option for even for high risk surgical patients and emergency abdominal operations. Along with advances in surgical techniques such as single port procedures, natural orifice trans-lumenal endoscopic surgery (NOTES) and robotic assisted surgery, there have been improvements in anaesthetic management which can also improve patient outcome.

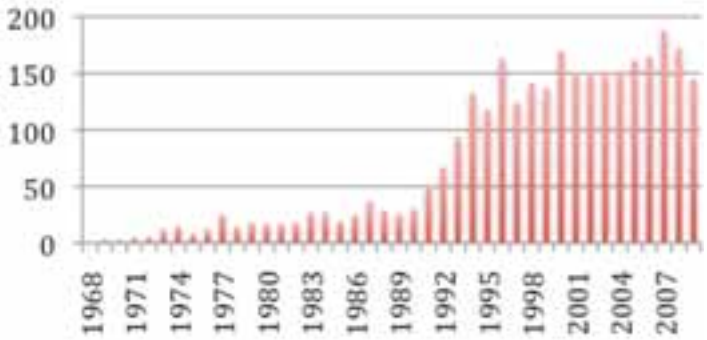


Figure 1. Numbers of hits for "anesthesia" AND "laparoscopy" in Pubmed by year*

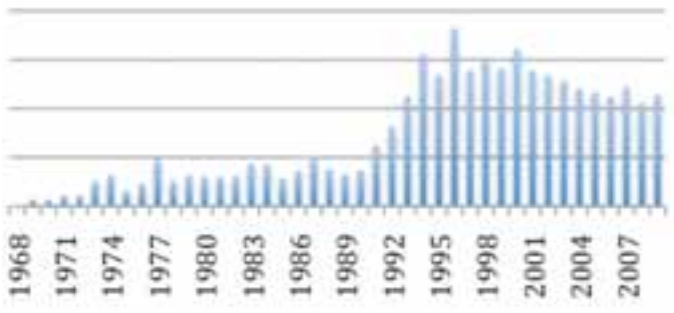


Figure 2. Proportion of hits compared with total number of publications listed on Pubmed by year

Airway Control

The traditional technique for maintaining the airway for laparoscopic surgery is with a cuffed endotracheal tube. This provides the ability to maintain normocarbia, apply positive end expiratory pressure (PEEP) to counter alveolar collapse (see below) and also protects the airway from aspiration of gastric contents. The use of this technique is complicated by several factors such as hypertensive response to laryngoscopy, sore throat, hoarseness, endobronchial intubation (particularly when associated with the pneumoperitoneum) and airway trauma. A desire to avoid these complications has led to many anaesthetists using supraglottic devices such as the laryngeal mask airway (LMA) or the ProSeal LMA. There are many studies and case series on their safety in gynaecologic laparoscopy and several investigators suggest that the ProSeal LMA may be a suitable alternative in upper gastrointestinal laparoscopy such as cholecystectomy. The ProSeal LMA design has been shown to increase the "seal" pressure on the laryngeal opening and therefore allow for ventilation and reduced risk of passive aspiration. Patients must be carefully selected as a high risk of gastric reflux would still contraindicate the use of such devices.

Ventilatory strategy

The pneumoperitoneum gives rise to several effects on the respiratory system including decreased functional residual capacity (FRC), elevated diaphragm, higher airway pressures, alveolar collapse and a need for increased minute ventilation to eliminate the absorbed CO2. All of these factors must be taken into account by the anaesthetist in order to mitigate their effects, particularly so in patients who have cardiorespiratory compromise. With advancing improvements in skill and technique, many surgeons are able to operate with lower intra-peritoneal pressures which reduces some of these problems.

In all but the shortest procedures where spontaneous breathing techniques are acceptable, intermittent positive pressure ventilation is used. Normally this will be achieved with neuromuscular blockade, but the use of the short acting opioid remifentanil may be a suitable alternative, since neuromuscular blockade does not contribute substantially to respiratory mechanics. Remifentanil has also been used to facilitate endotracheal intubation without the need for muscle relaxants. The avoidance of the need for neostigmine to reverse the effects of neuromuscular block is also an advantage in that there is reduced risk of nausea and also no increase in lumenal pressure in the gastrointestinal tract from increased peristalsis which would otherwise put extra pressure on any recently formed anastomosis. This method may have advantages for ambulatory surgery, but does add the possibility that the patient may cough unexpectedly during surgery if high enough doses of remifentanil are not used. The use of Bispectral Index monitoring may help reduce this particular problem

Strategies to counter the collapse of dependent areas of the lung include the use of PEEP and alveolar recruitment manoeuvres (essentially, sustained inflation of the lung to 40-50 cmH2O for a short time). Both of these seem to work better when started before the pneumoperitoneum is created and continued throughout the operation. In order to maintain normocapnia, an increased minute volume can be achieved by either increasing the respiratory rate or, more efficiently, by increasing the tidal volume which has a proportionally greater effect on alveolar ventilation (less is wasted on dead space). This increase in tidal volume can lead to higher airway pressures although alterations to the ratio of inspiration to expiration (I/E ratio) can mitigate this. There are two main ventilation strategies to consider (apart from pressure support ventilation with spontaneous techniques). Pressure controlled ventilation (PCV) may have some beneficial effect on oxygenation and reducing overall (mean) airway pressure due to the pressure waveform delivered. Volume control ventilation however, is more efficient at maintaining normocapnia. Regarding normocapnia, anaesthetists usually measure CO2 as end-tidal concentrations as a substitute for alveolar CO2 (ACO2). In normal anaesthetised subjects, this will approximate reasonably well with arterial CO2 (aCO2). However in situations with atelectasis and increased shunting of blood through the lung, the figure will underestimate due to a large a-A CO2 difference.

Cardiovascular management

The cardiovascular system is affected by the increased abdominal pressure and also by patient positioning. Cardiac pre-load is reduced due to decreased venous return with inferior vena caval compression. Afterload is increased due to increased systemic vascular resistance caused either by direct pressure on the major arteries or by a neurohumoral response. The usual manifestations of these changes are decreased cardiac output with a tachycardia and increased mean arterial pressure (MAP). Bradycardia is also possible due to vagal stimulation on the heart from peritoneal stretch and atropine should always be at hand along with the means to release the pneumoperitoneum should the bradycardia be severe. On a personal note, I have experienced problems with the use of a Veress needle in that the gas could not be released quickly enough in a serious case of cardiovascular collapse. Various methods can be used to optimise cardiovascular function, particularly where there is pre-existing compromise. Optimal fluid management is important whereby venous return can be improved. Goal directed therapy is probably the best way to do this using some form of cardiac output monitoring. Oesophageal Doppler has been investigated the most and shows the most promise, but other non-invasive techniques can be considered. Although there is a trend for using lower volumes of fluids overall, using the "right fluid" at the "right time" is probably the way to go, indeed there is some evidence that in day surgery larger fluid volumes may be beneficial and have been shown to reduce recovery times. Central venous pressure monitoring is not useful as it is artificially elevated by the increased abdominal pressure. Methods to control MAP include optimal

anaesthesia, opioid analgesia, b-blockade and magnesium sulphate. Thoracic epidural analgesia may also improve cardiac output and splanchnic perfusion. Further work is needed in this area though.

Anaesthetic technique

General anaesthesia is the most often used technique, although recently there have been several case series and randomised studies showing the feasibility of laparoscopic surgery under spinal block. It seems to provide better post operative analgesia in laparoscopic cholecystectomy and is comparable to general anaesthesia with regard to complications, recovery and discharge times. It may also have some use in high-risk patients where it increases cardiac output and reduces the rise in MAP. As discussed above, general anaesthesia may be combined with thoracic epidural which improves pain relief and may have some beneficial action on improved cardiac output and splanchnic perfusion. Epidurals do have their own problems however, and it is the author's view that they should be reserved for cases with a high probability of conversion to an open procedure in patients who have other cardiorespiratory comorbidities. Other local anaesthetic techniques have also been advocated by several investigators such as, rectus sheath block, transversus abdominus plane (TAP) block, intrapleural block and local anaesthetic infiltration of port sites. It appears that infiltration prior to port insertion leads to better post-operative pain relief than when infiltrated at the end of the procedure.

Inhalational anaesthesia and intravenous anaesthesia (using propofol and a short acting opioid such as remifentanil) have both been used and both have their advocates. Intravenous techniques are probably more expensive in terms of the drugs used, but lead to less risk of post operative nausea and vomiting (PONV) which will have benefit when used for day case surgery. It also tends to produce higher levels of patient satisfaction. When used with some form of depth of anaesthesia monitoring (such as bispectral index, or BIS) both techniques can be equivalent in terms of speed of recovery from anaesthesia. The use of magnesium sulphate intra-operatively has been shown to reduce BIS values (and hence the risk of awareness) when using intravenous anaesthesia and along with it's other useful effects, this has propelled renewed interest in this simple drug. Obesity presents a special circumstance in which recovery is probably quicker using the short acting inhalational agent desflurane which does not accumulate in the adipose tissues as much as propofol.

Pain relief

Multimodal pain relief is important after laparoscopic surgery. The combined use of paracetamol and some form of non-steroidal anti-inflammatory drug (NSAID) are ideal when there are no contra-indications. This combination has been shown to reduce the requirement for post operative opioid. There is some evidence that a loading dose (2g orally pre-operatively) of paracetamol is superior to standard dosing. Some studies have looked at using a 2g intravenous dose and have found some benefits and a lack of adverse effects. Along with reducing PONV, dexamethasone in doses between 8 and 15mg have been shown to improve pain scores along with a reduction in incidence of chronic pain. Magnesium has an anti-nociceptive effect along with its usefulness in controlling MAP. Simple manoeuvres should not be overlooked such as pre-incisional local anaesthetic infiltration and total removal of CO2 at the end of surgery. A simple method to do this is for the anaesthetist to provide a sustained manual inflation of the lung during removal of the last port with the patient in a Trendelenburg position. A method which reduces the common problem of shoulder tip pain and also has the benefit of acting as an alveolar recruitment technique at the same time. Warming and humidifying the gas in the abdomen has also been shown to reduce post operative pain scores. The use of intra-peritoneal local anaesthetic has been shown to be very useful, but care needs to be taken with the total amount given so as not to cause toxicity. The surgeon's experience and skill will play no small part in the amount of postoperative pain, with reduced tissue damage and surgical stress response, and a reduction in peritoneal soiling with blood or bile.

Summary

Laparoscopic surgery has rightfully cemented its place in the treatment of appropriate conditions with advances in surgical techniques playing a very significant role in both reducing morbidity and reducing inpatient stays. Careful consideration of the implications of this type of surgery and an up-to-date knowledge of newer therapeutic interventions in anaesthesia and pain relief will also help to improve the patient experience and help to broaden the patient groups that may benefit. As is so often the case, doing the simple (and cheapest) things correctly is the first thing to get right and will often have the greatest impact on patient outcome.

Dr Matthew J Mackenzie FRCA, Consultant Anaesthetist,
Surrey & Sussex NHS Trust

ALS Annual Scientific Meeting, Wales 2011

Well another successful conference was had in Cardiff where the sun shone and the weather was reasonable (it was Wales!) The Civic Hall was a lovely venue and the staff were very friendly and accommodating. The live operating was up to the usual standard and provided lots of lively discussion, although it was a shame we had to sever the satellite connection, even though we continued for another 30 minutes to try and fit everything in to the packed programme. The 3D session in the late afternoon was extremely well received and very interesting although some people found watching it very difficult. I am reliably informed that 2% of the population do have problems processing this information. This was borne out when a few people left the auditorium looking a little strange! It was a very informative session and I certainly had not realised the depth of technology required to bring 3D into the operating theatre. Will it catch on? Watch this space.

The dinner was up to the usual standard and the venue, the Cardiff Museum, was beautiful and very elaborate. As usual the tickets sold out fast and there were many people disappointed as they didn't purchase their tickets in time and therefore missed out. Our entertainment was special guest speaker, international cricketer and Sky Sports commentator, Robert Croft. I have never heard a Welshman do such a good South African accent. He kept us laughing with a succession of stories and anecdotes. It was as the tradition goes a late night with few people in bed before 1 am!

Friday proved to be another excellent day and we had a separate session for ALTS members which ran parallel to the main scientific session. We had a variety of talks from Fisher & Paykel on CO2 humidification, SIGH with a session on new products/instrumentation, Cook on Biological meshes and Applied Medical on their new Kii FIOS system. All were very informative although it was a little disappointing to see the number of delegates there. We know we had 25 ALTS members registered but unfortunately the session had only about half of these present. Of course we know that some of our members attend the main scientific session and this is entirely their prerogative. However if is slightly disheartening to the presenters to deliver a presentation to such small numbers.

Once again I would like to take this opportunity to thank David Peddy from SIGH for supporting 12 ALTS members to come to the meeting we are indebted to him as we all know how difficult it is to get funding these days for conferences.

Well we are all looking forward to our conference in Ireland next year. Watch the website for more details.

Mrs Jane Hendricks
ALTS Chair

SAVE THE DATE
ALS ASM 2012 Cork
29 & 30 Nov 2012

Winner of the David Dunn Medal for the best abstract presented at ALS Annual Scientific Meeting, Cardiff 2011

Laparoscopic versus open resection for colorectal cancer. Early outcome data from a large regional database

The West of Scotland has a long history of auditing colorectal cancer outcomes. Our aim was to review the regional database to see if the good outcomes for laparoscopic colorectal cancer seen in carefully conducted trials are maintained in real practice. Those studies are often carried out by enthusiasts with strict criteria regarding the minimum amount of experience for the enrolled surgeons. It also gave us an opportunity to see the uptake of laparoscopic colorectal cancer surgery in our region.

Methods

Colorectal cancer services in the West of Scotland Cancer Network (WoSCAN) are organised around 10 MDTs (2007-2009) serving 2.4 million people in 4 health boards. From this population, each year approximately 1600 patients are newly diagnosed with colorectal cancer. This report presents service performance against standards from the NHS Quality Improvement Scotland (QIS) for the management of colorectal cancer. The relevant surgical markers are: resection margin positive rates, anastomotic leak rates and 31 day mortality rates.

The MDTs include both DGHs and teaching hospitals. Data is submitted by each MDT to a central database and recorded in a standardised eCASE format. The results for each MDT are fed back to the lead of the MDT and signed off and any missing details corrected. Thus data was available for 2008 and 2009.

Results

The case ascertainment comparison with Scottish Cancer Registration data (SMR6) was 100%.

2,229 operative cases were identified. Any missing data fields were excluded from analysis. 1,663 cases were open (77.8%) and 475 attempted laparoscopically (22.2%); 80 laparoscopic cases were converted (16.8%). These figures include emergency cases of which 326 (19.6%) were open and 15 (3%) laparoscopic.

Duke's stage was comparable (Table 1). Open cases: A=241 cases (15.6%), B=609(39.5%), C1=565(36.7%), C2=81(5.2%) and D=47(3.0%). Laparoscopic cases: A=91(21.2%), B=175(40.8%), C1=143(33.3%), C2=14(3.3%), D=6(1.4%).

Table 1. Duke's stage for open and laparoscopic cases.

DUKE'S STAGE	OPEN	LAPAROSCOPIC
A	241 (15.6%)	91 (21.2%)
B	609 (39.5%)	175 (40.8%)
C	565 (36.7%)	143 (33.3%)
C2	81 (5.2%)	14 (3.3%)
D	47 (3.0%)	6 (1.4%)

Margin positivity rates (Table 2) were 1.5% (19 of 1292 cases) for open colonic cases and 11.5% (31/269) open rectal cases. For laparoscopic colonic 0.3% (1/371) and laparoscopic rectal 1.7% (1/60). For converted colonic 0% (0/76) and converted rectal cases 5.9% (1/17).

Table 2: Margin positivity rates

	OPEN	LAPAROSCOPIC	CONVERTED
COLON	19/1292 (1.5%)	1/371 (0.3%)	0/76 (0%)
RECTUM	31/269 (11.5%)	1/60 (1.7%)	1/17 (5.9%)

For colonic cases anastomotic leak rates (Table 3) were: open surgery 17 of 501 cases (3.4%), laparoscopic cases 2 of 130 (1.5%) and 2 of 24 converted cases. For rectal cases anastomotic leak rates were: open 44 of 477 (9.2%), laparoscopic 16 of 191 cases (8.4%) and converted cases 2 of 33 (6.1%).
31-day mortality rates: open 36 of 1319 (2.7%), laparoscopic 5 of 380 (1.3%) and converted 2 of 77 (2.6%).

Table 3: Anastomotic leak rates

	OPEN	LAPAROSCOPIC	CONVERTED
COLON	17/501 (3.4%)	2/130 (1.5 %)	2/24 (8.3%)
RECTUM	44/477 (9.2%)	16/191 (8.4%)	2/33 (6.1%)

Discussion

Our database shows that in the West of Scotland early markers of surgical quality are comparable for open and laparoscopic colorectal cancer cases. This shows that laparoscopic colorectal surgery is being done to a high standard across a mix of hospitals and surgeons with differing experience. We accept that there will be a degree of case selection bias involved particularly with the rectal cases. However it is useful to have a marker for comparison.
The prevalence of laparoscopic surgery at this time period is similar to that derived from HES and LAPCO data. The next challenge is to improve this further whilst still maintaining high quality outcomes.

Euan R MacDonald, Laparoscopic Fellow,
Gartnavel General Hospital, Glasgow
Richard G Molloy, Consultant Surgeon,
Gartnavel General Hospital, Glasgow

ACKNOWLEDGEMENTS
This report has been prepared using clinical audit data collected by audit, nursing and clinical staff involved in the management of colorectal cancer throughout the West of Scotland. We would like to thank all members of the MCN for their care and diligence in gathering, submitting and verifying this data. In particular, local audit teams and clinical leads of the Colorectal Cancer Multidisciplinary Teams (MDTs) deserve particular mention.

Enhanced recovery after surgery in the era of laparoscopic colorectal surgery

Enhanced recovery after surgery (ERAS) originated in the 1990's with the aim of improving peri-operative patient care, reducing complications and subsequently reducing the length of stay. An ERAS protocol typically consists of up to twenty elements that are distributed over the pre-, peri- and post-operative periods[1]. These elements were designed with open colorectal surgery in mind and we must question which are now relevant in the laparoscopic era. The two elements that are particularly important in laparoscopic colorectal surgery are analgesia and fluid administration.

A continuous thoracic epidural is currently the recommended analgesia of choice for colorectal surgery using the ERAS guidelines[1]. As well as the recognised advantages of reduced opiate requirement, improved oxygen delivery and good pain control there are possible disadvantages such as post-operative hypotension, increased fluid administration and difficulties with mobility[2]. Spinal analgesia is an attractive alternative in laparoscopic colorectal surgery as it has the advantages of providing excellent immediate post-operative analgesia while permitting rapid mobilisation and early return of gut function. Research conducted at the MATTU identified a significantly longer length of stay with epidural analgesia compared to spinal or patient-controlled analgesia (PCA)[3], see graph. With the use of spinal analgesia in laparoscopic colorectal surgery and the rigorous adherence to all the elements of the ERAS protocol we have shown it is possible to discharge selected patients within 24 hours of surgery[4].

An additional proposed benefit of thoracic epidural use is modulation of the stress response following surgery[5]. However the research to date surrounding this issue has been conducted with open colorectal resections. With the use of laparoscopy the magnitude and length of the post-operative stress response is significantly less[6], making any additional benefit from epidural usage negligible. Indeed we have identified that insulin and cortisol levels following laparoscopic colorectal resection return to the pre-operative state within 24 hours of the start of surgery.

Fluid therapy is another key element in laparoscopic colorectal surgery. Optimisation starts with the administration of an oral carbohydrate load the day before and the morning of surgery to minimise dehydration and reduce post-operative insulin resistance. During surgery intravenous fluids must be given using an individualised goal directed fluid therapy (GDFT) technique, stroke volume is determined with the use of either an oesophageal Doppler monitor or arterial pressure waveform measurement (LiDCO). GDFT allows optimisation of an individual patients' stroke volume, which will improve flow and subsequent oxygen delivery. If used correctly this has been shown to significantly improve clinical outcomes and reduce complications. GDFT with laparoscopic colorectal surgery requires constant monitoring due to the changing dynamics associated with the change in patient position and creation of a pneumoperitoneum.

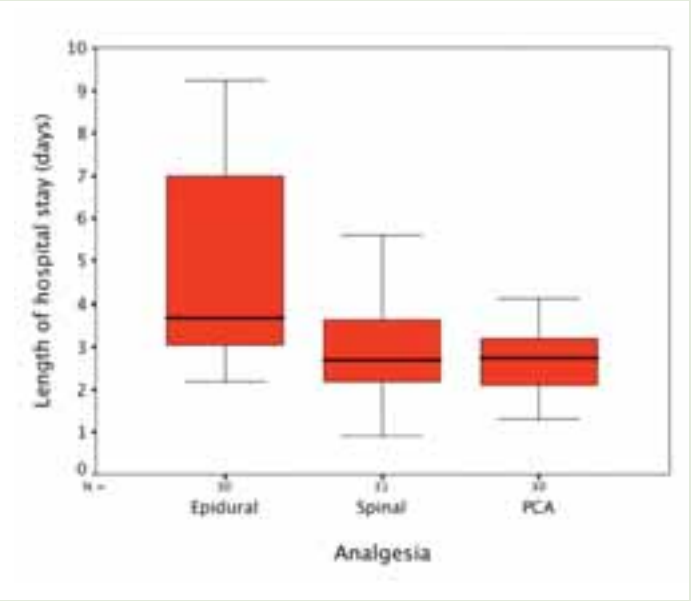
It is currently unclear which fluid (crystalloid or colloid) should be used when performing GDFT[7]. The majority of research conducted on GDFT has used colloid as the fluid of choice. It may be that the choice of fluid is not as important as the actual process of individualising the goal direction of fluid therapy. This is only true so long as low volumes (no more than 2-3 litres) are to be administered and if using crystalloids, balanced salt solutions are used. Following surgery early commencement of oral fluid and diet is necessary with cessation of post-operative intravenous fluids on the first post-operative day.

The application of Individualised fluid therapy, effective analgesia (spinal) and enhanced recovery protocols to laparoscopic colorectal surgery will produce a decrease in complications, produce optimal wound healing and reduce length of stay.

A Day, B Levy, R Smith, I Jourdan, B Fawcett, M Scott and T Rockall
The Royal Surrey County Hospital

References:

1. Fearon KC, Ljungqvist O, Von Meyenfeldt M, Revhaug A, Dejong CH, Lassen K, et al. Enhanced recovery after surgery: A consensus review of clinical care for patients undergoing colonic resection. Clin Nutr 2005, Jun;24(3):466-77.
2. Fotiadis RJ, Badvie S, Weston MD, Allen-Mersh TG. Epidural analgesia in gastrointestinal surgery. Br J Surg 2004, Jul;91(7):828-41.
3. Levy BF, Scott MJ, Fawcett W, Fry C, Rockall TA. Randomized clinical trial of epidural, spinal or patient-controlled analgesia for patients undergoing laparoscopic colorectal surgery. Br J Surg 2011, Aug;98(8):1068-78.
4. Levy BF, Scott MJ, Fawcett WJ, Rockall TA. 23-Hour-Stay laparoscopic colectomy. Dis Colon Rectum 2009, Jul;52(7):1239-43.
5. Kehlet H. The surgical stress response: Should it be prevented? Can J Surg 1991, Dec;34(6):565-7.
6. Buunen M, Gholghesaei M, Veldkamp R, Meijer DW, Bonjer HJ, Bouvy ND. Stress response to laparoscopic surgery: A review. Surg Endosc 2004, Jul;18(7):1022-8.
7. Morris C, Rogerson D. What is the optimal type of fluid to be used for peri-operative fluid optimisation directed by oesophageal doppler monitoring? Anaesthesia 2011, Sep;66(9):819-27.



ALS GBI

Association of Laparoscopic Surgeons &
Association of Laparoscopic Theatre Staff
of Great Britain & Ireland

Travelling Scholarships 2012

Ethicon Endo-Surgery has generously funded a scholarship in memory of David Dunn. This scholarship is to the value of £4,000 and it is anticipated that this would enable a surgeon at the end of his/her training, or a consultant within 5 years of appointment, to make a substantial visit to a unit abroad to learn new skills in laparoscopic surgery, with a view to introducing them to the UK. The application should include a CV, full details of the unit and the reasons for the proposed visit, together with a detailed budget of expenditure. The successful applicant will be expected to give a report on their visit at a meeting of the ALS. This sponsorship is funded by an unconditional grant in line with the ABHI Code of Business Practice and adheres to Health Care Compliance Guidelines.

The ALS is also awarding two Aesculap Endoscopy Travelling Scholarships of £2,000 each. The purpose of these scholarships is to enable surgeons in training, or young consultants within 5 years of appointment, to extend their experience in minimal access surgery by short visits to one or more centres. The application should include a CV, details of the planned visit or visits, togetherwith an estimate of the costs. The successful applicants will be expected to produce a brief report of their visit at a meeting of the ALS.

Candidates for these scholarships should apply to the Honorary Secretary of the ALS, Mr Mark Vipond, ALS at The Royal College of Surgeons of England, 35-43 Lincoln's Inn Fields, London WC2A 3PE. Candidates wishing to be considered for both types of scholarship must make separate applications for each one. The deadline for receipt of applications is **Friday 13 April 2012.** The names of successful applicants will be announced at the Association of Surgeons International Congress in May 2012 in Liverpool.

Ethicon
Endo-Surgery

B|BRAUN
SHARING EXPERTISE

Through the Keyhole ALS 2012

A selection of recently published articles

UGI section:

Long-term results after laparoscopic reoperation for failed antireflux procedures.
BJS. 2011; 98: 1581-1587

Redo surgery is often significantly more challenging than a primary operation. 129 consecutive patients who underwent redo surgery after fundoplication had failed were included. Subjective and objective outcomes were assessed. The most frequent causes of failure were hiatal herniation in 50 patients and slippage in 45 patients. Other causes identified were the crural repair (2 patients) and normal fundoplication (6 patients) but leading to worse post operative symptoms of bloating and dysphagia. Of those operated on for recurrence, 27 of 37 patients symptoms subjectively resolved. For those operated on for dysphagia 11 of 16 patients symptoms were subjectively resolved. Objectively, failure of repair after recurrence was 16 out of 39, 4 of which went on to further surgery. 6 out of 22 redo operations for slippage failed, 3 of which went on to further surgery. At 5 years it is estimated that 83% and 93% will be free from further failure of herniation and slippage. This decreases to 37% and 50% at 10 years. In summary the failure rate following redo surgery is high and increases with length of follow-up.

Laparoscopic versus robot-assisted Nissen fundoplication in an infant pig model.
Paediatr Surg Int. 2011, Dec 27.

How much advantage can a robot provide over humans? These authors compared average times to complete the various stages of 12 laparoscopic Nissan fundoplications in pigs. No difference in average times to complete each phase of the operation between human and a robot assisted was found, even though robotic knot-tying was faster (p=0.001). Suturing quality was deemed superior in the conventional technique (p=0.002) and more sutures broke during robot-assisted operation (p=0.001). Haemorrhage and pneumothorax causing interruption to workflow occurred more frequently in the conventional group (0.04 and 0.044). In this study the robot provided no clear advantage compared to conventional laparoscopy for fundoplication.

Management of perforated peptic ulcer in a district general hospital
Annals of RCSEng 2011; 93: 615-619.

Laparoscopic surgery to repair a perforated peptic ulcer (PPU) is an acceptable option over a laparotomy. Authors analysed a 6 year prospectively collected database on 162 patients that required surgery for a PPU. The median operating time was 60 minutes in the laparoscopic group compared to 50.5 minutes in the open group. Hospital stay was 5 days compared to 6 in the laparoscopic group, which was significantly shorter (p=0.01). There were 6 (11%) deaths in the laparoscopic group, 13 (15%) in the open group and 1 (5%) in the converted group. Trainees performed 53% of the open repairs and 13% of the laparoscopic repairs. The authors conclude that both open and laparoscopic repairs are safe and acceptable options for managing PPU and can be used as a training operation.

Nationwide study of the treatment of common bile duct stones in Sweden between 1965 and 2009.
Br J Surg. 2011 Dec;98(12):1766-74.

The authors from the Department of Clinical Science at the Karolinska University Hospital in Sweden have recently published a couple of papers from the Swedish hospital discharge registry (SHDR). In this paper the authors sought to establish whether there were differences in morbidity and mortality between open and laparoscopic CBD exploration, and to identify any other factors influencing mortality. Patients undergoing inpatient common bile duct exploration or endoscopic retrograde cholangiopancreatography (ERCP) during 1965-2009 were identified, but without a diagnosis of malignancy in the Swedish Cancer Registry, were included.
A total of 126 885 procedures were performed in 110 119 patients. Open surgery was initially the only available method, but during the 1990s ERCP became predominant. Later, laparoscopic bile duct clearance became an established but uncommon method. A 90-day mortality rate of 0·2% after open surgery, 0·8 % after ERCP, 0 per cent after laparoscopic exploration and 0·7% after combined procedures was recorded. After adjustment for confounding, there was no difference in mortality between open surgery and ERCP. Biliary reintervention within 90 days was identified as a risk factor for death, whereas a concomitant diagnosis of pancreatitis reduced the risk. The authors found that (unsurprisingly) the laparoscopic technique had the lowest mortality and morbidity rates. After adjustment for confounding factors, they found no difference in mortality after open surgery and ERCP. However some of the favourable outcome for laparoscopy may have been due to selection bias, owing to treatment of younger, healthier subjects with less severe disease.

Laparoscopic Gastric Ischemic Conditioning prior to Minimally Invasive Oesophagectomy, The LOGIC Trial.

(Winner of the Resident/Fellows Presentation Competition from SAGES 2011; Darmarajah Veeramootoo et al)
Minimally invasive oesophagectomy (MIO) is recognised as a valid, less traumatic alternative to open surgery. However there is a significant incidence of ischemia-related gastric conduit failure (GCF) is observed with this approach. A possible solution may be laparoscopic ischemic conditioning (LIC) of the stomach by ligation of the left gastric vessels two weeks prior to MIO. This study evaluated whether ischemic conditioning improved eventual conduit perfusion. This trial reports a RCT comparing MIO with LIC at two weeks (Lig) against MIE without LIC (non-Lig). The MIO technique used was a three-stage procedure consisting of a thoracoscopic phase, laparoscopy and extra-corporeal fashioning of the gastric conduit and finally a cervical anastomosis. This study was offered to all consecutive consenting patients with the objective of recruiting 22 in each arm. The main outcome measure was perfusion recorded from the serosal surface of the stomach by validated laser Doppler fluximetry. Areas of interest were the fundus (F) and greater curve (GC) and measurements were carried out at routine staging laparoscopy before and after intervention and again at every stage of an MIO.
Sixteen patients were recruited prior to an interim analysis of the trial data, 8 in each arm. In the Lig cohort an apparent rise in perfusion at the GC was observed post intervention. At MIO, baseline perfusion was comparable for both arms. The F being higher than GC but a significant drop is noted once the stomach had been mobilised and exteriorised. Perfusion at GC was then higher than at F (p=0.001). This trend was repeated at the conduit stage. Once delivered at the neck, the perfusion coefficient of the conduit is about 38% of baseline (range=18.1 to 67.4). However there is no difference between the Lig and non-Lig cohorts (p=0.798).
This study found that ischemic conditioning by ligation of the left gastric vessels did not result in an improvement in perfusion of the gastric conduit. The benefit observed from clinical series therefore suggests that the resistance of the conduit to ischemia occurs through an alternative mechanism, such as a micro-cellular phenomenon.

Colorectal:

Randomized clinical trial comparing the cost and effectiveness of bipolar vessel sealers versus clips and vascular staplers for laparoscopic colorectal resection.
Br J Surg. 2011 Dec;98(12):1703-12.

The widespread use of laparoscopy has resulted in a variety of instruments being used routinely for vascular control. This randomized controlled trial evaluated the cost-effectiveness of bipolar vessel sealer (BVS) compared with clips and vascular stapler (CVS) in straight laparoscopic colorectal resection. Patients scheduled for elective colorectal resection, including benign and malignant diseases, were randomised to either BVS or CVS for vascular control. Patients whose operation was converted to an open approach before pedicle ligation were excluded. Endpoints were the duration of operation, time taken to control vascular pedicles, and the cost of disposable

instruments for vascular control. 55 patients were randomised to BVS and 45 to CVS. There were several significant results: BVS reduced the overall surgical time for total colectomy by 103.6 mins and the time for vascular control by 16·8 min. For left colectomy, it decreased the time to vascular control by 9·3 min (p = 0·021). Other significant effects were the mean cost reduction of $ 88·2 for left colectomy, $ 377·7 for total colectomy and $ 366·9 for proctectomy. Conversely, use of the BVS increased the cost of instruments used for vascular control in right colectomy by $ 92·6 (p = 0·012). This paper concluded that BVS devices were expedient and cost-efficient in proctectomy, left and total colectomy procedures.

A meta-analysis of the short- and long-term results of randomized controlled trials that compared laparoscopy-assisted and conventional open surgery for colorectal cancer.
J Cancer. 2011;2:425-34

This meta-analysis evaluated and compared the short- and long-term results of laparoscopic colorectal surgery (LCRS) and conventional open surgery (OCRS) for colorectal cancer (CRC). 12 papers published between January 1990 and May 2011 were identified. Data were analysed using validated methods In the short-term period, there was no significant differences in overall peri-operative complications and anastomotic leakage between LCRS and OCRS groups. There was no significant differences in overall, distant, local and wound-site recurrence, overall mortality, 3 and 5 year disease-free survival rate, and cancer-related mortality between the 2 groups.
In conclusion: LCRS has the benefits of reducing intraoperative blood loss, earlier resumption of oral intake, and shorter duration of hospital stay in the short-term. The long-term outcomes of LCRS seem to be similar to those of OCRS.

Single-port laparoscopic right hemicolectomy: the first 100 resections. Dis Colon Rectum. 2012 Feb;55(2):134-9.

This study provided a retrospective analysis of prospectively gathered data for all patients who underwent single-port laparoscopic right hemicolectomy with the use of standard laparoscopic instrumentation, for malignant or benign disease, between July 2009 and November 2010 in a colorectal surgery practice. All conversions to conventional laparoscopic or open operations were considered in this analysis.
One hundred patients underwent single-port laparoscopic right hemicolectomy during the study period. Mean age was 63 years, 61% were men, 43% had undergone previous abdominal surgery, and the median body mass index was 26 (range, 18-46). Median ASA classification was 3 (range, 1-4). 5% of were performed urgently. Of note only 56% were performed for carcinoma, of which half were T3 or T4 tumor stage. Median operative duration was 105 (range, 64-270) minutes. 2% required conversion to multiport laparoscopy, and 4% converted to the open approach. Median postoperative stay was 4 (range, 2-48) days. Median lymph node number was 18 (range, 11-42). There was one mortality in this series. Morbidity, including wound infection, was 13%.
This study represents the largest experience with single-port laparoscopic right hemicolectomy to date. These findings support the principle of using a single-port approach for patients requiring right hemicolectomy but without knowing the long term oncological effects and outcomes it is not clear whether there are any significant benefits.

Laparoscopic surgery for rectal cancer: preoperative radiochemotherapy versus surgery alone.
Surg Endosc. 2012 Jan 5

A few studies have suggested advantages to using laparoscopic surgery for rectal cancer. However, the role of laparoscopy has not been clearly defined specifically in cases after neoadjuvant radiochemotherapy. This study aimed to assess the impact of preoperative radiotherapy on the feasibility of laparoscopic rectal excision with sphincter preservation for rectal cancer; all patients treated by laparoscopic rectal excision with sphincter preservation for rectal cancer from 1999 to 2010 were included. Patients treated by long-course preoperative radiochemotherapy (45 Gy during 5 weeks) were compared with those treated by surgery alone. The end points of the study were mortality, conversion, and overall and surgical morbidity.
422 patients treated by laparoscopic conservative rectal excision, 292 received preoperative radiotherapy, and 130 had surgery alone. The two groups were similar in sex, age, body mass index, and ASA score. The mortality rate was 0.3% in the radiotherapy group and 0.8% in the surgical group (P = 0.52). The two groups did not differ in terms of conversion (19 vs. 15%; P = 0.39), overall morbidity (37 vs. 29%; P = 0.14), surgical morbidity (20 vs. 18%; P = 0.60), or anastomotic leakage (13 vs. 11%; P = 0.54). Multivariate analysis showed male gender and synchronous metastasis as independent factors of surgical morbidity. The independent factors of conversion were male gender, obesity, tumour stage, and type of anastomosis. This study concluded that preoperative radiotherapy influenced neither conversion nor surgical morbidity.

Surgical stress response and postoperative immune function after laparoscopy or open surgery with fast track or standard perioperative care: a randomized trial. (LAFA Trial)
Ann Surg. 2012 Feb

Patients with non-metastatic colon cancer were randomised to laparoscopic or open colectomy with fast track or standard care. Blood samples were taken preoperatively (baseline), and 1, 2, 24, and 72 hours after surgery. Systemic HLA-DR expression, C-reactive protein, Interleukin-6, growth hormone, prolactin, and cortisol were analyzed.
19 patients were randomised for laparoscopy and fast track care (LFT), 23 for laparoscopy and standard care (LS), 17 for open surgery and fast track care (OFT), and 20 for open surgery and standard care (OS). Patient characteristics were comparable. Mean HLA-DR was 74.8 in the LFT group, 67.1 in the LS group, 52.8 in the OFT group, and 40.7 in the OS group. Interleukin-6 & CRP levels were highest in the OS group. Following repeated-measures 2-way ANOVA, this can be attributed to type of surgery and not aftercare (P = 0.022). Growth hormone was lowest in the LFT group. No differences between the groups were seen regarding prolactin or cortisol. No differences in (infectious) complication rates were observed between the groups.
This RCT showed that immune function in patients undergoing laparoscopic surgery with fast track care remains highest. This can be attributed to type of surgery and not aftercare. These results may indicate a reason for the accelerated recovery of patients treated laparoscopically within a fast track program as described in the LAparoscopy and/or FAst track multimodal management versus standard care (LAFA-Trial).

Impact of surgeon volume on patient safety in laparoscopic gynaecologic surgery.
Gynecol Oncol. 2012 Jan 9.

Surgeons were divided into 3 groups based on surgical volume. Patients underwent surgery between January 2000 and December 2008. Mean number of procedures were categorized into 3 groups - low, medium, and high-volume and stratified for complexity.
The study included 829 procedures. Low-volume surgeons (n=5) performed 5 (31.3%) low-complexity, 10 (62.5%) intermediate-complexity, and 1 (6.3%) high-complexity procedures. Medium-volume surgeons (n=6) performed 26 (11.1%) low-complexity, 203 (86.8%) intermediate-complexity, and 5 (2.1%) high-complexity procedures. High-volume surgeons (n=5) performed 47 (8.1%) low-complexity, 439 (75.8%) intermediate-complexity, and 93 (16.1%) high-complexity procedures. The distribution of surgical complexity was significantly different between the 3 groups of surgeons defined by volume (P<0.001). Conversion rates were higher for low-volume surgeons when compared to high-volume surgeons (18.8% vs. 5.2%; P=0.04). Similarly, overall complication rates (<30days) were higher for low-volume surgeons compared to high-volume surgeons (31.3% vs. 17%, P=0.003). Mean length of hospital stay was longer for low-volume (2.4days) than for medium-volume (1.3days) and high-volume surgeons (1.6days) (P=0.003).
This study which was published by Gillison et al (BJS. 2002 Mar;89(3):344-8) recognises the relationship between volume and outcome in oesophageal cancer. Perhaps this may lead to a mind shift.

To mesh or not to mesh? Laparoscopic hiatus hernia repair.

Hiatus hernias are both common and can prove to be very symptomatic. More often than not these problems require surgical repair and/or intervention. Open surgery is associated with significant morbidity, with historical open operations such as the Belsey Mark IV not only technically challenging but also painful, cosmetically flawed and associated with poor results. Laparoscopic repair has proved revolutionary and is the ideal approach, providing better recognition of the anatomy, less pain, a significantly lower morbidity and thus shorter recovery times. This surgery has become routine and, in some centres, daycase. Unfortunately, despite this there is still a significant rate of recurrence after a laparoscopic repair.

Risk factors for developing a hiatus hernia include chronic cough, obesity, constipation, pregnancy, heavy labour, age and defective collagen metabolism. Symptoms can include chest pain, dysphagia, postprandial fullness, obstruction, anaemia, reflux and acute presentation such as gastric volvulus.

Conventional closure of the defect is performed using interrupted Ethibond or Prolene sutures. Defects are often greater than 10cm and therefore primary closure is under tension, breaking one of the key surgical tenets. The crus are simply muscular pillars and contain no tendinous reinforcement and, are often of poor tissue quality. In addition to this patients with large hiatus hernias that require repair commonly have concurrent medical comorbidity. All these factors stack against the success of a conventional repair with reported rates of recurrence after primary closure vary widely from 0% to 31.9%[1,2]. Despite variations in techniques, the majority of surgeons performing hiatal repair perform an excision of the peritoneal sac, repair the posterior crura and finish with an anterior or full fundoplication.

The use of a tension free mesh repair in inguinal hernias is not only routine but has been proven to be overwhelmingly beneficial in over 250 major trials. However there continues to be ongoing controversy surrounding the position (pic 1) and the type of mesh used at the hiatus. Some of this may stem from potentially catastrophic complications that have been described including fibrosis (leading to intractable dysphagia), fistula formation and perforation of the oesophagus. The majority of these events stem from the use a permanent prosthetic mesh at the hiatus but unlike mesh at other sites, these complications can be fatal. Other reasons for their low uptake may be associated with the relative difficulty in their fixation with the use of tacking devices reported to have caused iatrogenic cardiac injury and even death.

In a randomized controlled trial (n=100) patients undergoing laparoscopic Nissans fundoplication and onlay polypropylene mesh had a recurrence rate of 8% compared to 24% in those undergoing the same operation without mesh[3]. Granderath's study found the use of mesh to be effective in reducing postoperative hiatal hernia recurrence and wrap herniation.

Meshes comes in a variety of shapes, materials and forms depending on where they will be placed, and are still undergoing continual development. Whilst the use of a hiatal mesh seems logical, especially for larger and recurrent defects, the choice of the correct mesh has proven to be difficult. The use of polypropylene is well described but as above associated with potential problems The encouraging results described using small intestinal submucosa (SIS) mesh in 108 patients show a reduction of recurrence of one third at six months[4] but interestingly the longterm results are essentially identical. Thus the ideal mesh for the hiatus hernia repair would provide a sound closure and be incorporated without causing significant fibrosis. It would cause minimal adhesions, act as a scaffold for cellular ingrowth and be replaced with connective tissue for maximum strength. The mesh would also be resistant to infection and prevent longterm recurrence.

A review of 42 studies involving different techniques in mesh repair at the hiatus found that complications are probably related to the technique rather than the type of mesh[5]. This may be due to placement of the mesh either anteriorly or posteriorly and also the shape of the mesh. All 42 studies had low morbidity rates and no mortality, as well as reduced rates of recurrence validating mesh repair at the hiatus as a safe and effective technique.

A recent pilot study (n=10) has evaluated the use of a totally absorbable mesh (Gore BioA) in larger defects (>6cm) and recurrent defects. Mean follow up was 13 months with a mean age of 60 years. This group used a novel parachuting technique to secure the mesh (pic 2). Within the follow up period there were no recurrences and no cases of dysphagia or mesh associated complications[6]. Though small this study provides interesting data, which may warrant further evaluation (pic 3).

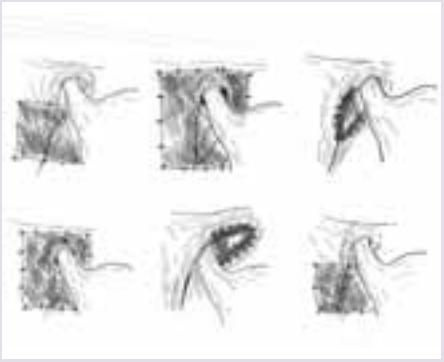
With an increasing incidence of hiatus hernia with age and, an ever aging population, identifying the most ideal mesh and technique will lead to a more successful operation with less recurrence and other complications. This is and area of ongoing research especially as mesh development continues.

Miss Anna Conway BSc (Hons) MRCS
SPR SW Thames rotation

References:

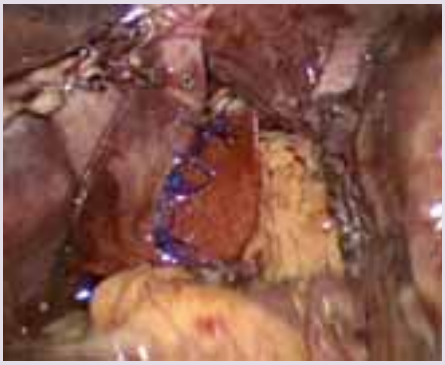
1. TR Hundington. Short-term outcome of laparoscopic paraesophageal hernia repair. Surgical endoscopy. 1997;11:894-898.
2. S.Diaz et al. Laparoscopic paraesophgeal hernia repair, a challenging operation: medium-term outcome of 116 patients. J Gastrointest Surg. 2003;7:59-67.
3. FA Granderath et al. Laparoscopic Nissen fundoplication with prosthetic hiatal closure reduces postoperative intrathoracic wrap herniation: preliminary results of a prospective randomized trial. Arch Surg. 2005;140:40-48.
4. Oelschlager et al. Biologic Prosthesis Reduces Recurrence After Laparoscopic Paraesophageal Hernia Repair. Ann Surg. 2006 October; 244(4): 481–490
5. FA Granderath et al. Prosthetic closure of the esophageal hiatus in large hiatal hernia repair and laparoscopic antireflux surgery.
6. K. Sriskandarajah et al. Laparoscopic hiatus hernia repair. Recurrent and large hiatal defects with Gore BioA mesh. Initial results from a single centre. EAES P392.

Picture 1



Picture 2

Picture 3



Laparoscopic surgery: core surgical trainees' experience in a DGH: A call for routine laparoscopic simulation?

Junior surgical trainees are all aware that the need for developing laparoscopic surgical skills is increasing. For most of us our initial exposure comes on the Basic Surgical Skills course with an hour or two of playing with the simulator. For many of us this only whets our appetite and we are enthusiastic for more.

On starting our placement despite this initial enthusiasm, we feared that when we started at a busy laparoscopic surgical unit it would be difficult to gain sufficient experience and many of our junior surgical colleagues had often said they were left "holding the camera." The reasons cited for this vary; there is usually a registrar who is also trying to get experience; there is an over-booked operating list that does not allow for a junior trainee to operate at a teaching pace or the cases are simply far too complex.

Whilst these reasons may well be valid on some occasions luckily this has not been our experience. Yes, our surgical units are busy and, yes both have registrars who are eager to gain as much experience as possible with complex cases. Fortunately the consultants and registrars are keen to teach but we as junior surgical trainees should not expect to turn up and simply start

wielding an instrument in the abdomen. We all have to do our time holding the camera and practising on the simulator whilst always remembering this is improving our hand-eye coordination in preparation for the next step.

Unfortunately, like many district general hospitals, there is no ready access to dedicated laparoscopic trainers. As CT1's, we both started holding the camera for laparoscopic cholecystectomies and laparoscopic appendectomies. Following on from this the next step was performing parts of the operations such as snaring the base of the appendix, followed by cutting the appendix and placing it in the retrieval bag. This semi-structured training regime has allowed a natural evolution of our laparoscopic surgical skills so that we now able to perform supervised laparoscopic appendectomies & cholecystectomies, from start to finish, 4 months into core surgical training.

While there are plans to eventually create a local laparoscopic simulator facility this may not happen in our time. It will certainly be a welcome addition to training and it is well known that simulation is a highly effective way of improving one's skills. Simulation is particularly useful in validating and assessing the progress and development of a surgical trainee. However, our experience has shown that if you attend theatre lists relentlessly, hold the camera, volunteer to assist, and throw caution to the EWTD you will eventually get the hands-on training you need. The saying "If you turn up enough they can't ignore you forever," has worked for us.

Neil Scott & Saahil Mehta
Year 1 core surgical trainees. East Surrey Hospital, KSS Deanery

Role of laparoscopy in abdominal emergencies

Introduction

Three decades have passed since the emergence of laparoscopy into the mainstream of general surgery. This has heralded numerous advances in elective surgery and with the growth of expertise, its influences are becoming established in the emergency setting.

With the advantages of reduced postoperative pain, shorter hospital stay and earlier return to normal activity, many surgeons have adopted new laparoscopic strategies for management of common emergency problems. Nevertheless critics stress the risks of delay to definitive open surgical treatment, missed diagnosis and procedure related complications.

Laparoscopy in the emergency setting has a diagnostic and therapeutic role. A large number of cohort studies have reported high diagnostic rates of between 86-100% in unselected patients. Advances of therapeutic techniques have also led to a combination of both elements into a "one stop shop".

The European Association for Endoscopic Surgery (EAES) outlined a consensus statement providing advice and recommendations for the role of laparoscopy in emergency surgery in 2006. Grade A recommendations were given for the laparoscopic treatment of acute cholecystitis, appendicitis and perforated peptic ulcer (PPU). Six years on and many centres in the UK are cautious to adopt these techniques. In this article we have highlighted the evidence base for the role of laparoscopic surgery in common surgical emergencies.

Appendectomy

According to the most recent Cochrane review, laparoscopic appendectomy results in fewer wound infections, shorter hospital stays and a quicker return to normal activity but a higher rate of intra-abdominal abscesses. It has also been shown to reduce the rate of negative appendectomy particularly in female patients of a fertile age.[1] With an open approach, the accurate on table diagnosis is missed in up to 14.3 % of cases, with a low sensitivity and missed opportunity for further exploration.

Clearly there is a diagnostic advantage and one may argue that that comparative studies are not comparing like with like. An open appendectomy cannot be compared to a laparoscopic appendectomy, for the simple reason that you are not directly inspecting other organs.

Diverticulitis

CT scanning is an accurate modality for the diagnosis of the severity of diverticulitis and therefore there is no role for diagnostic laparoscopy.[2] From a therapeutic point of view, there are encouraging results for the use of laparoscopic lavage in cases of complicated diverticulitis.

A study of eight cases of purulent peritonitis secondary to diverticular perforation demonstrated that laparoscopic lavage, intravenous fluids and antibiotics resulted in complete recovery in the full cohort.[3] A further prospective study of 100 patients with perforated diverticulitis and generalised peritonitis showed that 92 patients could be managed with laparoscopic lavage alone, with a morbidity and mortality rate of 4 and 3 % respectively.[4] A study of laparoscopic lavage vs. primary anastomosis with defunctioning stoma for Hinchey 3 complicated diverticulitis showed that the former method did not result in excess morbidity or mortality. It also provided an opportunity for elective laparoscopic resection and avoided the need for a stoma.[5] These results are promising but more RCTs need to be conducted to evaluate full potential of this technique.

Perforated peptic ulcer

To date there has been three comparative randomised trials comparing laparoscopic versus open repair of PPU.[6-8] The only significant difference found in all three studies was the reduction of postoperative pain. One trial also demonstrated that laparoscopic repair led to reduced hospital stay and quicker return to normal activity.[7] The other two studies failed to reproduce this association. No significant differences were found for morbidity or mortality.

Conversion rates are reported to be between 10-20%, however this has not been shown to produce worse outcomes. The most common reasons for conversion are size of perforation, failure to locate the perforation, posterior location and friable edges. The techniques of pedicled omentoplasty, fibrin glue, gelatine sponge, primary suture repair and anastomotic staplers have been described. There is no comparative evidence to suggest which is superior. Laparoscopic lavage is considered as a key intervention for the management of PPU. The use of between 2-10L of warm saline has been described. There is no clear evidence for the need or the required volume.

Acute Cholecystitis

Comparative trials of Laparoscopic versus open cholecystectomy for acute cholecystitis suggest faster recovery and shorter hospital time for the former group.[9,10] However the more important question is the optimal timing of the operation. Large number of studies comparing early versus late cholecystectomy have shown that conversion rates, complication rates, convalescence times and hospital costs rise with delay in operation. Furthermore delaying the operation may lead to readmission with recurrent complications of gallstones.

The exact timing of surgery is open to discussion; however most surgeons would advocate that a delay of more than 72 hours is suboptimal. The difficulty of the operation may also increase with prolonged episodes of cholecystitis. With the use of new energy devices such as Enseal or the Harmonic scalpel, these challenges can be made easier.

Acute adhesive small bowel obstruction

The term laparoscopic adhesiolysis encompasses a wide spectrum of invasiveness. There are no prospective or randomised control trials; however data is available from two comparative retrospective studies.

In the first study, 52 patients who underwent laparoscopic adhesiolysis were matched to a similar group who underwent laparotomy. The results showed a higher rate of iatrogenic bowel perforation (27%) but faster postoperative recovery in the laparoscopic group. There was a 50% conversion rate with attempted laparoscopic adhesiolysis.[11] In a second similar comparative study with a sample of 31 patients in each group, the median hospital stay and the time to first bowel movement was shorter and morbidity reduced in the laparoscopic group. There was a 32 % conversion rate and the majority of patients had a single band adhesion.[12] Causes for conversion included dense adhesions, the need for bowel resection, unidentified aetiology and iatrogenic injury.

Concerns exist regarding lack of working space, iatrogenic injury and missed enterotomies. With careful decision making this approach may be beneficial to some patients; however a low threshold for conversion should be maintained, especially in cases of severe, dense, extensive adhesions.

Trauma

There is limited evidence base concerning the use of laparoscopy in penetrating and blunt abdominal trauma. It may have a role in well selected patients who primarily must be haemodynamically stable, because in unstable patients laparotomy may be life saving.

In penetrating injury, laparoscopy may be useful in determining breach of the peritoneum and in turn reducing laparotomy rates. It may also be useful in assessment and repair of diaphragmatic injuries in thoraco-abdominal trauma.[13] Only one RCT has been conducted in penetrating abdominal injuries, demonstrating no significant difference in outcomes between laparotomy and laparoscopy in patients with demonstrated peritoneal violation. In patients with equivocal peritoneal penetration on local wound exploration, laparoscopy does not have a therapeutic advantage in comparison to expectant non-operative management.[14]

Practice management guidelines, published in 2010, suggested that abdominal stab wounds and tangential gunshot wounds to the abdomen should be managed with expectant non operative management in the haemodynamically stable patient without signs of peritonitis. Laparoscopy may also be considered to determine breach of peritoneum and evaluation of diaghragmatic injuries.[15]

The role of laparoscopy in blunt abdominal injuries is very unclear due to the paucity of data, and this prohibits any specific recommendations.

Conclusion

The available evidence supports the role of laparoscopy as a diagnostic and therapeutic tool in certain common conditions. However laparoscopy cannot be justified in other cases until further research is carried out. It must be made clear that recommendations are valid only for surgeons or surgical teams with sufficient expertise in laparoscopic surgery and should not replace good clinical judgement.

So far recommendations are mostly based on reduced postoperative pain and quicker recovery time. However as further studies are carried out, a reduction in complications secondary to adhesions and wound complications, may become more apparent. These improvements may also reduce the actual cost of treatment.

As laparoscopic expertise becomes more established and surgical technology continues to improve, so the remit of laparoscopic surgery will expand for the speciality of emergency surgery.

Mr Nima Abbassi-Ghadi BmBs BMedSci MRCS, SPR SW Thames Rotation

References

1. Sauerland S, Lefering R, Neugebauer EA. Laparoscopic versus open surgery for suspected appendicitis. Cochrane Database Syst Rev. 2004; (4): CD001546
2. Buckley O, Geoghegan T, O'Riordain DS, Lydburn ID, Torreggiani WC. Computed tomography in the imaging of acute diverticulitis. Clin Radiol. 2004; 59(11): 977-983
3. O'Sullivan GC, Murphy D, O'Brien MG, Ireland A. Laparoscopic management of generalised peritonitis due to perforated colonic diverticula. Am J Surg. 1996; 171(4): 434-4
4. Myers E, Hurley M, O'Sullivan GC, Kavanagh D, Wilson I, Winter DC. Laparoscopic peritoneal lavage for generalised peritonitis due to perforated diverticulitis. Br J Surg. 2008; 95(1): 97-101
5. Karoui M, Champault A, Pautrat K, valleur P, Cherqui D, Champault G. Laparoscopic peritoneal lavage or primary anastomosis with defunctioning stoma for Hinchey 3 complicated diverticulitis: results of a comparative study. Dis Colon Rectum. 2009 Apr; 52(4): 609-15
6. Bertleff MJOE, Halm JA, Bemelman WA et al. Randomized clinical trial of laparoscopic versus open repair of the perforated peptic ulcer: The LAMA trial. World J Surg. 2009; 33: 1368-1373
7. Siu WT, Leong HT, Law BKB et al. Laparoscopic repair for perforated peptic ulcer: A randomised control trial. Ann Surg. 2002; 235 (3): 313-319
8. Lau WY, Leung KL, Kwong KH et al. A randomised study comparing laparoscopic versus open repair of perforated peptic ulcer using suture or sutureless technique. Ann Surg. 1996 Aug; 224 (2): 131-8
9. Kiviluoto T, Siren J, Luukkonen P, Kivilaakso E. Randomised trial of laparoscopic versus open cholecystectomy for acute and gangrenous cholecystitis. Lancet. 1998; 351:321-325
10. Johansson M, Thune A, Nelvin L, Stiernstam M, Westman B, Lundell L (2005). Randomised clinical trial of open versus laparoscopic cholecystectomy in the treatment of acute cholecystitis. Br J Sug. 2005; 92: 44-49
11. Wullstein C, Gross E. Laparoscopic compared with conventional treatment of acute adhesive small bowel obstruction. Br J Surg. 2003; 90(9): 1147-51
12. Khaikin M, Schneidereit N, Cera S, et al. Laparoscopic versus open surgery for acute adhesive small bowel obstruction: patient's outcome and cost effectiveness. Surg Endosc. 2007; 21(5): 742-6
13. Friese RS, Coln CE, Gentillelo LM. Laparoscopy is sufficient to exclude occult diaghragm injury after penetrating abdominal trauma. J Trauma. 2005; 58(4): 789-92
14. Leppaniemi A, Salo J , Haapiainen R. Complications of negative laparotomy for truncal stab wounds. J Trauma. 1995; 38: 54-58
15. Como JJ, Bokhari F, Chiu WC, et al. Practice management guidelines for selective nonoperative management of penetrating abdominal trauma. J Trauma. 2010; 68(3): 721-33

ALS Industry Partners' Course Information

B. Braun Medical, Aesculap Endoscopy

Contact: Allan Barr, Senior Product Marketing Manager, Aesculap EndoSurgery, B. Braun Medical Ltd
Direct Line: +44 (0)114 225 9174 | Mobile: +44 (0)7772 115856 | Email: allan.barr@bbraun.com | Web: www.aesculap-academy.com

The Aesculap Academy has been offering a broad range of surgical Endoscopy courses since 1995. All of our courses are directed by a renowned international faculty. Quality is the key and our courses are all accredited.

Our state of the art training facilities in Tuttlingen and Berlin offer 6 - 10 workstations for a maximum of 12 - 20 participants. Different training modules have been developed for dry and wet lab laparoscopy training workshops, across a wide range of surgical procedures in upper GI surgery, colorectal surgery and laparoscopic urology.

Intensive hands-on sessions on animal specimens are supervised within small working groups, providing the best environment for maximum learning and 1st class practical hands-on experience. Our facilities offer the ideal set-up for an intensive exchange of knowledge.

Horizons of knowledge - Competence to master the future. English speaking courses for 2012, are detailed below:

Date	Course	Venue
3 - 5 May 2012	Advanced Laparoscopic Urology, Prostate	Berlin
20 - 22 June 2012	Advanced Laparoscopic Colorectal Surgery	Berlin
2 - 3 July 2012	Comprehensive Urological Laparoscopy	Berlin
4 - 6 July 2012	Laparoscopic Training Course Hernia Surgery	Berlin
23 - 25 August 2012	Advanced Laparoscopic Urology, Prostate	Berlin
19 - 21 November 2012	Advanced Laparoscopic Surgery	Berlin

Ethicon Endo-Surgery 2012 SORTED Bariatric Courses

Surgery for Obesity – Registrar Training and Educational Development
Yr 5/6 UGI Trainee CV incl covering letter Letter of support and availability for all modules Evidence of Bariatric interest

MODULE	DATE	Venue
ONE	27 & 28 March 2012	Wet lab ESI, Hamburg
TWO	30 April & 1 May 2012	Musgrove Park Hospital, Taunton
THREE	14 &15 May 2012	Musgrove Park Hospital, Taunton and Bristol Cadaver Lab

Applications directly to: Mr David Mahon Consultant Surgeon, Department of Bariatric Surgery
Musgrove Park Hospital Taunton, Somerset TA1 5DA
Tel: 01823 342100 | Email: david.mahon@tst.nhs.uk Closing date: 8th February 2012

MODULE	DATE	Venue
ONE	8 & 9 May 2012	Hexham General Hospital & North Tyneside General Hospital
TWO	27 & 28 June 2012	Wet lab ESI, Hamburg
THREE	12 October 2012	NSTC, Freeman Hospital Cadaver Lab

Applications directly to: Mr Sean Woodcock Consultant Surgeon
North Tyneside General Hospital, Rake Lane, North Shields, Tyne and Wear NE29 8NH
Tel: 0844 8118111 Closing date: 24th February 2012

2012 Laparoscopic Colorectal Foundation Courses for SpR Yr 5/6 (ST 7/8)

PROGRAMME 1

MODULE	DATE	Venue
ONE	11 & 12 June 2012	ICENI, Colchester
TWO	21 & 22 June 2012	Wet lab ESI, Hamburg
THREE	16 &17 July 2012	ICENI, Colchester

Closing date: 2nd March 2012

PROGRAMME 2

MODULE	DATE	Venue
ONE	22 & 23 October 2012	ICENI, Colchester
TWO	13 & 14 November 2012	Wet lab ESI, Hamburg
THREE	10 &11 December 2012	ICENI, Colchester

Closing date: 29th June 2012

Application process and forms directly to: Isla Drage, ICENI Course Co-ordinator, ICENI Centre, Colchester Hospital, Turner Road, Colchester CO4 5JL | Email: isla.drage@anglia.ac.uk | Tel: 01245 686791

Supported by an unconditional educational grant from Ethicon Endo-Surgery

Karl Storz Endoscopy (UK) Ltd

Karl Storz Endoscopy (UK) Ltd is committed to Training and Education the company supports the following laparoscopic training centres across the UK with the latest Karl Storz equipment. For information on the courses available, please contact the training centres directly.

Name of Training Centre	Location (Hospital or College)	City	Contact	Website address	E-mail address	Tel No.
Surgical Skills Unit	Ninewells Hospital & Medical School	Dundee	Mhari McMilan	www.dundee.ac.uk/surgicalskills	m.i.mcmilan@dundee.ac.uk	01382 645857
Minimal Access Therapy Training Unit	Royal College of Surgeons of England	London	Tansy Jones	www.rcseng.ac.uk	tjones@rcseng.ac.uk	020 7869 6335
Minimal Access Therapy Training Unit	Royal Surrey County Hospital	Guildford	Alison Snook	www.mattu.org.uk	alisons@mattu.org	01483 688691
Minimal Access Surgical Training	St Mary's Hospital, Paddington	London	Stephen Marchington		s.marchington@imperial.ac.uk	020 3312 6443
University College Hospital Education Centre	University College Hospital	London	Helen Young	www.ucheducationcentre.org	Education.centre@uclh.nhs.uk	020 7380 9180
ICENI Training centre	Colchester General Hospital	Colchester	Neil Gammon	www.icenicentre.org	neil.gammon@anglia.ac.uk	01245 686793
Welsh Institute of Minimal Access Therapy	University Hospital of Wales	Cardiff	Dr Neil Warren	www.cf.ac.uk/pgmde/wimat	warrenn@cf.ac.uk	029 206 82131
Bradford Training Centre	Bradford Royal Infirmary	Bradford	Tracey Williams	www.bradfordhospitals.nhs.uk	Tracey.Williams1@bthft.nhs.uk	01274 366744
Peninsula Radiology Academy	Derriford Hospital	Plymouth	Sue Coleman		suecoleman1@nhs.net	01752 793744 (Ext52733)
Clinical Educatiuon Centre	North Staffordshire Hospital	Stoke	Karen Wilson		pma02@keele.ac.uk	01782 553963
Solent Training Centre	St Mary's Hospital	Portsmouth	Susan Buchanan		susan.buchanan@porthops.nhs.uk	023 9286 6861
Postgraduate Medical Education Centre	University Hospital of North Tees	Cleveland	Sue Dent		Sue.Dent@nth.nhs.uk	01642 624791
Trent Simulation & Clinical Skills Centre	Queen's Medical Centre	Nottingham	Giulia Miles		giulia.miles@mail.qmcuh-tr.trent.nhs.uk	0115 924 9924 Ext 35808
Northern Skills Institute (NUGITS)	Hexham General Hospital	Hexham	Sue Colley		sue.colley@nhct.nhs.uk	07830 740667
Musgrove Park Academy	Musgrove Park Hospital	Taunton	Helen Kohler		helen.kohler@tst.nhs.uk	

Olympus KeyMed

Contact: Mrs Tracy Bray, Events Manager, Olympus KeyMed | Direct Line: +44 (0)1702 616333 | Email: tracy.bray@olympus.co.uk | Web: www.olympus.co.uk

Details of these course are available on our website or will be in due course.

Date	Course	Venue
17 March 2012 (TBC)	Advanced Laparoscopic Gynaecological Surgery with Gyrus PK	Barnsley District Hospital/Faculty: Mr Farag
17 - 18 April 2012	Advanced Upper GI surgery with Olympus THUNDERBEAT	Broomfield Hospital & Anglia Ruskin University/ Faculty: Mr Sri Kadirkamanthan
2 - 3 May 2012	Laparoscopic Colorectal Surgery with Olympus THUNDERBEAT	Derriford Hospital/ Faculty: Mark Coleman

Virtual Reality Surgical Simulation for Training Surgeons

Modernisation of medical education and a shorter period of surgical training will continue to have profound effects on the delivery and continuity of acute surgical care, and on the training of future surgeons. Adequate training will probably pay dividends in reduced litigation. A stumbling block to surgical education is the difference in inherent skill and knowledge level amongst trainees.

Simulation in Laparoscopic Surgery

Laparoscopic surgery demands very specific skills. These skills have been realistically simulated by modern virtual reality technology, which is now facilitating a paradigm shift in surgical education. The overall aim of simulation-based training is to shorten the length of the learning curve. The ability to accurately and objectively measure performance makes it possible for surgical training to move away from training for only a specified length of time regardless of the speed at which a trainee acquires the necessary skills. "Simulation", in any educational program or technology, removes the actual patient from the equation to allow novice learning and skill mastery to occur in a low-stress, high-feedback environment while protecting the patient from procedural inexperience. Proficiency in operative technique requires practice, repetition and time. Simulation allows training and assessment to occur simultaneously until the trainee is proficient in that procedure, with some trainees taking much longer than others.

No industry in which human lives depend on the skilled performance of responsible operators has waited for unequivocal proof of the benefits of simulation before embracing it. (This is very much the case in aviation where pilot's competence is continually reassessed with real time catastrophes re-enacted and the pilot's reactions to these measured and evaluated. These simulations form a critical part of a pilot's recertification –Editor).

Enhancing Patient Safety

Surgical simulation provides a safe and motivating learning environment and can contribute substantially to patient safety. Scientific data supports its effective use in training and assessment, proving transfer of skills to the live operating theatre.

It is imperative that every surgical trainer should become broadly familiar with the simulation technologies, to better inform strategies and tactics for application and diffusion of simulation into healthcare education, training, and research.

Our experience so far suggests that it is imperative to have dedicated supervising personnel and dedicated training time in the busy week of the surgical trainee to ensure attendance. Surgical curriculum is incomplete without training by simulation. Surgical skills acquired as a result of training on a virtual reality laparoscopic simulator are not procedure specific but improve overall surgical skills, thereby translating into superior performance of live laparoscopic procedure.

Conclusions

The surgical training environment is changing dramatically. Throughout the surgical community, there is increased acceptance of the need to set agreed standards for surgical

performance and proficiency. With the new challenges in surgical education and training there is a need for developing standard curricula and new metrics for validating and assessing surgical skill. We as surgical teachers must ensure that the surgeons of the future are as competent as or better than their predecessors using these new modes of training which we have access to.

Mr. Bijen P Patel
St Bartholomew's and
The Royal London Hospital.

Barts and The London MSc in surgical skills and sciences course

As the founder of this MSc, Mr Bijendra Patel is a world leader in establishing higher education degrees for acquiring operative surgical skills by simulation. In October 2005 he pioneered the first Masters course in Surgical Skills and Sciences in UK employing novel techniques in the education of surgical trainees, using computer simulations to enhance the acquisition of operative surgical skills. This course is offered only at Queen Mary's University in London. It's a combination of research and hands on simulation training. The use of Simbionix simulators (haptic simulators) are proven training modalities for the acquisition of operative skills.

This MSc course is aimed to accelerate the development of cognitive and motor skills, using surgical simulators for Laparoscopic Surgery and Upper and Lower Gastrointestinal Endoscopy and thus accelerate surgical training and improve technical skills which are essential for building confidence and competence in a trainee.

Mr Paras Jethwa
Newsletter Editor

Caption Competition

Entries have to be sent to Jenny Treglohan
jtreglohan@asgbi.org.uk
by 1 April 2012 and the winner will
receive a bottle of champagne.

SAGES Annual Scientific Meeting and Postgraduate Course

30 March – 2 April 2011, San Antonio, Texas, USA

The LOGIC trial was first reported in the Winter 2009 newsletter; Raj Veeramootoo returned to the SAGES AGM and brought the assembled scientific community up to date with this prize -winning and novel work.

The 2011 SAGES Annual Meeting was held at the Henry B. Gonzalez Convention Centre in the historic city of San Antonio in Texas. San Antonio is the seventh largest city in the United States and indeed has all the characteristics of a vibrant urban western centre. The city was named after San Antonio de Padua, whose feast day is on June 13, when a Spanish expedition stopped in the area in 1691. It is also famous for the Alamo, the River Walk, the Spanish missions and is home to the four-time NBA champion San Antonio Spurs.

The meeting aimed to provide "outstanding up-to-date information in the fields of general, gastrointestinal, endoscopic, and minimally invasive surgery and a worthwhile investment of one's educational time". The focus was on "providing busy surgeons information that they can readily adopt into daily practice", and all the promises were delivered. From a trainee perspective the talks and educational stimulus were of the highest standard.

The Friday SAGES Social Program was a parade of quality. The "SAGES Meet the Leadership Reception" for new members, residents and fellows was an open and accessible meeting with SAGES leaders many of whom are world acclaimed innovators in Minimally Invasive Surgery. This was followed by "An Evening at Sunset Station, with a Grand Ol' Taste of Texas". An event that will be remembered for the humanitarian work carried out by SAGES. A video montage of the 8.9 magnitude earthquake that struck the north-east coast of Japan on the 11th March, triggering a massive tsunami, was the centre-point of the night. This quake had left the country devastated but SAGES promised to extend an arm to those in need.

From a personal viewpoint, the meeting was an opportunity to showcase my two years of active research for which I was awarded an MD in July 2011, from the University of Exeter & Plymouth. I had two oral presentations and one poster presentation, and I am really proud to have been awarded the Top Place in the Resident/Fellows Presentation Competition, accompanied with a $500 prize. This was for my research: "Laparoscopic Gastric Ischemic Conditioning prior to minimally invasive oesophagectomy, The LOGIC Trial". I can only recommend this meeting to all ALS trainees and mention the SAGES 2012 Annual Meeting, which is from the 7-10th March in San Diego, California, USA.

Mr Raj Veeramootoo
South West Thames Trainee

The winning abstract from Mr Veeramootoo is in the abstract section.

AUGIS Annual Scientific Meeting, Belfast 2011

15 & 16 September 2011

This year's ASM was held at the Belfast Waterfront on 15/16 September 2011. AUGIS have enjoyed a number of shared with other European and UK societies and on this occasion were joined by the Dutch and Scandinavian upper GI groups and also the British Hernia Society. The meeting was well attended with over 400 delegates, including 50 from overseas. The Dutch surgeons were particularly vociferous and chartered a plane over from Amsterdam to bring their 30 members.

As usual there was a host of local and international speakers. Professor Takeshi Sano flew over from Tokyo and gave excellent lectures on adjuvant surgery for gastric cancer and the latest Japanese classification for gastric cancer. Dr Weusten (Holland) updated the society on the results of endoscopic therapy for early Barrett's neoplasia. There were sessions on quality and outcomes in upper GI surgery and Jane Blaisby (Bristol) and Bengt Hallerback (Sweden) and Olivier Bouche (France).

The symposium on hernias organised by the British Hernia Society had well attended sessions on emergency hernia surgery, including management of internal hernias following bariatric surgery from Mr Mikael Ekelund (Sweden) and Professor Harry van Goor (Holland) on the impact of laparoscopic surgery in reducing intra-abdominal adhesions and hernias.

Bariatric surgery was well represented within the meeting and lectures on the outcomes of following 15,000 gastric bypass operations by Dr Ingmar Nasund (Sweden), early experience with the endobarrier and POSE from Jim Byrne (Southampton) and Dr Fritz Berends (Holland).

One of the best attended sessions was a joint HPB session with the GBIHPBA and Pancreatic Society, updates on management of gallbladder cancer (Professor Derek Manas) and extra hepatic disease in colorectal liver metastasis (Peter Lodge). The first results from the AUGIS HPB database (David Berry) and a fascinating session on technical tips in pancreatic surgery involving Ashley Dennison (Leicester), Kevin Conlon (Dublin) and Professor Ake Andren-Sandberg (Sweden) saw one of the biggest audiences in the breakout session.

The Nurses and Allied Health Care Professionals Section of the Society is flourishing with 70 members. There was a good cross section of topics from nutrition in pancreatic cancer patients (Sinead Duggan), emotional distress of oesophageal cancer survivors (Martin Dempster) and sessions on bariatric ITU and nutritional support (Christine Ward, Fiona Simm).

The annual dinner was held at the Ulster Boat and Transport Museum, and all 250 tickets were sold. The Scandinavian and Dutch used the opportunity to mix with UK members and many useful connections were made. The dining and dancing in the magnificent setting of the steam trains within the museum was a unique experience.

Next year we will see the first trial of the Digestive Diseases Federation meeting with the BSG, BASL and BAPEN groups as well as sessions with ALS in what looks to be an exciting initiative in Liverpool in June.

The meeting was preceded by the training day at the 3FiveTwo Training Academy in the Titanic Quarter at Belfast. AUGIS representative John Hammond and local organiser Claire Jones with their sell out teaching day including cadaveric anatomy demonstration, advanced training skills session, mock MDTs and "meet the Professors" by the sessions. This was an outstanding success and has become an essential for anyone planning to sit either exam.

Mr Ian Beckingham
Honorary Secretary, AUGIS

SAVE THE DATE
ALS ASM 2012 Cork
29 & 30 Nov 2012

Innovation In Action

Aesculap Endoscopy offer a number of unique and innovative products designed to improve the quality of minimally invasive surgery, whilst offering opportunities to reduce costs in Laparoscopy.

Challenger® Ligating Clips
Unique pneumatic driven multifire clip applicator

- Easy and simple handling
- Innovative technology - pneumatic clip loading
- Fast, precise and reliable clip application
- Superior quality ligating clip
- Reposable system - reusable applier and single use clip cartridge
- One system with different shafts
- Small/Med and Med/Large clip sizes

AdTec® comBi
Unique multi-function bipolar instrument

AdTec® comBi is a combination instrument for laparoscopic surgery, combining a bipolar grasping and dissecting forcep with mechanical scissors.

The integrated functions allow:

- Precise dissection
- Secure grasping and manipulation of tissue
- A high level of safety through bipolar coagulation
- Effective mechanical cutting

Cost Effectiveness with Clinical Excellence

For an opportunity to learn more about our unique solutions for laparoscopic surgery, please contact: Customer Care Department Tel: 0114 225 9020
Email: customercare.bbmuk@bbraun.com

B BRAUN
SHARING EXPERTISE

B. Braun Medical Ltd | Aesculap | Thorncliffe Park | Sheffield | S35 2PW
Tel (0114) 225 9000 | Fax (0114) 225 9111 | www.bbraun.co.uk

XX-ALSA-11-09