OP 1.1.1

STUDY ON THE QUALITY OF CARE PROVIDED TO PATIENTS RECEIVING INWARD TREATMENT AT THE ACCIDENT SERVICE NHSL

S R De Almeida, L D R M Namaratne

Background
The accident service of NHSL serves as the centre of trauma care for the nation and provides round the clock service. While a large number are cared for as inward patients, the quality of care provided has not been evaluated to date.

Aim
To ascertain the adequacy and promptness of pain relief, waiting times prior to surgery, duration of fasting for fluids, and methods of inward accommodation which contribute to the quality of care, and identify areas for improvement.

Patients and methods
220 consecutive admissions to the accident service were evaluated with regard to pain score on admission, type of injury, type and dosage of analgesia, delay prior to administration of analgesics, pre and post op periods of fasting for fluids in relation to the type of anesthesia, and the method of inward patient accommodation.

Results
Mean duration between admission and administration of analgesia was 6.14 hrs, mean pain score of 7.45 dropped to 3.47 following analgesic medication. For lower limb fractures, 19.6% received Paracetamol alone, Opioids alone in 22.1% and a combination of Paracetamol and DiclofenacNa in 52.2%. Of the non ambulant patient population, 63.9% were accommodated in beds, 25% in trolleys without mattresses and 11.1% in trolleys with mattresses. The mean duration of fasting for procedures under LA were 7.45 hrs preoperatively and 4.35 hrs postoperatively while for GA it was 7.05 hrs and 9.54 hrs respectively.

Conclusions
There is room for improvement in the quality of care provided to inward patients of the accident service, NHSL.

OP 1.1.2

PREOPERATIVE TESTING IN ELECTIVE SURGERY IS INCONSISTENT WITH PUBLISHED GUIDELINES AT THE NATIONAL HOSPITAL OF SRI LANKA

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Introduction
During preoperative preparation patients undergo "routine" investigations to detect asymptomatic diseases. The probability of finding an abnormality on such "routine" investigations is small, increasing the cost of perio-perative care. We evaluated the compliance with guidelines and costs of preoperative investigations at NHSL.

Material and methods
Records of 367 patients undergoing elective surgery at the general surgical units of the NHSL from January-February 2009 were evaluated using NICE-UK guidelines on pre-operative investigation as the standard. Data were collected using an expert validated pre-tested interviewer administered questionnaire.

Results
Mean age was 45.7 (SD±15.8) years and 46.9% were males. Majority underwent intermediate grade surgery (56.7%) and belonged to ASA Class I (68.7%) and. Out of 2046 investigations in all patients the mean number of investigations requested per patient was 4.58(SD±2.00). Requests for urinalysis and ABG demonstrated good adherence to guidelines (70-100%). ECG, FBC, Renal profile and blood grouping demonstrated moderate adherence (40-70%) while CXR, PT/INR, FBS/RBS, Lung function tests, AST/ALT and 2D-Echo demonstrated poor adherence (<40%) to guidelines. Surgery was not cancelled/deferred in any patient due to abnormal preoperative investigations. Excess cost due to non-adherence to guidelines during the study period was Rs. 241,300-375,270.

Minimal utilization and lack of awareness about guidelines and performing investigations requested by all team members without supervision also contributed towards unnecessary investigations.

Discussion and conclusion
Unnecessary testing during preoperative preparation is com-mon at our institution resulting in an excess cost. There is opportunity to rationalize practices and decrease related costs.

OP 1.1.3

IS PREOPERATIVE TESTING A HABIT? EVALUATING WARD PRACTICES AND KNOWLEDGE AT THE NATIONAL HOSPITAL OF SRI LANKA

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Introduction
'Routine' investigations during preoperative evaluation of fitness for anesthesia and surgery are often criticized as having minimal impact on perioperative outcomes. Individualized, evidence-based investigation rationalizes practice whilst reducing costs. We evaluated the preoperative testing practices and knowledge at NHSL.

Material and methods
Study was conducted among House Officers (HOs) of general surgical units of NHSL from January-February 2009. A self-administered

questionnaire evaluated ward practices, knowledge on prices of investigations and abiliy to plan preoperative testing using ten general surgical case-scenarios (assessed using NICE-UK guidelines). HOs recorded ASA grade(AG), surgical grade(SG) and selected appropriate investigations from a list for each case-scenario. Each correct response was given one mark. Total marks per questionnaire for AG, SG and investigations; 10, 10, and 100.

Results
Response rate was 83.3%. HOs decisions were based on past experience of similar patient, directives given by seniors or their clinical training. Utilization of guidelines was minimal. The investigations requested by all members of both surgical/anesthetist teams were done in most units. HOs were unaware about published guidelines on preoperative investigations.

Estimated prices of investigations by HOs were significantly different ($p<0.001$) from actual prices for ECG, PT/INR, FBS/RBS, ABG, Renal profile, AST/ALT, Blood grouping and comparable for CXR, FBC, Urine analysis and 2D-Echo. Mean scores for the ten case-scenarios were unsatisfactory; AG 4.65 (SD±3.96), SG 2.85 (SD±2.81), investigations 47.4 (SD±12.46).

Discussion and conclusion
HOs habitually request investigations without individua-lizing or conforming to guidelines. Their knowledge on planning investigations and related costs was poor.

OP 1.1.4

AN AUDIT ON NEONATAL TRANSFERS TO A PAEDIATRIC SURGICAL UNIT – LADY RIDGEWAY HOSPITAL FOR CHILDREN

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Introduction
Neonates with diverse surgical problems are transferred to LRH. The state of these neonates on arrival to LRH, play a vital role in their outcome.

Materials and methods
All the neonatal transfers that reached our unit from 01.01.08 to 31.10.08 were studied prospectively.

Indication for transfer, adequacy of management during the transfer and adequacy of information on the transfer form were studied.

Results
The total number of transfers was 54.

The commonest indication for transfer was intestinal obstruction (44.4%), second commonest being anorectal malformations (18.5%).

Twenty three (42.6%) of the transfers were from teaching hospitals. Thirty one (57.4%) admissions reached our unit between 12 noon to 6 pm. The duration of transfer was more than 5 hours in 8 (14.5%).

Thirteen (24.1%) were mildly dehydrated on admission and 2 (3.7%) neonates had moderate to severe dehydration. Five (9.3%) neonates were hypoglycemic and five (9.3%) were hyponatremic.

Out of 51 neonates who had cannulae, in 23, the cannulae were not properly splinted and in 5 the cannulae were out.
The information on the transfer form was satisfactory only in 18 (33.3%) transfers.

In 26 (48.1%) of the transfers, the receiving unit was not informed prior to the transfer.

Discussion and conclusions
The need for transfers of neonates from teaching hospitals to LRH should be minimized. The care of the neonate during the transfer needs to be improved.

OP 1.1.5

KNOWLEDGE OF PARENTS REGARDING THEIR CHILD'S SURGICAL OPERATION

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Introduction
A considerable knowledge regarding the disease and its treatment among patients and their guardians is vital for informed decision making in clinical practice.

Our aim was to evaluate the knowledge of parents regarding their child's surgical operation and to identify factors affecting it.

Material and methods
All the parents of children who were to undergo elective inguinal herniotomy or hypospadias repair in our unit from 01.10.08 to 31.10.08 were interviewed between preoperative consenting for surgery and the operation.

Results
The total number of participants were 68 (42 inguinal herniotomies and 26 hypospadias repairs). Sixty six (97%) participants were mothers.

Twenty one (50%) of the parents knew that a defect in the abdominal wall will be closed with a stitch in children undergoing inguinal herniotomy while 21(80.8%) of the parents knew that the child will be on catheter after hypospadias repair.

Six (8.9%) did not know the type of anaesthesia that will be used even after consenting for general anaesthesia.

Thirty two (47.1%) got 0 marks for the answers for a set of questions to assess the knowledge on post operative complications.

While hospital doctors were the main source of knowledge (55=80.9%), parents of the other children who underwent the same procedure were also a considerable source (20=29.4%).

The education level or the occupation of the parents did not have a significant relationship with the level of knowledge.

Discussion and conclusions
The knowledge among parents regarding their child's operation even after consent for surgery is inadequate. This highlights the need to improve the process of consenting patients and their parents prior to surgery.

OP 1.1.6

ENDOSCOPIC RETROGRADE CHOLANGIO-PANCREATOGRAPHY, EXPERIENCE OF A GENERAL SURGICAL TEAM

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Introduction
ERCP is not widely available in Sri Lanka, due primarily to a dearth of equipment. Our experience, as beginners, during a period of three years, is presented here.

Patients and methods
Fifty two patients presenting with obstructive jaundice were investigated and forty four were subjected to ERCP. Sixteen (31%) patients had symptomatic gallstones and common bile duct calculi. Endoscopic sphincterotomy and balloon extraction of calculi was performed in all the patients but one, in whom retrieval of large calculi was attempted with a wire basket.

Twenty eight (53%) patients underwent ERCP for malignant biliary obstruction. Eight (15%) patients had surgically resectable tumours and underwent Whipple's pancreatoduodenectomy.

Results
Of the sixteen (100%) patients who underwent ERCP for ductal calculi, seven had successful sphincterotomy and balloon sweeping on the first attempt. Nine others had the Papilla pre cut with hot needle knife, and five of them had successful sphincterotomy and stone clearance on the second attempt (overall success 74%). Two were referred to experienced colleagues after failed second attempt. Two others had open exploration of the common bile duct later.

Of the thirty six (100%) patients with malignant obstructive jaundice, six were found to have extensive hilar or intrahepatic cholangiocarcinoma on cholangiography. Another eight patients had open biliary by-pass procedures due to failed ERCP. Fourteen (38%) patients had successful stenting of the malignant strictures within two attempts.

Overall, six (l 1.5%) patients had acute pancreatitis. Overall, three (5.7%) had cholangitis of whom one patient died (1.9%). Another patient had emergency laparotomy for duodenal perforation (1.9%).

Discussion
In expert hands an overall success rate of 80-90% is reported, while the incidence of complications stands at acute pancreatitis 3-5%, cholangitis 1%, haemorrhage 1-2%. The higher incidence of complications and the lower success rates of our series are indicative of an early learning curve.

OP 1.2.1

ELECTIVE LAPAROSCOPIC SPLENECTOMY – A REVIEW

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Introduction
Splenectomy is done as an emergency procedure in trauma or as a routine procedure. Elective splenectomy is commonly done for haematological indications. In this situation there may be splenomegaly causing problems in dissection and organ retrieval. A review of feasibility, safety and outcome following laparoscopic splenectomy is important.

Material and methods
Results of elective laparoscopic splenectomies that were done from 2004 to 2009 were analyzed retrospectively. 5 ports including the camera port were used. The spleen was retrieved in a plastic bag through a minilaparotomy.

Results
A total number of 14 patients were analyzed. Three patients at the beginning of the series needed conversion to open procedure, all of them had splenomegaly. The subsequent patients (n=11) had idiopathic thrombocytopenic purpura (ITP) and the spleens were normal in size. Two patients needed laparotomy following splenectomy due to bleeding. Average time ranged from 2 to 4 hours. The size of the incision for minilaparotomy was about 4cm.

Discussions and conclusions
Elective laparoscopic splenectomy was feasible for the normal sized spleen in our series. With experience it may become possible even for larger spleens. However a larger incision will be needed for retrieval of the spleen. A study is necessary to assess its role in the trauma situation.

OP 1.2.2

A STUDY OF SURGEONS' PERCEPTION WITH REGARDS TO THE OCCURRENCE OF BILE DUCT INJURIES DURING LAPAROSCOPIC CHOLECYSTECTOMY

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Introduction
Bile duct injury during laparoscopic cholecystectomy is a major complication which carries a significant morbidity and mortality. Many studies are available on the technical factors and physical, psychological and socioeconomic effects on patients. To the best of our knowledge there are no publications in English language on surgeons' perception and impact of such an injury on the surgeon.

Material and methods
A questionnaire was sent to 120 board certified surgeons to be returned anonymously. Questionnaire addressed the issues regarding con-tributory factors, degree of suspicion during surgery, need for conversion, sequence of events that followed, the emotional impact and whether the experience did affect the threshold for conversion when performing laparoscopic cholecystectomy.

Results
Response rate 34% (41), 95% (38) perform laparoscopic cholecystectomy. 47% (20) had experienced BDI. Three experienced more than one injury. 75% (15) suspected probability

during surgery and 93% (14) converted to open. Reasons for the injury as perceived by surgeons (a) technical difficulty(S) (b) unclear or abnormal anatomy (18) (c) initial structure thought to be cystic duct found to be wrong (6). 38% proceeded to perform hepatico-jejunostomy. 56% (16) responded to the questions on psychological impact. 56% said injury affected them very much and 15% to an extreme amount. 56% (9) said that the injury did not alter the conversion threshold at all.

Discussion and conclusion
Most surgeons who had suspicion of BD injury had converted the procedure and 1/3 were able to perform hepaticojejunostomy. Main contributory factors were unclear anatomy and wrong interpretation. Even though experience of the injury had a significant psychological impact on surgeons, in the majority it did not change the conversion threshold when performing laparoscopic cholecystectomy.

OP 1.2.3

LAPAROSCOPIC ASSESSMENT OF CHRONIC RIF PAIN IN FEMALES

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Introduction
Management of chronic right iliac fossa (CRIF) pain is poorly documented in literature. This ongoing study is designed to assess the effectiveness of laparoscopy based protocol to manage chronic RIF pain.

Method
CRIF pain was defined as 'pain persisting or recurring in Right lower abdomen over a period of six weeks or more, without an identifiable pathology'. The first line investigations performed were UFR, WBC, X ray KUB and USS of abdomen. Colonoscopy was done in all negative cases. With failure of initial investigations to come for diagnosis, laparoscopic assessment (with or without interventions) of the abdomen was offered (n=10, all females, median age 43 range 32-51. The patients were followed up at 2 weeks and 6 weeks to assess the response.

Results
The mean pain score was 4.5 (SD 1.0489). Median duration of symptoms was 7 months (Range 2-18). During surgery 6 (60%) had positive findings. Of that 3 (30%) had adhesions in the RIF and lower abdomen. Laparoscopic adhesiolysis was done in them. Two had congested appendices. One patient had a simple ovarian (4 × 4cm) cyst which was drilled. Those with normal findings underwent appendicectomy. In 4 patients out of 6 who had positive findings at the laparoscopy, pain was improved (mean score 1) at 6 six weeks. One patient with normal appendix had improved symptoms.

Conclusion
Laparoscopic assessment seems to have a role in CRIF pain, the commonest finding is adhesions. Place of appendicectomy needs to be evaluated with a larger sample.

OP 1.2.4

LAPAROSCOPIC CHOLECYSTECTOMY – IS IT SAFE IN THE HANDS OF TRAINEES?

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Introduction
Laparoscopic cholecystectomy (LC) is widely used to train keyhole surgical skills in many developed countries including Australia. Safety of LC in the hands of trainee surgeons is debated as there had been many studies in the past, which has highlighted increased perioperative complications during the learning curve of LC.

Material and methods
A comparative study was conducted on consecutive LCs performed in a teaching hospital in Western Australia (both in elective and emergency settings). The number of GB perforations during surgery, open convertions, surgical complications and reasons for stay at the hospital for more than 4 days were analyzed. These results were compared with the level of training of the operator.

Results
Out of 280 operations, 209 (74.6%) were performed by Registrars (R), while 71 (25.4%) were done by Consultants/Senior Registrars (CS). Of the total gallbladder perforations, 54.2% and 45.8% occurred in the R and CS groups respectively (p=0.016). There were 12 open conversions: 58.3% (CS) and 41.7% (R) (p=0.007). Out of 15 complications related to the biliary track and surroundings 53.3% were present in surgeries performed by CS, whereas it was 46.7% in the R group (p=0.1). There were 4 other surgical complications, 3 of which were in the R group (p=0.987). No bile duct injuries were present in both groups.

Discussion and conclusion
There were no statistically significant operative complications between patients operated by senior operators and trainees. LC can be recommended to be performed by trainees in this setting.

OP 1.2.5

ROLE OF LAPAROSCOPY IN ABDOMINAL TRAUMA – INITIAL EXPERIENCE IN CASUALTY BLOCK, DHAKA MEDICAL COLLEGE HOSPITAL

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Introduction
Laparoscopy has become common place in general surgical practice. Although it has been increasingly utilized worldwide but in trauma setting minimally invasive surgery was not a practice in our country till last year. We have started laparoscopy in abdominal trauma for the first time in Bangladesh since May 2008.

Objectives
Objective of this study was to evaluate the role of laparoscopy in

abdominal trauma, both blunt and penetrating, in our setting in casualty block of Dhaka Medical College Hospital, Dhaka.

Methods
From May 2008 to April 2009, Seven hundred ten (710) patients with abdominal trauma was admitted. Patients were divided into three treatment groups: Non- laparotomy, immediate laparotomy and laparoscopy group.

Results
Amongst 710 patients 262 patients were in non laparotomy group. In rest of the 448 patients, 432 patients underwent immediate laparotomy, and 16 patients under went laparoscopy. In Laprotomy group 412 were therapeutic and 20 were non therapeutic laparotomies. In laparoscopy group, 10 of them needed conversion to laparotomy.

Reevaluation of 20 non therapeutic laparotomies revealed that all 20 cases could have been benefited by laparoscopy.

Conclusion
In carefully selected, stable patients laparoscopy can reduce the rates of non therapeutic laparotomy, thus can reduce over all morbidity, length of hospital stay and treatment cost of the patient.

With more logistic support, training and expertise of surgeons, more therapeutic interventions could be done laparoscopically in trauma patients.

OP 1.2.6

LAPAROSCOPIC APPENDICECTOMY IN CHILDREN – BENEFITS OVER OPEN SURGERY

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Introduction
Appendicectomy is the most common emergency surgical operation in children. The purpose of this study was to compare open (OA) versus laparoscopic appendicectomy (LA) in uncomplicated appendicitis.

Materials and methods
Prospective analysis was made in all children over 2-year period that underwent appendicectomy and found 51 cases of uncomplicated appendicitis diagnosed on clinical ground and confirmed by histopathology. There was no selection of cases for laparoscopic appendicectomy. These children were divided in to two groups as open and laparoscopic based on the operative technique used for removal of the appendix. The parameters assessed were, the operative time, duration of postoperative stay, use of postoperative analgesia, and timing of initiation of feeds after surgery, postoperative complications and duration of postoperative stay.

Results
There were 19 and 31 children in the laparoscopic and open appendicectomy groups, respectively. Conversion from laparoscopy to open technique was done in five children. Distribution of age, gender and pathology of appendicitis was similar for the two groups. With laparoscopic appendicectomy, the mean operative time was longer (118 vs. 32 minutes), and mean postoperative hospital stay 2.1 vs. 3.4 days. There was no significant difference between uses of post operative analgesia. Feeds were started earlier in LA group. (8 vs.24 hrs). The average postoperative hospital stay was 2 days in LA Group and 3.2 days in OA Group. Two children develop sub acute intestinal obstruction at the very beginning of LA and two had wound infection after OA.

Conclusions
Laparoscopic approach carries longer operative time but shorter hospital stay. Less postoperative pain was not observed in LA group as in standard literature and may have attributed to learning curve.

OP 1.3.1

EARLY OUTCOME OF STRESS URINARY INCONTINENCE TREATED WITH IMPROVISED MID URETHRAL SLINGS – A PILOT STUDY

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Introduction
Tension free vaginal or obturator tapes (TVT, TOT) used as mid urethral slings have gained popularity as the most widely used surgical treatment for stress urinary incontinence (SUII). With high cure rates over 90%. Relative minimally invasive nature of the procedure and short hospital stay with early return to normalcy has lead to wider usage of it. However the stumbling draw back is the high cost of such tape which is around Rs. 60,000 - 120,000/=. This pilot study explores the possibility of use of an improvised sling using freely available mesh material instead of commercially available specific slings.

Material and method
From April 2006, 13 patients with stress urinary incontinence underwent mid urethral sling procedures using the improvised TOT/ TVTwhich was tailored from widely available standard poly propylene hernia mesh. Patients with failed incontinence surgery, severe vaginal prolapse, psychiatric disorders and neurogenic bladders were excluded. Standard technique of transvaginal placement of the improvised sling with reusable TVT and TOT needles (Herniamesh™; Italy) was carried out. Ethical clearance was obtained from local hospital ethical committee. The outcome of surgery was assessed subjectively (pad wetting) and objectively with simple urodynamics at regular intervals and cure was defined when patient did not experience incontinence with moderate or heavy stress without urodyanamic obstruction.

Results
Median age was 51 years (range 40-67). Average symptom duration was 64 months.TOT in 11 and TVT in 2 patients were performed. Bladder perforation or urinary retention were not encountered. Median follow up was 19 months. All patients were cured from SUI. Out of 8 patients who had mixed symptoms 4 were cured while the rest were improved from the irritative symptoms. Duration of symptoms or the body mass index was not directly related to the outcome.

Conclusion
Improvised midurethral slings are safe, cheap and feasible and these mid term results encourage use of it especially in the public sector where financial restraints are encountered. There is huge cost saving involved which is much desirable to a developing country. The present study could be used as evidence in medico legal implications which could arise in using alternative biomaterial in standard procedures.

OP 1.3.2

DO WE NEED COMPLEX URODYNAMICS? – A COMPARATIVE ANALYSIS OF CLINICAL AND CYSTOMETROGRAPHIC DIAGNOSIS OF LOWER URINARY TRACT DYSFUNCTION

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Introduction

Cystometrography (CMG) which is a major component of it plays a key role in diagnosing bladder dysfunction especially when the clinical diagnosis is in doubt. The present study attempts to evaluate the correlation between the clinical diagnosis and urodynamic outcome of patients with lower urinary tract symptoms with bladder dysfunction. Second objective was to find out the necessity of further more complex urodynamic studies.

Method

Forty two CMG and pressure flow studies were performed on a selected group of patients whose clinical diagnosis was in doubt or needed further confirmation before surgical treatment. Clinical diagnosis was made by consultant or senior urological registrar on clinical features and simple urodynamics (eg; post void residue and uroflowmetry). The urodynamic study was performed with Dyna 10 digital urodynamic machine. Post urodynamic diagnosis was compared with clinical diagnosis to see whether clinical diagnosis was (a) confirmed, (b) changed or (c) remained inconclusive requiring further investigations.

Results

The mean age of the patient was 32 (range 09-68) and 66.6% were male and 33.3% female. The CMG study confirmed the clinical diagnosis in 50% of the patients. Clinical diagnosis was changed in 13 (31%) and 8 (19%) inconclusive diagnosis after CMG. Due to inaccurate clinical diagnosis 06 were on unnecessary bladder relaxation while five of them required bladder relaxant but were not on treatment. Two were unnecessarily on self catheterization. Out of 8 who had inconclusive diagnosis five patients had features of detrusor sphincter dyssynergia which needed further conformation with electro-myography. Hence 92% of time urodynamic diagnosis was reached by CMG alone without the need of further studies.

Conclusion

Pure clinical diagnosis in complex lower tract dysfunction is not accurate and CMG solves most of the doubts in these situations without the need to resort to more complex studies especially before making crucial surgical intervention.

OP 1.3.3

URETHROPLASTY FOR TRAUMATIC URETHRAL STRICTURES – IS IT THE BEST CHOICE?

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Introduction

Poorly managed traumatic urethral strictures in male could have a devastating effect on the quality of life. Except for a minority of thin mucosal strictures majority of urethral strictures and disruptions will benefit from anastomotic or substitution. Urethroplasty data is sparse regarding the outcome of these procedures as few centers will have a reasonable case load.

Material and method

48 patients who underwent urethroplasty for post traumatic urethral strictures from May 2005 to May 2009 were analyzed and followed upto date. Patient outcomes were assessed subjectively and objectively at clinic interviews, based on simple urodynamics, contrast studies and urethroscopy. Urethroplasty technique was anastomotic or substitution using buccal mucosa or penile skin flap.

Results

All patients were males, between 14 and 71 years. 33(68%) trauma inflicted were by road traffic accidents (pelvic fractures - 20), 12(25%) due falls, 2(4%) due gunshot injury and 1(2%) due to sport injury. Before the surgery patients were on supra pubic catheter for a median duration of 30 months. Preoperatively 27 had UDL and 8 optical urethrotomy. After surgery the median follow up was 23 months. Surgical success was defined as absence of bothersome obstructive lower urinary tract symptoms, satisfactory urine flow, and no evidence of significant radiological or endoscopic stricture at the last review.

None of the patients developed significant donor or recipient site morbidity. Average hospital stay was 5 days.

		No	Partial failure	Total failure	Success
Anterior	Anastomotic	34	5	3	76%
	Buccal graft	6	1	0	83.3%
Posterior	Anastomotic	6	2	0	66%
	Pull through	2	1	1	50%

Conclusion

Our study affirms that urethroplasty gives one stop satisfactory results with occasional need for an additional procedure. While excision of the fibrous tissue and anastomosis remains as the best method for posterior urethral strictures, buccal mucosal substitution extends a satisfactory outcome to all anterior urethral strictures.

OP 1.3.4

TRAUMA TO MALE EXTERNAL GENITALIA – A PREVENTABLE INJURY

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Trauma to male external genitalia is one of the common surgical emergencies in developing society of a country like Bangladesh. Purpose of this study was to evaluate the causes and patterns of injury, their management and outcome.

This study was conducted in the Casualty Department of Dhaka Medical College Hospital on 144 patients of penoscrotal injury admitted during the period from June 2007 to May 2008. Data was collected in a pre-designed data sheet and evaluated in respect to the objectives.

Among 144 patients age range was from 10 to 65 years. Highest incidence was in 10-20 years age group (47.91%). About 63.88% of the patients were from urban and 36.11% of the patients were from rural area. Most common mode of injury was entanglement of loose clothes in rolling machines or rickshaw (65.97%). Combined penoscrotal injury was the most common variety (43.75%), isolated scrotal (28.47%) and isolated penile (27.77%). There was urethral injury in 8.33% and testicular injury in 3.47%. Of all the cases, 60% was managed by primary closure. Commonest complication was wound infection (25%). Most severe disabilities were loss of penis (4.86%) and bilateral testicular loss (1.38%). None of them had associated life threatening injury.

Penoscrotal injury was preventable in most of the cases. Simple awareness and education regarding loose clothes at work or at play can prevent majority of the trauma to male external genitalia.

OP 1.3.5

LAPAROSCOPIC NEPHRECTOMY – INITIAL EXPERIENCE IN A SINGLE UROLOGY UNIT IN SRI LANKA

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Introduction
Laparoscopic nephrectomy is an exciting minimally invasive development in urology. Laparoscopic urology service was introduced to Sri Lanka since 2005 with a rather short training exposure of the operator (NDP) in a single tertiary urology unit. Aim of the study is to compare the outcome with international results.

Method
Forty five consecutive laparoscopic total nephrectomies performed from the 31st of December 2005 to 1st of May 2009. A data collection was performed by retrospective review of clinical notes and patient interview to obtain demographic data, operative information, conversion rate, blood transfusion, complication and post operative hospital stay. Complication and conversion rate were compared after dividing the patients in to two groups as first 20 and last 25 to assess the learning curve.

Results
Laparoscopic nephrectomy was attempted in 45 patients and successfully completed in 38 patients (84.5%). Conversion rate was 15.5%. Mean operating time was 170.4 minutes. Only 4 patients required blood transfusion (8.8%). Overall complication rate was 15.5%. Eleven percent was minor port site infections. Median hospital stay was 3 days. In last 25 patients only 3 patients (12%) were converted while blood transfusion rate and complication rate were 4 and 12% respectively. Mean operating time has reduced from 208 min to 151 min for the last 25 cases. While median post operative stay has reduced to 3 days from 5 days for 1st 20 cases. These results were compared well with the international results. Our conversion rate is 15.5% compared 16% in other centers. In last 25 operative time and blood transfusion rate are lower in our experience (operative time >min 170 vs. 260 min and blood transfusion 8.8% vs. 15%). Median hospital stay is similar (3 days) while complication rate also remain equal (15.5% vs 16%). Results are excitingly good after initial learning curve experience.

Conclusion
International studies have shown that laparoscopic skills evolve with a slow and steady learning curve requiring 100 cases before adequate confidence developed. Analyzing of the result shows that even after a short training period outcome and leaning curve are compatible with experience of other centers. Exposure to such a large number (100) may not be necessary for an experienced surgeon.

OP 1.3.6

MINIMALLY INVASIVE TREATMENT OF RENAL CALCULI – INITIAL EXPERIENCE OF SINGLE OPERATOR PERCUTANEOUS NEPHROSTOLITHOTOMY (PCNL) – WHEN COULD YOU BE CALLED AN EXPERT?

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Introduction
Percutaneous nephrostolithotomy (PCNL) is the treatment of choice for large renal stones and stone in poorly draining calyces. Procedure is carried out by a team of radiologist and a urologist. Data is sparse regarding the out come when the procedure is single handedly done by the urologist. Current study evaluates the outcome and the learning curve of initial experience in Sri Lanka at a tertiary urology unit, so that some kind of guidance can be laid down for the trainee.

Materials and method
156 consecutive PCNLs were done from May 2003 to May 2009. The procedure was carried out under general anaesthesia. Percutaneous access was made by the urologist or senior registrars with image intensifier guidance. Stone fragmentation was done using intracorporeal pneumatic lithotripter. Patients were followed up at a special "Stone Clinic" and retrospective data collection was done.

Results
There were 151 patients between the ages of 19 to 76 with a mean of 44.8. There were 115 males and 36 females. PCNL was done on the right side in 91, left side in 60 and bilaterally in 5. Commonest presentation was loin pain 86 (55%), followed by haematuria 38 (24.3%), infection 20 (12.8%). 15 (9.6%) patients were asymptomatic. The mean stone size was 23mm (11-44mm). These stones were 77 pelvic, 36 complex, 21 staghorns, 19 solitary calyceal and 3 in the pelvi ureteric junction. Post operatively nephrostomy tube was clamped on median of 2 days and removed in 3 days. Average hospital stay was 4.2 (2-19) days. Out come was assessed where patients were arranged into 4 consecutive groups.

	G1(N=40)	G 2(N=40)	G 3(N=39)	G 4(N=37)	Total
Successful clearance	14	30	36	35	115
Symptom relieved	34	37	34	37	142
Death	1	0	0	1	2
Nephrectomy	2	1	0	0	3
Conversion	6	2	0	0	9
Septicemia/Shock	2	2	0	0	4
Blood Transfusions	11	7	2	5	25
Pyrexia	10	10	12	14	56
Prolong drain	24	12	8	5	49
Haematuria	16	7	3	4	30
Ureteric obstruction	6	4	3	1	14

Conclusion
Single operator PCNL is safe and an effective method to treat renal stones and essential skills could be acquired by all urologists with an acceptable complication rate. The initial period of the learning curve (first 40) should be essentially done under supervision under a mentorship to minimize high rates of complications.

OP 1.4.1

IATROGENIC ANAL SPHINCTER INJURY CAUSED BY SURGERY FOR RECURRENT FISTULA-IN-ANO

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Introduction
Recurrent fistula-in-ano is a relatively uncommon surgical condition. In addition, repeated surgical procedures may lead to injury to the anal sphincter mechanism resulting in anal incontinence and poor quality of life. The aim of our study was to assess the prevalence of iatrogenic anal sphincter injury in patients who presented with recurrent fistula-in-ano to a single surgical unit in a tertiary referral center.

Materials and methods
Forty six patients who presented with recurrent fistula-in-ano over a period of 2 years were included in the study. Anatomical and functional integrity of the anal sphincter was objectively assessed using endoscopic ultrasound (EUS) and anorectal pressure (ARP) studies.

Results
In the 46 patients recruited for the study, 24 (52.17%) patients had poor resting anal sphincter tone, 3 (8.69%) had poor squeeze pressures, 6 (13.04%) had both resting and squeeze pressure impairment. Thirteen (28.26%) patients had normal resting and squeeze pressures. Endoscopic ultrasound detected no anatomical sphincter defect in 23(50%) patients. Of the remaining 23 patients, 16 (34.8%) had defects in the internal anal sphincter (IAS), 2 (4.3%) had defects in the external anal sphincter (EAS) and 5 (10.9%) had defects in both.

Discussion and conclusion
Our study showed a significant anatomical and functional anal sphincter derangement in patients who under went repeated surgery. Therefore, we recommend that surgery for recurrent fistulae-in-ano to be carried out in specialized centers by surgeons trained in handling complex cases.

OP 1.4.2

CORRELATION OF PRE SURGICAL EVENTS AND THE RATE OF COMPLICATIONS IN ACUTE APPENDICITIS

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Introduction
Acute appendicitis has a diverse pattern of presentation. Therefore, diagnosis and subsequent treatment might be delayed leading to complications.

We aim to discuss the events that occur between onset of symptoms and the surgery, including patient related and first contact medical officer related delays in presentation if there are any.

Material and methods
All patients who underwent appendicectomy at LRH from 15.04.09 to 30.06.09 were prospectively studied.

Results
The total number was 29.

The number of complicated patients were 19 (65.5%), which included 11(57.9%) with perforation with local peritonitis, 6 (31.6%) with appendicular abscess or mass and 2 (10.5%) with gangrenous appendix.

Twenty one (72.4%) patients have initially presented to a general practitioners' clinic, 4 (13.8%) to government dispen-saries, 3 (10.3%) to LRH-OPD and 1(3.4%) to a base hospital.

The duration of symptoms prior to the initial presentation ranged from 0.5 hours to 48 hours, the mean being 11.7 hours. This didn't have a significant relationship with the rate of complications.

The duration between the visit to first contact medical officer and admission to LRH ranged from 20 minutes to 168 hours, with a mean of 34 hours. This time duration had a significant relationship with the rate of complications.

The management by the first contact medical officer also had a significant relationship with the rate of complications, regardless of the presenting symptoms.

Discussion and conclusions
In this study, the factor that mainly leads to complications is the delay that occurs between the visit to first contact medical officer and the admission to LRH.

OP 1.4.3

THE ROLE OF FLEXIBLE SIGMOIDOSCOPY IN THE EVALUATION OF BLEEDING PER RECTUM

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Introduction
Routine flexible sigmoidoscopy is standard in patients presenting with fresh painless bleeding per rectum, even if an obvious cause is seen on proctoscopy. This is to prevent a synchronous proximal pathology such as carcinoma, polyp or diverticular disease going undetected. However routine flexible sigmoidoscopy has led to many negative sigmoidoscopies.

Method
A retrospective analysis of 409 consecutive patients presenting with painless fresh bleeding per rectum over a period of 2 years to a single surgical clinic in a tertiary care hospital was carried out. All the patients underwent digital rectal examination, proctoscopy and flexible sigmoidoscopy.

Results
Mean age at presentation was 50 (range,14- 93)years. 129 of them were <40 years of age, while 280 were >40 years of age. Male:female = 1.6:1. 349 patients had haemorrhoids only. 16 patients had malignant lesions, while 8 had a benign lesion (i.e.polyps,ulcers). 24 patients had inflam-matory bowel disease and 2 had diverticular disease 3 patients had polyps as well as haemorrhoids while 1 patient had a benign rectal ulcer and haemorrhoids. All patients who had haemorrhoids as well as another pathology were >40 years.

Conclusions
Our study shows that flexible sigmoidoscopy is of value only in those over the age of 40 years. Those who are less than 40 years who are diagnosed to have a lesion on clinical examination and proctoscopy may be treated for the same without further endoscopy.

OP 1.4.4

TERMINALIA CHEBULA (ARALU) AS AN ALTERNATIVE BOWEL PREPARATION TECHNIQUE FOR COLONOSCOPY

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Introduction
Polyethylene glycol (PEG) is the standard bowel preparation for colonoscopy. The ingestion of 3-4 liters is poorly tolerated by some and the cost is a limiting factor in local practice. *Terminalia chebula* (TC) based preparations are being used in 'Ayurvedic' medicine as purgatives. This pilot study was designed to assess the feasibility of using TC as an alternative.

Methods
Two tablets of TC were administered to 25 randomly selected volunteers (median age 52 years, range 28-67, males 64%) undergoing colonoscopy. The quality of bowel preparation was assessed according to the Toronto bowel preparation scale. Intestinal colics, nausea and patient satisfaction were assessed using a 10 point visual analogue scale. Results were compared with 25 patients prepared with PEG.

Results
PEG had a higher frequency of motions (TC;10 vs. PEG;15, P=0.001), higher incidence of nausea and vomiting (TC;8%, PEG;52%, p=0.002) and poorer patient satisfaction compared with patients having TC (total score 8.19 vs. 9.62, p<0.001).The recto sigmoid and left colon had comparable bowel preparation in both groups (scores 0 and 1, 72% vs. 82%, p=0.64). The right colon had better clarity with PEG. An acceptable visibility (mean score, PEG; 7.2 +/-4.45, TC;5.5+/-3.93, p=0.159) was achieved in both groups. The fluid content was significantly higher in the PEG group. Caecal intubation rates were similar in both groups (PEG and TC; 24).

Conclusion
TC offers better patient satisfaction and tolerance. However endoscopic clarity of the right colon is less. TC is an useful alternative low cost bowel preparation.

OP 1.4.5

FOUR QUADRANT CLASSIFICATION OF FISTULA-IN-ANO: DOES THE VARIABLE DISTRIBUTION OF ANAL GLANDS PLAY A ROLE IN THE OCCURRENCE OF FISTULA-IN-ANO IN THE PERINEUM?

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Introduction
Our study was to assess the variability of the occurrence of the fistula-in-ano in the perineum by a new classification and its association with the distribution of the anal glands.

Methodology
Individually blinded two-phase study was performed. In the first phase, a retrospective study was performed in patients, with primary fistulae. The perineum was divided in to right upper and lower

(RU, RL), left upper and lower (LU, LL) quadrants in the lithotomy position. Considering the site of the external, internal openings and the pathway of the fistulous tract, as a single entity, the fistulae were classified in to quadrants. In the second phase, using 10 human cadaveric anal specimens, two full thickness tissue samples, 5 mm above and below the dentate line, were taken from the each quadrant of the anus. The volume fractions (Vv) of the anal glands of each quadrant were obtained, by using the stereological estimation of coherent double lattice test system.

Results
There were 39 consecutive patients with a mean age of 43.8 (range 20-65) years, (M=31). The new classification showed that the distribution of fistulae was, 43% (17/39) in RL, followed by LL, RU, and LU with 22.4% (9/39), 12.2% (5/39), 8.2% (3/39) respectively. 14.2% (5/39) of fistulae were in more than one quadrant. The Vv of the anal glands of the histological specimens, showed that, the RL quadrant was having a significantly a higher volume fraction of the anal glands, [RL- 0.65, LL- 0.34, RU- 0.26 and LU-0.23 (Vv of RL Vs. LL, P- 0.002, RL Vs. RU and LU, P- 0.001 each)].

Conclusions
The study showed objectively that there is a greater density of anal glands in the RL in the anus and this may be the most likely reason for the majority of the fistulae to occur in this region.

OP 1.4.6

CLINICAL, ENDOSCOPIC AND HISTOLOGICAL CHARACTERISTICS AND MANAGEMENT OF INFLAMMATORY BOWEL DISEASE – EXPERIENCE OF THE NATIONAL HOSPITAL OF SRI LANKA (NHSL)

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Introduction
Inflammatory bowel disease (IBD) include ulcerative colitis (UC) and Crohn's disease (CD) which are chronic inflammatory conditions affecting the gastrointestinal tract. The data indicate that the incidence of IBD is rising in most of the developing world. The objective of this study was to investigate the clinical and colonoscopic characteristics and the histological extent of the disease at first presentation to a single tertiary hospital (NHSL).

Methods
Patients diagnosed with IBD attending gastroenterology clinics during the 1980-2009 were included, and their clinical and endoscopic profiles were analyzed.

Results
There were 184 patients (101 females, UC 83.2%, n=153). Mean age was 44.5 (range 20-78) years. The mean duration of IBD was 8.17 (range 1 to 28) years. 33.7% (n=62) of patients had disease for more than 10 years. Based on histology, the extent of UC was, distal in 34.6%, left sided in 38.6%, near total in 8.5% and pancolitis in 18.3%. The majority (87.5%, n=161) were managed on medications alone. Only 23 (12.5%) underwent surgery. Presenting complaint of the majority (73.7%) of UC patients was blood and mucous diarrhoea, where as the majority (48.3%) of CD patients complained of left sided abdominal pain. A total of 46.5% patients had at least a one extra intestinal manifestation.

Conclusions
The majority with UC had distal colitis and majority were managed on medications alone. The majority of patients with Crohn's disease underwent surgery. This shows that the long term follow up IBD patients is important to detect and manage complications.

OP 1.5.1

THE RESULTS OF DIGITAL REPLANTATIONS – SINGLE UNIT EXPERIENCE

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Objectives
We retrospectively evaluated replantations performed for digital amputations. Success rate was measured against the type of injury. The cosmetic and functional evaluation was also performed.

Methods
The study included 12 patients (11 males, 1 female; mean age 29 years; range 2 to 52 years) who underwent replantations distal to the distal interphalangeal joint for a total of 98 amputations. According to the Tamai classification, there were 3 zone 1 and 9 zone 2 amputations. Arterial anastomosis was accomplished after bone fixation, and venous anastomosis and nerve repair were performed whenever possible. When venous anastomosis was not possible or in case of venous insufficiency, venous decompression was performed with heparinized gauze placed on the bleeding finger tip. Functional results and the degree of patients' satisfaction with the cosmetic outcome were evaluated. The mean follow-up was 5 months for successful replants (range 4 to 7 months).

Results
Replantation was successful in 5 amputations (42%) and unsuccessful in 7 cases (58 %). In successful cases, cosmetic results were satisfactory due to the preservation of the nail and finger length. Functional results were satisfactory in cases in thumbs and those in which the distal interphal-angeal joint could be preserved. Replantations for zone 1 ampu-tations (67%) yielded better results than those performed for zone 2 amputations (33%). Sharp cuts showed a better (67%) success rate than crush (20%) or avulsions (50%).

Conclusion
Despite technical difficulties, replantations for distal finger amputations can provide satisfactory functional and cosmetic results. Also sharp cut injuries have a better outcome.

OP 1.5.2

MANAGEMENT AND REHABILITATION OF HAND BURNS, EVALUATION OF AESTHETIC AND FUNCTIONAL OUTCOME OF HUNDRED CONSECUTIVE HAND BURNS

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Introduction

Hand burns are major burns though they represent only 2-3% of the total body surface.The aesthetic and functional outcome is important in successful reintegration of a burn survivor in to society. Neglected hand burns lead to disabling deformities. The treatment protocol is conservative management for superficial and partial thickness burns, early tangential excision and autologous split skin grafting for deep burns. Aggressive occu-pational and physical therapy is commenced from the onset. Multidisciplinary approach is used in the management.

Material and methods

We present the outcome results of hundred consecutive hand burns managed by the Burns and Reconstructive Surgical Unit of National Hospital. This includes 45 males (61%) and 31 females (39%). Young patients between 21to 30 years represent 53% of burns. Dominant hand involvement was seen in 65% of the burns, and 80% were accidental. The dorsum was burnt in 77%. Range of motion, presence of contracture, and scar status according to Vancouver scale was monitored in the follow up.

Results

Follow up period range from 2 months to 1 year. Full range of motion was achieved in 91% of hands. Contractures were observed in 8%. All the patients were independent in activities of daily living on discharge.

Conclusion

Early aggressive surgical intervention, meticulous dressings and a multidisciplinary approach are essential for the management of hand burns. Using our protocol it was possible to achieve functional independence and aesthetic outcomes with minimal need for secondary reconstruction.

OP 1.5.3

THE USE OF CONVENTIONAL PLASTIC SURGICAL OPTIONS FOR COMPLEX MAJOR SOFT TISSUE DEFECTS ASSOCIATED WITH COMPOUND COMMINUTED FRACTURES OF SACRUM

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Introduction

The severe sacral injuries due to shrapnel and gunshots are associated with neural and bowel injuries. This unique entity is further complicated when they presented late for soft tissue reconstruction. This is a consecutive case series of five patients due to battle related trauma. All are males of average age of 20 years. The major cause is sharpnel injury following motar blasts. One patient was due to a gunshot injury. All had gaping wounds over the buttocks, exposing rectum -4 (80%) sacral fracture site -5 (100%) exposing corda equine -1 (20%). Every patient was treated initially by defunctioning colostomy.

Method

The average time of delay in presentation was 7 days. All had culture positive probable colonization. The large soft tissue defects were needed flap cover. The main flap design used was fascio-cutaneous V-> Y advancement (60%). Two (40%) were treated with modified transposition flaps.

One required additional pedicled gracillis muscle flap for filling the cavity. The additional procedures needed includes repair of rectum (40%), closure of rectal stumps (20%).

Results

Two patients with transposition flaps had to undergo re-grafting due to partial graft loss. Both became infected with MRSA. Two patients who underwent V->Y plasty developed mucus fistulae.

Conclusion

This unique entity can be reconstructed by conventional plastic surgical techniques adapted to suite the area. However, early referral to a tertiary centre may reduce the bowel related complications and post flap morbidity.

OP 1.5.4

OUTCOME FOLLOWING NERVE TRANSFER TO THE ELBOW FLEXORS IN ADULT TRAUMATIC BRACHIAL PLEXUS ROOT AVULSION INJURY

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Introduction

Loss of biceps muscle function is a significant disability after brachial plexus root avulsion injury and restoration of elbow flexion is the top priority. Using nerve transfers appear to be effective and has physiological advantages for reducing regeneration distance. The aim of this study was to evaluate the outcome following restoration of elbow flexors by means of neurotization.

Material and methods

Fourteen patients between the ages of 23 and 42 years with brachial plexus trauma had reparative surgery within 2 to 11 months of their injuries, Out of which 9 had upper plexus avulsions for which 5 underwent median nerve fascicle transfer. Four patients with upper root avulsion and 4 with global injury, intercoastal nerve transfers were done. One patient with pan plexus injury underwent phrenic nerve transfer. The data was analysed for a period of 1.5 years post operatively.

Results
In those with intercostal nerve transfer (n=8), 3 (38%) patients showed grade 1 biceps activity after 1.5 years. None from this group showed any useful flexion of elbow during this period. Patients with median nerve fascicle transfer with or without ulnar nerve fascicle transfer showed grade 4 elbow flexion within one year post operatively in 60% of patients.

Conclusion
The reanimation of elbow function in root avulsion injury with single intercostal nerve neurotization is disap-pointingly low. Median nerve fascicle transfer resulted in a significant improvement in biceps muscle function with an acceptable level of morbidity and should be considered in upper root (C5, C6) avulsion injury.

OP 1.5.5

ACID BURNS; AN EPIDEMIOLOGICAL STUDY FROM THE BURNS AND RECONSTRUCTIVE SURGICAL UNIT OF NATIONAL HOSPITAL, SRI LANKA

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Introduction
Acid burns cause a non thermal trauma with higher prevalence in developing countries. Acid causes dena-turation of skin proteins and produces systemic effects due to absorption. These burns are potentially lethal if they involve a significant proportion of the body surface. Management and rehabilitation requires a multidi-sciplinary approach to prevent deformity and disability.

Material and method
A retrospective review was performed analyzing patient records of the Burns and Reconstructive Surgical Unit, over 18 months. We received 66 acid burn patients which is 6% of the total number of patients during the period.

Results
The age range was 12 - 60 years while 58.4% of the patients were between 20-39 years, and male to female ratio was 3:1. Majority (75%) were the victims of homicidal acid assault while 24% were due to accidents. The type of acid was known only in 39 % of patients, the commonest being formic acid. The average total body surface area burnt was 14.4% in acid assaults and 1.6% in accidental acid exposure. The commonly involved areas were the face and head (70%), chest (50%), upper limbs (48%) in acid assault while the hand was the commonly (27%) burnt area in accidental exposure. The mortality was 3%. Tangential excision and grafting was required in 25%. Only 22% were attending rehabilitation.

Conclusion
Acid burns in Sri Lanka commonly occur due to assaults with a distinctive pattern of involvement. Majority is managed without skin grafting, and demonstrates poor compliance with rehabilitation.

OP 1.5.6

PROPELLER FLAP – A PERFORATOR FLAP FOR DIFFERING PRESENTATIONS OF POST BURN AXILLARY CONTRACTURE

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Introduction
Severe axillary burns can cause significant morbidity of upper limb due to scarring. It limits activities of daily living such as eating, bathing and combing hair. The surgical options of releasing the axilla are limited when a thick contracture involves one or both axillary folds and extend to the shoulder back and breast regions. However, the dome of the axilla often escapes burn due to its location. Using this valuable skin of axilla, a perforator flap (propeller) has been used for management of complex burn contractures.

Method
The six recent cases prospectively analyzed are unique since they have different causes, indications, timing of surgery and associated pathologies concerned. After undergoing the flap these patients were prospectively assessed on flap viability, immediate post surgical complications, functional outcome, cosmetic appearance, post graduate trainee's learning curve.

Observations
Out of six different cases none had flap necrosis or flap loss due to infection. Four (67%) had excellent functional outcome and 2 (33%) had fair short term mobility (One with previous grafting and one with frozen shoulder). Five gained the natural contour of the folds. The trainee was able to independently perform the surgery after four cases.

Conclusion
The propeller flap is a reliable and versatile option in releasing axillary contractures. It has remarkable survival ability yet gives exceptional good functional and cosmetic outcome in addition to having a short learning curve. Thus it can be recommended to areas with high volume of cases and limited follow up facilities for rehabilitation in addition to the ease of training.

OP 1.6.1

SIGNIFICANCE OF POLE TEST PRESSURE (PTP) VS ANKLE CUFF PRESSURE (ACP) IN THE ASSESSMENT OF LOWER EXTREMITY ISCHAEMIA IN DIABETIC (DM) AND NON-DIABETIC (NDM) PATIENTS

R Gnanajothy, A Yatawatta, M R N Cassim, S M Wijerathna

Introduction
PTP may be a reliable alternative to the standard ACP measure-ments which tend to be misleadingly high in diabetics with limb ischaemia.

Method
Thirty one consecutive patients (21 DM, 10 NDM) with critically ischaemic limbs were studied. 29 DM legs were compared with 11

NDM legs. The PTP was the vertical height (cm) from the supine resting surface at which the Doppler signal in foot vessels disappeared on leg elevation. Pressure in mm Hg was derived by *0.76. ACP was measured using the arm cuff applied just above the ankle. All limbs had ACP and PTPs measured 30 minutes apart during rest.

Results
In diabetics ACP [mean ACP: 109.62 (SD52.60) v PTP: 39.32 (SD12.5), p<.0.001] was significantly greater and their correlation coefficient was 0.367 (p=0.06).

In non-diabetics too ACP [mean ACP: 54.16 (SD31.05) v PTP: 29.94(SD23.57), p<0.006] was significantly greater and the correlation coefficient was 0.927 (p =0.008).

Interestingly ACPs are significantly more in diabetics compared with non diabetics (109.62 v 54.16, p=.0.031) while PTPs are similar in diabetics and non diabetics (39.32 v 29.94, p=0.2) with a similar clinical severity of ischaemia. Furthermore, ACPs are significantly greater than PTPs in both diabetics and non diabetics (diabetics p<0.001, non-diabetics p<0.006).

Conclusion
ACPs are increased in diabetics despite critical ischaemia. PTPs are similarly low in diabetics and non diabetics and correlate with the clinical state in a consistent fashion.

OP 1.6.2

THE ECONOMIC AND HEALTH CARE IMPACT OF CHRONIC VENOUS ULCERS – IS THIS THE WAY FORWARD?

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Introduction
Chronic venous ulceration (CVU) secondary to superficial venous reflux is common. Current unit practice is to heal the ulcer prior to sapheno-femoral ligation and stripping (SFL) to reduce wound complications. Outpatient strapping of venous ulcers is the standard practice. We studied the financial strain and the efficacy of this treatment modality in our patients.

Methodology
50 consecutive patients attending strapping clinic for chronic venous ulcers were selected. Data collection via a questionnaire was done to ascertain the economic impact of strapping, compliance and effectiveness on ulcer healing.

Results
24 males and 26 females were selected. Mean duration of the ulcer was 37.5 months (Median 4 years) with the maximum duration being 20 years. A patient has to travel on average 27 km to attend the strapping clinic. Most patients had to devote the whole day. The cost of a single visit per patient was Rs. 389 to the patient and Rs. 318 to the hospital (excluding staff salaries). 10 patients (20%) had lost jobs due to frequent leave, inability to stand and unpleasantness. Strapping was done weekly in 61% while the rest had fortnightly. 63.2% patients admitted for removing and reapplying dressing at home. 90% were unhappy of the rate of wound healing. 24% had previous surgical intervention while 28% had sclerotherapy.

Conclusions
CVU management as strapping is costly to the patient and the hospital. Patient compliance remains poor and overall ulcer cure rates are low.

OP 1.6.3

REPAIRING INJURIES AT THE ORIGIN OF THE PROFUNDA FEMORIS ARTERY WITH A GRAFT FROM THE CEPHALIC VEIN; A NOVEL APPROACH

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Introduction
During the last stages of the humanitarian operations of Sri Lanka Armed forces against the terrorists of the LITE, the incidence of vascular injuries among military causalities was quite high. This was presumably due to the intense close quarter fighting that took place.

We present the results of 05 cases of vascular injuries at the origin of Profunda Femoris Artey (PFA) repaired in a novel method hitherto not described.

Methods
In the traditional method the PFA and SFA had to be repaired separately with grafts which in turn are to be joined with an end to side anastomosis. Instead of this we used a graft from cephalic vein (CV) at the cubital fossa where it gives off the sizable branch called vena mediana cubiti (VMC). Part of the cephalic vein with this branch and part of the basilic vein (BV) with which the VMC joins was harvested. The CV was reversed and anastomosed with the SFA, and the VMC with the basilic vein was anastomosed to the PFA.

Results
All 05 anastomoses gave successful results with palpable distal pulses.

Conclusions
With the method we describe an injury at the origin of PFA can be repaired with 03 anastomoses which saves the time of a difficult end to side anastomosis. This method was quite useful in war surgery where the time factor is important.

OP 1.6.4

WHERE EXACTLY IS THE FEMORAL PULSE FELT? – A CADAVERIC STUDY FOR THE SURFACE MARKING OF THE FEMORAL ARTERY

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Introduction

Current teaching is that the femoral artery is surface marked at the mid inguinal point (MIP). We feel that this description is incomplete because our experience with cadaver dissections has shown that the MIP is above the inguinal ligament (IL) whereas the femoral artery (FA) commences at the IL. High puncture of the artery during invasive procedures can result in retroperitoneal haematomas, as the artery is difficult to compress without the support of the head of the femur. Therefore the purpose of this study is to clarify the exact location of the commencement of the FA.

Material and methods

Fifty one inguinal regions were dissected (30 male, 21 female) and the distance from the anterior superior iliac spine (ASIS) to the pubic turbercle (PT), pubic symphysis (PS), external iliac artery (EIA), and FA were measured in millimeters using a calibrated metal Vernier caliper. The position of the MIP in relation to the IL was also recorded. The statistical comparisons were done using the paired t- test, carried out with SPSS, version 15.

Results

In all 51 inguinal regions we dissected, the MIP was located above the IL. In a single plane the position of the EIA and the MIP are statistically different landmarks ($p<0.001$). The FA and MIL are also statistically different landmarks ($p<0.001$).

Conclusions

The FA is not found at the MIP or MIL. It lies at a mean distance of 6.3 mm medial to the MIL and the EIA which continues as the FA, lies 7.1mm lateral to the MIP. Therefore the artery lies between these two landmarks. Thus the current teaching to describe the femoral artery at the mid inguinal point is incorrect.

OP 1.6.5

TRANS-FEMORAL AND TRANS-TIBIAL AMPUTATIONS AMONGST CHRONIC ARTERIAL OCCLUSIVE DISEASE PATIENTS – A RETROSPECTIVE ANALYSIS OF PREDICTIVE FACTORS

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Introduction

Chronic occlusive arterial disease (COAD) is a leading cause of major amputations of the lower limb. Whether diabetes mellitus, sepsis, hypertension and smoking were independent risk factors for a major amputation was analyzed.

Methodology

Patients undergoing major lower limb amputations for COAD from 2006 to March 2009 were selected from a prospective computerized database.

Results

367 limbs presented with COAD of which 66 (18%) required amputation. 31 (8%) had trans-femoral and 35 (10%) trans-tibial amputations. 80% of TF amputees had aorto-iliac and fem-pop segmental disease and 57% of TT amputees had diseased distal tibial vessels. 43% of healed TT amputees had absent popliteal pulses. 16 (24%) amputations (9/31 of TF and 7/35 of TT) were due to bypass graft failure.

Diabetes and sepsis were found to be independent risk factors for amputation. Diabetes led to amputation with RR-1.6, OR-1.71, $p<0.05$ and Sepsis contributed with RR-4.28, OR-6.26, $p<0.001$. The association with hypertension (RR-1.23, OR-1.33, $p>0.05$) and smoking (RR-1.17, OR-1.24, $p>.0.05$) were not statistically significant.

Diabetes also had more significant association with TT amputation than TF amputation (RR-3.22, OR-3.42, $p<0.01$) 5 patients with severe sepsis were revascularized successfully but 2 went on to have a major amputation due to ascending sepsis.

Conclusion

Diabetes and sepsis are independent risk factors for major amputations while hypertension and smoking are not. Diabetes is significantly associated with TT amputation. Trans-tibial amputation can be performed even in supra popliteal COAD.

OP 1.6.6

RESULTS OF 54 VASCULAR REPAIRS DONE ON MILITARY CASUALTIES AT ARMY BASE HOSPITAL, PALALY AND MILITARY HOSPITAL, ANURADHAPURA

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Introduction

During the last stages of humanitarian operations of Sri Lanka Armed Forces against terrorists of the LTTE, incidence of vascular injuries among military casualties was quite high. This was presumably due to the intense close quarter fighting that took place. We intend to present the results of such 54 vascular injuries managed at military surgical installations from 22nd January 2009 to 16th May 2009.

Injuries and treatment

There were a total of 18 upper limb vessel injuries (axillary artery-05, brachial artery - 13), single case of subclavian artery injury and total of 35 lower limb vessel injuries (CFA-03, origin of PFA- 05, SFA-15, popliteal artery-09, popliteal trifurcation- 03). All vascular injuries were repaired with RSVBG. Fasciotomy was done for presenting delays more than 4 hours. Pre operative cooling of the limb with ice bags was done for delays more than 5hrs. The vascular repairs were done without fixation of fractures.

Results
Fifty three (53) out of 54 vascular repairs had palpable distal pulses after the completion of anastomoses. In one case of SFA repair pulse reappeared only after 8 hours of heparinization (yet had good distal saturation throughout). One SFA repair was readmitted after 12 days with a pus collection and thrombosis of the graft.

Discussion
Ninety eight percent (98%) success was achieved in vascular repairs done at military field hospitals with very much limited expertise instruments and under the pressure of heavy casualty influx. Doing vascular repairs without fixation of fractures was a deviation from the standard practice necessitated by the circumstances.

OP 2.1.1

ONE STAGE TRANSANAL PULLTHROUGH FOR HIRSCHSPRUNG'S DISEASE – SYLHET MAG OSMANI MEDICAL COLLEGE HOSPITAL EXPERIENCE

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Introduction
Transanal pullthrough is the latest development in the concept of minimally invasive surgery for treatment of Hirschsprung's disease (HPD). Transanal mucosectomy was practiced for many years in conventional and during laparoscopy assisted endorectal pullthrough for HPD. De la Torre-Mondragon and Ortega-Salgado reported in 1998 the one stage endorectal pullthrough procedure without the use of a defunctioning colostomy. The mucosectomy, colectomy, pullthrough are performed transanally and neither laparotomy nor laparoscopy are required. The technique is easy to learn with no visible scar, a short hospital stay, low incidence of postoperative compli-cations and is well accepted by surgeons and parents. It also avoids the multiple stages of operations and the morbidity of stomas of conventional pullthrough procedures, shortens the postoperative need for medication and duration of hospital stay. Over the next years, one stage transanal operations became increasingly popular and proof to be the best method for young infants with rectosig-moidal aganglionosis, as about 85% of patients have this form of Hirschsprungs' disease. This prospective study was designed to evaluate the safety and efficacy of single stage transanal pullthrough in the management of HPD in our perspective.

Patients and methods
Thirty three children (25 boys, 8 girls) with Hirschsprungs' disease underwent transanal pullthrough procedure at department of Paediatric Surgery of Sylhet MAG Osmani Medical College between March, 2008 to March, 2009. Their ages ranged from 15 days to 2 years. Most of the patients had a well-defined transition at or distal to midsigmoid colon and presence of residual barium on preoperative contrast enema and proven tissue diagnosis of Hirschsprungs' disease. Patients who could not be successfully decompressed by rectal irrigation were considered not suitable for one stage transanall pullthrough. The ranges of follow up period was from 1 month to 14 months. These patients were evaluated with regard to age, sex, diagnostic tools, length of aganglionic segment, intraoperative details and post operative functional results and complications.

Results
Highest number of patients were neonates (15, 45.5%). The aganglionic segments were confined to rectum in 6 patients and involved rectosigmoid in 27. Operating time was 60 -120 minutes. The length of resected bowel was 15-45 cm. There was no need of conversion to laparotomy in any of the patients. Postoperative complications were found in 8 (24.24%). Transient perianal excoriation occurred in 3 (9.09%) patients. Three patients had anastomotic stricture that necessitated dilatation. Postoperative enterocolitis occurred in 1 patient who need hospitalization and colonic decompression and antibiotic without any recurrent attacks till now. Fecal soiling and frequent accidents still occur in 1, who showed a steady improve-ment in continence status. There was no mortality in our series.

Conclusions
The one stage operation is an economic approach because it reduces the number of operations and the length of hospital stay. It is very practical for children in developing countries and may also reduce the level of psychological stress for parents and children by reducing the number of operations and operations without any external scar marks. This operation can also avoid ostomy related compli-cations. One stage transanal pullthrough is both feasible and safe with very minimum complications in properly selected children with rectosigmoid HPD. The technique is easily learned and is associated with excellent clinical results.

OP 2.1.2

ASSOCIATION OF *HELICOBACTER PYLORI* INFECTION WITH GASTRIC CARCINOMA

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This is a cross-sectional study on 140 gastric neoplasm subjects diagnosed by upper gastrointestinal endoscopy. The commonest site of cancer was the antrum of stomach (52.86%), followed by the antrum and body (32.86%) and only body region (12.14%). Histology revealed adenocarcinoma in all patients. The association of *Helicobacter pylori* with gastric cancer was studied by rapid urease test, serology and histology by Giemsa stain. The possitivity of *H. Pylori* determined by serology in 70 patients (50%) was significantly higher than those determined by histology in 22 patients (15.71%) only. No significant association between H. pylori infection and gastric cancer was observed unlike in the western countries.

OP 2.1.3

DELAY IN THE DIAGNOSIS OF OESOPHAGEAL CARCINOMA – EXPERIENCE OF A SINGLE UNIT

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Introduction
Main objective was to analyze the time delay between onset of symptoms and histological diagnosis in oesophageal cancer. Subsidiary objective was to analyse the relationship between the time delay and stage of the disease at the time of definitive treatment.

Study design, setting and methods
A prospective analysis of patients with oesophageal cancer presenting to a single unit over a period of 24 months was performed. Interval from the onset of symptoms to histological diagnosis and stage at presentation was analyzed.

Results
There were 48 patients (male=26) with a median age of 59.5 (range 43-84) years. First symptom was progressive dysphagia in all patients. Subsidiary symptoms were, weight loss in 83.3% (n=40), abdominal/chest pain in 10 (20.8%), regurgitation in 14 (29.2%), odynophagia in 3 (6.2%), abdominal discomfort in two (3%) and dyspepsia in two (3%). Mean delay from the appearance of the first symptoms to end point was 14.9 weeks (range 3-37weeks). Total delay was due to, patient delay in (82%), endoscopy delay in (7%) and delay in histological diagnosis in (11%).

Conclusions
As the majority (82%) in our study showed a patient delay, a community education program may help in early presentation to the hospital. However there is also a notable delay in endoscopy and histology (15%) services mainly due to a shortage of endoscopy units and qualified histopathologists in the state sector.

OP 2.1.4

NEOADJUVANT THERAPY FOR OESOPHAGEAL CANCER – THE SRI LANKAN EXPERIENCE

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Introduction
Oesophageal cancer is a deadly disease, with a limited potential for cure. Neoadjuvant treatment for oesophageal cancer had been attempted since 1981. Current international NCCN guidelines recommend multimodality neoadjuvant therapy as an accepted treatment method for oesophageal cancer.

Design, setting and methods
An analytical study was conducted on 20 patients, undergone oesophagectomy in a single unit at National Cancer Institute, Maharagama, during a period of 17 months from 01/01/2008.

Results
During the study period 20 patients underwent oesophagectomy, 18 (90%) had transhiatal and 2 (10%) had radical (Three field) surgery. The median age was 62.5years and male to female ratio was 7:3. Fifty percent of the patients received neoadjuvant therapy (60% chemotherapy and 40% chemo-radiotherapy) and the other group had primary surgery. Tumor response to neoadjuvant therapy was shown in 80% of cases, both by imaging and histopathology. Complete remission (pathological assessment) of the primary was seen in 3 cases (30%). 4 patients (40%) who received neoadjuvant therapy had post operative complications [anastamotic leaks 2 (20%), atrial fibrillation 1 (10%) and platinum neuropathy 1 (10%)].

Conclusions
Neoadjuvant therapy offers significant down-staging of oesophageal tumor enabling comprehensive oesophageal surgery both palliative (transhiatal) and radical. Pathologically complete remission can be obtained. Post operative complications of neoadjuvant therapy have been observed but did not preclude surgery.

OP 2.1.5

UPPER GASTROINTESTINAL ENDOSCOPY (UGIE) – IS IT USED APPROPRIATELY?

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Introduction
The appropriateness of the indications for UGIE is crucial in improving cost-effectiveness and providing better patient care. We studied the appropriateness of the usage of UGIE in a tertiary care referral hospital in Sri Lanka.

Material and methods
We retrospectively analyzed indications and findings in UGIE of consecutive 175 patients from January to May 2009 at Teaching Hospital, Peradeniya.

Results
Ninety three (53.2%) were males. The age ranged from 6 to 92 years (mean - 56.6 years). Commonest indication was upper abdominal pain (67, 34.2%), followed by dysphagia (39, 19.8%), haemetemesis (19, 9.7%), melaena (18, 9.2%) and dyspepsia (7, 3.6%). A mixed presentation was seen in patients with upper abdominal pain, dysphagia and haemetemesis in; 17 (25%), 7 (17.9%) and 8 (44.4%) respectively. Positive results were seen in 129 (76.4%) patients. Commonest finding was hiatal hernia (50, 27%), followed by gastritis (41, 22%) and ulcers (32,17.9%). Out of the common presentations 43 (64%) patients with upper abdominal pain, 32 (82%) with dysphagia and 17 (94.4%) with haemetemesis had positive results. We biopsied 44 (26%) patients with 27 (61.3%) revealing pathologies.

Discussion and conclusions
A Higher portion of patients with haemetemesis and dysphagia shows positive results. Even though comparatively a lesser percentage with upper abdominal pain had shown positive results, significance of the percentage justify the usage of UGIE in that group as well. The appropriateness of referring indications were in agreement with the guidelines of the American Society for Gastrointestinal Endoscopy (ASGA) and Gastro-enteroiogical Society of Australia (GESA) for UGIE.

OP 2.1.6

NON OPERATIVE VERSUS OPERATIVE METHOD OF TREATMENT FOR THE ACUTE APPENDICITIS

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Introduction
The efficacy of antibiotics as the sole therapeutic agent for the management of acute appendicitis was assessed.

Materials and method
A retrospective analysis of 91 cases of acute appendicitis were done at surgical unit B at the General Hospital, Polonnaruwa during

the period of January 2008 to December 2008. Acute appendicitis was diagnosed with the help of modified Alverado score. All the patients in our study group were initially treated with intravenous cefuroxime and metronidazole and closely observed. Whenever there is no improvement surgical exploration of appendix were done.

Results
There were 49 (54%) males and 42 (46%) females in our study group. There were 82 (90%) adults and 9 (10%) children. In our study 57 (63%) patients were successfully treated with antibiotics alone and 34 (37%) underwent appendectomy. We observed when modified Alverado score became high, the number of patients undergoing appendicectomy were increased. 73 (80%) patients have admitted within 3 days of onset of symptoms while 18 (20%) presented after 3 days. All the appendicectomy histological specimens showed various degrees of features of acute appendicitis.

Conclusion
Significant proportion of patients with acute appendicitis can be treated with non operative method. Negative appendicectomy rate which is 20% in some studies can be reduced with the early use of antibiotic and thereby unnecessary appendicectomy can be avoided.

OP 2.2.1

THE OUTCOME OF LARGE (> 5CM) HEPATOCELLULAR CARCINOMA (HCC) (BCLC TYPE B) IN PATIENTS WITH ALCOHOLIC AND CRYPTOGENIC CIRRHOSIS, TREATED WITH TRANSARTERIAL CHEMOEMBOLIZATION (TACE)

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Introduction
This study investigated the outcome of HCC (BCLC type B, Child's grade B) associated with alcoholic (ACP) and cryptogenic cirrhosis (CCP) patients, treated with TACE.

Methods
43 cirrhotic patients [Alcoholic - 25, (M: 27, mean age 62+/-9.7 SEM years, Cryptogenic - 18, (M: 16, mean age 65 +/- 5.6 SEM years) with unresectable HCC (BCLC type B) who underwent single /or multiple course of TACE, were retrospectively analyzed. Results: 97% had lesions in the right lobe of the liver. The median tumor size was, 6.5cm (range 5.1cm to 9cm). During routine screening 44.4% ACP were having HCC and rest presented with, right hypochondrial pain (22.2%), abdominal swelling (3.7%), loss of weight and appetite (3.7%) and presence of epigastric lump (3.7%). Seventy eight percent (78%) had radiological evidence of hepatomegaly. Following TACE, 62% had no complications, 29.6% had fever. Encephalopathy or liver failure was found in 3.7% each. In the CCP group, 35% were diagnosed as having HCC during routine screening while others presented as, right hypocohndrial pain (40%), abdominal swelling (10%) and presence of epigastric lump (5%). 85% had evidence of radiological hepatomegaly. Following TACE, 60% had no complications. 30% had fever.

Two groups were matched in age and BMI. Among the ACP, the mean survival was 12.1 +/- 3.6 SEM months, while CCP, had a mean survival of 15.3 +/- 6.2SEM months, (P = 0.04). In the ACP, the cumulative 6 months, 1-year and 2-year survival rates were 63.6%, 13.9%, and 3.2%, respectively. Whereas in the CCP, had 74.6%, 16.9%, and 4.2%, respectively.

Conclusions
TACE is an effective therapeutic option for HCC; the prognosis of the patients with associated alcoholic cirrhosis is poor.

OP 2.2.2

LAPAROSCOPIC DONOR NEPHRECTOMY – AN INITIAL EXPERIENCE

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Introduction
Laparoscopic donor nephrectomy was introduced in 1995. Since then it has contributed to the increase of living donors for kidney transplant worldwide. The initial safety fears of this procedure have been overcome. In many centers, the laparoscopy is the method of choice for kidney harvesting from a living donor. Results of laparoscopic donor nephrectomy for transplant has not been presented or published in Sri Lanka before.

Methodology
Donors for renal transplant managed by the authors between December 2008 and May 2009 were considered for laparoscopic left kidney harvest. Following ethical clearance and informed consent, surgery was performed. Possibility of conversion was mentioned. Data was prospectively recorded.

Results
Ten patients are included in the study. Of them two underwent open donor nephrectomy for reasons of difficult anatomy (one had an overhanging spleen, other had multiple renal vessels). One patient was converted to open method as the tail of the pancreas was difficult to retract. Seven completed the procedure laparoscopically and the left kidney was removed through a small incision below the "belt line". Mean operative time was 299 minutes (200-320), mean warm ischaemia time was 290 seconds (240-320). Morbidities were minor. No delayed graft function, rejection or mortality.

Conclusion
The safety of this procedure is well established from this study matching those of the international contemporary experience. The operative time is prolonged compared to the open procedure. This was expected in the initial phase of a learning curve of any laparoscopic procedure. Fortunately this small sample was devoid of any major problems.

OP 2.2.3

SINGLE CENTRE EXPERIENCE IN LAPAROSCOPIC DONOR NEPHRECTOMY INCLUDING LAPAROSCOPIC RIGHT DONOR NEPHRECTOMY AND LAPAROSCOPIC DONOR NEPHRECTOMY WITH COMPLEX VASCULATURE

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Introduction

Laparoscopic donor nephrectomy has revolutionized the field of renal transplantation and has become the preferred method in many leading transplant centers. Adequate vessel length and sufficient surgical exposure are main concerns in regard to right laparoscopic donor nephrectomies. Technical complexity and warm ischaemic time are main concerns in regard to multiple renal vessels. This study is a review of single institution five year experience with laparoscopic donor nephrectomy detailing clinical outcomes including comparison of right vs. left laparoscopic donor nephrectomies and single vs. multiple vessel lap donor nephrectomies.

Material and methods

This is a retrospective study reviewing the results of 141 consecutive cases performed between February 2004 and June 2008. We performed 112 cases laparoscopically and 29 cases by open approach. In the laparoscopic approach 87 were left kidneys with 25 being right. 13 kidneys harvested laparoscopically contained multiple vessels with balance 96 having single artery and vein. We analyse and compare the donor and recipient outcomes including complications at these different settings.

Results

All 112 laparoscopic nephrectomies were procured and transplanted successfully with zero conversion. There was no significant difference in the outcome or complication when comparing laparoscopic to open approach for donor nephrectomy. There was no significant difference in outcome and complication on comparing right vs. left and single vs. multiple vessel laparoscopic donor nephrectomies during this period.

Discussion and conclusions

Laparoscopic donor nephrectomy has remained safe, less invasive and effective technique for renal allograft procurement.

Right laparoscopic donor nephrectomy can be safely performed giving equal outcome to that of left donor nephrectomy. Kidneys with multiple renal arteries can be successfully harvested with good outcome subject to proper preoperative imaging and planning.

OP 2.2.4

PREDICTORS OF OUTCOME AFTER RADICAL CYSTECTOMY FOR CARCINOMA OF THE BLADDER – SINGLE TERTIARY REFERRAL CENTER EXPERIENCE

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Introduction

Carcinoma of the bladder is the commonest urological malignancy encountered in Sri Lanka. Muscle invasive carcinoma is associated with poor 5 year survival if timely surgical intervention is not carried out. During a period of 3 years out of 209 new patients with bladder tumours, 80 were diagnosed as pT2 (muscle invasive) tumours. The aim of the current study was to evaluate different prognostic factors that will influence the outcome and the survival of patients undergoing radical cystectomy and urinary diversion as there is no local data.

Material and methods

38 patients underwent cystectomy during June 2006 to June 2009. Data were gathered by clinic interview and records obtained from the unit data base. Prognosis was assessed by the effect of the tumour stage, histological grade, lymph node status and upper tract involvement.

Results

Mean patient age was 54 (range 32-75 years) with 32 males and 6 females. 30 patients underwent radical cystectomy, bilateral pelvic lymphadenectomy and urinary diversion in the form of ileal loop (25), Mainz II pouch (4) and orthotopic neobladder (1). Palliative cystectomy was done 3, Salvage Cystectomy 4 and 1 partial cystectomy. 6 patients underwent nephrourectomy due to synchronous or metachronus lesions. There were 5 perioperative deaths. At a mean follow up of 19 months 74 % were alive. The out come was assessed according to the following criteria.

		No	Early deaths	Late deaths	Median survival
Stage	T1	6	2	1	25m
	T2	10	1	1	25m
	T3	9	1	0	20m
	T4	6	1	1	11m
Histology	TCC	22	2	1	23m
	Squmous	6	2	1	19m
	Adeno	2	1	0	3m
	Sarcoma	1	0	1	18m
Grade	High	24	3	2	19m
	Low	7	2	2	26m
Nodal status	Positive	9	2	2	15m
	Negative	19	3	2	15m
Upper tract	No	13	1	1	24m
Dilatation	Unilateral	8	2	0	20m
	Bilateral	13	2	3	13m

Conclusion
Present study affirms that high stage, positive lymph nodes, high nuclear grade and obstructive uropathy are associated with poor survival while the diversion method does not affect the outcome. These adverse factors should be emphasized during patient selection, counseling, customizing the follow-up regime and deciding on the adjuvant therapy.

OP 2.2.5

MANAGEMENT OF COLO-VESICAL FISTULAE – A SINGLE CENTRE EXPERIENCE

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Objectives
A retrospective review of 10 consecutive cases of colovesical fistulae treated by us, with regards to the methods of diagnosis, operative technique, morbidity and short term outcomes is presented.

Results
The mean age was 57 years (52-69) with equal number of males and females. Five presented with UTI, two of whom had faecaluria. Other presentations included haematuria (n=2), pneumaturia (n=2), external sinus due to ruptured pelvic abscess (n=1), multiple chronic discharging perianal sinuses with UTI (n=1).

CT confirmed fistulation and a mass in 8 patients. Flexible lower alimentary endoscopy failed in 50% (n=5) and was inconclusive in the remaining. Diagnosis was confirmed by cystoscopy in all.

Four patients had colo-rectal malignancy. Three had diverticular disease. There were one case each of concurrent diverticulosis and sigmoid malignancy, pelvic endometriosis, and benign uncertain pathology (ileao vesical fistula).

Seven patients underwent sigmoid colectomy and partial cystectomy. One had ileal resection and partial cystectomy. Of these, upper urinary reconstruction was needed in 6 with transverse uretero ureterostomy (n=1) and left ureteric reimplantation (n=5). One underwent radical cystectomy, ileal loop diversion and low anterior resection. One had a pelvic exenteration, transverse colostomy and a uretero-colic anastomosis. Defunctioning colostomy/ileostomy was performed in two before the definite procedure and in four patients during definitive surgery. The exact nature of surgery and reconstruction could be decided only during surgery in all patients. All patients were operated jointly with colorectal and urological expertise.

Morbidities included surgical site infection (n=6), adhesive small intestinal obstruction requiring laparotomy (n=2), urine leak from upper end of the ileal conduit (n=1). One patient succumbed to pulmonary embolism following DVT at 6 weeks postoperatively.

Conclusion
The treatment of colovesical fistulae requires diverse operative techniques which in many instances are decided intraoperatively. The significant morbidity and the need for intra operative decision making emphasizes the need for careful counselling and consenting of these patients.

OP 2.2.6

OUTCOME OF RADICAL NEPHRECTOMY FOR MALIGNANT RENAL TUMOURS IN SRI LANKA; SHORT TERM AND INTERMEDIATE FOLLOW UP – ARE WE DIFFERENT FROM THE WEST?

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Introduction
Renal tumors are the third ranking urological tumour and accepted treatment for the loco regional disease is radical nephrectomy. Western literature emphasis on the gloomy overall out come with 51%-88% of 5 year survival and 30% recurrence after surgery even if they were apparently organ confined at the time of operation. As there are no published local data, the aim of the study was to analyze the out come of radical nephrectomy in a Sri Lankan cohort with the intermediate follow-up results to compare with Western figures.

Material and method
53 consecutive patients who underwent radical nephrectomy from April 2003 to May 2009 were analyzed by studying data base of the Uro-oncology Clinic and patient follow up. Data gathered include demography, tumour details, surgical outcome morbidity and mortality. All were followed for a median duration of 27 months for local recurrence and metastatic disease.

Results
There were 38 males and 15 females. Age range was 13 to 82 years with median of 54. Commonest presentation was haematuria in 17 (32%) and loin pain in 14 (26%). None presented as a mass lesion and only 2 (3%) presented as a incidentaloma. Fever was noted in 5 (9%) with high ESR in 3. The disease was predominantly on the left side 33 (62%). Histologicaly 37 were clear cell carcinoma, 9 was papillary type. The tumour size varied from 2.5cm to 15cm in size. Of the 46 patients with RCC T1-14, T2-13, T3a-10, T3b-7, T4-2. Furman grading was I-7, II- 3, III-23, IV-1. Perioperative deaths were 1. Median follow up was 27 months. During the follow up there were only 2 deaths. Median disease free survival was 26 months. None developed clinically or radiologically detectable post treatment local or metastatic disease up to now.

Conclusion
The symptomatology at presentation were different to the West. The trend to detect incidental small tumors (<4cm) which is on the rise in the West is not apparent in the local set up. There were no post operative local recurrence or metastatic disease even after 2 years of follow up which raise the question of dealing with renal cancer with a different biological behavior compared to the West. This should stimulate the enthusiasm for larger scale national data based analytical studies on this fact.

OP 2.3.1

OUTCOME OF HEPATIC RESECTION FOR COLORECTAL METASTASES

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Background
Liver is the commonest site of metastasis in colorectal carcinoma. When operable, resection is the treatment of choice in these patients. Five year survival after resection is reported as 45-55%.

Method
A retrospective study was conducted on 17 patients who underwent hepatic resection following colorectal metastases in a tertiary care center from 2002 and 2009. Type of resection, histological margins, outcome and survival (Kaplan-Meir method) were analyzed.

Results
Mean age was 50.8 years (range 25-66), with a median follow up of 18 months. (7 days -6 years) CT imaging prior to surgery showed multiple liver lesions in 5. Except one patient who had a synchronous resection of the metastatic deposit, all others received neo-adjuvant chemotherapy prior to hepatectomy. Nine patients underwent resection of 3 or more anatomical segments (major hepatectomy) while seven and two had anatomical resections (segementectomy, bi-segmentectomy) and non-anatomical wedge resections respectively. One patient had a positive resection margin (R1) in whom the segmental portal vein was involved. Post-op chemotherapy was given to 41.66% of cases. There were neither significant morbidities nor 30 day mortalities. Projected 5 year survival was 76%.

Conclusion
Hepatectomy for colorectal metastases has a satisfactory outcome. Survival figures in this group are comparable to that in published series.

OP 2.3.2

PATTERN OF ABDOMINAL ORGAN INJURY AND NEGATIVE CELIOTOMIES IN WAR VICTIMS

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Introduction
Abdominal trauma is a common surgical encounter in war victims. Specific pattern of organ injuries are seen. Negative celiotomies are not uncommon. Aim of this study was to identify the pattern of organ injury and incidence of negative celiotomies in war victims.

Method
A retrospective analysis of 50 patients underwent laparotomy following high velocity penetrating trauma at surgical unit B Teaching Hospital, Anuradhapura during 6 month period commencing 14th April 2008 was done. Patients were categorized in to 3 groups; Group A (86%) injuries encountered requiring surgical repair (true positive), group B (2%) positive operative finding at laporotomy requiring no surgical repair (non therapeutic celiotomy), group C (12%) no visceral injuries at exploration (true negatives). Group A further analyzed to identify the pattern of organ injury.

16 (32%) patients had single organ damage. 2 organs were injured in 20 patients. 7 patients had more than 3 organ damage. 5 was the maximum number of organs injured.

Results

Organ	Number	Percentage
Stomach	4	8
Duodenum	4	8
Small intestine	16	32
Colon and rectum	21	42
Gallbladder and cystic duct	2	4
Kidney	7	14
Ureter	1	2
Bladder	6	12
Liver	7	14
Spleen	5	10

Conclusion
Large bowel and rectum was the most commonly injured organ. Small bowel is the 2nd commonest organ to injure in our study, but it is the most common injured organ in most of the studies. Multiple (>3) organ is not common in this cohort. Negative celiotomy rate in our study is acceptable as the open revision is a safe strategy in suspected cases of firearm injuries.

OP 2.3.3

STUDY OF PATTERN OF UNILATERAL HAND INJURIES PRESENTING TO A SURGICAL UNIT IN A PERIPHERAL HOSPITAL

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Introduction
Hand injuries are one of the most common causes of admission to surgical wards and result in significant morbidity. Most are preventable.

Objective
To study the causes and pattern of hand injuries presenting to a single surgical unit in a peripheral hospital.

Methods and material
This is a prospective cross sectional descriptive study. Consecutive patients admitted to a surgical unit were included in the study over two months period. Patients who had injuries to both hands and patients with only hand abrasions were excluded.

Results
A total of 51 patients were included in the study. Most of them were males (90.1%). The age distribution was between 13 to 68 years with a mean age of 36.9 years. 58.8% of the injuries were occupational. Out of occupational injuries most injuries (36.7%)

were due to unguarded machinery e.g. Powered saw used for wood cutting .Other common mechanism of occupational injuries was crush by heavy objects. 70.0% had fractures,16.6% had tendon injuries. In occupational injuries 44.0% had injury to dominant hand. In females common cause of hand injuries was home accident (fall, knife cut etc.).

Conclusion
Occupational hand injuries are common and potentially preventable. It occurs in productive age group resulting in significant morbidity, loss earning capacity and economic burden to the country. Strict implementation of safety measures at work places would prevent large number of injuries and cost for the country.

OP 2.3.4

INCIDENCE OF PAINFUL AND NONPAINFUL PHANTOM AND STUMP SENSATIONS IN ACUTE TRAUMATIC AMPUTEES

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Introduction
Different opinions exist regarding the true incidence of phantom limb pain and other associated post amputation phenomena. Recognizing and understanding these phenomena would assist in the rehabilitation of amputees.

Material and methods
Fifty lower limb amputees and five upper limb amputees participated in the study. All were army soldiers who had undergone traumatic amputations.

Incidence and clinical picture of nonpainful and painful phantom limb sensations as well as stump pain was studied 1 day, 5 days, 7 days and 14 days after amputation. An interviewer administered questionnaire was used to assess the site, date, extension and cause of the amputation; preamputation pain and presence or absence of phantom limb pain, phantom sensations and stump pain.

Results
Preamputation pain was present in all patients. After amputation, 89.1% of patients (49) had phantom limb sensations on the 1st postoperative day. It increased up to 94.5% by day 5; thereafter remaining static throughout the study period. Eighty four percent of lower limb amputees complained of pain in the phantom limb, shooting out through the big toe. Itching, squeezing, warmth and tingling sensations were less common. All patients who had phantom limbs felt the whole length of the limb. Stump pain was present in all on day 1, but had a decreasing course in 53 patients by day 14.

Discussion and conclusions
Nearly all of the traumatic amputees feel phantom sensations in the immediate post operative period. Most of the patients experience painful phantom phenomena, in addition to stump pain. The findings are comparable to results obtained in international studies.

OP 2.3.5

ASSESSMENT OF BLOOD LOSS IN LIPOSUCTION

C C Miranda, D A Perera, T S Beneragama

Introduction
Liposuction is one of the most commonly performed cosmetic surgical procedures, in which subcutaneous fat is surgically aspirated via a cannula attached to a vacuum pump. Historically, the main concern was the blood loss associated with the procedure. New techniques and the use of wetting solutions containing epinephrine have dramatically reduced this complication. With the tumescent technique the blood loss is about 1% of the total aspirate volume. In our hospital the technique involves the use of solutions containing 1:1,000,000 epinephrine and power assisted liposuction.

Method
We assessed blood loss in 22 patients undergoing moderate to large volume liposuction by measuring the haemoglobin concentration in the liquid portion of the liposuction aspirate, and compared it to blood losses reported in other series. The volume of whole blood in the liquid portion of the aspirate was calculated using the patients' preoperative haemoglobin concentration.

Results
The mean volume aspirated was 3122 ml and the mean blood loss as a percentage of the total volume aspirated was calculated to be 2.33% of the aspirated volume.

Conclusion
We concluded that the liposuction technique used for these patients is associated with reduced blood loss and compares favourably with other series.

OP 2.3.6

MELANOMA – WE NEED TO PAY MORE ATTENTION TO LESS COMMON MALIGNANCIES TOO

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Introduction
Incidence of melanoma is increasing amongst the white skin population. If identified early it can be cured. However data on dark skin population is limited. Purpose of this study was to assess the 1 type of presentation 2 clinical stage of the disease at presentation in patients with malignant melanoma in Sri Lanka.

Method
Multi-centre retrospective analysis of patients treated at the Provincial General Hospital, Badulla during March 2005-December 2008 and Cancer Institute, Maharagama during January-December 2006 was done. Ulceration, bleeding, itching and clinically palpable lymph nodes were considered as clinical features of advanced disease. Some of the data was compared with the published literature in the West.

Results
26 patients were treated during this period. 26.9% of the patients were below 40 years and 76.9% of them were 25-64 years. Mean age was 53 years. Lower limb was the primary site in 69.2% of the group. Non healing ulcer was the commonest mode of presentation (50%). 57.6% of the patients had symptoms of advanced disease at presentation with 26.9% not seeking treatment until one year.

Conclusion
Melanoma tends to affect younger population with lower limb been the primary site among the Sri Lankans compared to the fair skin populations. Late presentation was common which affect the prognosis. Early detection which is useful for cutaneous melanomas can be achieved through health education.

OP 2.4.1

LAPAROSCOPIC APPENDICECTOMY – A SINGLE CENTRE EXPERIENCE FROM BANGLADESH

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Acute appendicitis is the most common cause of acute abdomen in young appendicectomy is one of the commonest (1%) procedures in general mortality of open appendicectomy is <1/lac and morbidity is >5-8% main wound infection, delayed diagnosis and treatment. Laparoscopy offers early treatment with least morbidity. In 1982, Kurt Semm performed first laparoscopic appendicectomy, but still not attained the popularity of large cholecystectomy. Now most of the Surgeons con-sidered laparoscopic appendix is the standard approach irrespective of its anatomical and pathological types.

This retrospective study was carried out to evaluate the advantage, common difficulties and outcome of the procedures of laparoscopic appendicectomy. Was conducted from June 2006 to September 2008 in the Department of Surgery, Rajshahi Medical College Hospital, and private clinics at Rangpur. In laparoscopic appendicectomy to uniformity in placement of trocars and techniques. I used 3 ports (umbilical suprapubic 5mm and right iliac fossa 3 or 5mm) two handed technique and cases single port (umbilical 10mm) technique. After completion of procedure soaked gauze was used to touch the appendicular stump. Operative thoroughly irrigated with normal saline and drain tube kept through the lateral – pelvis in some cases.

Total 237 cases were done, age of the patients varied from 7-60 years. Showed that female had slightly higher incidence (129 female and 1 conversion to open appendicectomy done in 3 cases due to dense adhesion. Obvious appendicular lump, appendicular abscess burst appendix excluded study. Average time was 40 - 60 minutes in initial 100 and difficult cases, la – 25 - 30 minutes. Average hospital stay was 24 - 48 hours. Minor umbilical infection found in 7%. All other patients outcome was satisfactory, no more incisional hernia (till now), no re-laparoscopy or no postoperative laparoscopy required. Postoperative complications, pain and discomfort was less – appendicectomy. Hospital stay was also less and returns to work within 10 -12 days.

At present laparoscopic approach is superior to open method in treating appendicitis. Benefits have to be balanced with marginal increase in cost. International consensus leaning towards laparoscopic appendecectomy treatment of choice for appendicitis. In conclusion laparoscopic appendicectomy be gold standard treatment for appendicitis in near future.

OP 2.4.2

A POSITIVE RESECTION MARGIN IS THE MOST IMPORTANT FACTOR AFFECTING LOCAL RECURRENCE OF RECTAL CARCINOMA IN PATIENTS NOT RECEIVING NEOADJUVANT THERAPY

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Introduction
We assessed risk factors associated with recurrence of rectal cancer in patients not receiving neoadjuvant therapy.

Method
A case-control study of 234 patients (112 male, mean age 57 years) with rectal carcinoma between 1996 and 2008. Those undergoing neoadjuvant therapy or followed up for less than 3 years were excluded. 21 patients with recurrence (cases) and 78 without recurrence (controls) were selected. Univariate and multivariate analysis was undertaken for several variables.

Results
Significant associations (Chi Square test) were found for nodal stage (p=0.027), metastasis (p=0.009), adjuvant chemotherapy (p=0.039), positive resection margin (p=0.018) and for host lymphoid response (p=0.017) (Fishers Exact test). Age, gender, site, T-stage, surgery type, adjuvant radiotherapy, CEA levels, tumor type, differentiation, tumor margin, tumor budding and neuro/angio/lymphatic invasion were not found to be significantly associated with recurrence (p>0.05). Significant independent odds ratios were found for positive nodal status (3.250, 95% CI 1.161 - 9.099), positive resection margin (7.000, 95% CI 2.073 - 23.637), administration of adjuvant chemotherapy (2.929, 95% CI 1.026 - 8.358) and AJCC Stage II or above (2.778, 95% CI 1.012 - 7.624). Although no patients demonstrating host lymphoid response (n = 13) had tumor recurrence, the adjusted odds ratio was not significant (0.064, 95% CI 0.003 - 1.592). On incorporating all factors with significant odds ratios into a single logistic regression model, only the presence of a positive resection margin was found to be significantly associated with recurrence (OR 4.810, 95% CI 1.295 - 17.867).

Conclusions
A positive resection margin is the single most important factor affecting recurrence of rectal cancer in patients not receiving neoadjuvant therapy. Other apparently associated factors may be associated with a positive resection margin rather than recurrence directly. The positive association shown between administration of chemotherapy and recurrence is a case to point, underlining the errors inherent in independent analysis of factors without using a multifactorial model.

OP 2.4.3

THE IMPACT OF DYNAMIC MRI ON DIAGNOSIS AND MANAGEMENT OF PATIENTS WITH DIFFICULTY IN EVACUATION OF STOOLS

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Introduction
Dynamic MRI offers a high yield of anatomical and patho-physiological data. This study assesses the usefulness of dynamic pelvic MRI in diagnosis and its impact on management of patients with difficulty in evacuation of stools.

Material and methods
Fifteen patients with difficulty in evacuation of stools were selected sequentially from a colo-rectal clinic. A pre-MRI diagnosis was made based on clinical assessment and endoscopy. All patients underwent T2-weighted dynamic pelvic MRI using water-based rectal contrast. Saggital image sequences mapping the pelvis during rest, strain and evacuation, were obtained. The images were analysed to detect anatomical, mechanical and functional problems related to the pelvis and evacuation of stools. The pre-MRI diagnosis and management plan was compared with the diagnosis and management plan post-MRI.

Results
Fifteen patients comprised 73% (n=11) females and 27% (n=4) males, with mean age of 50.5 years (SD=20.3 years). Dynamic MR imaging resulted in pre-MRI diagnosis being confirmed without change in 7% (n=1) of cases while previously undetected pathology was detected in 93% (n=14); posterior pelvic compartment weakness (n=5), anterior pelvic compartment weakness (n=1), utero-vaginal prolapse (n=5), cystocoele (n=3), rectocoele (n=1), enterocoele (n=1), poor anal canal relaxation (n=1) and pelvic floor muscular dyssynergia (n=2). This resulted in a change in the definitive diagnosis of 93% (n=14) of cases and a change in management plan in 67% (n=10). An error in MR diagnosis was seen in one case.

Conclusions
Dynamic MRI in patients with difficulty in evacuation of stools yields significant information resulting in change in surgical diagnosis and management.

OP 2.4.4

SYNCHRONOUS LESIONS OF COLORECTAL CANCER

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Introduction
This study was conducted to assess the incidence of synchronous lesions in our patients with colorectal cancer and to study the histopathological features of these lesions.

Methods:
A retrospective study was conducted at professorial surgical unit of NHSL. Study population was all patients who had undergone surgery for colorectal cancers from January 2005 to December 2008. All histopathological reports of the study population were reviewed. Sites of synchronous lesion, grade, stage of tumor, gross configuration were studied. SPSS 15 was used to analyze data.

Results
Sixty one patients had operations for colorectal carcinoma during the study period. Of them, 5 (8%) had synchronous malignant lesions. Four of them had only 2 lesions and one had three lesions. All malignant lesions were adenocarcinomas. In two patients both tumours were in same grade while other patients had tumours in different grades. In 4 patients both lesions were polypoidal. The other patient had an ulcer and a polyp. Tumour stages of the synchronous lesions differed from one another in all patients.

Discussion and conclusion
The incidence of synchronous lesion in our study population was 8%. Gross configuration of the tumour and tumour grade were the same in most cases. However, the tumour stage of the synchronous lesions was different in all cases.

OP 2.4.5

SYNCHRONOUS COLORECTAL LIVER METASTASIS IN SRI LANKANS IS DIFFERENT TO THE WEST

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Introduction
Synchronous liver metastasis may be present up to 25% of patients with colorectal cancer according to western literature. Of these 15-20% is resectable. No data are available in Sri Lankan patients.

Methods
From 1997 to 2009, 438 patients (median age 53 years, range 29-78, male 60%) with diagnosed colorectal cancer were studied. Demographic data, tumor characteristics and presence of liver metastasis were analyzed by computed tomogram and intra operative examination.

Results
Thirty four patients (8%) had synchronous liver metastasis. 31% (n=10) Involved right lobe, 26% (n=9) involved left lobe and 43% (n=15) involved both lobes of the liver. The primary tumor was located in upper rectum and sigmoid in 35.3% (n=155), lower rectum 33.5% (n=147), right colon 11.6% (n=51) and left colon 4.8% (n=21).

No significant difference was seen in primary tumour location and T (T2-17%, T3-60%, T4-23% vs. T2-17% T3-53%, T4-22%, P>0.05) stage between patients with and without metastases. In those with metastases, a significantly lower number had N0 (30% vs. 57%,

p= 0.007) and higher number had N2 (40% vs. 19%, p=0.004) nodes. Significantly higher number of patients had CEA above 10ng/ml (60% vs. 30.5%, p=0.001). Vascular invasion was higher in the metastatic group (36% vs. 12% p=0.001). Seven of 34 (21%) patients underwent liver resection.

Conclusion
The incidence of synchronous liver metastasis was less than the reported western data. High CEA levels, vascular invasion and advanced N stage positively correlate with synchronous liver metastasis.

OP 2.4.6

LOCAL INVASION OF COLORECTAL CANCER AND SPREAD TO REGIONAL LYMPH NODES AT THE TIME OF SURGERY

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Introduction
Colorectal cancers are the fourth commonest malignancy in Sri Lanka. This study was conducted to assess the extent of local invasion and spread to regional lymph nodes at the time of surgery.

Methods
Retrospective study was conducted at professorial surgical unit of NHSL. Pathology reports and BHTs of all patients with histological diagnosis of colorectal cancer admitted to the unit from January 2005 to December 2008 were studied. Data were analyzed using descriptive statistics.

Results
Of the 88 patients studied 51%, 21%, 14%, 11%, 3% had cancers in rectum, sigmoid colon, ascending colon, transverse colon and descending colon. Of the rectal tumours 10% invades only upto submucosa (T1), 19% invades upto muscularis propria (T2), 57% invades upto subserosa (T3), in 14% tumour directly invades other structures or perforate visceral peritoneum (T4).

There were no T1 stages in colonic cancers. In sigmoid colonic cancers 21% were in T2, 50% were in T3 and 29% were in T4. In rest of the colonic cancers 5% were in T2, 68% in T3 and 27% in T4 stage.

38% rectal cancers and 52% colonic cancers had no lymph nodes metastasis. 52% of rectal cancers and 33% of colonic cancers had metastasized to less than 3 lymph nodes. 10% of rectal cancers and 15% of colonic cancers had metastasized to more than 4 lymph nodes.

Discussion and conclusion
At the time of presentation/surgery rectal tumours have a less local invasion compared to colonic tumours. Rectal cancers appear to metastasise to regional lymph nodes at an earlier stage of local invasion than colonic cancers.

OP 2.5.1

MINIMAL ACCESS TO MEDIASTINUM

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Introduction
Mediastinum is accessed by lateral thoracotomy or median sternotomy for diagnostic and therapeutic purposes. Minimal access procedures will reduce the morbidity of the open surgical wound, but studies are necessary to assess its safety and feasibility.

Material and methods
Results of minimal access for seven procedures from 2004 to 2009 in teaching hospitals Karapitiya and Peradeniya were analyzed retrospectively.

Results
A total number of 33 patients were analyzed. Results were shown in the following table.

Procedure	n	Position of patient	Site of Camera port	Working ports	Average duration	Blood loss	IC tube	Conversion
Mediastinal Lymph node biopsy	2	Supine	Axilla	2	30 min	_	_	_
Mediastinal mass biopsy	2	Supine	Axilla	2	30 min	_	_	_
Thoracic sympathectomy	4	Semi prone	5th ICS	2	30 min	_	_	_
Thymectomy	1	Supine	Axilla	3	3 hrs	200ml	+	_
Thoracic Laparoscopic Oesophagectomy (+ Neck incision)	4	Semi prone + Supine	5th ICS Thoracic	2	2.5 hrs (total 6 hrs)	200ml	+	_
Thoracoscopic mobilization of oesophagus + Laparotomy (+ Neck incision)	18	Semi prone + Supine	5th ICS	2	2.5 hrs (total 4 hrs)	200ml	+	_
Laparoscopic Transhiatal oesophagectomy (+ Neck incision)	2	Supine	No chest ports	_	5 hrs	500ml	+	_

Discussions and conclusions
The procedures reviewed can be performed safely. The time taken for procedures with less dissection may match or be shorter than the open procedures. However, in oesophagectomy time taken is higher than for an open procedure.

OP 2.5.2

THE PATTERN OF INFECTIONS PRESENTING TO A THORACIC SURGICAL UNIT

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Introduction
Infections account for a considerable work load in a thoracic surgical unit. Our aim was to look at the pattern of thoracic surgical infections and highlight important management strategies.

Material and methods
Admissions from 20th April to 28th June 2009 were retrospectively reviewed to include all chest infections. Out-patient referrals were excluded.

Results
During ten weeks 100 admissions were made and 53% were thoracic infections. There were 44 (83%) males; the mean age was 42 (range 7-72) years. Presentations were: empyema 24 (45.3%), pleural effusion 9 (17%), pneumonia 6 (11.3%), mycetoma 6 (11.3%), lung abscess 3 (5.6%), post pneumonectomy space infection 3 (5.6%), localized bronchiectasis (1) and mediastinal tuberculous lymp-hadenopathy (1). Tuberculosis (TB) was the causative factor in 19 (35.8%); non-tuberculous primary infections in 18 (33.9%) blast/gunshot injury in 8 (15.1%), infection after intercostals tube (ICT) insertion in 4 (7.5%) bronchial obstruction from tumour in 2 (3.8%) and infected haemothoraces following blunt trauma (1) and snakebite (1). Treatment was by ICT insertion 23 (43.49%), needle aspiration 9 (17%), antibiotics alone 9 (17%) embolisation for mycetomas 6 (11.3%), decortication 2 (3.8%), onco-surgical treatment 2 (3.8%) lobectomy 1 and video assisted thoracoscopic surgery 1. Incomplete lung expansion was seen in 7 (13.2%) after ICT insertion for TB empyemas. The mortality (non operative) was 1 (1.8%) for severe sepsis.

Discussion and conclusion
TB remains an important cause of thoracic infections. The distinction between TB effusions and empyemas is important to decide between needle aspiration versus ICT insertion to prevent permanent lung collapse.

OP 2.5.3

SAFE TIME TO MOBILIZE PATIENTS AFTER SPINAL ANAESTHESIA

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Introduction
Knowing the correct timing to mobilize patients following spinal anaesthesia is necessary to prevent complications both due to delayed as well as too early mobilization.

Methods
Prospective study was conducted at NHSL over a period of 3 months commencing from December 2008 to assess the time taken for recovery of motor power and proprioception following spinal anaesthesia. Random sample of patients undergoing spinal anaesthesia for hernia repair were studied. Patient's age, weight, height, level of injection (spinal) and volume of bupivacaine used were recorded. Patients were assessed every 30 minutes from the time of administration of spinal anaesthesia until full recovery of motor function and proprioception and the time of recovery was recorded.

Results
70 males participated in the study, the ages ranging from 16 to 76 years.

By the end of 5 hours 78.1% had fully recovered motor function (Bromage score = 0) and 88.6% had recovered proprioception. By the end of 5.5 hours 100% of the patients had fully recovered in both motor function and proprioception.

Even after full recovery 65.7% of the patients felt unable to walk, the commonest reason being heaviness of legs (71.7%) followed by pain at the site of surgery (41.3%).

Discussion and conclusion
It is safe to mobilize patients after 6 hours following spinal anaesthesia. Optimum post-operative pain management would also help in early mobilization.

OP 2.5.4

METHICILLIN RESISTANT STAPHYLOCOCCUS AUREUS (MRSA) CARRIER STATE IN PATIENTS AWAITING CARDIAC SURGERY

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Objectives
1. To determine the *Methicillin sensitive Staphylococcus aureus* (MSSA) and *Methicillin resistant Staphylococcus* aureus (MRSA) carrier state among patients awaiting major cardiac surgery at the National Hospital of Sri Lanka (NHSL).

2. To determine the antibiotic susceptibility pattern of these isolates.

Method
This prospective study was conducted on 524 consecutive patients who were awaiting major cardiac surgery at the NHSL, from August 2006 to April 2007.

All the patients were screened for *Staphylococcus aureus* nasal, axillary and inguinal carriage 2-4 days after admission to the hospital (median = 3 days). Surgery was performed approximately two weeks after screening.

The isolates were analyzed with regard to their methicillin susceptibility and the antibiotic sensitivity patterns.

Results
Out of the patients screened for carrier state 182 patients were positive for both MSS A/MRSA (34.73%). This included 140 MSSA (76.92%) and 42 MRSA (23.07%).

Majority of the MRSA isolates showed ABST patterns compatible with hospital acquired MRSA infections, which were resistant to most anti-staphylococcal antibiotics. Resistance rates to Cotrimoxazole, Erythromycin, Clinda-mycin, Genta-mycin and Fusidic acid were 90%, 93%, 73%, 82% and 28% respectively.

Conclusion
As majority of MRSA strains showed hospital acquired MRSA pattern, the patients who were colonized with these strains would have acquired the organism after admission or during their previous admissions to hospital. This emphasizes the importance of mini-mization of pre-operative stay of patients who are undergoing major surgical procedures.

OP 2.5.5

DISTRIBUTION OF ATHEROMA IN THE ASCENDING AORTA AND ITS RELEVANCE DURING CORONARY ARTERY BYPASS SURGERY

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Introduction
Detecting the distribution of atheroma in the ascending aorta during surgery helps to minimise plaque disruption and possible cerebral injury during coronary artery bypass grafting surgery (CABG). We review our units intraoperative experience using the Epiaortic Ultrasound (EAU) imaging technique.

Material and methods
We retrospectively analysed the EAU findings of 154 patients under-going CABG from February 2001 to December 2004. The ascending aorta was screened in three segments: - Proximal, Middle and Distal, starting from the annulus to the base of the innominate artery.

Results
Atheroma distribution in the ascending aorta using EAU was as follows: Proximal segment 47/154; 31%, Middle 67/154; 44%, and Distal 53/154; 34%. The extent of overlap between detection of atheroma at the mid and proximal sites of the ascending aorta by EAU indicated that in 24 (36%) of the 67 cases where atheroma was found in the mid segment it was not detected in the proximal segment. A comparison between the proximal and distal sites showed 43% (23/53) instances of distal atheroma were not detected proximally and 36% (17/47) cases of proximal atheroma were not found to have atheroma distally.

Discussion and conclusions
This study showed that the mid segment of the ascending aorta yielded the greatest incidence of atheroma followed by the distal and proximal segment. These findings are important since aortic cannulation, application of cardioplegia line, cross-clamping of aorta and application of side-clamps for top-end anastomosis are usually done in the middle and distal segment of the ascending aorta. These findings help the surgeon to plan and minimise any cerebral complication.

OP 2.5.6

THE CARDIOTHORACIC APPROACH TO CHILDHOOD RENAL TUMOURS EXTENDING IN TO THE INFERIOR VENA CAVA AND CARDIAC CHAMBERS

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Introduction
Childhood renal tumours extending though the inferior vena cava, into the right atrium and right ventricle is a therapeutic challenge. They pose a high risk due to their potential for tumour embolism as well as the complexity of the surgery required. We review our experience with regard to the cardiothoracic approach to these tumours.

Material and methods
We identified all patients under 16 years who had undergone surgery for cavoatrial extensions of renal tumours from June 1986 to June 2009. Their case records and/or microfilm copies were retrieved and the required data reviewed retrospectively.

Results
Over the past 23 years, eight patients were identified with a mean age of 6.2 years (range 1.8- 15.6) and male to female ratio 1:1. There were six Wilms' tumours, one rhabdoid tumour and one clear cell carcinoma. Four had caval and four had cardiac extensions of the tumour. All underwent median sternotomy and laparotomy – seven as a single and one as a two-staged procedure. Four underwent cardiopulmonary bypass and two also needed deep hypothermic circulatory arrest. Three patients had intrao-perative transoeso-phageal echocardiography. The in-hospital mortality was 0 and overall survival rate 62.5%.

Discussion and conclusions
This is a very rare group of patients. Complete resection with minimal surgical trauma is the aim of treatment. Surgery is planned after imaging establishes the level of vascular invasion and performed in anticipation of cardiac surgery in a cardiothoracic theatre by both cardiothoracic and paediatric surgical teams.

OP 2.6.1

MANAGEMENT OF ADULT FACIAL BURNS; EVALUATION OF OUTCOME IN FIFTY BURN SURVIVORS, PRELIMINARY RESULTS OF AN ONGOING STUDY

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Introduction
Facial skin is unique and contains complex musculature, and receives a rich blood supply with a remarkable potential for spontaneous healing. The face is an area where the effects of burning are most evident to the exterior. This causes problems of individual identity, expressions, and psychosocial effects. Deformities due to scarring

involving eye lids, nose and mouth lead to a functional debility. Management involves a multidisciplinary approach involving plastic surgeon, therapists, nurses and psychologist.

Material and methods
We present fifty consecutive facial burn survivors managed and rehabilitated at Burns and Reconstructive Surgical Unit. The unit protocol is conservative manage-ment using moist ointment of 1% Povidone iodine with liquid paraffin (2: 1) and exposure. In addition, we shave scalp and facial hair, splint the neck using soft cervical collar, and avoid a head or neck pillow. Tangential excision and split skin grafts in aesthetic subunits were performed in 12%, which were deep burns that do not heal in 3 weeks. Pressure therapy was used for scar management. All patients were followed up for scar status according to the Vancouver scale.

Results
The follow up period was two months to one year, only 6% of the patients developed scar contractures that needed revision. The mean Vancouver scar was 4. All survivors were attending their work and 92% of survivors were participated in community social activities.

Conclusion
Management of facial burns using moist ointment and exposure is an effective method. Physical and psychosocial therapy is essential in successful rehabilitation.

OP 2.6.3

SURGICAL RESTORATION OF RESIDUAL FOOT DEFORMITIES FOLLOWING SCIATIC NERVE INJURY WITH TIBIALIS POSTERIOR TENDON TRANSFER

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Objectives
The transfer of the tibialis posterior tendon to the paralysed tendons on the anterior aspect of the ankle not only restores the function of the paralyzed muscles, but also removes the deforming force on the medial aspect of the foot. In this study, we evaluated patients who underwent tibialis posterior tendon transfer for the treatment of residual foot deformities.

Methods
The study included 15 male patients mean age 23 years, who underwent tibialis posterior tendon transfer for residual foot deformities following sciatic nerve injury. The mean duration of paralysis was 18 months. The mean preoperative drop foot rate was 80%. Big toe plantar flexion was 20%. All toes in plantar flexion were 33%. The tibialis posterior tendon was first detached from its insertion and carried proximally on the crural midline, then transferred to the dorsum of the foot through the circumtibial route, was attached to the tibialis anterior tendon, and the other to the extensor hallucis longus, extensor digitorum. longus, and peroneus tertius tendons depending in the patient requirement. The results were evaluated according the criteria of Carayon et al. The mean follow-up was 4 months.

Results
The postoperative active dorsiflexion was seen in 11 patients. Two patients had good dorsiflexion of big toe. Four patients had good dorsiflexion of all toes. The results were excellent in three feet (20%) good in six feet (40%), moderate in four feet (27%) and poor in two feet (13%).

Conclusion
Tibialis posterior tendon transfer in drop foot yields highly successful results in the restoration of active dorsiflexion, inversion and prevention of flexion deformity in the toes.

OP 2.6.2

DORSAL METACARPAL ARTERY FLAP – A VERSATILE FLAP TO RECONSTRUCT PROXIMAL SOFT TISSUE DEFECTS OF FINGERS

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Introduction
Soft tissue cover of the traumatized hand is vital in preservation of denuded tendons bones, and neuro-vascular bundles as well as for immediate or staged reconstruction of these, which is necessary for a functional, supple hand. A distally based cutaneous flap was raised from dorsal aspect of the intermetacarpal space oriented along the long axis of the hand. The flap perfusion is based on a retrograde flow through the dorsal intermetacarpal arteries. The flap could be islanded over the Doppler detected perforator. The flap could be rotated almost 180° according to the site and shape of the defect.

Material and method
Our series comprises eight cases covering soft tissue defects of index, middle, ring and little fingers over both palmar and dorsal aspects. Flap dimensions ranged from 1.5 - 2 cm in with and 5.5 - 8 cm in length and the flap was raised from proximal to distal direction preserving paratenon over the extensor tendons. In all cases donor site was closed primarily without a skin graft. The cause of the injury in six patients (75%) was trauma and in two patients (25%) was low voltage electric burns.

Results
Seven flaps survived without complications, one patient had a wound infection and necrosis of distal half of the flap.

Conclusion
These flaps are versatile and reliable for resurfacing of soft tissue defects of the dorsum of proximal phalanges, proximal interphalangeal joint and the palmar defects of proximal phalanges without significant donor morbidity.

OP 2.6.4

EARLY TENDON TRANSFER AND EARLY ACTIVE MOBILIZATION FOR RADIAL NERVE INJURY

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Introduction
Injury to the radial nerve results in considerable impairment of hand function. Radial nerve reconstruction may take months to recover and the outcome is unpredictable. Early post-operative active mobilization results in a similar outcome to immobilization in cast for 4-6 weeks. The aim of this study was to assess recovery time and hand function following early tendon transfer and early mobilization.

Material and method
A retrospective study of 16 patients with isolated radial nerve injury treated exclusively by tendon transfer without nerve repair was performed from April 2006 to March 2009. Mobilization for tendon transfer rehabilitation was commenced one week after surgery.

Results
Fifteen males (94%) with a median age of 22 years (18- 34) had radial nerve injury. The average recovery time and return to work was 8 weeks after tendon transfer. Transfer insertion pull out during early post-operative mobilization was not seen in fifteen patients. Median follow up was 8 months (3-12). One patient required a revision procedure after 6 months due to stretching of the repair.

Discussion and conclusion
Early tendon transfer and early post-operative active mobilization is safe, reestablishes active movement and enhances hand function. Early tendon transfer instead of radial nerve repair reduces the morbidity of splinting and facilitates early return to work.

OP 2.6.5

FUNCTIONAL RESTORATION OF ELBOW USING SPINAL ACCESSORY NERVE TO MUSCULOCUTANEOUS NERVE IN ADULT BRACHIAL PLEXUS INJURY

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Introduction
Between 1999 and 2007, 22 nerve transfers were performed using a graft between a branch of the accessory nerve and musculocutaneous nerve to restore the flexion of the elbow in patients with traumatic brachial plexus injuries. A retrospective study was conducted, including statistical evaluation of the following pre- and intraoperative parameters in 19 patients: 1) time interval between injury and surgery, 2) length of the nerve graft used to connect the accessory and musculocutaneous nerves, 3) elbow flexion with MRC grading .

Methods
All the patients are preoperatively assessd clinically and confirmed with nerve conduction testing. Non progressing recovery and nerve conduction is used to select the patients who need surgical exploration. All spinal accessory nerves are coapted using sural nerve grafts. The postoperative follow-up interval ranged from 23 to 119 months. Majority were male (20) all had global brachial plexus injuries. Useful reinnervation of the biceps muscle was achieved in 14 (73.6%) patients. Reinnervation of the musculocutaneous nerve was demonstrated in all of the patients. Three (16%) patients had undergone surgery after nine months. The average graft length was 22cm. Five had very good elbow function (MRC>3). Nine had fair improvement (MRC=3). Five could not demonstrate useful elbow flexion.

Conclusions
Our series show that useful elbow flexion can be restored using spinal accessory nerve transfer to musculo-cutaneous nerve. Although the results are better with shorter grafts longer grafts are also producing useful clinical results.

OP 2.6.6

RECONSTRUCTION OF TOTAL ABDOMINAL WALL DEFECT WITH AN EXTENDED ANTEROLATERAL THIGH FLAP

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Introduction
Reconstruction of large full thickness anterior abdominal wall defect is a challenge to the reconstructive surgeon, and life saving for the patient. The aim of the procedure is to provide adequate cover for the abdominal viscera with functional stability.

Material and methods
We report this patient, a 19 year old soldier with a large full thickness anterior abdominal wall defect following a blast injury. He underwent an extended right hemicolectomy. An end ileostomy and a colostomy was located in the right and left hypochrondia respectively, just below the costal margin. His whole anterior abdominal wall was reconstructed using a single stage pedicle extended anterolateral thigh flap. The defect extended from the xiphisternum to the pubic symphysis and almost up to the lateral abdominal walls. Dimensions of the flap were 30 × 20 cm which is the largest reported in the literature. The flap was harvested as a composite flap including the fascia lata on the right lateral circumflex femoral vascular pedicle with an 180° arc of rotation. Donor defect was covered with a meshed split skin graft.

Results
The entire flap survived. A minor wound dehiscence occurred adjacent to the ileostomy, which was managed with secondary suturing.

Discussion and conclusion
After a follow up of six months he was able to walk and stand straight without a hernia. The extended anterolateral thigh flap can be used in reconstruction of large anterior abdominal wall defects providing a stable neo-abdominal wall.

OP 3.1.1

DOES THE SIZE OF GOITRE AFFECT THE OCCURRENCE OF POST OPERATIVE COMPLICATIONS?

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Introduction
Total thyroidectomy is a common surgical procedure performed in the many general surgical units. Hypocalcaemia and change of voice are two common complications. Risk factors for hypo-calcaemia after thyroidectomy include Graves's disease, malignancy, recurrent surgery and type of surgical procedure performed. This study was designed to assess impact of goitre size on above complications.

Method
All patients who underwent total thyroidectomy by single surgeon in the university surgical unit from June 2005 to May 2009 were divided into control and study groups. The control group and study groups consisted of patients who had not developed post-operative hypocalcaemia and/or hoarseness of voice and vice versa respectively. Patients with malignancy and graves disease and recurrent goitre were excluded from the study. Significance of differences in goitre size (weight) between those who had above complications and those who had not were assessed using Student's t test. The relevant data were obtained from thyroid data base.

Results
102 patients were eligible for the study. Fourteen patients developed hypocalcaemia {12 (11.7%) – temporary, 2 (1.96%) permanent}. Eight patients developed hoarseness following surgery{temporary – 7 (6.86%), permanent – 1}. The control group had mean thyroid weight of 91.78 g. There were no significant differences in mean thyroid weight between control group and patients with hypocalcaemia (mean 103.57g – $p > 0.05$) and patients with hoarseness (mean 103.88g – $p > 0.05$). There was significant difference in thyroid weight (195g $p < 0.05$) in patients with permanent hoarseness of voice.

Conclusion
There is no significant difference in thyroid weight between patients with post-operative hypocalcaemia and hoarseness and those without complications. The size of goitre does appear to influence the occurrence of post operat ive permanent hoarseness.

OP 3.1.2

VARIATIONS IN THE SURGICAL APPROACH FOR COSMETICALLY UNACCEPTABLE CLINICALLY UNILATERAL BENIGN GOITRE AMONG SURGEONS; IS THERE A NEED FOR CONCENSUS?

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Introduction
In many regions of the world, total thyroidectomy (TT) is now considered as an appropriate surgical option for benign multinodular goitre involving both lobes. But practice differs among surgeons when it comes to management of cosmetically unacceptable clinically unilateral benign goitre (CUCUBG). Conventional approach is to perform a unilateral thyroid lobectomy. However, some patients would return with a mass in the opposite lobe which may need re-do surgery later in life. Re-do surgery is associated with increased risk of complications such as recurrent laryngeal nerve injury (RLNI) and hypoparathyroidism. Guidelines do not address this issue specifically. Therefore we decided to study the views, practices and perceptions of surgeons in Sri Lanka, who perform thyroid surgery with regards to the best approach for CUCUBG.

Material and methods
Data were collected using a questionnaire filled by surgeons who perform thyroidectomies. An index case was given of a patient with CUCUBG with added sonographic evidence of small nodules in contralateral side, and responses regarding their management were collected.

Results
51 (44.3%) surgeons responded and 27 (52.9%) decided on near total or TT. Rest performed lobectomy or subtotal thyroidectomy. The surgeons who decided on lobectomy or subtotal thyroidectomy justified their decision because of avoidance of lifelong thyroid replacement, reduced risk of post-op hypoparathyroidism and RLNI.

Technical difficulty and other complications associated with revision surgery and possible malignant risk of the remaining lobe made the rest to decide on near total or TT.

Discussion and conclusion
There is variability in surgical management of CUCUBG. There is a need to have more studies and specific guidelines to have a consensus among surgeons.

OP 3.1.3

AUTO IMMUNE THYROIDITIS – A DESCRIPTIVE SUDY

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Introduction
Autoimmune thyroiditis (AIT) is the commonest autoimmune disorder affecting 2% of females worldwide. Descriptive studies of AIT in Sri Lanka are sparse.

Objective
To study biochemical, morphological and cytological features and immune markers in autoimmune thyroiditis.

Methodology
A database with diagnosed cases of AIT, of a single surgical unit was analyzed. Diagnosis was by cytology and/or measurement of thyroid autoantibodies – anti thyroid peroxidase (TPO) and antithyroglobulin (TG). Thyroid morphology and functional status was assessed by ultrasound scans (USS) and serum TSH levels respectively.

Results
The mean age was 39.8 years with a female to male ratio of 15:1. Fifty five patients underwent FNAC and 93% had positive cytology for AIT. Thyroid autoantibodies were assayed in 48 subjects, and TPO and TG levels were high in 89.6% and 64.2% respectively. In patients with a positive cytology, TPO and TG were positive in 85.7% and 58.8% respectively. In those with elevated antibody levels, FNAC was positive in 89%. USS was done in 49 patients and the results were – diffuse enlargement 51%, solitary nodule 8%, multi nodular 32%, normal 8%. TSH level was high in 63%.

Discussion
AIT was common in females in the late thirties. Although the typical presentation is known to be diffuse enlargement, a significant proportion of this group had nodular goiters. A majority had elevated TSH indicating a tendency to develop hypothyroidism. TPO was a better indicator than TG making it the serum marker of choice when investigating. A positive cytology had a high correlation with elevated TPO levels, and being an invasive investigation, could be recommended when thyroid autoantibodies are not available.

OP 3.1.4

THE CONCORDANCE BETWEEN THE CLINICAL FINDING AND ULRASOUND SCAN FINDING IN CLINICALLY SOLITARY THYROID NODULES

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Introduction
Thyroid lumps are a common surgical condition presenting to our surgical clinics. Conventionally nodular goiters are divided in to solitary and multinodular goiters depending on the number of clinically palpable lumps. The objective of this study was to evaluate the accuracy of clinical assessment of solitary thyroid nodules by means of ultrasonography of the thyroid gland.

Material and methods
All patients with clinically demonstrable solitary thyroid lumps attending our clinic during a one year period were assessed with their ultrasonographic evaluation reports of the thyroid gland. Clinical assessment was done by a consultant surgeon. Patients with clinically solitary nodules were sent for ultrasonographic evaluation which was done by a consultant radiologist.

Results

- Total number of patients included = 25
- Number of solitary thyroid nodules confirmed by ultrasound scan = 9
- Size of smallest clinically palpable thyroid lump – 12 × 9 mm
- Size of smallest ultrasonically detected lump – 1.2 × 1.8 mm

Discussion and conclusion
Our observed concordance between the clinical and ultrasound findings in clinically solitary thyroid nodule was 9/25 ie. 36%. Literature quotes, 33-50% of clinically solitary thyroid nodules can be confirmed by ultrasound scan and nodules less than 10 mm are insensitive for palpation. We conclude that our findings are in keeping with available statistics and highlight the necessity of performing an ultrasound scan of the thyroid gland on all patients with clinically solitary thyroid nodules.

OP 3.1.5

PRELIMINARY REPORT ON ASSESSMENT OF THYROID VOLUME IN ADULT SRI LANKANS

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Introduction
Different thyroid volumes have been reported from different parts of the world. This is influenced by factors such as deficiency of iodine, ethnicity etc. The ultrasound is the investigation of choice in the assessment of thyroid size (volume), as the clinical palpation has low sensitivity. This study envisages an accurate assessment of thyroid volume using an ultrasound scan and developing a reference value for thyroid volume.

Method
Inward patients of the university surgical unit for problems other than thyroid disorders and patients' bystanders were assessed initially with a proforma. All individuals without any clinical or ultrasound evidence of thyroid disease were included in the study. Pregnant women, lactating women, acute or chronically ill patients, children (age ≤12 years) were also excluded. Subjects were selected randomly. Thyroid ultrasound scan was done by consultant radiologist in the supine position with neck extension using 7.5 MHz linear probe on patients selected. Thyroid volumes were assessed using ellipsoid formula. Statistically calculated target is 90 subjects (60 males and 30 females).

Results
60 subjects (39 males and 21 females) with mean age of 32 and 43 respectively were assessed. Mean thyroid volumes were 8.918 (D=2.584, range 4.81-16.35) and 6.62 (SD=1.54, range 2.96-9.32) for male and females respectively. There was significant difference in volume of between genders ($p<0.001$). There were no significant differences in volume of left and right thyroid lobes ($p>0.05$). There was no significant correlation with height, weight and BMI.

Conclusion
Reference values of thyroid volume are 8.918±5.168 and 6.62±3.09 for males and females respectively. The development of reference volume for thyroid for Sri Lankans with further island wide study of large sample is envisaged.

OP 3.1.6

CLINICAL PRESENTATION, DEMOGRAPHIC DETAILS OF PATIENTS WITH HYPOTHYROIDISM ATTENDING TO NCTH, RAGAMA

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Introduction
Hypothyroidism is a common endocrine disorder commonly manifests as a slowing in physical and mental activity but may be asymptomatic. The frequency of hypothyroidism, goiters and thyroid nodules increases with age. Symptoms and signs of this disease are often subtle and neither sensitive nor specific. Our objective was to describe the clinical presentation, demographic details of patients with hypothyroidism.

Material and methods
A retrospective study was carried out at University Surgical Unit from November 2008 to May 2009. All the patients diagnosed to have hypothyroidism by clinically and biochemically were included consecutively.

Results
There were 62 patients (93.5% females) mean age 50.6 (SD 13.4) and mean weight 57.8 kg (SD 12.4). 61.3% were known patients, 83.9% patients had fatigue, 51.6% had carpal tunnel syndrome (CTS), 51.6% had weight gain and 32.3% had a goiter (95% confidence interval 0.20 –0.45). There were significant associations between presence of a goiter with fatigue (P-0.017), weight gain (P-0.046). All underwent FNAC and 68.2% had colloid goitre, 19.4% had thyroiditis. 27 (42.9%) already undergone thyroidectomy and 23.1% were malignant (66.7% were follicular carcinoma). Post-operative thyroxin was given to 92.3% of patients but 16% was defaulted. 61% of patients defaulted as they believe “they feel well”.

Discussion and conclusions
The study demonstrates the female predominance of hypothyroidism and main complaints were fatigue and CTS. A significant proportion of patients had goitre and fatigue and weight gain were significantly associated with goitre.

OP 3.2.1

POST-OPERATIVE QUALITY OF LIFE ASSESSMENT IN SCOLIOSIS PATIENTS USING THE SCOLIOSIS RESEARCH SOCIETY-22 (SRS-22) QUESTIONNAIRE

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Introduction
Adolescent Idiopathic Scoliosis is a deformity that affects ones self image and confidence. Surgery is offered when the Cobb angle is more than 45° based on its likelihood of progression. Objective of this study is to evaluate the health related quality of life in patients who had undergone surgical correction of scoliosis.

Methods
Using Scoliosis Research Society-22 (SRS-22) patient questionnaire, a prospective evaluation was done among 22 patients operated in our unit over the past three years with a minimum follow up of one year. The SRS-22 questionnaire consists of 22 questions and is separated into 5 domains; function/activity, pain, self-perceived image, mental health, and satisfaction with treatment.

Results
There were 15 females and 8 males. The age of the patients ranged from twelve to twenty eight years, with a mean age of 18.4 +/- 3.5. The mean pre-operative Cobb angle was 68.6 and post-operative Cobb angle was 35.8. The average curve correction was 58.5%. The overall coefficient of the questionnaire was 0.88. Coefficients for individual domains were as follows: function/activity-0.70; post-perative pain-0.80; self-image-0.80; mental health-0.88; and satisfaction-1. The SRS-22 scores were highest for the satisfaction domains and lowest for the functional domains.

Conclusion
Patients were satisfied with the outcome of their operation. Although pain was common post-operatively, the intensity of the pain was minimal. The amount of curve correction correlated with the quality of life after operation.

OP 3.2.2

ARTHROSCOPIC AIDED MANAGEMENT OF FRACTURES AROUND THE KNEE

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Over a 5 year period, 2 patella fractures, 24 tibial condyle fractures and 31 tibial spine avulsions were managed by arthroscopic aided fixation. Tibial condyle fractures chosen were specifically Schatzker 1, 2 and 3 lateral condyle fractures (20 of 24), while 1 medial condyle and 3 minimally displaced bicondylar fractures were scoped and fixed percutaneously. The scope was used to evaluate the fracture and the meniscus, the joint was lavaged, and after reducing the fracture, this was checked by image intensifier. Depressed fractures need elevation and grafting. The extra-articular fracture was then stabilized with plates using minimally invasive methods. All avulsed tibial spines were reduced with help of ACL jigs, stabilized by k-wires and fixed with screws; this was supplemented in comminuted fractures by sutures. Both patellar fractures were fixed by screws after arthrosscopic aided reduction. All patients were mobilized with support within 48 hours.

Arthroscopic aided fracture management has some potential complications. Special expertise and equipment are needed, it increases OT time and could lead to fluid extravasation and neuro-vascular insult. The aim of this combination procedure is stable fixation by minimally invasive methods; this reduces surgical insult, improves articular surface visualization, allows management of concomitant meniscal problems, and patients can be rapidly mobilized. Case selection is extremely important for a good result. Transverse patellar fractures with minimal displacement are ideal; all kinds of tibial spine avulsions, except for neglected cases, can be managed by this method. Bicondylar tibial fractures may need special aids for reduction.

OP 3.2.3

CLUB FOOT – EXPERIENCE FROM EASTERN SRI LANKA

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Introduction
The aetiology of congenital idiopathic club foot is speculative and unclear. We encounter large number of patients with club foot.

Objectives
To know about the distribution of club foot in Eastern Sri Lanka.
To find any association with antenatal or birth history.
To assess the referral system of such babies.

Method
Records of patients with club foot treated at unit for the past five years were analysed. Their gender, ethnicity, antenatal history and state at diagnosis are some of the factors analysed.

Results
There were 208 babies treated and 71% (n=158) were males. Around 59% (n=122) were Muslims and the rest Tamils. Both limbs were affected in 122, right alone in 62 and left alone in 24.

Forty two percent (n=88) were referred within one week and total of 150 within one month. Medical professionals referred 166 (85%) and 24 by self.

186 babies had uneventful antenatal period and 146 were born by normal vaginal delivery.

Only 10 had affected siblings. Only 2 are from (dizygotic) twin pregnancy. Siblings are not affected in them.

Conclusion
Club foot is a common condition in Eastern Sri Lanka and Muslims are affected the most. Male children and bilateral disease are common features. There is a delay in referral of about 58% of children. Medical professionals are the leading group in referring the babies.

OP 3.2.4

DOES TIMING MATTER IN INTRAMEDULLARY NAILING OF COMPOUND FRACTURE OF FEMUR

Yasas B Jayasinghe, V Abeysuriya, K A L A Kularatne, M V Perera

Introduction
Outcome of delayed IM nailing of compound fractures prior to wound healing was assessed.

Methods
Eighty patients treated with IM nailing [Group A, (20) immediate; Group B, (32) after 1-3 weeks with unhealed wound; Group C, (28) after wound healing] were prospectively evaluated. Post-operative outcomes assessed clinically and radiologically.

Results
All were treated by initial and subsequent wound debridement. In Group A, (male:15, female:5, mean age 28.3 years), 7 (35%) were classified as Gustillo type I, 8 (40%) as type II and 5 (25%) as type III. IM nailing done within 6 hours of injury. Group B, (male:25, female:7, mean age 31.2 years) 9 (29%) had type I injury; 12 (38%) type II and 11 (34%) type III. Average wound debridements up to IM nailing were 3-6. IM nailing done with well granulating wound. Group C, (male:22, female:6, mean age 32.4 years) 5 (18%) had type I injuries; 14 (50%) type II; and 9 (32%) type III. Average wound debridements were 6-10. IM nailing done after complete wound healing.

Average time to union in groups A, B and C were 3.8, 4.1 and 3.7 months respectively. There were 2 early soft-tissue infections in Groups A and B, whilst 1 deep infection in Group C. There were no nonunions or malunions. The 3 groups had no significant differences in the incidence of infection, malunion, nonunion or the time to union.

Conclusion
The data suggests that IM nailing is an effective treatment for compound fractures of femur, regardless of Gustillo grading and time of intervention.

OP 3.2.5

E-REFERRAL IN ORTHOPAEDICS – BENEFITING PATIENTS AND THE SYSTEM

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Introduction
The orthopaedic unit at TH Ragama is the referral centre for three large hospitals. Every week, patients are transferred or referred for further management/advice at inconvenience to the patient and cost to the hospital. An e-mail link between two units is easily set up at minimal cost as a route for telemedicine.

Objectives

1) To test the feasibility of assessing patients with acute trauma at a distant site by using the internet.
2) To assess the benefit of such a system in the reduction of patient movement between hospitals.

Method
A unit in DGH-Gampaha served as the referring unit. A template was used. History, management, digital photographs of the X-rays, and where necessary, the wounds were e-mailed with SMS notification.

Inclusion criteria – Trauma patients requiring orthopaedic opinion.

Exclusion criteria – Patients whom the surgeon feels require immediate transfer and those with concomitant injury meriting transfer.

Results
From 1st March to 31st May, 33 patients were referred (in 17 batches). Management satisfactory in 13 (39 %). Minor corrections advised in 10 (30 %).

Four of these (12%), were planned for review in the clinic. Immediate transfer recommended in 7 (21%). Date for surgery in 2 (6 %). Maximum delay in obtaining an opinion was 12 hours (overnight). Overall, 26 (78%) patients were saved a 4 hour trip. An estimated 12 ambulance journeys with 3-4 staff members were saved.

Conclusions
1) Electronic referral in orthopaedics is feasible.
2) It reduces inconvenience to patients.
3) The hospital saves time and money.

OP 3.2.6

ATRAUMATIC OSTEONECROSIS OF THE HEAD OF THE FEMUR – A TERTIARY CENTER EXPERIENCE

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Introduction
The purpose of the study was to define the clinical, demographic and radiographic patterns of atraumatic osteonecrosis of the head of the femur at presentation and to report the outcome of treatment.

Methods
Twenty five consecutive patients treated for atraumatic osteonecrosis of the head of the femur between January 2008 to May 2009 were recruited. The clinical, demographic and radiographic patterns were evaluated. Ethical clearance granted. No conflict of interest.

Results
There were 07 males and 18 females (23 to 76 years, mean age 43.3 years). Ninety percent had a history of corticosteroid use. Alcohol abuse, post renal transplant and coagulopathies were accounted for 8%, 4% and 4% as the causative factor. Seventy four percent had concomitant involvement of other large joints, with 13% presenting initially with hip symptoms. 74% had a disease that affected the immune system; majority of them had systemic lupus erythematosus.

Twenty percent of the symptomatic hips treated non-operatively had a successful clinical outcome at a mean of two years. The hips that remained severely symptomatic for three months were treated with Core decompression (65%) or Total Hip Arthroplasty (35%). 79% of the hips treated with Core decompression and 90% of Total Hip Arthroplasty, had a good or excellent clinical outcome.

Conclusions
Atraumatic osteonecrosis of the head of the femur predominantly affects women and in our study it was associated with corticosteroid use. Treatment options should be tailor made for the patients, considering their clinical and radiological presentations.

OP 3.3.1

AN ALTERNATIVE RECONSTRUCTION FOLLOWING PANCREATICO DUODENECTOMY TO IMPROVE THE POST-OPERATIVE OUTCOME

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Introduction
Pancreatico-duodenectomy (Whipple's surgery) is the procedure of choice for tumours in the pancreas and the periampullary region. The procedure continues to carry a high morbidity and mortality (5-15%). The most important morbidities being pancreatic fistula (15-30%) and bile reflux. We have used a divided Roux loop technique reconstruction with a view of improving the post-operative outcome.

Methods
We prospectively reviewed 17 pancreatico-duodenectomy procedures evaluating them for complications especially for pancreatic fistula and bile reflux. All the cases were done by the same surgeon using a divided Roux-en-Y loop (end to end 2 layer pancreatico-jejunal anastomosis, separate gastro jejunal reconstruction and a side to side jejuno-jejunal anastomosis. We compared our results with the available international data after classic Whipples surgery.

Results
There were no instances of pancreatic fistula or biliary reflux in patients who had divided Roux-en-Y recon-struction. The mean operating time was 5 1/2 hrs. Mean operative blood loss was 800 ml.One patient had wound infection (5%). There was no operative mortality (0%).

Conclusions
The divided Roux-en-Y pancreatic reconstruction following pancreatico duodenectomy procedure may significantly decrease the incidence of pancreatic fistula, bile reflux and the post-operative mortality.

OP 3.3.2

IS IT USEFUL AND SAFE TO CREATE A GASTRIC ACCESS LOOP TO RETAIN ACCESS TO THE HEPATICOJEJUNOSTOMY ANASTOMOSIS FOLLOWING RECONSTRUCTIVE SURGERY FOR IATROGENIC BILE DUCT INJURIES?

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Introduction
Anastomotic site (AS) stricture is the most frequent complication of hepaticojejunostomy (HJ) which is the reconstructive procedure performed for iatrogenic bile duct injuries. Revision surgery for management of such stricture carries a significant morbidity. Retention of access to the AS helps to treat such strictures by minimal

access techniques and reduces the need for open surgery. This study aims to investigate the accessibility, efficacy, safety, morbidity related to and outcome of gastric access loop (GAL).

Method
Twenty-two consecutive patients following HJ (including two revision HJs and a re-revision HJ) with GAL from July 2005 to June 2009 were assessed for clinical, biochemical, radiological and endoscopic evidence of AS occlusion and need for intervention. Morbidity related to GAL was assessed by dyspepsia disability score (DDS).

Results
Mean follow up was 24.2 months (range 1-47). Two patients developed cholangitis at 4th and 22nd months after HJ and had successful endotherapy via the GAL. First underwent stricture dilation with stenting and the second had balloon sweeping for hepaticodocholithiasis. They remain well at 23rd and 21st months following intervention. Based on DDS none of the patients had symptomatic dyspepsia affecting daily activities.

Conclusions
GAL is useful in the management of HJ in settings with minimal facilities and expertise for radiological manipulations via transhepatic/jejunal routes. GAL is accessible and safe for stricture dilatation and other endotherapeutic procedures with no associated morbidity.

OP 3.3.3

PANCREATICOGASTROSTOMY – A SAFE ALTERNATIVE TO PANCREATICO-JEJUNOSTOMY AFTER PANCREATICODUODENECTOMY

M S M Rizny

Introduction
Following pancreaticoduodenectomy (PD) traditionally, the pancreatic remnant is anastomosed to the jejunum using a variety of techniques. Leak rates of pancreatic anastomosis range from 7-20% and accounts for nearly half the deaths following PD. Pancreaticogastrostomy (PG) has gained favour in the recent past as an alternative to PJ.

Objective
To assess the feasibility and outcome of PG in patients undergoing PD.

Methodology
A retrospective analysis of patient records and follow up data on 18 consecutive patients who had PG following PD was done. Patient demographics, the primary pathology, extent of resection, evidence of leakage at PG site clinically, biochemically (drain Amylase 5-6 day) and radiologically (gastrograffin study, 6-8 days) and other PG anastomosis related complications were assessed. All patients received post-operative Octreotide.

Results
Mean age was 47.9 (range 19-74). Majority of PD were done for pancreatic head neoplasms (n=9) and peria-mpullary carcinoma (n=7). Two patients had significant upper gastrointestinal haemorrhage which settled with infusion of proton pump inhibitors. Two deaths occurred, one who had a complete SMV replacement and a resultant pseudo-aneurysm rupture one month after surgery, and the other, an elderly male who had cardio-vascular complications and died on the 2nd post op day (post mortem con-firmed an intact PG). None of the patients showed clinical, bio chemical or radiological evidence of leakage at PG.

Conclusion
PG is a safe method of reconstruction and can be performed in PD for varying indications, with acceptable levels of peri-operative complications related to the anastomosis.

OP 3.3.4

MANAGEMENT OF NON RESECTABLE HEPATOCELLULAR CARCINOMA (HCC) AND CHOLANGIOCARCINOMA BY SELECTIVE INTERNAL RADIATION THERAPY (SIRT)

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Background
Treatment options for non-resectable HCC and peripheral cholangiocarcinoma are very limited because neither are particularly responsive to currently available systemic chemotherapy and whole liver radiation is poorly tolerated. SIRT is of potential value in these tumours because high dose radiation can be delivered to even multifocal tumours with minimal serious damage to surrounding liver.

Patients and methods
In the last 10 years, SIRT has been given to 20 patients with HCC and 7 patients with peripheral cholangio-carcinoma. Ages have ranged from 31 to 78 years (median 59). 12 HCC patients had underlying liver disease but none were Childs C patients. Tumours were multiple in many patients and varied in size from 2 to 20 cm. SIRT was administered on a single occasion in 25 patients and on two occasions in 2 patients, either via a percutaneously or surgically placed hepatic artery catheter.

Results
One patient died of SIRT induced liver failure (after retreatment). 9 patients treated for HCC either (a) did not respond or (b) died before recovering from the SIRT. Median survival of the 9 who gained no obvious benefit was 2.9 months (1.3 - 8.1) and 11 months (4.8-116) for the 11 who did. Two patients with cholangiocarcinoma gained no obvious benefit and survived for 1.7 and 6 months respectively. Five patients appeared to gain benefit with median survival of 9 months (6-14.5).

Conclusion
Therapeutic benefit can be expected from SIRT in over 50% of patients with HCC and peripheral cholangio-carcinoma. This is sometimes very dramatic and well maintained.

OP 3.3.5

PRINGLES MANEUVER VERSUS SELECTIVE VASCULAR EXCLUSION IN MAJOR HEPATECTOMIES – IS THERE A DIFFERENCE IN OUTCOME?

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Introduction
Intra-operative blood loss (IBL) is an important factor which determines the outcome of major hepatic resections. Main determinants of blood loss are the method of tran-section and vascular control. Many methods are available to achieve vascular control during transection of the parenchyma. Of these, intermittent Pringle maneuver (IPM) and Selective Hepatic Vascular Exclusion (SHVE) are widely adopted. IPM being technically less demanding can be per-formed by surgeons with limited experience in liver surgery. While some studies have shown SHVE to be superior, there are others which have not shown a difference in outcome.

Material and methods
A total of 19 patients underwent major hepatectomies (resection of 3 or more anatomical segments) at the University Surgical Unit, Colombo South Teaching Hospital from October 2003 to June 2009. A comparative retrospective study was done to analyze the IBL, total operative time (TOT) and immediate outcome. Thirteen underwent IPM and the others SHVE. All selected patients had non-cirrhotic livers with normal liver function tests preoperatively. The parenchymal transection was done by Kelly clamp crushing technique.

Results
The mean age of the two groups were 50y (SHVE) and 39.2y (IPM) (p=0.42). The ASA was similar in both groups. Mean IBL was 641.7 ml and 802.3 ml in the SHVE and IPM groups respectively (p=0.92). Average TOT was 4.75 hr (SHVE) and 4.69 hr (IPM) (p=0.52). There was neither in hospital mortality nor significant morbidity in both groups, except for a death on day 2 from myocardial infarction in the IPM group.

Discussion and conclusion
The results obtained from this study shows that vascular control achieved from IPM is of equivalence to SHVE, with regards to IBL, TOT and immediate outcome in major hepatectomies.

OP 3.3.6

GYRUS PLASMA KINETIC BIPOLAR COAGULATION DEVICE – A NOVEL TOOL FOR LIVER PARENCHYMAL RESECTION IN CIRRHOTIC PATIENTS

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Background
Liver parenchymal resection in cirrhotic patients is associated with greater blood loss and higher morbidity. The aim of this study was to evaluate usefulness of the Gyrus plasma kinetic coagulater in liver parenchymal resection in cirrhotic patients.

Patients and methods
Liver resections were performed in 44 patients using Gyrus plasma kinetic coagulator.

Blood transfusion requirement, operating time, duration of hospital stay and major complications were evaluated in 9 patients with histologically confirmed cirrhosis (7 males, 2 females, median age 54 years, range 45-74 years) were compared with 35 patients without cirrhosis (22 males, 13 females, median age 57 years, range 24-87 years).

Results
There was no difference in median operating time cirrhosis [- 240 mins (range 90-300) vs controls - 245 mins (range 135-540), p>0.05]; requirement of perioperative blood transfusions [cirrhosis - 2/9 vs controls - 14/35, p>0.05]; and median duration of hospital stay [cirrhosis - 8 days (range 4-34) vs controls - 9 days (range 4-50), p>0.05] in patients with cirrhosis compared with patients without cirrhosis. There were no deaths in both groups. None of the patients with cirrhosis had post-operative biliary leaks. Four biliary leakes were observed in non cirrhotic patients initially before the settings of the Gyrus was optimized.

Conclusions
Gyrus plasma kinetic coagulation device is a novel instrument for hepatic parenchymal transection in liver resection, which can be safely used in cirrhotic patients without added mortality and morbidity.

OP 3.4.1

WHERE IS THE DEEP INGUINAL RING (DIR)?

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Introduction
Anatomy of the inguinal canal is an area where under-graduate and postgraduate students are frequently questioned in both anatomy and surgery. Yet, the site of the deep inguinal ring (DIR) is still controversial among clinicians as well as in textbooks. Out of 105 textbooks on anatomy and surgery, 32 described the DIR at the mid inguinal point (MIP), 46 at the mid point of the inguinal ligament (MIL) and 27 included no description of the location of the DIR. The objective of this study is to identify the site of the DIR and its relationship to the MIP and MIL.

Materials and methods
Fifty one inguinal regions (24 males, 27 females) with no inguinal herniae were dissected and the distance from the anterior superior iliac spine (ASIS) to the medial border of the DIR, pubic turbercle (PT) and pubic symphysis (PS) were measured in millimeters using a calibrated metal vernier caliper. The statistical comparisons were done using paired t-test, carried out with SPSS, version 15.

Results
The study showed that the MIP and MIL are significantly different landmarks (P<0.001). The position of the DIR was also significantly different from the MIL (P<0.001), but the DIR is not significantly different from the MIP (P=0.7).

Discussion and conclusion
This study shows the MIP as a more accurate landmark to surface mark the DIR. Thus we believe, using the MIP as the basis for the occlusion test, the clinical differentiation between direct and indirect inguinal herniae can be improved.

OP 3.4.2

PRIMARY WOUND DEBRIDEMENT IN WAR SURGERY; IS THE NON-CONTRACTILITY TO DIATHERMY ARELIABLE PARAMETER TO JUDGE THE VIABILITY OF MUSCLE TISSUE?

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Introduction
All war injuries are caused by high velocity projectiles and the wounds are essentially contaminated with variable degree of lateral tissue destruction. Primary wound debridement (PWD) is done to remove all debri and devitalized tissue thus preventing the setting on of infections.

Contraction of muscle fibres to diathermy current is one artesian used to judge the viability of muscle tissue. We intend to test the viability of this method.

Methodology
Sample – 100 conseative battle casualities admitted at Army Base Hospital, Palaly from 22nd June 2009 onwards with high velocity bullet and shrapnel injuries to limbs.

Exclusion criteria

1. Mine blast injury
2. Low velocity bullet injury (landing bullets)

PWD way performed under general anaesthesia and all the obviously devitalized tissues were excised. On muscle tissue 05 areas which were non contractile to diathermy current were marked with 2/0 back silk stitches and wounds were dressed with normal saline only. At 48 hrs wounds were re-examined wound anaesthesia and the 5 areas previously marked with stitches were tested for the reparse for diathermy.

Results
Same areas of muscle tissue which were not contractive to diathermy at PWD were contracting at 48 hrs. This ranged from 1/3 (20%) to 3/5 (60%) with a mean of 2.1 (42%).

The demarcation between healthy and devifolized tissue was well evident at 48 hrs.

Conclusion
Non contractility to diathermy stimulation may not be a reliable indication of muscle tissue vitality of PWD.

48 hrs wound debridement is essential because it offers the best demarcation of devitalized tissue.

OP 3.4.3

ANATOMICAL RELATIONS BETWEEN CUTANEOUS VEINS AND NERVES AT THE CUBITAL FOSSA

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Introduction
Injury to cutaneous nerves during venepuncture can result in the complex regional pain syndrome (CRPS) type II. A sound knowledge on the intimate relationship between the nerves and veins at sites of venepuncture could be useful in preventing the above complication.

Material and methods
The positional relationships between superficial veins and nerves were examined in 50 cubital fossae. The course of the medial cutaneous nerve of the forearm (MCNF) and the lateral cutaneous nerve of the forearm (LCNF) in relation to the veins were recorded. A vein and a nerve in a single fascial sheath were regarded as "closely related". We also observed whether these nerves crossed superficial or deep to any specific veins as the risk for CRPS is higher when a nerve crossed superficial to a vein.

Results

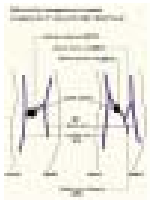
Table 1. Relationships of the LCNF

Crossed a vein				Closely related to a vein	
Yes - 31 (62%) No - 19 (28%)				Yes - 33 (66%) No - 17 (34%)	
Vein	Deep	Superficial		Vein	Number
	30 (60%)	1 (2%)			
CV	17 (34%)			CV	25 (50%)
MCV	6 (12%)	1 (2%)			
MCBV	6 (12%)				
MVF	1 (2%)			MVF	8 (16%)

Table 2. Relationships of the MCNF

CV-cephalic vein, BV- basilic vein, MCV- median cephalic vein, MBV-median basilic vein, MCBV-median cubital vein, MVF-median vein of forearm

Crossed a vein				Closely related to a vein	
Yes - 42 (84%) No - 8 (16%)				Yes - 3 (46%) No - 27 (54%)	
Vein	Deep	Superficial		Vein	Number
	26 (52%)	16 (32%)			
BV	5 (10%)	2 (4%)		BV	21 (42%)
MBV	7 (14%)	7 (14%)			
MCBV	14 (28%)	6 (12%)			
MVF		1 (2%)		MVF	2 (4%)



Conclusion

The anatomical relations between cutaneous veins and nerves widely vary and while no single area is suitable for all individuals, avoiding the CV, BV, MBV and the medial half of the MCBV as first choices for venepuncture at the cubital fossae minimises the risk of damage to the superficial nerves.

OP 3.4.4

FIRST SRI LANKAN SERIES OF OPEN BARIATRIC SURGERY

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Introduction

Morbid obesity is defined as the BMI of >40 or 35 with cormorbid illnesses. Conservative medical treatments generally fail to sustain weight loss, leaving bariatric surgery the only effective way of reducing the excess weight. Surgical principal involves either restrictive (sleeve gastrectomy, gastric banding) or bypass (Roux-en Y gastric bypass, Duodenal switch) procedures which can be done as laparoscopic or by open means.

Method

We prospectively reviewed our 14 cases of open bariatric procedures which included 12 gastric bypasses and 2 sleeve gastrectomies over a period of 18 months. The mean follow up was 9 months (18-3 months). Their weight reduction, comorbid illnessess and post-operative complications (wound infection, deep vein thrombosis, vomiting and chest infections) were analysed and compared with the internationally available data.

Results

The mean age was 44.5 years (28-51), there were 13 (92%) females and one male (8%). The reduction in the excess weight was 61% after 18 months, 47% after 6 months and 30% after 3 months. Two patients (16%) had post-operative vomiting which settled with conservative measures. There were no significant post-operative complications and the mean hospital stay was 9 days. Two diabetic patients (14%) were able to stop their oral hypoglycaemics 1 year after the bariatric procedure and 1 (8%) who had amenorrhoea due to polycystic ovarian disease started her cycles 2 months after the surgery.

Conclusions

Our results were comparable with international figures and the open procedure is as effective as the available standard laparoscopic figures except for the post-operative hospital stay.

OP 3.4.5

THE VALUE OF RE-LOOK LAPAROTOMY IN WAR TRAUMA SITUTATIONS

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Introduction

In battle causalities multiple penetrating injuries of the abdomen due to bullets or shrapnel is common.

In exploratory laparotomy done for these injuries there is a high possibility of missing hollow organ penetrations due to two reasons.

1. Shear multiplicity of penetrations.
2. Under the pressure of heavy casualty influx the time that could be devoted for each laparotomy is limited.

Under pressure of these challenges we tested the viability of a novel approach at the Army Base Hospital, Palaly by doing a 48 hrs re-exploratory laparotomy with the purpose of finding missed hollow organ penetrations.

Method

In 48 patients with multiple shrapnel injuries of the abdomen seen at the Army Base Hospital, Palaly from 8th July 2008 onwards, we performed a re-exploratory laparo-tomy in 48 hrs with the purpose of finding any missed perforations at of the primary exploratory laparotomy.

Results
In 9 patients out of a total of 84 (10.7%) we found missed perforations. All 84 patients made a full recovery.

Conclusions
In 10.7% cases a missed perforation was found and without the 48 hrs re-exploration these patients might have developed severe complications of peritonitis and sepsis. Therefore 48 hrs re-exploratory laparotomy may be a useful and a viable option in war surgery.

OP 3.4.6

VARIATIONS OF THE PUBIC BRANCH OF THE INFERIOR EPIGASTRIC ARTERY – AN ANATOMICAL STUDY IN SRI LANKAN CADAVERS

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Introduction
The pubic branch (PB) of the inferior epigastric artery (IEA) becomes important in a variety of clinical situations. It is susceptible to injury during the reduction of a femoral hernia and during dissection of the Bogros space and stapling of the mesh onto the Cooper's ligament in endoscopic total extraperitoneal inguinal hernioplasty. It also constitutes a hazard for orthopaedic surgeons during the anterior approach to the acetabulum. The purpose of this study is to describe the common variations that exist in this artery in the Sri Lankan population.

Material and methods
The inguinal region was dissected in 50 hemipelvises, and the number of pubic branches and the course of the pubic branches were recorded. An aberrant obturator artery was defined as the PB replacing the obturator artery (OA) by passing over the superior pubic ramus. A corona mortis was defined as an anastomosis between the PB and the OA, which did not replace the OA.

In 9 (36%) cadavers the number of arteries differed between the two sides. In 14 (56%) cadavers the course of PB as described above differed between the two sides.

Results

Table 1. The number of pubic branches

Number of pubic branches	Incidence
Single	30 (60%)
Double	14 (28%)
More than 2	1 (2%)
Absent	5 (10%)

Table 2. The course of the pubic branch

Course of the pubic branch	Incidence
Aberrant obturator artery	10 (16%)
Corona mortis	8 (13%)
Towards pubic symphysis	37 (61%)
Other	6 (10%)

Conclusion
Variations of the pubic branch of the inferior epigastric artery are common and these have important implications during surgeries involving the inguinal area. The significant bilateral differences in the course and number of branches of the PB has important implications in total extraperitoneal inguinal.

OP 3.5.1

A PATIENT FRIENDLY METHOD OF MANAGING VENOUS ULCERS – A RANDOMIZED CONTROLLED TRIAL

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Introduction
Management of chronic venous ulcers is a significant burden to the healthcare system. Sustained graduated compression bandaging (SGCB) is an accepted treatment method. This requires weekly application by a trained healthcare worker. An alternative method using multi layered/multi level elasticated tubular stocking (MLETS) using Tubigrip® was found to be as effective in healing these ulcers in a study done by us.

Objective
To compare the cost, comfort and compliance of SGCB with MLETS.

Methodology
This is an ongoing randomized controlled trial. Forty patients with venous ulcers attending the ulcer clinic at Colombo South Teaching Hospital were randomized to undergo either SGCB or MLETS at weekly intervals until the ulcer healed or up to 15 weeks. Discomfort during application and wearing the bandage/stocking, adverse reactions, and cost and time taken to apply the dressings were recorded.

Results – 34 patients completed the study.

	SGCB (n=17)	MLETS (n=17)
Discomfort due to dressing	2	2
Allergic reactions (itching/rash/erythema)	2	-
Bleeding	1	1
Periulcer maceration	6	1
Oedema	4	1
Average monthly cost (Rs)	1300	1000
Ability to apply by self after demonstration	0	17
Average time taken to apply dressings by a healthcare worker (minutes)	10	5

Conclusion
The number of patients with adverse reactions and discomfort observed in MLETS group was lower. MLETS was also noted to be cheaper and self applicable by the patients.

OP 3.5.2

LIVE DONOR RENAL TRANSPLANTATION IN SRI LANKA – OUTCOME AT ONE YEAR

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Background
Chronic haemodialysis is not provided by the state at present leading to 80% mortality at one year. Although transplantation is the only alternative its results are viewed with pessimism in Sri Lanka.

Patients and methods
A total of 154 consecutive renal transplantations from January 2007 were studied using a prospectively entered computerized database. Primary outcome measures are patient survival rate and the graft survival rate calculated using Kaplan-Meier curves. 24 were lost to follow up.

Results
The median follow up time was 12 months. Median age for recipients and donors were 41 and 38 years respectively. Males accounted for 81%. 96 (62.33%) transplants involved non-related donors. The median HLA mismatch score was 2 while the median ischaemic time was 56 minutes.

Patient survival at one, six and twelve months were 98%, 95% and 92% respectively. Causes for the deaths were pneumonia 7/10 (70%), septicaemia 2/10 (20%), cerebrovascular accident 1(10%).

Graft survival at one, six and twelve months was 98%, 94% and 89% respectively. Haemodialysis dependency at one year is 3/130 (1.94%). 12/130 (7.79%) are on occasional heamodialysis. There were 32/130 (20.77%) acute rejections.

Conclusion
One year outcome after live donor renal transplantation in Sri Lanka is satisfactory.

OP 3.5.3

ASSESSSMENT OF KNOWLEDGE ON PREVENTION OF DIABETIC FOOT DISEASE AMONG NURSES

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Introduction
49-85% of all diabetic foot related problems are preventable through combination of good foot care provided by a multi-disciplinary team and appropriate education for both patients and healthcare providers. One of the reasons for poor outcome of foot complications include lack of awareness of foot care issues among patients and health care providers alike; Our objective was to assess knowledge of nurses in the prevention of diabetic foot disease.

Method
A cross sectional study of nurses working in the Teaching Hospital, Ragama was undertaken to assess the knowledge on prevention of diabetic foot ulceration using a self completed questionnaire. Cluster sampling was done until required sample size of 210 was achieved. The question-naire included multiple choice questions on different topics. Total score of 100 was given for the questionnaire. Mean score for (out of 100) each question was also calculated to assess different areas of knowledge separately.

Results
Average score for the sample was 65.5. The score was less than 50 in 23% (49) of the sample.34.7% had a score between 50 and 75. 41% had a score above 75. Majority (96.8%) knew that diabetic foot ulceration can be prevented proper glycaemic control, education and foot care. Mean score for risk factors for diabetic foot ulceration was 68.2. Mean scores for knowledge on callosities, foot infections and foot ulceration were 62.4, 62.6 and 63.7 respectively. Mean score for knowledge on diabetic neuropathic foot was 52.1. Mean scores for foot care and nail cutting in a diabetic patient were 85.4 and 68.8.

Conclusion
96.8% of sample were aware that diabetic foot ulceration could be prevented. Detailed knowledge required for prevention of diabetic foot ulceration was not satisfactory in the majority of the sample.

OP 3.5.4

OUTCOME OF ARTERIAL INJURIES – EXPERIENCE IN A PERIPHERAL CENTRE

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Introduction
Early intervention is deemed necessary in vascular injuries not only to save a limb but to prevent dreadful complications as reperfusion syndrome. This study evaluates the outcome of patients presented to a peripheral centre with general surgical facilities.

Patients and methods
Ten patients (all males: median age 26 years, range 2.5 - 40 years) who presented to the surgical unit of Ampara General Hospital, Sri Lanka, from June 2008 to June 2009, were included in a prospective study. The objectives were; (i) to identify mode of arterial injury (ii) type of revascularization and (iii) outcome of the patient.

Results
Six (60%) were following road traffic accidents, while others presented due to; stab injury (1; 10%), accidental cut (1; 10%) or trap gun injury (2; 20%). Patients presented after a mean duration of 3.8 hours (SD 3.4) following the trauma to either brachial (2; 20%), radial (2; 20%), subclavian (1; 10%), femoral (2; 20%)

popliteal (2; 20%) or anterior tibial artery (1; 10%). Arterial injury was a complete disruption (6; 60%), partial cut (1; 10%) or thrombosis with intimal tear (3; 30%). Revascularizations were within 2 hours of admission; end to end anastomoses (6; 60%), reverse saphenous vein grafts (RSVG) (3; 30%). Limb salvage was achieved in 9 (90%) patients, as 1 (10%) needed above knee amputation due to muscle necrosis on admission. One (10%) patient developed reperfusion syndrome.

Conclusion
This study highlights that a 90% limb salvage rate could be achieved in the periphery with general surgical facilities.

OP 3.5.5

PREDICTORS OF EARLY OUTCOME ON GRAFT SURVIVAL AFTER LIVE DONOR RENAL TRANSPLANTATION – THREE YEAR EXPERIENCE

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Introduction
Short and long term graft survival following renal transplantation depends on numerous pre- and post-transplant variables. The objective of our study was to find the predictors of graft survival.

Material and methodology
154 consecutive renal transplants from January 2007 to May 2009 were studied using a prospectively entered computerized database. Data was analyzed to asses the relationship of recipients age, donor relationship, age of transplanted kidney, duration of pre-transplant dialysis, HLA mismatch and acute rejection to graft survival.

Results
The mean follow up was 12.8 months (2-30 months). 13 (8.4%) graft failed (GF). There were 10 deaths (mean graft survival - 2.1 months) and 3 chronic allograft nephropathy with dialysis dependency (mean graft survival - 8 months). The mean age of recipient was 41 years (17-68). GF according to recipients age was not statistically significant [< 30y - 4/32 (12.5%), 31-40y - 4/43 (9.3%), 41-50 3/36 (8.3%), >50y - 2/45 (4.4%)]. Mean donor age was 38 years (20-60). The GF among the age of the transplanted kidney was also not significant [20-29y-3/39 (7.6%), 30-39y-4/47 (8.5%), 40-49y-5/36 (13.8%), >50y-1/32 (3.1%)]. The GF were not significant among nonrelated to related donors. [7/ 96 (7.2%) vs. 6/58 (10.3%)]. GF showed significant relationship (p=0.02) with the duration of pretransplant dialysis (<6 month- 4/73 (5.4%), 6-12 months 2/52 (3.8%), >12 months 7/39 (17.3%)]. GF among the HLA mismatch were also significant (p=0.03) [<50%- 3/81 (3.7%), >50%-10/73 (13.6%)]. Out of 34 acute rejections 12 accounted for GF (35.2%).

Conclusion
Pre transplant dialysis more than 1 year, HLA mismatch >50% and acute rejection have to be considered as strong predictors for graft failure. Relationship of donor to recipient, donor and recipient age have no impact on graft survival.

OP 3.5.6

A NOVEL METHOD OF GRADUATED COMPRESSION TO MANAGE VENOUS ULCERS – A RANDOMIZED CONTROLLED TRIAL

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Introduction
Venous ulcers are a major cause of chronic wounds accounting for 70-90% of lower limb ulcers. The established method of treating these ulcers is by application of a three/four layered sustained graded compression bandage (SGCB), weekly. By applying an elasticated tubular stocking as multiple/multi level layers (MLETS), this graded compression could be achieved.

Objective
To observe the efficacy of SGCB and ETS in healing venous ulcers.

Methodology
This is an ongoing randomized clinical trial. Forty patients with venous ulcers attending the ulcer clinic at Colombo South Teaching Hospital were randomized to undergo either SGCB or MLETS. Patients with ABPIO.9, deep venous insufficiency and pregnancy were excluded. One group of patients (n=20) were treated with SGCB. The other group (n=20) was treated with MLETS using Tubigrip® as 3, 2, and 1 layer up to the ankle, mid calf, and knee respectively. Dressings were applied by a trained wound care nurse. Surface area of the ulcer was traced initially and weekly, up to either 15 weeks or until the ulcer healed.

Results – Thirty four patients completed the study. The ulcer size was used to stratify the groups (<500mm^2 Vs 500 mm^2).

Results		ETS (n=17)	GCB (n=17)
Mean age (years)		57.3	55.8
Mean duration of ulcer prior to treatment (weeks)		176	190
Co-morbidities (Diabetes, CRF)		4	4
Completely healed ulcers	<500 mm^2 (n=)	3	3
	>500 mm^2 (n=)	2	1
	Total	5	4
Ulcers with evidence of healing		15	14
Rate of healing (mm^J Vweek)		50.36	36.74

Conclusion
In this group of patients MLETS was found to be as effective as SGCB in healing venous ulcers. A larger patient group is needed to find a statistical significance.

PP 1

THE ROLE OF FLEXIBLE SIGMOIDOSCOPY IN THE EVALUATION OF BLEEDING PER RECTUM

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Introduction
Routine flexible sigmoidoscopy is standard in patients presenting with fresh painless bleeding per rectum, even if an obvious cause is seen on proctoscopy. This is to prevent a synchronous proximal pathology such as carcinoma, polyp or diverticular disease going undetected. However, routine flexible sigmoidoscopy has led to many negative sigmoidoscopies.

Method
A retrospective analysis of 409 consecutive patients presenting with painless fresh bleeding per rectum over a period of 2 years to a single surgical clinic in a tertiary care hospital was carried out. All the patients underwent digital rectal examination, proctoscopy and flexible sigmoidoscopy.

Results
Mean age at presentation was 50 (range,14- 93)years. 129 of them were <40 years of age, while 280 were >40 years of age. Male:female = 1.6:1. 349 patients had haemorrhoids only. 16 patients had malignant lesions, while 8 had a benign lesion (i.e. polyps, ulcers). 24 patients had inflammatory bowel disease and 2 had diverticular disease. 3 patients had polyps as well as haemorrhoids while 1 patient had a benign rectal ulcer and haemorrhoids. All patients who had haemorrhoids as well as another pathology were >40 years.

Conclusions
Our study shows that flexible sigmoidoscopy is of value only in those over the age of 40 years. Those who are less than 40 years who are diagnosed to have a lesion on clinical examination and proctoscopy may be treated for the same without further endoscopy.

PP 2

A PROSPECTIVE ANALYSIS OF SEVENTY CONSECUTIVE CONGENITAL EXRENAL EAR ANOMALIES IN CHILDREN IN A PAEDIATRIC PLASTIC SURGICAL UNIT

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Introduction
Congenital ear anomalies cause cosmetic handicaps and may be associated with deafness and other problems. Surgeries are intended to improve function and appearance. Identification of syndromic cases enables further investigations and genetic counseling. No data is available regarding ear anomalies in Sri Lanka. Study objectives were to describe the patterns of congenital ear deformities referred for surgery and to identify syndromic cases.

Material and methods
Seventy consecutive new referrals to the plastic surgical unit in the LRH, Colombo between October 2008 and March 2009 were included. All had a general examination, photographs to document facial features and ear anomalies and recording of antenatal and family histories.

Results
The cases consisted of 40 (57%) boys and the mean age at presentation was 25.7 months (males–32.3, females–20.7). Ear anomalies were bilateral in 22 (31%), right sided in 30 (43%) and left sided in 18 (26%). The commonest referral were for microtia [27 (39%) of cases], cleft ear lobes [15 (21%)], pre-auricular tags [15 (21%)], constricted ear [4 (6%)] and prominent ear [4 (6%)]. Syndrome diagnoses included Treacher-Collins and Goldenhar syndrome.

Discussion and conclusions
Both major and minor ear anomalies requiring surgical correction are getting referred to Paediatric plastic surgery. This pattern of referrals with a high percentage of major ear anomalies requiring complex surgeries (e.g. microtia) predicts a significant load for the plastic surgery unit. Early referral is required to assess the need of further investigations for hearing and other anomalies and possible syndrome identification.

PP 3

RISK FACTORS IN CARCINOMA OF THE BREAST

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Introduction
The objective of this study was to analyze some of the major risk factors present in patients diagnosed with carcinoma of the breast.

Materials and methods
To achieve this 643 patient records spanning over a period of 5 years were studied.

Results
All but two patients were females. Highest number of cases was seen in the age range of 40 to 60, 413 cases (64%). The 30 to 40 age group had 87 patients (13.5%) and 228 patients were in the 40 to 50 age group (35.4%) while the 50 to 60 age group had 185 patients (28.7%). The median age for menarche was 13 and 14, while the commonest age range for menopause was 45 to 55. Active menstrual cycles were seen in 307 patients (48%). Mean range for estrogen exposure was 30 to 40 years. Of the patients with children 89.2% had breast fed their infants. The average number of children was 3. A positive family history of breast carcinoma was seen in 55 patients (8.5%). Hormonal contraceptives have been used by 112 patients (17.4%). Hormonal replacement therapy has been used by only 14 patients.

Discussion and conclusions
In conclusion, breast carcinoma case load is highest in the 40 to 60 year age group while the 5th decade holds the most number of cases. Mean age for menarche and menopause appear to be similar to that of the normal Sri Lankan population. A considerable number of patients with breast carcinoma appear to be having an active menstrual cycle and therefore still has reproductive capacity. Hormonal contraceptive usage and hormonal replacement therapy appears to be minimal in this population.

PP 4

MULTIPLE INSULINOMAS, A RARE CLINICAL PROBLEM – A POSSIBLE CASE OF OCCULT MEN I

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Introduction
Insulinomas are the most commonly found functioning endocrine tumor of pancreas. The incidence of insulinomas is rare. They are benign in most cases (85-99%), are single (93-98%). There is slight female preponderance with mean age of occurrence at 45 years. MEN I should be suspected when the lesion is multiple. Approximately 4% to 10% of patients with hyperinsulinism will have MEN I. Pre-operative and intra-operative localization of insulinomas are necessary for successful surgical removal.

Case report
A 22-year old university student with recurrent hypoglycaemia was found to have an insulinoma after investigations. Pre-operative axial computed tomography localized single tumor (1.5×1.5×0.8cm) in the body of pancreas. She was referred for surgery to the University Surgical Unit, Ragama. In view of small size of the tumor intra-operative ultrasound was arranged. On surgical exploration intra-operative ultrasound localized the tumor which was enucleated. Repeat intra operative ultra-sonography revealed no residual disease. However, palpation of the rest of the pancreas localized a second lesion (1.5×1.3×0.8cm) in the body of pancreas with 2 cm of enucleated lesion. Since tumor was also small and well circumscribed, it was enucleated. Patient made a complete recovery. Screening for MEN I was done. Biochemical investigations revealed marginally elevated prolactin and elevated parathyroid hormone. However, imaging with computed tomography of brain and para-thyroid scintigraphy were normal. As patient was asymptomatic and she did not wish to proceed with further investigations or invasive procedures, she is being followed up in the clinic every 6 months.

Conclusion
This case highlights a rare clinical problem of multiple insulinomas and also importance of intra operative palpation. This patient has several features suggestive of MEN I which remains occult at present.

PP5

ASSESSMENT OF PROBLEMS IN PREVENTING DIABETIC FOOT ULCERATION: ARE WE SATISFIED WITH PATIENTS' HEALTH EDUCATION?

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Introduction
Foot ulceration, sepsis and amputation are potentially preventable by the simplest techniques of education and care. The objective was to assess the problems in prevention of diabetic foot ulceration by assessing etiological factors, patients' knowledge on diabetes and foot care and their practice of foot care.

Method
128 consecutive patients admitted to General Surgical Unit, General Hospital Kandy due to diabetic foot problems during 6 months from November of 2005 to April 2006 were included in the study. All patients were interviewed and clinical examination done to get relevant data.

Results
The study consisted of 128 patients (M:F=1.2:1) with mean age of 57.7. Education level of patients varies from grades1-5 (30.7%), grades 5-12 (58.7%). Fifty patients (43.8%) had duration of diabetes 0-5 years. Others had duration more than 5 years. Only 70 (55%) patients were attending monthly clinic regularly. 36 patients (28%) had neuropathy. 9 patients (7%) had peripheral vascular disease. 41 patients (40%) knew that diabetes has multiple organ involvement. 57 patients (44%) knew that wounds heal poorly and can become serious in diabetics. Only 50 patients (39%) knew that proper foot care is very important. 49 patients (38%) knew that good glycemic control can prevent diabetic complications. 54 patients (42%) were wearing foot wares. 45 patients (35%) have had cut nails. Only twenty four patients (18.7%) did daily inspection of feet. In 37 patients (29%) ulceration was due to minor preventable trauma.

Conclusion
The knowledge of diabetes and foot care is unsatisfactory in significant number of patients. Only a minority of patients undertake daily foot care. Improvements in awareness of diabetes and value of foot care is required.

PP6

RETROSPECTIVE ANALYSIS OF THE HISTOPATHOLOGICAL SPECTRUM OF TRANS URETHRAL RESECTION OF PROSTATE

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Introduction
Histological changes evident on Trans Urethra! Resection of Prostate (TURP) might give us understanding of the progressive underlying pathological changes of the prostate in symptomatic patients.

Material and methods
A retrospective observational study was conducted to assess the varied, histopathological outcome of TURP specimens. The study included all TURP's performed at Teaching Hospital Peradeniya between 2005 and 2009. Histopathological evaluation was done to find out the occurrence of Benign Prostatic Hyperplasia (BPH), prostate carcinoma, Intra Prostatic Inflammation (Acute, Acute on chronic and Chronic), foci of squamous metaplasia, prostatic intra epithelial neoplasm (PIN) and prostatic urethritis.

Results
Sample included 418 cases with a mean age of 67.5 (SD=10.5) years. From the sample 338 (80.86%) specimens had evidence of

BPH, 64 (15.31%) had prostate adenocarcinoma and 12 (2.9%) had both BPH and prostate carcinoma together. In the cancer group 12.5% had unfavorable Gleason's score (8-10). Acute prostatitis and acute on chronic prostatitis were evident in 13 (3.1%) and 58 (13.87%) respectively. Chronic prostatitis was evident in 178 (42.6%) of specimens. Foci of squamous metaplasia were evident in 46 (11%) specimens. There was a significant positive correlation of the occurrence of chronic prostatitis ($p < 0.00$) and squamous metaplasia ($p=0.02$) with BPH. PIN and prostatic urethritis were found to be evident in 6 (1.4%) and 62 (14.6%) of specimens respectively.

Discussion and conclusion
Benign prostatic hyperplasia was the most frequent histo-pathological outcome. The occurrences of chronic prostatitis and squamous metaplasia have a greater tendency to be associated with BPH. Thus chronic inflammation and metaplasia could be important in the pathogenesis and progression of BPH.

PP 7

DOES THE MEASURMENT OF TESTICULAR SIZE VALUABLE IN THE EVALUATION OF MALE SUBFERTILITY?

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Introduction
Measurement of testicular size is important in the evaluation of subfertile men, since the spermatogenetic region of the testis occupies major portion of the testicular volume.

Material and method
Scrotal sonography was performed in 70 subfertile males attended to the Genito Urinary clinic Teaching Hospital Peradeniya from January 2006 to May 2009. Ultrasonic testicular volume was calculated using three measurements (length, width and depth) and the formula of an ellipsoid. The study group categorized into azoospermic and oligospermic subjects. Their testicular volume was compared with the testicular volume of age compatible equal number of fertile males. Trans Rectal Ultrasound Scan was performed in the subjects with azoospermia to exclude any obstruction to the seminal fluid pathway.

Results
In the azoospermic group the mean right testicular volume was 6.8 cm^3 and left testicular volume was 6.3 cm^3. Oligospermic group had the mean of 7.0 cm^3 for the right testis and 7.3 cm^3 for the left testis. In the control group the mean volume was 11.3 cm^3 and 10.9 cm^3 for the right and left testis respectively. Both group of subfertile males had a statistically significant smaller testis compared to fertile group ($p < 0.001$). There was no correlation of the ultrasonic testicular volume with seminal fluid volume, total sperm count or percentage of motile sperms in the ejaculate.

Discussion and conclusion
Ultrasonic testicular volume of subfertile men has a smaller value compared to fertile men. The study shows that a simple measurement of testicular volume is a valuable parameter in the evaluation of male subfertility.

PP 8

LAPAROSCOPIC APPROACH FOR RECURRENT INGUINAL HERNIA REPAIR

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Introduction
Laparoscopic repair for inguinal hernia is being increa-singly practiced worldwide because of its benefits. Our objective was to assess the success of laparoscopic approach for recurrent inguinal hernias.

Methodology
Patients who had undergone laparoscopic approach for recurrent inguinal hernia during the past one and half years were assessed and followed-up.

Results
Out of the 18 patients, 14 (78%) had conventional surgery once and 4 (22%) had twice previously. 13 (72%) of them had direct and 5 (28%) had indirect. 12 (67%) underwent TAPP and (33%) underwent TEP repair. An average time of 90 min was taken. All the patients were mobilized approximately 6 hours postoperatively. Simple analgesics like Paracetamol and NSAIDs were adequate for 15 (83%). 10 (56%) were discharged on day 1and 2 while 8 (44%) on day 3 and 4 due to their medical problems. Only 17 out of 18 turned up for the follow-up.12 (70%) didn't have any complication while 4 (24%) had haematoma formation during the first three weeks which resolved in three months time. Only 1 (6%) had unilateral re-recurrence following laparoscopic bilateral recurrent inguinal hernia repair. All followed up patients started their normal day to day activities in an average of 3 to 4 days time and returned to normal work within 2 weeks.

Conclusion
Laparoscopic inguinal hernia repair seems to be a safe procedure with early mobilization, minimum pain, shorter hospital stay and early return to work.

PP 9

CLINICAL ASSESMENT VS IMAGING IN DIAGNOSIS AND MANAGEMENT OF ABDOMINAL TRAUMA

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Introduction
Decision making in abdominal trauma on conservative or surgical management is crucial. This study assessed the pattern of usage of ultrasound scan (USS) and CT scan in patients with abdominal trauma and how it assisted in diagnosis and management.

Methodology
A retrospective review was conducted of 146 patients with evidence of abdominal trauma, treated at Accident Service of National Hospital of Sri Lanka over 2 months.

Results
146 cases of abdominal trauma were identified after screening 4000 bed head tickets. USS were performed in 136. 127 were ordered on admission and the rest after observation. Positive findings were revealed in (10.24%) of the former and (55.56%) of the latter.

USS were ordered due to abdominal pain (8.8%), abdominal tenderness (28.4%), haematuria (2.7%), injury to groin/ genitalia (1.4%), injury to chest/ pelvis/ spine (24.3%), multiple trauma (6.1%), and pregnancy (3.4%). 24.3% were ordered without symptoms of abdominal trauma. 51.4% cases had normal abdominal examination findings. CT abdomen was performed in 4.4%. 2.9% had positive USS and CT findings while 1.4% had negative USS and CT findings. 87.5% cases were managed conservatively and 12.5% underwent exploratory laparotomy. The decision to perform laparotomy in 5.14% was based on clinical evaluation. In 2.2% of them USS was not done, while the other 2.94% had normal USS findings.

Conclusion
Majority of USS performed in abdominal trauma were normal. USS requested following observation were more likely to show positive findings. We recommend that radiological investigations ordered following abdominal trauma should be done after observation and monitoring.

PP 10

INGUINAL NODAL FIBROSIS; IS IT DUE TO BARE FOOT WALKING?

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Introduction
Hyperkeratosis and fissuring of soles consequent to bare foot walking would provide portals of entry to lymphatics of the lower limb leading to inguinal lymphadenopathy. The objective of this study was to ascertain inguinal nodal damage in Sri Lankan adults and its possible causes.

Patients and methods
The sentinel node of the lower limb and the plantar skin samples were harvested from the same limb of 18 cadavers (age range 56-95, sex ratio M:F=11:9). Inguinal nodal histology was performed in all the lymph nodes.

The control samples (n=13) of lymph nodes and tissues from lung, brain, muscle, and liver were studied to establish the validity of the inguinal nodal histology. A two sample t test was performed for sole thicknesses falling under grade 1 and 2 nodal fibrosis.

Results
All 18 sentinel nodes showed grade 3 architectural damage, fibrosis of grade 1or 2 without evidence of infection. Seventeen out of 18 nodes showed polarizing inorganic particles inside the histiocytes of the nodes while control tissues did not reveal such matter.

There was no significant difference between the sole thicknesses (macroscopic and microscopic) in grade 1 and 2 nodal fibrosis (microscopic p=0.147 and macroscopic p=0.631).

Discussion and conclusion
The nodal fibrosis without evidence of infection in all nodes is significant. Polarizing particles found in the inguinal nodes could be the causative agent. Further evaluation of the nature of the polarizing particles is planned.

PP 11

LATERAL INTERNAL ANAL SPHINCTEROTOMY FOR CHRONIC ANAL FISSURES: A SINGLE UNIT EXPERIENCE

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Introduction
Lateral Internal Anal Sphincterotomy (LIAS) has replaced the manual anal dilatation as the traditional surgical treatment method for anal fissures. There are numerous data on LIAS for chronic anal fissure in western countries. But in Sri Lanka these data are scarce.

Method
We did a retrospective mail based study. The study group comprised of patients from our unit who under went LIAS for anal fissure when conservative management failed. There were 50 patients undergoing LIAS from January 2004 to January 2008. We manage to contact 35 of them. A self administered pre tested questionnaire consisting three questions on relief of symptoms after surgery, patient's satisfaction (on four point scale) and recurrence of symptoms was mailed to them.

Results
Out of the eligible subjects 72% (25/35) were females while 28 % (10/35) were males. We received 24 responses (67%). After the LIAS overall response was 96% (23/24). The response for males and females were 100% (6/6) and 94% (17/18) respectively. The recurrence rate was 12.5 per 100 persons per year. Eighty percent were (19/24) satisfied [83% (5/6) males and 78% (14/18) females] with the procedure.

Discussion
Although equal sex ratio has been observed among the patients undergoing LIAS in other studies, a significant female dominance was seen in our study group. The recurrence rate was comparable to the other published data.

Conclusion
LIAS has a very good overall response and patient's satisfaction for anal fissures when conservative management fails. There is a female preponderance in our patients.

PP 12

PROGRESSION TO CRITICAL LIMB ISCHAEMIA (CLI): THE ROLE OF KNOWN RISK FACTORS IN A POPULATION WITH PERIPHERAL ARTERIAL OCCLUSIVE DISEASE (PAOD)

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Introduction
Smoking, age, male sex, diabetes, hypertension and hyper-cholesterolemia are known risk factors for PAOD. However, the relative contribution from each/combination of these in the progression to CLI needing revas-cularization or amputation is not clear.

Method
Data from a computerized database with 357 consecutive patients with PAOD presenting to the University Surgical Unit in Colombo from 2006 - 2009 were analyzed. 230 with CLI requiring surgical intervention (SG) were compared with others (NSG). Age, gender, impact of smoking, hypertension, diabetes mellitus and hyper-cholesterolemia were studied in isolation and in combinations.

Results
Age [median: SG (61yrs) v NSG (60yrs)], male sex [SG (76%) v NSG (81%)], presence of diabetes mellitus (OR-0.93), hypertension (OR-1.3) and hypercholes-terolemia (OR-1.32) (all p> 0.05) were similar in the two groups 145 (40.6%) were current smokers. A smoking-onset age ≤16yrs was noted in 10.6% and consumption of ≥ 20 pack years noted among 60.8%. Current smokers were at significant risk of a CLI needing intervention. (OR-2.056; CI (1.195-3.539); p=0.0088). In the multiple logistic regression model adjusted for confounding variables, smoking-onset age ≤16 years was an independent association. (OR-2.52; (CI 1.035-4.942); p<0.05). Moreover, those who are both diabetic and smoking are at a significant risk of CLI (OR-4.94; CI 2.34-7.321; p <0.05).

Conclusions
Among individual risk factors current smokers had a significant effect on the severity of the disease requiring intervention. Early commencement of smoking is an independent predictor of CLI among PAOD patients. Smoking and DM in combination has a 5 fold risk.

PP 13

TOTAL HIP REPLACEMENT (THR) – OUR EXPERIENCE AT THE TEACHING HOSPITAL, PERADENIYA

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Introduction
Total hip arthroplasty is performed to restore function of painful, structurally defective hip joints. It improves quality of life by relieving joint pain, providing motion with stabitility and correcting disabling limb deformity. The cementless implants, specially, are known to give excellent results. The objectives of this study are to analyze demographic data, clinical presentation and outcome of THR performed during the last three years.

Method
A retrospective analysis of THRs performed since 2006 was done.

Results
Fifty nine (59) THRs were performed during this period. Only 39 patients attended the follow-up clinic on our request. There were 22 (56%) females and 17 (44%) males. The average age was 48.6 years. Seventy one percent of patients had been managed medically more than 2.3 years before the option of joint replacement was offered. The clinical presentations were pain in the hip 33 (84%) and hip pain with antalgic gait 22 (56%). Primary osteoarthritis (OA) of the hip was seen in 20 (51%) and 19 (49%) had secondary OA due toavascular necrosis (AVN) of the head of femur 14 (35%), fracture dislocation 2 (0.055), perthes disease 1 (0.0255) and rheumatoid arthritis 2 (0.055). Thirty one subjects (79%) were independent, four were in the period . of rehabilitation, three had hip pain and an antalgic gait and one patient had afood drop.

Conclusions
THR is necessary at an early stage of the disease when medical treatment fails. Early surgery gives better results. A cause should be found for the AVN. The procedure has good patient satisfaction and free of life long multiple drug therapy.

PP 14

SPINOPELVIC RECONSTRUCTION FOLLOWING TOTAL SACRECTOMY

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Abstract
Surgical excision remains the principle mode of treatment for sacral tumors. Partial excision of sacrum (excision below S2) does not have any major problem of post-operative mobilization of the patient. Total excision however, poses a major issues regarding mobilization of the patient particularly walking with or without weight bearing on lower limbs. Therefore spino-pelvic reconstruction following total sacrectomy remains a major surgical challenge as many spinal surgeons are not very conversant with the techniques involved. We report such a case of spino-pelvic reconstruction following total sacrectomy on a 29-year old lady who had sacral chordoma involving S1-S4.

Case history
A 29-year old lady was referred by oncological surgeon to the orthopaedic clinic with lower back ache and right sided sciatica. 3D reconstruction CT films showed a large neoplasm involving S1-S4 sacral segments. Total sacrectomy was done from posterior approach by the oncological surgeon. Sacral nerve roots 1 and 2 on the left side and S1 root on the right side were preserved. Subsequently spino-pelvic reconstruction was done by the orthopaedic team following a technique similar to that used by Galveston combined with posterior lumbar segmental fixation using implants of USS (Universal Spine System). Histology confirmed the diagnosis of chordoma. The patient was mobilized partial to full weight bearing over few months during the post-operative period and now she is able to walk without any walking aid. Case discussion includes surgical technique and management of post-operative complications.

PP 15

HEPATECTOMY FOR BENIGN LESIONS – A DESCRIPTIVE STUDY

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Introduction
Hepatectomy is a complex major surgery carrying a significant morbidity and mortality. It is indicated for benign lesions when symptomatic and/or pre-malignant.

Objective
To analyze the indications, outcome and histology of hepatectomy performed for benign lesions in a tertiary referral centre.

Material and methods
Fifty patients underwent hepatectomies from January 2002 to May 2009. Seventeen of them had a benign histology, who were analyzed with regards to indication (symptomatic, suspected malignancy), type of resection, outcome and histology.

Results
Six patients had a clinical indication due to symptoms (Pain - 2, bleeding - 2, recurrent jaundice - 1, conjoint twins - 1). The other 11 had lesions suspicious of malignancy on computerized tomography (CT). Nine of the above were suspected of having primary hepatocellular carcinomas with non-cirrhotic livers and normal alpha feto proteins. The other two had lesions suspected of colorectal metastases. Three patients underwent major hepatectomies (resection of 3 or more segments). There were neither 30 day mortalities nor significant morbidities, except for the conjoint twins who died the next day. The histologies were – simple cysts (2), biliary cystadenoma, hepatic adenomas (2) and haemangiomas (9). Out of 11 patients suspected of having malignancy, 9 had haemangiomas.

Discussion and conclusions
Outcome of hepatic resections for benign lesions was satisfactory. A high rate of misdiagnosis of haemangiomas (where surgery is not indicated) as malignancies are noteworthy. The possible reasons for these were poor interpretation and quality of CT imaging and equivocal cytology reports. This could have been avoided with the availability of triple-phase CT, MRI and performance of core-biopsies in suspicious lesions.

PP 16

RARE INFECTION OF THE HAND; A CASE OF TUBERCULOUS TENOSYNOVITIS

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Introduction
Tuberculous tenosynovitis of the hand is a very rare infection in current medical practice constituting 1% of skeletal tuberculosis.

Material and method
A 29-year old farmer came with inability to flex the middle finger of the left hand for six months with a scar on the palm and a central opening of a potential sinus over the third metacarpal head. The history begins ten months back; he developed a painful lump in the palm, followed by intermittent swelling and discharge and has undergone surgical drainage prior to referral to our clinic. Sinogram revealed irregular walled sinus tract extending proximally to forearm and the ultrasonography was inconclusive. His erythrocyte sedimentation rate, blood counts, chest radiograph were normal and sputum were negative for acid fast bacilli. A sinus tract of 17 cm was excised containing, pale yellow creamy material. Both flexor tendons were absent from zone 11 to distal forearm and the tract was in continuity with the identifiable ends of the tendons.

Results
Histology confirmed the diagnosis of caseous tuberculous tenosynovitis. Antituberculous chemotherapy was followed and the reconstruction of flexor tendons were performed in stages; insertion of a silicone tendon spacer followed by contra lateral Palmaris longus tendon graft.

Conclusion
Surgical debridement, followed by antituberculous therapy is effective in chronic caseous tuberculous tenosynovitis of flexor tendons. Staged tendon reconstruction provides a functional hand in these cases. Awareness of a rare manifestation of a common disease can offer the patient with correct management in a specialist center.

PP 17

VASCULARISED BONE TRANSFER FOR METACARPAL BONE RECONSTRUCTION FOLLOWING TUMOUR RESECTION

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Introduction
Tumours or tumour-like conditions in metacarpal bones are rare. Adequate tumour resection and boney reconstruction is essential to preserve the function of the hand.

Material and methods
A vascularised unicortical bone was harvested from the ipsilateral radius perfused on the reversed flow of the radial artery to reconstruct metacarpal bone loss in two patients. The first patient was a fifty year old male with an osteoclastoma of thumb metacarpal of the dominant hand. Following resection of the tumour, it was reconstructed with a 4.2 cm length bone segment. The second patient was a 23-year old female, with a recurrent, symptomatic aneurismal bone cyst involving the entire fifth metacarpal of the non-dominant hand. A 4 cm length vascularised bone graft was used for reconstruction. In both cases, less than 40% of the cross sectional area of the radius was harvested for the required length without compromising the strength of the radius. In both occasions the bone graft was fixed distally and proximally using 'K' wires for a period of eight weeks.

Results
Viability of the bone grafts were confirmed by radiology based on the plain radiographic appearance. Recovery was uneventful and donor morbidity was negligible. Both patients have been followed up for eight months and have regained near normal hand function and free of tumour recurrence.

Discussion and conclusion
Reverse radial artery osseous flap is a versatile flap in reconstruction of the entire metacarpal in order to preserve the hand function.

PP 18

A RARE FORM OF CHEMICAL BURN, TWO CASES OF WHITE PHOSPHORUS BURN

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Introduction
Chemical burns account for 5% of the total number of burn patients managed at the Burns and Reconstructive Surgical Unit of National Hospital, Sri Lanka in 2008. White phosphorus burns are a rare form of chemical burns, which cause deep burns and potentially lethal. White phosphorus is a combustible chemical used in war

fare, fireworks and agriculture. It ignites itself on exposure to air emitting significant amount of heat. It is highly lipolytic and penetrate deep in to tissue causing systemic effects particularly hypocalcaemia. The burn on the skin is progressive as long as oxygen is available.

Material and methods
We present two cases of white phosphorus burn in soldiers. The two soldiers were burnt following a rocket propelled grenade blast injury. The total burn surface areas involved were 36% and 17%. Igniting white phosphorus particles were seen and removed from the burn wounds at the initial wound debridement done by our unit.

Results
Both patients had local burn wound infection, but did not develop hypocalcaemia. The wounds were managed with excision and grafting. Both patients were successfully rehabilitated and having full functional capacity without any deformities and contractures at one year follow up. The average Vancouver score were 7 and 6 respectively.

Conclusion
It is important to be aware of the proper first aid and definitive treatment; keeping the wound moist always including the transport, adequate wound debridement, and general systemic management of these patients, in a specialized unit to minimize morbidity and mortality.

PP 19

RISK FACTORS IN BREAST CARCINOMA

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Introduction
The well known risk factors for breast carcinoma, varies depending on the ethnicity, geographical factors, genetical and environmental factors. This study was designed to identify the pattern of prevalence of risk factors in Sri Lankan women, with diagnosed breast cancer.

Material and methods
This was a retrospective and descriptive study. Inclusion criteria comprises with all the patients diagnosed to have carcinoma of the breast by Triple Assessment, from 2006 to 2009, consecutively, presented to the University Surgical Unit. The data were obtained from the breast cancer data base.

Results
The whole sample was females, suffering from clinically proven breast carcinoma. Out of total number of 110 patients, 18 (16.4%) were nulliparous women and 22 (20%) were taking oral contraceptive pills for more than five years. Incidences of other risk factors were relatively low.

Discussion and conclusions
Use of oral contraceptive pills for more than five years and nulliparity has been recognized as the most frequent contributing factors for breast carcinoma in this Sri Lankan study.

PP 20

PREDICTIVE VALUE OF C-REACTIVE PROTEIN AND ALVARADO SCORE IN DIAGNOSING ACUTE APPENDICITIS

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Introduction
Appendectomy is one of the commonest operations. No diagnostic modality gives 100% accurate diagnosis. False positive rates range between 15-25%. Combination of C-reactive protein (CRP) white cell count (WBC) and Alvarado score (AS) may increase the diagnostic accuracy.

Methods
A total of 58 patients (27 males, mean age of 23 years), underwent appendicectomy from March 2009 to July 2009 were selected. Serum CRP and Alvarado score (AS) was assessed pre-operatively. During the surgery anatomical position and severity of appendicitis were assessed. Histological findings were documented.

Results
Forty four patients (75%) had histologically proven appendicitis. Of that 31% (n=18) were retrocaecal and 36% (n=21) were pelvic in position. CRP (>6mg/dl) alone had 92.5% positive predictive value and 61% negative predictive value. But Alvarado score (>=7) had a positive predictive value 78.5%. Combination of the two parameters gives 92% of positive predictive value and a negative predictive value close to 100%.

Mean AS of retrocaecal (7.72) and pelvic (7.74) appendix was not different (p=0.93). Mean CRP of suppurated appendix (41.78) and gangrenous appendix (64.13) has no significant difference (p=0.103).

Conclusion
When taken alone CRP has the highest sensitivity but with low specificity. Combination of Alvarado score and CRP will predict a positive diagnosis of appendicitis with a 92% degree of precision.

PP 21

ENDOVASCULAR MANAGEMENT OF POST TRAUMATIC DISSECTION, CAUSING SIGNIFICANT STENOSIS OF THE LEFT COMMON CAROTID ARTERY – A CASE REPORT

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Objective
To describe a case of post traumatic dissection of the left common carotid artery causing significant stenosis treated successfully by endovascular stenting.

Method
43-year old male was transferred to the National Hospital with a piece of wood penetrating in to the L/side of the neck following a fall on to a bush.

He had no active bleeding and wound exploration detected the wooden foreign body between the L/ internal jugular vein and common carotid artery with 1 cm contusion and suspected advential injury in the common carotid artery.

CT angiogram demonstrated a filling defect in the L/ CCA. USS and Doppler demonstrated fusiform dilatation of the vessel with a dissection and rupture of the intima with free folds of the intimal flap causing 80% stenosis of the lumen.

After confirming the diagnosis by DSA, a 8 mm × 5 cm self expanding covered (haemoban) stent was placed across the dilatation and stenosis followed by balloon dilation using a 8 mm × 4 cm balloon. Satisfactory dilatation of the narrowed segment and restoration of the normal vessel diameter was achieved with no endoleak. Post procedure follow-up Doppler showed normal flow in the L/CCA.

Conclusion
Dissection of the common carotid artery causing dilatation and significant stenosis by ruptured intimal flap can be treated successfully by endovascular stenting as described by this patient.

PP 22

GROSS CONFIGURATION AND HISTOLOGICAL GRADING OF COLORECTAL CANCER

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Introduction
Gross configuration of colo-rectal cancers include polypoidal growths, ulcers and circumferential tumours. This study was conducted to assess whether there is a difference in tumour grade in different gross configurations.

Methods
Study was conducted retrospectively. All patients with histological diagnosis of colorectal cancer operated at professorial surgical unit of NHSL from January 2005 to December 2008 were studied. Data collected from endoscopy reports, pathology reports and BHTs of patients. Data were analyzed using descriptive statistics and SPSS 15 was used. Chi-square test was used to study the associations.

Results
Of the 61 patients operated 59%(36) had polypoidal tumours, 21% (13) had ulcers and 20% (12) had circum-ferential tumours. There were 12 fully differentiated, 21 moderately and 2 poorly differentiated polyps. Of the 13 ulcers 6 were well differentiated, 6 moderately and 1 fully differentiated. Five out of 12 circumferential tumours were well differentiated and others were moderately differentiated.

There was no statistically significant association between tumour grade and gross configuration of the tumour ($p > 0.05$).

Discussion and conclusion
In the study population commonest gross configuration of tumour was polypoidal followed by ulcers and circumferential growths. There was no statistically significant difference in histological grade between different gross configurations of colorectal cancers.

PP 23

QUALITY AND USABILITY OF INFORMATION AVAILABLE TO PATIENTS IN THE INTERNET ON LAPAROSCOPIC CHOLECYSTECTOMY

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Introduction
Laparoscopic cholecystectomy is a commonly performed minimal invasive surgery. Patients' usage of internet to find information on surgery and related issues is increasing. Aim of this study is to review information available to public on internet about laparoscopic cholecystectomy.

Methods
This study was conducted in June 2009 using Google® and Yahoo® search engines and four most popular browsers Internet Explorer, Firefox, Google Chrome and Opera. Internet was searched using the term "Laparoscopic cholecystectomy". First fifty websites in both search engines were reviewed using validated online LIDA instrument. Accessibility and usability of websites and reliability of information were given marks out of 100 according to validated criteria. Contents were assessed using structured pre-tested checklist. Data were analyzed using SPSS 15.

Results
Google gave 24 (48%) and Yahoo gave 26 (52%) out of first 50 websites of search results which can be used by patients. Ninety nine percent of them worked in all four browsers. Total of 50 web sites identified, belonging to Private institutions (46%), Group of physician/society (26%), government (20%) and other (8%). Fifty four percent had accessibility score between 50-74 and 46% had more than 75.

Reliability of the content was less than 50 in 36%, 50-74 in 56% and more than 75 in 8%. Contents mentioned in the web sites include what is cholecystectomy (84%), indications (78%), anaesthesia related details (58%), prognosis (58%), advantages (76%), complications (92%) and other treatment options (70%).

Discussion and conclusion
Only 50% of the web search results can be used by patients to get information on laparoscopic cholecystectomy. Contents of the web sites were satisfactory whereas reliability of information is average.

PP 24

DIAGNOSING CARPAL TUNNEL SYNDROME – CLINICAL CRITERIA

P D M Pathiraja, M H J Ariyaratne, A A N Nishad, W A T M Perera, N A S Wickramasinghe

Introduction
Carpal tunnel syndrome (CTS) is a constellation of symptoms associated with compression of the median nerve at wrist. Documentation of neurophysiologic abnormalities in the median nerve is helpful to establish the diagnosing CTS. Study was carried out from April 2008 to April 2009 from patients attending the Professorial Surgical Unit NCTH Ragama.

Material and methods
A prospective cross-sectional study was carried out on clinically diagnosed patients with CTS. Clinical assessment was done with a pre tested interviewer administrated questionnaire and clinical examination.

Results
Sampling consist of 152 patients, mean age was 45 (SD - 11%) and 144 females and 8 males. There were 120 (78.9%) patients with CTS more prominent in left hand and 132 (86.8%) in right hand,101 patients had bilateral CTS (65%). According to nerve conduction studies sensitivity of the clinical diagnosis of right hand CTS is 99.9% and specificity is 66.7%.
Sensitivity of burning sensation of hand (78.1%), numbness of the fingers (96.9%), radiation to upper arm (68.8%), worsening of symptoms at night (90.6%), Phalen test (68.8%), Tinnel test (56.4%) and Dercan test (71.9%). According to our study hypothyroidism (p-0.904), arthritis (p-0.492), diabetes mellitus (p-0.487) were not significantly associated with CTS. Most of them have unknown aetiology.

Discussion and conclusions
Females were affected more with CTS and right hand was mostly affected. Numbness of the fingers, burning sensation, worsening symptoms at night, Phalen and Dercan tests have given a good positive prediction.

PP 25

HISTOLOGICAL TYPES OF BREAST CARCINOMA REPORTED AT THE UNIVERSITY SURGICAL UNIT, RAGAMA IN LAST THREE YEARS

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Introduction
The World Health Organization classification of breast tumours organizes both benign and malignant lesions by histological pattern. Invasiveness is a key determinant in the prognosis and treatment of malignancy. Infiltrating ductal carcinoma is the most commonly diagnosed breast tumor and has no specific histological characteristics other than invasion. Therefore we wanted to describe the histological pattern of breast carcinoma in recent years.

Methods and materials
A retrospective study was conducted and data was obtained by the breast cancer data base. Patients diagnosed to have carcinoma of the breast by Triple Assessment, from 2006 to 2009 were included consecutively.

Results
There were 110 patients. According to histology, Infiltrating ductal carcinoma 79.1%, Infiltrating lobular carcinoma 7.3%, Ductal carcinoma in situ 5.5%, Lobular carcinoma in situ 1.8%, other types 6.4%. Fine needle aspiration (FNAC) revealed ductal carcinoma 83.1%, Lobular carcinoma 9.1%, others 7.3%. Most of the tumour size were between 2-5 cm (54.5%), 5-10 cm were 30.1% and <2 cm were 10.1% and tumour appeared in upper lateral quadrant in 59.1%, upper medial 19.1%, lower lateral 16.4%.

Conclusions
The study demonstrates that most common histological type of breast carcinoma were infiltrating type of duct carcinoma and at the presentation most of the tumors were 2-5 cm in size and located in upper lateral quadrant.

PP 26

A STUDY ON THE INCIDENCE OF HISTOLOGICAL SUBTYPES OF OESOPHAGEAL CARCINOMA AMONG PATIENTS ADMITTED TO THE NATIONAL HOSPITAL OF SRI LANKA

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Introduction
Oesophageal carcinoma has the third highest incidence among all malignancies in Sri Lanka, commonest histology being squamous cell carcinoma. Middle third of the oesophagus is the commonest site. Recent data from Western countries and a few recent Sri Lankan studies have shown a rising incidence of adenocarcinoma, while some recent Sri Lankan studies have shown evidence to the contrary.
.
National Hospital being the biggest tertiary care centre of the country yielded a substantial sample compromising of patients from all areas of the country.

Material and methods
Histopathology reports of all (316) patients who underwent upper gastrointestinal endoscopic biopsies at the National Hospital during the period between 1st January 2005 to 31st December 2008 were analysed retrospectively.

Results
Study population (316) included 192 (60.8%) males and 124 (39.2%) females, mean age being 59.6 years. Out of all the lesions analysed 10.4% were in the upper, 14.4% in the middle and 52.2% in the lower one third of the oesophagus; 23% were in the GOJ. More than half (55.4%) of the patients had oesophageal carcinoma; 55.7% of all males and 54.8% of all females. A total of 175 carcinomas were detected, out of which 126 (72.0%) were squamous cell (SC) and 49 (28.0%) were adenocarcinoma (AC). In contrast to the usual findings on histopathology, most of the lower third tumours were SC (64.1%).

Discussion and conclusion
The commonest type of oesophageal carcinoma was SC involving the lower third of the oesophagus. Studies done in different centres seem to show different trends. Further island wide studies will therefore be necessary to evaluate any change in the histopathological trend in the island as well as any possible geographical variation.

PP 27

MODE OF PRESENTATION AND CLINICAL TUMOR STAGING IN BREAST CARCINOMA

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Introduction
There is no national breast cancer screening programme yet in Sri Lanka. Hence the people seek medical attention depending on their own findings (symptoms). This study was designed to assess the various modes of presentation and the clinical tumor staging at presentation.

Material and methods
Women with breast carcinoma, confirmed by triple assessment were considered in inclusion criteria, who presented to the Professorial Surgical Unit, from 2006 to 2009.

Study was conducted retrospectively and data were collected from the breast cancer data base, University Surgical Unit.

Results
110 women with diagnosed breast cancer were included. Some presented with accidental finding of a lump 40 (40.9%), breast pain 22 (20%), and the rest with other symptoms. Out of all 82 (74.5%) had never practiced self breast examination.

Out of the women who did not practice self breast examination, 63 (77.2%) had either T3 or T4 disease.

Discussion and conclusions
The women who had failed to examine their breasts, ended up with large tumors (>5cm) or advanced disease, that carries a poor prognosis. Hence self breast examination is strongly recommended, and should be promoted in a greater extent, than the present practice.

PP 28

RISK FACTORS FOR ROAD TRAFFIC ACCIDENTS

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Introduction
A significant proportion of the casualty admissions are due to road traffic accidents, resulting mortality, morbidity and disability, allowing patients to suffer, cutting down human working hours, while it's being an immense health burden.

Our objective was to find out the contributory factors for road traffic accidents in the intention of primary prevention.

Material and methods
In this descriptive study, we have included consecutive 110 patients presented to the University Casualty Surgical Unit from January 2009 to April 2009. Data were collected via an interviewer administered questionnaire.

Results
Out of all accidents 65 (63.6%) have occurred during office hours, 19 (17.6%) were under the influence of alcohol and 96 (88.3%) have slept only for <4 hours in the previous night.

Discussion and conclusions
There is apparently significant relationship with lack of sleep and road traffic accidents, while it's being a major contributory factor. Proper mass education programme is needed for the prevention.

PP 29

HAND SEWN SMALL BOWEL REPAIR AND ANASTOMOSIS; ITS CONVENIENCE IN PENETRATING ABDOMINAL TRAUMA

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Introduction
Small bowel is commonly injured in penetrating abdominal trauma. Hand sewn anastomosis and repair is commonly done to treat these injuries. It is cost effective.

Several studies show less complication rates too. Despite controversies stapler devices are used to repair and anastomose bowel in trauma patients. We have limited access to these costly devices.

Method
Retrospective analysis of 16 patients suffering small bowel trauma following penetrating injuries treated at Surgical Unit B, Teaching Hospital, Anuradhapura during a 6 month period from 15 April 2008 was done in view of intra-abdominal complications. Leaks, anastomotic fistulae and intra abdominal abscess were considered as specific intra abdominal complications. Entero-colic anastoses were excluded.

Results
Causes High velocity penetrating injury – 15
Stab – 01

More than 3 injuries were found in 11 (18.75%) patients. Eight (50%) patients underwent resection and anastomosis. Rest (50%) underwent debridement and primary repair. None of the patients had intra-abdominal complications.

Conclusion
Hand sewn anastomosis can be carried out effectively with a minimal cost and minimal complications in abdominal trauma patients. But long term complications related to adhesions and strictures should be assessed.

PP 30

AN AUDIT OF CONGENITAL DIAPHRAGMATIC HERNIA AND EVENTRATION

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Introduction
Diaphragmatic hernia (CDH) and eventration has a worldwide incidence of 1 per 3-5 000 live births. Evidence shows outcome depends on multiple parameters.

Analysis of perinatal events, anatomy of the defects, peri-operative events and outcome in patients admitted to one paediatric surgical unit over a nine month period was made.

Material and methods
Retrospective descriptive analysis of the clinical records was made.

Results
Of the 11 CDH, 8 survived. All 4 with diaphragmatic eventrations survived. Two were born preterm. Four had low birth weight. Ten were normal vaginal deliveries. One had severe cardiac anomaly.

On transfer, three were being ventilated. Surgery was performed after initial stabilization.

Pre-operatively all were given intravenous prophylactic antibiotics, vitamin K and ranitidine. Those with CDH were given sildenafil. Eight left and 3 right sided CDH and, 2 left and 2 right sided eventrations were diagnosed.

Hernial contents

	Spleen, small and large bowel	Stomach	Liver	Malrotation of gut	Mortality
L/ CDH	7	4	-	1	1
R/ CDH	3	-	3	1	2

Three L/ CDH had post-operative complications: 1 sepsis, 2 cardiac arrythmias. All survivors were extubated within 3 days. All except one was fed enterally within 48 hours of surgery.

Three CDH were discharged within 1 week and 2 within 2 weeks of surgery. All 3 eventrations were sent home within 1 week. All survivors were found thriving well on clinic review.

Discussion and conclusion

In majority of cases (72.7%) the incidence of CDH was on the left side on par with world-wide figures (70-80%) Our audit found 8 (72.7%). Pre-operative ventilatory irregularities and septic events were associated with higher morbidity. Overall post-operative survival rate of 80% was recorded.

PP 31

AN AUDIT OF NEONATAL MAJOR SURGERIES IN A PAEDIATRIC SURGICAL UNIT

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Introduction

An analytical audit of major neonatal surgical procedures, their mode of presentation, associated anomalies, peri-operative events and outcome was performed in one paediatric surgical unit over a nine month period.

Material and methods

Retrospective analysis of data obtained from clinical records was made.

Results

Total number of surgeries: 56.

Colostomy creation for anorectal anomalies

Total- 11 (Imperforate anus – 9, Vestibular anus – 2)

Associated anomalies;

Cardiac defects	Major-2, Minor-9
Tracheo-oesophageal fistula (TOF)	1
Renal anomalies	2
Associated syndromes	4

Peri-operatively 1 developed sepsis and another had wound infection. Number survived – 9.

Duodenal atresia – 8

All presented with bilious vomiting. *Associated anaomalies;* Three with Down's syndrome and 1 with triple atresia. Number survived – 7.

Laparotomy for 8 jejunal atresias and 1 malrotation of midgut

All presented with bilious vomiting. None had associated anomalies. Peri-operatively 1 had DIC and another developed sepsis. Number survived – 7.

Tracheo- oesophageal fistula; TOF–8, pure oesophageal atresia–1 Six presented with drooling of saliva from mouth and 2 had respiratory distress. *Associated anomalies;* two with cardiac defects, 2 with Down's syndrome, 1 with triple atresia. Peri-operatively 2 developed sepsis. One had DIC. Two developed anastomotic leak. Number survived – 5.

Congenital diaphragmatic hernia; Total – 11

All were admitted with varying degrees of respiratory distress. Three had severe congenital heart lesions. Stomach and liver in hernia contents; stomach was found in 4 left sided CDH. Liver was found in 3 right sided CDH. Number survived – 8.

Vesicostomy creation – 4

All had posterior urethral valves with renal failure. None had other anomalies. All four survived.

Exomphlous minor repair – 2

One had prune belly syndrome. Both survived.

Ectopia vesicae – 1

He had no associated anomalies. Post-operatively the wound broke down. He is awaiting staged reconstruction.

Pyloromyotomy – 1

He was diagnosed on investigation for vomiting. Now he is thriving well.

Discussion and conclusion

Out of 53 neonates who underwent surgery, there were 42 survivors. Thirty had associated anomalies. Most with peri-operative complications had an associated congenital aetiology.

PP 32

SPLEEN PRESERVING SURGERY FOR A LARGE CYST OF THE SPLEEN INVOLVING THE HILUM; A NEW SURGICAL TECHNIQUE

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Objective

To describe a case of a large splenic cyst involving the hilum successfully treated by spleen conservation surgery.

Introduction

Large true splenic cysts are very rare and congenital in origin. They are usually asymptomatic despite the size. Nevertheless there is a major risk of traumatic rupture and life threatening haemorrhage. Splenectomy is the recommended treatment for such large cysts involving the hilum. However, due to major post operative septic complications, spleen conservation is always preferred. Also, splenectomy may be fatal in patients chronically exposed to malaria parasites. A 26-year old female who presented

with a large splenic cyst was successfully treated by spleen conservation surgery using a new technique.

Procedure
Spleen with the cyst was mobilized and aspirated. The cyst wall was incised anteriorly avoiding hilar vessels. The cyst wall was everted over the splenic tissue and the hilum, and sutured together (as in Jaboulay's procedure for hydrocelectomy) using non-absorbable sutures. Then it was replaced in left hypochondrium and the everted cyst wall was anchored to left dome of diaphragm (ie splenoplexy) to prevent volvulus/torsion.

Conclusion
This simple technique is useful in preserving the spleen when large cysts are involving the splenic hilum and hilar vessels. To our knowledge this is the first such procedure that has been carried out.

PP 33

PERI-OPERTIVE CHOLANGIOGRAPHY: WHAT DOES IT CONTRIBUTE?

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Introduction
Laparoscopic cholecystectomy (LC) is the gold standard for symptomatic gallstone disease. The incidence of bile duct injuries (BDI) with LC is high compared to open cholecystectomy, which is attributed mainly to defi-ciencies in surgical competence and unidentified biliary tract anomalies. Moreover, asymptomatic CBD stones that are missed in preoperative imaging or biochemical tests, can give rise to problems later. Some centers have addressed this by performing mandatory peroperative cholangiography (POC), which has shown to reduce BDIs and complications by unidentified stones.

Objective
To analyze the average time for POC, results, interventions based on them and procedure related complications in a cohort of patients undergoing LC.

Material and methods
A descriptive study was done at a teaching hospital in Western Australia, where the unit policy was to perform POC on all patients. Additional time taken for POC was noted. POC findings were categorized in to normal and abnormal (anatomical or filling defects). Patients with abnormal POC requiring unplanned interventions were assessed.

Results
There were 8 failures out of 348 patients undergoing POC. Three (0.88%) had biliary tract anomalies. There were 224 (65.9%) patients with normal biochemical parameters (ALP, Bilirubin). Fourteen (6.25%) of these had filling defects in the common bile duct at POC. Ten required unplanned interventions which included laparoscopic/open CBD exploration, post-operative ERCP or close follow-up. Average time for POC was 12 minutes. There were no POC related complications nor BDIs.

Discussion and conclusion
POC is an investigation which can be performed with minimal increase in the operating time. Mandatory POC probably contributed to the significantly low incidence of BDI and a better outcome from LC.

PP 34

ANATOMICAL VARIATIONS OF CYSTIC ARTERY AMONG SRI LANKANS

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Introduction
Anatomical variations of cystic artery are well documented. Variations could be in number, size, position and the site of the origin of arteries. All variations are important to recognize during both endoscopic and open surgeries to prevent inadvertent arterial damage. The pattern of the variations of cystic artery may be different in each ethnic community. Data on Sri Lankans in this regard is minimal. The aim of this study is to delineate topographical anatomy of cystic artery among Sri Lankans.

Materials and method
Porta heaptis and the free edge of the lesser omentum were dissected in ten formalin fixed cadavers of both sexes. The age was ranging from 42-70 years. The dissections were done meticulously using a hand lense. Hepatic artery and the bile duct were traced carefully up to the porta hepatis. Any arterial branch that supplies the gallbladder was considered as cystic artery. The size, number, position and the site of origin were noted.

Results
Two cadavers had double cystic arteries (20%). Therefore the topography of twelve cystic arteries was studied. Average length of cystic artery is 35 mm (SD4.1). Eight arteries (66%) originated from right hepatic artery and two from the left hepatic artery (16.6%). One artery originated from gastro-duodenal artery and it was adhered to common bile duct. Another originated from superior pancreatico-duodenal artery. Later two were found out side the callot's triangle.

Conclusion
Variations of cystic artery in Sri Lankans are common. Although the sample number is small the presence of variations in this cohort is significant.

PP 35

A CASE REPORT: DUODENOCOLIC FISTULA

Introduction
Benign duodenoclic fistulas are very rare and only 25 cases have been reported in the literature till 1960. Duodenal ulcers are the commonest cause and only 11 have been reported worldwide. We present the first case reported in Sri Lanka.

Case presentation
A 63-year old female, presented with abdominal pain, maelena and loose stool. She was completely well till two months ago, when she developed abdominal pain and dark tarry stool. Her bowel habit then changed to loose stool, she had lost weight and

her appetite. On examination she was pale. Her haemoglobin was 5.6, which was microcytic and hypochromic. Blood picture confirmed a severe iron deficiency anaemia. She had low potassium, sodium and albumin levels. An upper gastrointestinal endoscopy showed pangastritis, the antrum and D1 were distorted and odematous, and D2 showed an ulcer with contact bleeding. Biopsies taken showed chronic antral helicobacter gastritis, tissue from an ulcer and surprisingly colonic tissue. ACT scan and a barium follow through confirmed the presence of a duodenocolic fistula. The patient is currently being treated with triple therapy to heal the ulcer, while surgical treatment is being planned if conservative management fails.

Discussion

Benign duodenocolic fistula are very rare and this is the first reported case in Sri Lanka. It is an important diagnosis to make in developing countries where proton pump inhibitor treatment is not as widely used as in developed countries.

PP 36

RECURRENT SPONTANEOUS PNEUMOTHORAX – A VATS APPROACH

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Introduction

Open thoracotomy treatment of recurrent spontaneous pneumothorax carries a higher risk of morbidity especially in the elderly patients with associated co-morbid factors. We report a case of recurrent spontaneous pneumothorax in an elderly patient who was treated using video assisted thoracoscopy (VATS) procedure.

Material and method

Patient underwent left VATS apical bullectomy followed by plerodesis using three 10 mm port incision. Using a ETS-Flex 35 mm (Ethicon endo-surgery) blue stappler gun the left apical diseased portion of the lung was resected. The pleural cavity was washed using sterile water and lung checked for any air leak. The apical, lateral parietal pleura was scraped using a mesh upto the diaphgram and the lung was fully inflated with two drains (Apical and Basal). The wound was then closed in layers once hemaostasis was secured.

Results

Patient discharged on 5th post-operative day and reviewedin 2 weeks time with chest X-ray showing fully expanded lungs and patient was symptom free. He has returned to his normal activities in 2 weeks time.

Discussion and conclusion

Diagnostic and therapeutic procedures done by VATS are now well established. Improvements in endoscopic instruments and the introduction of the video-assisted technology have led to the widespread application of this technique. The advantages of VATS include less invasive access, shorter hospital stay and less post-operative pain. The major role of VATS in diagnostic procedures is now well established. The need for diagnostic open-lung biopsies in a patient with undiagnosed generalized or localized lung disease is well achieved with VATS lung biopsy.

PP 37

EFFECT OF PRE-OPERATIVE RENAL DYSFUNCTION (RD) ON LONG TERM CLINICAL OUTCOME AFTER PERIPHERAL ARTERY BYPASS GRAFT (PABG) SURGERY

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Introduction

Renal dysfunction (RD) is a marker of poor prognosis in peripheral arterial occlusive disease. The influence of RD in a Sri Lankan cohort undergoing PABG was studied.

Methodology

77 patients with documented pre-operative serum creatinine who underwent PABG were studied with regards to all cause mortality and major amputation rates. Those with a pre-operative serum creatinine above the reference range were compared with the rest.

Results

25 with RD were compared with the remaining (NRD) 52. Age (RD v NRD; p=0.76), male sex (NRD vs RD; p=1.00), diabetes (RD vs NRD; p=0.997), hypertension (NRD vs RD; p=0.801), smoking (NRD vs RD; p=1.00) type of bypass (NRD v RD; p=0.98) were similar in the two groups.

At discharge, RD group had a positive association with poor graft patency (OR-1.08; CI (0.46-2.57); p>0.05) and increased mortality (OR-1.37; CI (0.27-7.05); p>0.05). Elevated serum creatinine was not associated with increased risk of amputation at discharge (OR-0.90; CI (0.31-2.62); p>0.05).

At median follow up of 17 months, in the multiple logistic regression model adjusted for confounding variables mortality (OR-4.3; CI (1.386-9.25); p=0.009) was significantly more in RD. There was a trend towards more amputations (OR -3.1; CI (0.98 - 6.14); p=0.08).

Conclusions

Elevated serum creatinine is an independent risk factor for increased mortality and there is a trend towards greater limb loss in those undergoing PABG.

PP 38

PROSPECTIVE COMPARATIVE STUDY ON EFFECTIVENESS OF IRRIGATION WITH NORMAL SALINE ALONE IN MANAGEMENT OF TRAUMATIC WOUNDS AS OPPOSED TO HYDROGEN PEROXIDE WITH N. SALINE

Indika Weerasinghe, Janakan Shanmugaratnam

Introduction

In the management of traumatic wounds, irrigation with various kinds of fluids including antiseptics are employed. However, there are concerns about their actual efficacy.

Method

Among 2 groups of patients (A – Normal saline alone, B – Hydrogen peroxide with N. saline) with wounds that were initially in dirty infected state, the percentages of wounds which later became healthy with granulation tissue formation, at the end of 3 weeks were compared. The status of wounds whether healthy or not was decided by a blinded observer.

Result

From group A (n=73; sex: males 56%, female 44%; age: median 36 years, range 12-56 years) 93 % of wounds were healthy with

granulation tissue formation whereas from Group B (n=67; sex: males 52 %, female 48%; age: median 37 years, range 14-59 years) it was only 57% (p <0.001).

Conclusion
Usage of normal saline as an irrigative fluid is superior to that of hydrogen peroxide in management of dirty infected traumatic wounds. N. saline is effective not only in clearance of infection but also in enhancement of formation of granulation tissue. The histotoxicity caused by hydrogen peroxide may be deleterious. Further study is recommended.

PP 39

ABDOMINAL ULTRASONOGRAPHY IN OBSTRUCTIVE JAUNDICE

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Introduction
Ultrasonography is a non-invasive, widely accessible imaging method which is considered as an accurate method of assessing obstructive jaundice. The objective of this study was to evaluate the accuracy of abdominal ultrasonography in defining the site and the cause of obstruction, in suspected obstructive jaundice in an institution where advanced imaging modalities like computerized tomography (CT) and magnetic resonance imaging (MRI) are not available.

Material and method
This prospective observational study was carried out at Teaching Hospital, Peradeniya over a period of 3 years. Seventy six patients who were suspected of having obstructive jaundice on clinical and biochemical parameters were included and their abdominal ultrasonographic findings were recorded. Results were compared with final diagnosis obtained by endoscopic retrograde cholangiopancreatography (ERCP), laparotomy or biopsy.

Results
Ultrasonography correctly established presence of obstructive jaundice in all 76 cases. With regard to the site of obstruction ultrasonography correctly identified the site with 100% sensitivity and 100% specificity. Malignant causes were commoner than benign causes (73.68% vs 26.32%). Ultrasonography diagnosed malignant etiology in 94.94% and identified 95% of benign etiology. The table indicates the sensitivity and specificity of ultrasound diagnosis of each cause.

	Sensitivity (%)	Specificity (%)
Cholangiocarcinoma (15)	93.33	100
Periampullary carcinoma (21)	71.43	96.36
Pancreatic carcinoma (14)	85.71	96.82
Gall bladder carcinoma (6)	100	100
Calculi (12)	91.67	100
Chronic pancreatitis (8)	100	100

Discussion and conclusion
The high sensitivity and specificity of this non-invasive study suggests that it can be used as a reliable imaging tool in the evaluation of obstructive jaundice.

PP 40

IS THERE A DIFFERENCE IN FISTULA FAILURE BETWEEN 10 MM AND 15 MM LENGTH RADIO-CEPHALIC ARTERIO-VENOUS FISTULA CREATED FOR HAEMODIALYSIS, IN RELATION TO SHORT TERM OUTCOME?

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Introduction
In current practice the length of radio-cephalic arterio-venous fistula (AVF) created for haemodialysis varies from 5-15 mm. However, both narrow and wide fistula develop complications related to the length of the fistula itself. There are no published reports on ideal length of Radio-cephalic fistula. Our objective was to determine whether there is a difference between 10 mm and 15 mm radio-cephalic AVF created for haemodialysis.

Material and method
This is a prospective, double blind, randomized study. Fourty patients requiring creation of AVF were randomized to have either a 10 mm or 15 mm long fistula. Suitability of blood vessels of upper limb was assessed clinically and by duplex scanning. Fistula maturation was assessed using duplex scanning in the first three months. Two died during the follow up and one did not attend for follow up.

Results
Table shows the results at the end of 3 months.

	10 mm (n=19)	15 mm (n=18)	p value
Pre-operative duplex scanning			
o Mean arterial diameter (mm)	2.30+/-0.41	2.41 +/-0.43	0.519
o Mean venous diameter (mm)	2.33-0.38	2.12+/-0.39	0.098
Early Failures (n=ll)	6 (31.6%)	5 (27.7%)	0.80
Functioning fistula	13	13	
Peak systolic velocity (cm/s)	256.9+/-49.1	282.3+/-S9.9	0.249

The effect of diabetes mellitus on fistula failure was significant (p =0.002).

Discussion and conclusion
The present study didn't show a significant difference in the short term outcome between 10 mm and 15 mm long radio-cephalic AVF, created for haemodialysis.

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CHANGING PATTERN OF COLORECTAL MALIGNANCIES: A RETROSPECTIVE STUDY

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Introduction
Colorectal carcinoma is a common gastrointestinal malignancy seen in Sri Lanka. So it is important to study the changing pattern of colorectal carcinoma related to age, gender, clinical presentation and site of the lesion.

Material and methods
Results of patients presented with colorectal malignancies reveled during lower gastro intestinal endoscopy from 1992 to 1995 and from 2005 to 2008 were analyzed retrospectively.

Results
During the period of 1992 to 1995, colorectal malignancies were found in 33 patients. Of them 55% (n=18) were males and 45% (n=15) were females. Mean age was 60±14 years. Commonest presentation was bleeding per rectum (54%). Carcinoma in rectum was reveled in 49% (n=16), carcinoma in sigmoid colon in 36% (n=12), carcinoma in transverse colon in 9% (n=3), carcinoma in ascending colon and caecum were reveled 3% (n=1) respectively.

During the period of 2005 to 2008, colorectal malignancies were found in 41 patients. Of them 41% (n=17) were males and 59% (n=24) were females. Mean age was 58±14 years. Commonest presentation was bleeding per rectum (44%). Carcinoma in rectum were reveled in 66% (n=27), carcinoma in sigmoid colon in 15% (n=6), carcinoma in caecum 12% (n=5) and in ascending colon 7% (n=3). Carcinomas of transverse colon were not found during this period.

Discussions and conclusions
There is no change in the mean age, the clinical presentation and the site of colorectal malignancies during these 2 periods of 10 year interval. The result shows, that females have a greater tendency to present with colorectal carcinoma than males and higher occurrence of carcinoma in rectum during recent observed period.

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DISEASE RELATED KNOWLEDGE IN INFLAMMATORY BOWEL DISEASE (IBD): EXPERIENCE FROM A TERTIARY CARE CENTER

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Introduction
Disease related knowledge plays a critical role in facilitating patients' acceptance of their diagnosis and compliance for active participation in treatment of IBD. The disease related knowledge in patients with IBD in South East Asia has not being documented before. Therefore the aim was to analyze areas of deficit in knowledge for future education programmes.

Methods
Analysis of disease related knowledge of patients with ulcerative colitis and Crohn's disease attending outpatient gastroenterology clinics of a tertiary care hospital was assessed using validated questionnaire.

Results
There were 184 patients (female=101) with a mean age of 44.2 years (range 20-78). 83.2% (n=153) had UC. The mean duration of the IBD was 8.17 years (range 1- 28), and 33.7% (n=62) of patients had IBD for over 10 years. The mean crohn's and colitis knowledge (CCKNOW) questionnaire score was 6.86.

The majority were aware that sulfasalazine can be used to reduce exacerbations (68.5%) and being symptom-free for a long time does not mean IBD is cured (73.9%). There was no statistical significant difference in the knowledge between genders but the level of education showed a significant difference. Only 14.1% of patients were aware that prolonged IBD is a risk factor for colorectal cancer and regarding importance of proper colorectal cancer screening. 9.2% of population was aware about restorative proctocolectomy.

Conclusions
Our study showed that there is lack of knowledge regarding colorectal cancer risk and surgical interventions. There was no significant difference in the knowledge scores between genders but there was significant association between educational level.

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OUTCOME OF THE CORRECTIVE SURGERY FOR HIRSCHSPRUNG DISEASE – A SINGLE UNIT'S EXPERIENCE

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Introduction
Hirschsprung disease is a disorder with minimal mortality but still can cause significant morbidity if mismanaged.

Our aim was to describe the mode of presentation, and to evaluate post-operative level of continence and the level of parent satisfaction regarding the outcome.

Material and methods
All patients who underwent corrective surgery for Hirschsprung disease at our unit from 01.01.04 to 31.08.08 were studied retrospectively. Parent satisfaction was assessed using a scale marked from zero to five, five marks being highest level of satisfaction.

Results
The total number of surgeries done was 30, which included 26 (86.6%) males and 4 (13.3%) females. The response rate for retrospective data collection was 86.6%.

Nineteen (57.7%) presented with failure in passing meconium in first 24 hours. Other modes of presentations included chronic constipation (11=31.4%), intestinal obstruction (7=20%), enterocolitis (1=2.9%), abdominal distension (28=80%) and vomiting (15=42.9%) with the latter two overlapping with others. The age of presentation ranged from day 1 to 90 days with a mean of 11 days.

All patients underwent Swenson's pull through operation. Following surgery, 20 (76.9%) achieved voluntary bowel movements. Soiling was still a problem in 18 (69.2%), but only 4 (15.4%) were having major degree of soiling.

There were no recorded side effects of the surgery. In the scale quantifying parent satisfaction, 14 (53.8%) parents were highly satisfied and 8 (30.8%) were satisfied.

Discussion and conclusions
In our unit, the outcomes of corrective surgery for Hirschsprung disease are satisfactory, with a good parent satisfaction rate.

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THE OUTCOME OF KASAI OPERATION FOR BILIARY ATRESIA – A SINGLE UNIT'S EXPERIENCE

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Introduction
Biliary atresia is a rare congenital disorder with a lethal outcome unless timely treated. Kasai portoenterostomy is the most commonly used corrective surgery for this.

Our aim was to assess the medium term outcome in terms of survival rates, status of post-operative liver function in those who have survived and post-operative complications.

Material and methods
All patients who were operated for biliary atresia from 01.01.04 to 31.08.08 at our unit were retrospectively studied.

Results
The number of surgeries done was 31, which included 12 (38.7%) males and 19 (61.3%) females. The response rate for retrospective data collection was 22 (71%). The follow up period extended from 6 months 18 days to 4 years 10 months with a mean of 2 years 9 months. The mean age of presentation to paediatric surgeon was 8 weeks (range 2 weeks to 130 weeks) with 13 (40.9%) being operated at 8-12 weeks of age. From the responders, 12 (54.5%) were surviving. Age of the survivors ranged from 11 months to 59 months with a mean of 36 months. From these survivors 4 (33.3%) had grade A, 5 (41.7%) had grade B and 2 (16.7%) had grade C liver function status according to the Child-Plough score. Age at death ranged from 9 months to 45 months with a mean of 23 months. Cirrhotic changes were present in 23 (74.2%) patients at the time of the surgery. The commonest post-operative complication was cholangitis (40.9%).

Discussion and conclusions
The Kasai operation does not give very promising results. Therefore developing facilities for liver transplantation among this population should be considered.

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VENOUS ARRANGEMENT AT THE CUBITAL FOSSA IN RELATION TO THE BRACHIAL ARTERY

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Introduction
The cubital fossa (CF) is the commonest site used for venepuncture. Inadvertent injury to the deeply seated brachial artery (BA) during venepuncture has been reported. The venous arrangement at the CF and their relations vary among different populations. The objective of this study is to describe a safe region for venepuncture at the CF for the Sri Lankan population.

Method
We examined the venous arrangement and their relationship to the BA in 50 cubital fossae. The venous arrangement was classified according to five types. In type I, a thick median vein of forearm (MVF) joined both the cephalic vein (CV) and basilic vein (BV) by dividing in to a median cephalic vein and median basilic vein (MBV) respectively. Type IIa had a median cubital vein (MCBV) joining the CV to BV. In type IIb, a prominent MCBV joined the MVF, which itself connected the CV and BV.

Type III showed the absence or poor development of the CV, while the MVF joined the BV. The absence of any communication between the CV and BV was classified as type IV.

Results

Type	Incidence
Type I	14 (28%)
Type IIa	11 (22%)
Type IIb	8 (16%)
Type III	5 (10%)
Type IV	6 (12%)
Other	6 (12%)

On every occasion a MCBV was present, the medial half of it was directly above the BA. On 12 out of 14 occasions a MBV was present; it was directly above the BA.

Conclusions
The incidence of various types of venous arrangements at the CF in Sri Lankans shows a marked difference in comparison to other populations. The risk of injury to the BA at the CF can be minimised by avoiding the medial half of the MCBV and MBV as first choices during venepuncture.