

**Methods:** Patients who underwent emergency primary appendicectomy were retrospectively identified over a four-year period. Clinical coding for these patients was compared against the diagnostic gold standard of histopathology and the kappa co-efficient calculated.

**Results:** Of 1143 patients, clinical codes for 594 patients differentiated between true appendicitis and negative appendicectomies. An overall kappa co-efficient of 0.580 indicated only moderate correlation between clinical coding and histopathology. The negative appendicectomy rate was underestimated by 11% (63/594). Amongst young adults (aged 16–34 years) kappa was decreased compared to children and older adults (0.548 versus 0.663 and 0.830, respectively). The rate of incorrect clinical coding was greater for women than men (15% versus 9%,  $p=0.032$ ).

**Conclusions:** Clinical coding for appendicitis was incomplete and the negative appendicectomy rate was underestimated. Coding accuracy varied depending on pathology and patient demographics. Coding processes should be improved to increase the reliability of the HES database both for national analyses and as a tool to measure individual units' outcomes.

#### 0922: SCOTTISH TIMING OF ACUTE CARE SURGERY AUDIT (STACS)

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**Aims:** Proposed standards for ideal time to surgery (iTTS) for emergency general surgical patients have recently been described in 5 subgroups based upon clinical urgency. The iTTS describes the time the decision to operate was taken to actual time operation commenced. The aim of this prospective audit was to evaluate the time taken to operate in our hospital against the recommendations.

**Method:** Surgical admissions requiring an emergency operation were assessed over a two week period. Basic demographics were recorded in addition to the date and time of decision to operate, time of arrival in theatre and operative start time.

**Results:** 29 patients were included. 11 (38%) patients were operated out-with the iTTS for their diagnosis. This was most evident in those with sepsis secondary to soft tissue infection, with 100% waiting longer than recommended, ranging from an additional 3:46–18:06 hours.

**Conclusion:** Over a third of emergency general surgical procedures were not performed within the iTTS; having the potential to increase adverse outcomes. Our study highlights the need to review access and provision of emergency theatres. This forms the pilot in a Nationwide Scottish study, which will be completed in 2014 in association with the Scottish Surgical Research Group.

#### 0924: SEASONAL VARIATION IN THE INCIDENCE OF APPENDICITIS AT A BRITISH DISTRICT GENERAL HOSPITAL

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**Introduction:** We sought to determine whether there is seasonal variation in the incidence of appendicitis in a modern British cohort and whether this may be explained by climatic variables.

**Methods:** Patients who underwent emergency primary appendicectomy were retrospectively identified over four years. Histopathology was the diagnostic gold standard. The monthly incidence of appendicitis and normal appendicectomy was calculated. These rates' association with monthly average humidity and mean maximum daily temperature was explored using Spearman's rank correlation.

**Results:** Data was available for 1079 patients. Incidence of appendicitis varied from 3.46 to 6.11 cases per 100,000 per month. The peak was in June and the trough in February. Incidence in July–January was relatively stable. There was no discernible pattern in the incidence of normal appendicectomy, with rates fluctuating between 1.40 and 2.60 cases. There was a moderately negative correlation between incidence of appendicitis and average monthly humidity ( $-0.552$ ). There was only weak correlation between appendicitis and mean daily temperature (0.272).

**Conclusions:** This contemporary British cohort exhibits seasonal variation in the incidence of appendicitis, with a peak in early summer and trough in late winter. Although decreasing humidity is moderately correlated to an increasing incidence of appendicitis, it does not explain seasonal variation.

#### 0961: TOPPLING TELEVISIONS: A HAZARD FOR CHILDREN

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**Introduction:** Toppling television sets are a well-recognised cause of neurological morbidity and mortality in children. We review the literature regarding paediatric trauma associated with falling televisions, and describe the paediatric mortality rate as a result of trauma who presented to our institution.

**Methods:** A comprehensive literature review was conducted using MEDLINE. A retrospective search using the Trauma Audit & Research Network (TARN) and our institution's records identified mortalities in children (age <16-years) secondary to trauma between 2010–2013.

**Results:** 21 articles reported 849 cases of paediatric trauma secondary to toppling televisions between 1999–2012. There were no reports from the UK or Europe. The most common age group was 1–5 years, with preponderance towards boys, and most common injury was head trauma. The mortality rate was 67/849 (8%). There were 12 mortalities secondary to trauma; 1 (8%) death due to head injury by a toppled television set in a child aged 1 year 8 months.

**Conclusions:** Toppling televisions is most hazardous in children <5-years of age with the most common injury being head trauma. National data is paramount in supporting prevention strategies which include raising public awareness and encouraging manufacturers to supply hazard warnings and fixation devices for the modern flat-screen television.

#### 0962: IS CLINICAL EXAMINATION BECOMING OBSOLETE IN MODERN SURGICAL PRACTICE?

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**Introduction:** Computed Tomography (CT) is the radiological investigation of choice for the majority of acute surgical admissions. Accuracy has been repeatedly reported at over 95% in studies since 2002. A retrospective analysis was performed to compare a senior clinician's bedside diagnosis with that of emergency CT.

**Methods:** Retrospective review of 100 sequential emergency patients who required laparotomy was performed. Data was identified in August 2013 for the preceding time period. Data was collected using a standardised proforma and electronic records.

**Results:** 4 patients with incomplete data were excluded. The mean age was 63 years. ASA grade predominantly was 2–3. There were 21 mortalities. Clinical diagnosis and operative findings at laparotomy were consistent in 57.3% (55/96) patients. Correlation between CT diagnosis and operative findings 84.4% (81/96). Clinical diagnosis was incongruent with CT findings in 42.7% (41/96) cases.

**Conclusions:** Our cohort of patients comprised of systemically unwell patients who can be more difficult to assess due to physiological distress. With the significantly better diagnostic capabilities of CT when compared to clinical diagnosis alone, by a senior grade surgeon, should patients be imaged as opposed to examined on arrival to the surgical unit?

#### 0968: THE EFFECT OF INSTITUTING A DEPARTMENTAL POLICY FOR REMOVAL OF THE MACROSCOPICALLY NORMAL APPENDIX AT LAPAROSCOPY

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**Introduction:** To evaluate the introduction of a departmental policy to remove all appendixes at diagnostic laparoscopy for right iliac fossa pain.

**Methods:** An audit of appendicectomies was completed detailing the rates of laparoscopy, negative appendicectomies and complications. After presentation a departmental policy was agreed for the removal of the macroscopically normal appendix and a re-audit was performed. A negative appendicectomy was defined as a histologically normal appendix.

**Results:** The initial audit reviewed 229 consecutive appendicectomies (62% laparoscopic) the re-audit reviewed 62 consecutive appendicectomies (45% laparoscopic). The rates in the initial and re-audit for negative appendicectomies were 26% versus 14.5%, and in laparoscopic appendicectomies 31% versus 21.4%. The perforation rate was 14% versus 11.3%, the wound infection rate was 4.4% versus 3.2% and intra-abdominal collection was 2.6% versus 1.6%.

**Conclusions:** Following the introduction of this policy, there was no increase in the percentage of negative appendicectomies, wound infections or intra-abdominal collections. While acknowledging that the numbers in this early audit were small, we feel they demonstrate a convincing trend. The introduction of the policy enabled a standard of care to be set, did not adversely affect our rate of negative appendicectomies, and may prevent leaving histologically abnormal appendixes in situ.

#### 0999: TRAINING A UK TRAUMA SURGEON: LESSONS FROM USA, CANADA, AUSTRALIA AND SOUTH AFRICA – A SURVEY OF TRAUMA TRAINEES AND TRAINERS

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**Introduction:** This survey was directed at trauma surgeons from major trauma centres in South Africa, USA, Australia and Canada, to evaluate their training and hypothesise a potential pathway for training British trauma surgeons.

**Methods:** A two-part survey was designed; the first evaluated local training structure, formal training received and procedures performed. The second part focused on designing a trauma training programme for UK surgeons, including ideal length of training, relevant specialty rotations and most appropriate certification method.

**Results:** Twenty-eight trauma surgeons were surveyed (13 South African, 10 American, 4 Australian and 1 Canadian). All respondents received formal training in Advanced Trauma Life Support, critical care (mean 5.8 months, SD±3.8) and trauma surgery (mean 11.8 months, SD±7.1). 90.5% had formal training in damage control surgery. 89.3% believed trauma training should start after 2 years of surgical training. Top essential rotations were critical care (67.9%), trauma (64.3%), general surgery (57.1%) and vascular surgery (39.3%). For accreditation, 53.6% recommended international fellowship, 18% research fellowship, 85.7% theory exam, 82% certain index cases, 75% viva examination, 75% competency assessment, and 71.4% logbook assessment.

**Conclusions:** Lessons learnt from countries that have formalised trauma training can be applied to the designing of UK trauma surgery training pathway.

#### 1021: PREDICTING ACUTE APPENDICITIS? A PROSPECTIVE COMPARISON OF THE ALVARADO SCORE, THE APPENDICITIS INFLAMMATORY RESPONSE SCORE AND CLINICAL ASSESSMENT

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**Introduction:** The Appendicitis Inflammatory Response (AIR) score has outperformed the Alvarado score in two retrospective studies. This study prospectively evaluates the AIR Score and compares its performance to the Alvarado score and initial clinical impression in predicting risk of appendicitis.

**Methods:** Parameters in the AIR and Alvarado scores and the initial clinical impression of a senior surgeon were prospectively recorded on patients with acute right iliac fossa pain. Predictions were correlated with the final diagnosis.

**Results:** Appendicitis was diagnosed in 67 of 182 patients. The three methods of assessment stratified similar proportions (~40%) of patients to a low probability of appendicitis ( $p=0.233$ ). The false negative rate (<8%) didn't differ between the AIR score, Alvarado score or clinical assessment. The Alvarado score assigned the highest proportion of patients to a high probability of appendicitis (45%,  $p<0.001$ ). A high AIR score was associated with high specificity (97%) and positive predictive values (88%) but a lower specificity (33%) than the Alvarado score (80%) or surgical assessment (63%).

**Conclusions:** The AIR score is accurate at excluding appendicitis in those deemed low risk and in predicting it in those deemed high risk. Its use as the basis for selective CT imaging in those deemed medium risk should be considered.

#### 1045: WHEN DO WE NEED TRAUMA SURGEONS? – AN OBSERVATIONAL STUDY OF ADMISSIONS TO A MAJOR TRAUMA WARD

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**Introduction:** The Major Trauma Ward at St Mary's Hospital, London's North-West Major Trauma Centre, is a specialist ward caring for seriously

injured patients. It is staffed by a consultant-led multidisciplinary major trauma and neurosurgical team. We performed an observational study to characterise admissions to the ward.

**Methods:** All admissions to the ward during September 2013 were studied, including demographics, timings, injury pattern and length of stay.

**Results:** There were 90 admissions (mean 3/day), with weekends busier (up to 8 admissions/day on Sundays). 76% of admissions occurred out of hours. The median injury severity score (ISS) was 12 (IQR 4–22). 24% of patients suffered polytrauma and 36% had psychiatric or medical comorbidities. The median length of stay on the ward was 3 days (IQR 1–5).

**Conclusions:** This study suggests implications for the staffing of Major Trauma Centres. The majority of trauma patients were admitted out of hours, with significant injuries and co-morbidities. Consultant in-hospital presence is a scarce resource, and the number of out of hours ward admissions suggest this resource could be most beneficial at times other than Monday-Friday 8am–5pm. The input of a dedicated medical and psychiatric liaison team could also enhance the care and discharge of trauma patients.

#### 1083: CORRELATION AND DIAGNOSTIC ACCURACY OF CT IN THE ACUTE SURGICAL PRESENTATION

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**Introduction:** CT utilisation in acute surgical presentations has increased with technological advancement and availability. The on call radiologist of varying seniority reports emergency CT. We undertook a retrospective study comparing the correlation with the initial senior clinicians' diagnosis and laparotomy findings.

**Methods:** Data were collected via standard proforma for 100 sequential acute admissions that underwent emergency CT followed by laparotomy since August 2013. Patients characterised according to gender, age (age >70 years defined as elderly) and ASA.

**Results:** Four patients were excluded with incomplete data. Mean age was 63 years, trending to younger group (60%). Median ASA for the young cohort was 2 and elderly cohort 3. Within the <70 year olds, clinical diagnosis and CT had a positive correlation in 57.1% (32/56) and with laparotomy 53.6% (30/56). CT scan correlated directly with laparotomy 84% (47/56). Within >70 year olds, clinical diagnosis and CT had positive correlation in 57.5% (23/40) and with laparotomy 62.5% (25/40). CT scan correlated directly with laparotomy 85% (34/40).

**Conclusions:** CT accuracy is greater than initial clinical diagnosis; however, there are marked differences in CT and operative findings. This is a pilot for a prospective large trial to evaluate the requirement for acute GI radiology reporting.

#### 1088: IS AMYLASE A USEFUL MARKER IN DIAGNOSING APPENDICITIS?

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**Introduction:** Acute appendicitis remains the most common surgical emergency. Diagnosis and decision is based on clinical assessment and investigations. Inflammatory and biochemical markers are important tools in the diagnosis. Raised amylase can occur in various intra-abdominal pathologies. Our aim was to identify if raised amylase was accurate in confirming appendicitis.

**Methods:** A retrospective case note review of all appendicectomies performed in our trust between 2011 – 2013 was carried out. Using a proforma, data was extracted on demographics, blood results, type of operation, operative findings, and final histology.

**Results:** 584 appendicectomies were performed. Overall histology positive for appendicitis were found in 453 (77.5%). Amylase was tested on 389 pts in total. This was raised (>120 units/L) in 7 patients and normal in 382 patients. Of those with histologically confirmed appendicitis amylase was tested on 300 patients. This was found to be raised in 5pts (1.6%), and normal in 295 pts (98.4%).

**Conclusions:** Of those that had histologically confirmed appendicitis only 1.6% had raised amylase. 98.4% had normal amylase levels. Based on these results we believe that amylase is not a useful marker in diagnosing acute appendicitis. However larger patient numbers would be recommended to confirm these findings.