

Notes. Areas reviewed included time from admission to imaging/operation and histology. A diagnosis of appendicitis was confirmed by histology.

**Result:** DL for suspected appendicitis was performed in 108 patients; with 15% (n=16) having pre-operative ultrasound (US) and 14% (n=15) Computed Tomography (CT). Appendicitis was correctly diagnosed on US in 6.3% (1/16) and 100% on CT. One patient had a normal US, however histology demonstrated appendicitis. Only 50% diagnosed with appendicitis on US were proven histologically. In 81.3% (13/16) the appendix was not visualised on US, but of these, appendicitis was proven in 38.5% (5/13). Time to operation was longer if US was performed ( $p < 0.05$ ), but showed no difference if CT was performed.

**Conclusion:** In patients requiring DL for possible acute appendicitis, US delays the time until operation and does not significantly alter management. These patients should be considered for an immediate CT or DL.

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### 1183: PERFORATED DUODENAL ULCER: POST-OPERATIVE OUTCOMES IN A UK DISTRICT HOSPITAL. A 10-YEAR RETROSPECTIVE REVIEW

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**Aim:** There is scarce recent literature on the outcomes of perforated duodenal ulcer (PDU) surgery in the UK. A recent meta-analysis notes a mortality of 10 - 25%.

**Method:** Analysis of 10 years of PDU surgery was performed using a prospectively maintained database and retrospective analysis of case notes. Patient demographics were noted, along with co-morbidity scoring using Charlston scoring and ASA grades. Post-operative morbidity was quantified with Clavien-Dindo (C-D) scoring.

**Result:** Between 1/5/2005 and 1/5/2015, 82 patients (62m, 20f) had surgery, median age 51.5y (21 - 88). 49% were admitted to HDU/ITU post-operatively. The 30-day mortality was 10.9%. Patients aged  $\geq 70$ y had significantly higher mortality, 3.4% vs. 30.4% ( $p = 0.01$ , OR 15.2 [2.9-79.2]) 65% of patients had no post-op morbidity (C-D I). This group were significantly younger than those with morbidity (mean 43 vs 61,  $p = 0.004$ ) and had lower Charlston scores (1.8 vs. 3.2  $p = 0.004$ ) and ASA grades (1.7 vs. 2.9  $p = 0.001$ ).

**Conclusion:** This mortality figure of 10.9% is lower than reported. This may be because half our patients were admitted to HDU/ITU post-operatively and a result of quality routine post-operative care. These results justify aggressive surgery in the younger patient (<70y.) This work may help determine "acceptable" mortality outcomes.

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### 1204: MANAGEMENT AND OUTCOMES OF APPENDICECTOMY WORLDWIDE

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**Introduction:** Appendicitis is the most common abdominal surgical emergency worldwide. The aim of this study was to identify variation in management and outcomes of appendicitis across high, middle and low tertiles of the Human Development Index (HDI).

**Method:** Patients in the GlobalSurg 1 study undergoing emergency surgery for appendicitis were eligible for inclusion in this study. Multilevel logistic regression identified associations with post-operative outcomes, while accounting for centre and country clustering. Simulation methods explored potential benefits of a laparoscopic approach.

**Discussion:** 4546 patients underwent emergency appendicectomy (2499 high, 1540 middle and 507 low HDI tertiles). There was a significant increase in superficial site infection (SSI) between tertiles (14.8% low, 12% middle, 4.4% high,  $p < 0.001$ ), but not major complication (3.6% low, 2.8% middle, 3.2% high,  $p = 0.634$ ). Use of laparoscopy differed between low (8.1%) and high (67.7%) HDI tertiles and was associated with fewer major complications (OR 0.64, 0.41-0.98,  $p = 0.039$ ) and SSIs (OR 0.23, 0.15-0.35,  $p < 0.001$ ). The absolute risk reduction for SSI gained from laparoscopy was greater in low (7.0%) than high (3.5%) HDI countries.

**Conclusion:** Adverse outcomes following appendicectomy are unequally distributed across countries despite adjustment. A greater benefit may be conferred by laparoscopic surgery in lower income countries.

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### 1234: INCIDENCE OF COLORECTAL NEOPLASIA AFTER CT - CONFIRMED DIVERTICULITIS – YES TO COLONOSCOPY. NO TO FLEXIBLE SIGMOIDOSCOPY

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**Aim:** The utility of endoscopic evaluation following admission with diverticulitis is unclear. NICE suggests evaluation following all hospital admissions. There is further uncertainty whether colonoscopy or flexible sigmoidoscopy is preferred. This study assesses the rate of colonic neoplasia detection following admission with CT-proven diverticulitis in a large DGH.

**Method:** Single-centre retrospective study from 2010-2015. Data included presence of complicated or uncomplicated diverticulitis, endoscopic evaluation and adenoma/cancer detection rate. Data were analysed using Chi-squared test.

**Result:** 6863 patients with diverticular disease were identified. 470 had CT-confirmed diverticulitis, 125 (26.6%) and 345 (73.4%) complicated and uncomplicated diverticulitis respectively. Patients with perforated diverticular disease were excluded. Median age was 60 years (26-100). Male: female ratio was 2: 3.322 patients underwent endoscopy (112 flexible sigmoidoscopy, 210 colonoscopy). Three cases of malignancy were identified (0.9%). Overall polyp detection rate was 23.9%. Colonoscopy was superior to flexible sigmoidoscopy (28.6% vs 13.9%). Polyp detection was similar after complicated and uncomplicated diverticulitis (13% vs 18%). Cancer incidence was not influenced by complicated diverticulitis (0.8% vs 0.6%,  $p = 0.79$ ).

**Conclusion:** The incidence of colorectal malignancy after hospital admission for diverticulitis is <1%. However, there is significant incidence of premalignant polyps. Although lower than the detection rate seen in the NHS bowel screening programme, it is still higher than the recent national (non-screening) aspirational adenoma detection rate of 20%. Endoscopic evaluation has utility and should not be performed via colonoscopy and not by flexible sigmoidoscopy. Our data do not support an association between complicated diverticulitis and neoplasia.

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### 1273: AHEAD OF THE CURVE: IMPLEMENTATION OF THE FIRST TWENTY-FOUR HOUR ACUTE SURGICAL ASSESSMENT UNIT (ASAU) IN IRELAND

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**Background:** An Acute Surgical Assessment Unit (ASAU) was established in St Luke's Hospital in July 2014. Emergency presentations, fitting SAU criteria, are referred directly to the surgical service. Senior decisions are made early in the patient service pathway by a dedicated consultant surgeon who has been relieved of their elective commitments.

**Aim:** To review the experience of an initial twelve month period of the first 24 hour ASAU in Ireland.

**Method:** Data analysed was obtained from a prospectively maintained database between November 2014 to November 2015.

**Result:** During the study period, 5550 patients were reviewed in the ASAU, 49% of whom were admitted, 41% were discharged and 6% appropriately referred to other onsite services. A median waiting time of 34 minutes was achieved (range 0-353 minutes) and 69% of patients were seen within one hour of arrival. There were 428 emergency surgical procedures carried out with 82% being performed between 9am-6pm.

**Conclusion:** With the introduction of an ASAU, the majority of patients are reassessed by the surgical service within 60 minutes. This has led to a significantly reduced burden on the Emergency Department and its

consequent waiting time, along with optimising resource allocation and encouragement of timely patient diagnosis and management. This is the first Irish study reporting outcome data from a designated 24 hour run ASAU.

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#### 1291: GLOBAL VARIATIONS IN THE OUTCOME OF EMERGENCY ABDOMINAL SURGERY: MULTICENTRE, INTERNATIONAL, PROSPECTIVE, COHORT STUDY

GlobalSurg Collaborative. *GlobalSurg, Collaborative, UK.*

**Aim:** We aimed to prospectively collect worldwide data on mortality following emergency abdominal surgery and compare findings across low, middle and high Human Development Index (HDI) countries.

**Method:** Multicentre, international, prospective, cohort study (ClinicalTrials.gov: NCT02179112). Self-selected hospitals performing emergency surgery submitted pre-specified data for consecutive patients. The United Nations' HDI was used to stratify countries. Postoperative mortality was analysed by hierarchical multivariable logistic regression.

**Result:** Data were obtained for 10,745 patients from 357 centres in 58 countries; 6538 were from high, 2889 from middle and 1318 from low HDI settings. Overall mortality was 1.6% at 24 hours (high 1.1%, middle 1.9%, low 3.4%,  $p < 0.001$ ), increasing to 5.3% by 30 days (high 4.5%, middle 6.0%, low 8.7%,  $p < 0.001$ ). Of the 578 patients who died, 69.9% ( $n = 404$ ) did so between 24 hours and 30 days post-operatively (high 74.2%, middle 68.8%, low 60.5%). After adjustment, 30-day mortality remained higher in middle (OR 2.78, 1.84–4.20) and low income countries (OR 2.97, 1.84–4.81).

**Conclusion:** Mortality is two-to-three times higher in low compared with high HDI countries and is not attributable to prognosis alone. More than half the patients who die within 30 days did so after 24 hours, supporting 30-day outcome as an international benchmark.

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#### 1371: THE 'WEEKEND EFFECT' ON PATIENTS WITH ACUTE APPENDICITIS - COMPARING EMERGENCY LAPAROSCOPIC APPENDICECTOMY OUTCOMES IN THREE LONDON HOSPITALS

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**Background:** Emergency admissions to acute hospitals in the weekend have been shown to have increased morbidity and mortality in medicine and surgery. Our aim is to determine whether day of admission is associated with worse outcomes for patients diagnosed with acute appendicitis.

**Method:** This is a retrospective review of patients who were admitted with a diagnosis of acute appendicitis over a 3 month period. Patients were divided in two groups: weekend (WE) or weekday (WD) admission. Outcome measures include 30-day post op complications, 30-day mortality, time to surgery and length of hospital stay.

**Result:** 133 patients were admitted with acute appendicitis during the study period: 35 in WE group, 98 in the WD group. 17.14% of patients in the WE group had post op complications compared to 9.18% in the WD group. Median length of stay was the same in both groups. Mean time to surgery was longer in weekday compared to weekend admissions (22.68 versus 18.84 hours).

**Conclusion:** We have not found any delay in time to surgery in the weekend compared to the weekday or difference in the length of stay. Further studies are needed to investigate the cause of higher morbidity in the weekend group.

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## Endocrine and thyroid surgery

#### 0072: ACUTE SEVERE HYPONATRAEMIA FOLLOWING PARATHYROID SURGERY FOR PRIMARY HYPERPARATHYROIDISM – A RARE BUT LIFE THREATENING COMPLICATION

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**Aim** Parathyroidectomy for primary hyperparathyroidism (PHPT) is well tolerated with minimal morbidity and high success rates. We present two patients with severe hyponatraemia after parathyroidectomy and evaluated its incidence.

**Method:** Records of two patients who developed significant hyponatraemia were studied. The preoperative and first postoperative serum sodium levels of patients who had parathyroid surgery and a control group of patients who had thyroid surgery over a two-year period were studied. Patients were excluded if they did not have sodium measurements, had a sternotomy or both thyroidectomy and parathyroidectomy.

**Result:** Two patients with PHPT developed significant hyponatraemia following parathyroidectomy resulting in seizures or loss of consciousness. 66 patients were included. Mean preoperative and postoperative sodium levels were 140 mEq/L and 139 mEq/L respectively. One patient had hyponatraemia. There was no difference in postoperative sodium levels between patients undergoing thyroid and parathyroid surgery ( $p = 0.423$ ).

**Conclusion** Patients with PHPT and significant hypercalcaemia are advised to increase fluid intake, avoiding dehydration. We speculate that continued postoperative excessive water intake, combined with the relative inability to secrete water postoperatively, precipitated severe hyponatraemia in the two patients reported. Patients should be advised to discontinue increased water intake after parathyroidectomy to avoid this rare but serious complication.

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#### 0215: POSTOPERATIVE HYPOCALCAEMIA AFTER BILATERAL THYROID SURGERY. CLOSED LOOP AUDIT

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**Background:** Hypocalcaemia is a common complication following total thyroidectomy (TT). To enable early detection and appropriate treatment of this problem, a recent audit report recommended measurement of PTH levels after surgery in addition to two calcium checks (AM and PM) on the first postoperative day and a further check on day 5.

**Method:** Data on surgery, thyroid status, perioperative biochemistry and histology were collected for 284 patients undergoing TT operations performed over a three year period.

**Result:** The temporary (adjusted calcium  $< 2.1$  mmol/L) and long term postoperative hypocalcaemia rates were 29.2% and 3.8% respectively (compared to 29% and 5.5% in the previous audit). Only 5% of patients with adjusted Ca  $> 2.1$  mmol/L in the morning had evidence of hypocalcaemia in the afternoon. Afternoon measurements altered management in 1% of patients. Long term hypocalcaemia occurred in 28% of patients with low Day 1 PTH levels compared to 2.4% of patients with normal day 1 PTH.

**Conclusion:** Postoperative PTH level is a good indicator of long term hypocalcaemia. Day one afternoon calcium levels do not significantly influence management. A new protocol has now been implemented, whereby day one afternoon and day 5 calcium levels are not routinely measured.

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