

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

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**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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