### Strategy 432444/8

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19. New evidence-based A1, A2, A3 alarm time zones for transferring thrombolysed patients to hyper-acute stroke units: faster is better.
1. **British Cardiovascular Intervention Society registry framework: a quality improvement initiative on behalf of the National Institute of Cardiovascular Outcomes Research (NICOR).**

**Authors** Rashid, Muhammad; Ludman, Peter F; Mamas, Mamas A

**Source** European heart journal. Quality of care & clinical outcomes; May 2019

**Publication Date** May 2019

**PubMedID** 31050720

**Abstract**
AIMSThe British Cardiovascular Intervention Society (BCIS) percutaneous coronary intervention (PCI) registry is hosted by the National Institute of Cardiovascular Outcomes Research (NICOR) at Bart’s Heart Centre and collects clinical characteristics, indications, procedural details and outcomes of all patients undergoing PCI in the United Kingdom. The data are used for audit and research to monitor and improve PCI practices and patient outcomes.

**INTERVENTIONS** Bespoke live data analysis and structured monthly reports are used to provide real time feedback to all participating hospitals about the provision of care. Risk-adjusted analyses are used as a quality metric and benchmarking PCI practices.

**POPULATION & SETTINGS** Consecutive patients undergoing PCI in all PCI performing hospitals in the UK.

**YEARS** From 1994 to present.

**BASELINE DATA** 113 variables encompassing patient demographics, indication, procedural details, complications and in-hospital outcomes are recorded.

**DATA CAPTURE** Prospective data is collected electronically and encrypted before transfer to central database servers.

**DATA QUALITY** Data is validated locally and further range checks, sense checks and assessments of internal consistency are applied during data uploads. Analyses of uploaded data including an assessment of data completeness are provided to all hospitals for validation, with repeat validation rounds prior to public reporting.

**ENDPOINTS** In-hospital PCI complications, bleeding and mortality. All-cause mortality is obtained via linkage to the Office of National Statistics. No other linkages are available at present.

**DATA ACCESS** Available for research by application to NICOR at http://www.nicor.org.uk/ using a data sharing agreement.

2. **Water quality improvements offset the climatic debt for stream macroinvertebrates over twenty years.**

**Authors** Vaughan, Ian P; Gotelli, Nicholas J

**Source** Nature communications; Apr 2019; vol. 10 (no. 1); p. 1956

**Publication Date** Apr 2019

**Publication Type(s)** Research Support, Non-u.s. Gov't Journal Article

**PubMedID** 31028258

**Database** Medline

**Abstract**
Many species are accumulating climatic debt as they fail to keep pace with increasing global temperatures. In theory, concomitant decreases in other stressors (e.g. pollution, fragmentation) could offset some warming effects, paying climatic debt with accrued environmental credit. This process may be occurring in many western European rivers. We fit a Markov chain model to ~20,000 macroinvertebrate samples from England and Wales, and demonstrate that despite large temperature increases 1991-2011, macroinvertebrate communities remained close to their predicted equilibrium with environmental conditions. Using a novel analysis of multiple stressors, an accumulated climatic debt of 0.64 ± 0.13 standard error °C of warming was paid by a water-quality credit equivalent to 0.89 ± 0.04°C of cooling. Although there is finite scope for mitigating additional climate warming in this way, water quality improvements appear to have offset recent temperature increases, and the concept of environmental credit may be a useful tool for communicating climate offsetting.

3. **Measuring Appropriate Antibiotic Prescribing in Acute Hospitals: Development of a National Audit Tool Through a Delphi Consensus.**

**Authors** Hood, Graeme; Hand, Kieran S; Cramp, Emma; Howard, Philip; Hopkins, Susan; Ashiru-Oredope, Diane

**Source** Antibiotics (Basel, Switzerland); Apr 2019; vol. 8 (no. 2)

**Publication Date** Apr 2019

**Publication Type(s)** Journal Article

**PubMedID** 31035663

**Database** Medline
This study developed a patient-level audit tool to assess the appropriateness of antibiotic prescribing in acute National Health Service (NHS) hospitals in the UK. A modified Delphi process was used to evaluate variables identified from published literature that could be used to support an assessment of appropriateness of antibiotic use. At a national workshop, 22 infection experts reached a consensus to define appropriate prescribing and agree upon an initial draft audit tool. Following this, a national multidisciplinary panel of 19 infection experts, of whom only one was part of the workshop, was convened to evaluate and validate variables using questionnaires to confirm the relevance of each variable in assessing appropriate prescribing. The initial evidence synthesis of published literature identified 25 variables that could be used to support an assessment of appropriateness of antibiotic use. All the panel members reviewed the variables for the first round of the Delphi; the panel accepted 23 out of 25 variables. Following review by the project team, one of the two rejected variables was rephrased, and the second neutral variable was re-scored. The panel accepted both these variables in round two with a 68% response rate. Accepted variables were used to develop an audit tool to determine the extent of appropriateness of antibiotic prescribing at the individual patient level in acute NHS hospitals through infection expert consensus based on the results of a Delphi process.

**4. Epidemiology and aetiology of paediatric traumatic cardiac arrest in England and Wales.**

**Authors**
Vassallo, James; Webster, Melanie; Barnard, Edward G; Lyttle, Mark D; Smith, Jason E; PERUKI (Paediatric Emergency Research in the UK and Ireland)

**Source**
Archives of disease in childhood; May 2019; vol. 104 (no. 5); p. 437-443

**Abstract**
OBJECTIVE To describe the epidemiology and aetiology of paediatric traumatic cardiac arrest (TCA) in England and Wales.

DESIGN Population-based analysis of the UK Trauma Audit and Research Network (TARN) database.

PATIENTS AND SETTING All paediatric and adolescent patients with TCA recorded on the TARN database for a 10-year period (2006-2015). MEASURES Patient demographics, Injury Severity Score (ISS), location of TCA ('prehospital only', 'in-hospital only' or 'both'), interventions performed and outcome.

RESULTS 2170 paediatric patients were included in the database; 129 (0.6%) sustained TCA meeting study inclusion criteria. The majority, 103 (79.8%), had a prehospital TCA. 62.8% were male, with a median age of 11.7 (3.4-16.6) years, and a median ISS of 34 (25-45). 110 (85.3%) had blunt injuries, with road-traffic collision the most common mechanism (n=73, 56.6%). 123 (95.3%) had severe haemorrhage and/or traumatic brain injury. Overall 30-day survival was 5.4% ([95% CI 2.6 to 10.8], n=7). ‘Pre-hospital only’ TCA was associated with significantly higher survival (n=6) than those with TCA in both ‘pre-hospital and in-hospital’ (n=1)-13.0% (95% CI 6.1% to 25.7%) and 1.2% (95% CI 0.1% to 6.4%), respectively, p<0.05. The greatest survival (n=6, 10.3% (95% CI 4.8% to 20.8%)) was observed in those transported to a paediatric major trauma centre (MTC) (defined as either a paediatric-only MTC or combined adult-paediatric MTC). CONCLUSION Survival is possible from the resuscitation of children in TCA, with overall survival comparable to that reported in adults. The highest survival was observed in those with a pre-hospital only TCA, and those who were transported to an MTC. Early identification and aggressive management of paediatric TCA is advocated.

**5. Socioeconomic inequalities in the delivery of brief interventions for smoking and excessive drinking: findings from a cross-sectional household survey in England.**

**Authors**
Angus, Colin; Brown, Jamie; Beard, Emma; Gillespie, Duncan; Buykx, Penelope; Kaner, Eileen F S; Michie, Susan; Meier, Petra

**Source**
BMJ open; May 2019; vol. 9 (no. 4); p. e023448

**Abstract**
OBJECTIVE To determine the extent of socioeconomic inequalities in the delivery of brief interventions for smoking and excessive drinking among adults in England.

DESIGN A cross-sectional household survey in England.

PATIENTS AND SETTING All adults aged 16 years or older in England.

MEASURES Socioeconomic status, delivery of brief interventions for smoking and excessive drinking.

RESULTS Socioeconomic inequalities were found in the delivery of brief interventions for smoking and excessive drinking. Lower socioeconomic groups were less likely to receive brief interventions. CONCLUSION Socioeconomic inequalities in the delivery of brief interventions for smoking and excessive drinking persist in England and may contribute to health inequalities.

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RESULTS Socioeconomic inequalities were found in the delivery of brief interventions for smoking and excessive drinking. Lower socioeconomic groups were less likely to receive brief interventions. CONCLUSION Socioeconomic inequalities in the delivery of brief interventions for smoking and excessive drinking persist in England and may contribute to health inequalities.
6. Mortality for emergency laparotomy is not affected by the weekend effect: a multicentre study.

**Authors**
Nageswaran, H; Rajalingam, V; Sharma, A; Joseph, A O; Davies, M; Jones, H; Evans, M

**Source**
Annals of the Royal College of Surgeons of England; May 2019; vol. 101 (no. 5); p. 366-372

**Publication Date**
May 2019

**Publication Type(s)**
Journal Article

**PubMedID**
31042429

**Database**
Available at Annals of the Royal College of Surgeons of England from Ovid (Journals @ Ovid) - Remote Access Available at Annals of the Royal College of Surgeons of England from EBSCO (MEDLINE Complete)

**Abstract**
INTRODUCTIONThe 'weekend effect' describes variation in outcomes of patients treated over the weekend compared with those treated during weekdays. This study examines whether a weekend effect exists for patients who undergo emergency laparotomy.

MATERIALS AND METHODSData entered into the National Emergency Laparotomy Audit between 2014 and 2017 at four NHS trusts in England and Wales were analysed.

Patients were grouped into those admitted on weekdays and those on weekends (Friday 5pm to Monday 8am). Patient factors, markers of quality of care and patient outcomes were compared. Secondary analysis was performed according to the day of surgery.

RESULTSAfter exclusion of patients who underwent laparotomy more than one week after admission to hospital, a total of 1717 patients (1138 patients admitted on weekdays and 579 admitted on weekends) were analysed. Age, preoperative lactate and P-POSSUM scores were not significantly different between the two groups. Time from admission to consultant review, decision to operate, commencement of antibiotics and theatre were not significantly different. Grades of operating surgeon were also similar in both groups. Inpatient 60-day mortality was 12.5% on weekdays and 12.8% on weekends (P = 0.878). Median length of postoperative stay was 12 days in both groups. When analysed according to day of surgery, only number of hours from admission to antibiotics (12.8 weekday vs 9.4 weekend, P = 0.046) and number of hours to theatre (26.5 weekday vs 24.1 hours weekend, P = 0.020) were significantly different.

DISCUSSIONQuality of care and clinical outcomes for patients undergoing emergency laparotomy during the weekend are not significantly different to those carried out during weekdays.
8. Guidelines for the safe provision of anaesthesia in magnetic resonance units 2019: Guidelines from the Association of Anaesthetists and the Neuro Anaesthesia and Critical Care Society of Great Britain and Ireland.

Authors
Wilson, S R; Shinde, S; Appleby, I; Boscoe, M; Conway, D; Dryden, C; Ferguson, K; Gedroyc, W; Kinsella, S M; Nathanson, M H; Thorne, J; White, M; Wright, E

Source
Anaesthesia; May 2019; vol. 74 (no. 5); p. 638-650

Abstract
There has been an increase in the number of units providing anaesthesia for magnetic resonance imaging and the strength of magnetic resonance scanners, as well as the number of interventions and operations performed within the magnetic resonance environment. More devices and implants are now magnetic resonance imaging conditional, allowing scans to be undertaken in patients for whom this was previously not possible. There has also been a revision in terminology relating to magnetic resonance safety of devices. These guidelines have been put together by organisations who are involved in the pathways for patients needing magnetic resonance imaging. They reinforce the safety aspects of providing anaesthesia in the magnetic resonance environment, from the multidisciplinary decision making process, the seniority of anaesthetist accompanying the patient, to training in the recognition of hazards of anaesthesia in the magnetic resonance environment. For many anaesthetists this is an unfamiliar site to give anaesthesia, often in a remote site. Hospitals should develop and audit governance procedures to ensure that anaesthetists of all grades are competent to deliver anaesthesia safely in this area.
Background The poor quality of discharge summaries following admission to hospital, especially in relation to information on medication changes, is well documented. Hospital pharmacists can record changes to medications in the electronic discharge note to improve the quality of this information for primary care.

Objective To audit the pharmacist-completed notes describing changes to admission medication, and to identify improvement opportunities. Setting 750-bed teaching district general hospital in England. Methods An evaluation of pharmacist written notes was conducted at a 750-bed teaching district general hospital in England. A sample of notes was analysed in three consecutive years, 2016-2018. Analyses were performed using descriptive statistics. Main outcome measure The number of discrepancies in the note compared to the discharge summary medication list. Results Notes were analysed for 125, 120 and 120 patients in 2016-2018 respectively. We saw an overall improvement in the accuracy of our notes from 12% of patients having an inaccurate note in 2016 to 4.2% in 2017 and 5.8% in 2018. The percentage of discharge medicines affected by these discrepancies reduced from 1.7% (2016) to 0.6% (2017) and 0.9% (2018). Conclusion Discrepancies were due to changes in the patient’s medicines journey not being fully captured and documented. The overall reduction of discrepancies over the three consecutive audits was felt to be largely due to formalisation of the discharge medicines reconciliation process and reminding staff on how to complete a note. We are planning to utilise informatics surveillance tools along with system developments to sustain this elimination of out of date notes being transmitted to primary care.

There is a great deal of individual variability in outcome in second language learning, the sources of which are still poorly understood. We hypothesized that individual differences in auditory processing may account for some variability in second language learning. We tested this hypothesis by examining psychoacoustic thresholds, auditory-motor temporal integration, and auditory neural encoding in adult native Polish speakers living in the UK. We found that precise English vowel perception and accurate English grammatical judgment were linked to lower psychoacoustic thresholds, better auditory-motor integration, and more consistent frequency-following responses to sound. Psychoacoustic thresholds and neural sound encoding explained independent variance in vowel perception, suggesting that they are dissociable indexes of sound processing. These results suggest that individual differences in second language acquisition success stem at least in part from domain-general difficulties with auditory perception, and that auditory training could help facilitate language learning in some individuals with specific auditory impairments.

Establishing an allied health professional delivered selective laser trabecuoplasty service in Scotland.

There is a great deal of individual variability in outcome in second language learning, the sources of which are still poorly understood. We hypothesized that individual differences in auditory processing may account for some variability in second language learning. We tested this hypothesis by examining psychoacoustic thresholds, auditory-motor temporal integration, and auditory neural encoding in adult native Polish speakers living in the UK. We found that precise English vowel perception and accurate English grammatical judgment were linked to lower psychoacoustic thresholds, better auditory-motor integration, and more consistent frequency-following responses to sound. Psychoacoustic thresholds and neural sound encoding explained independent variance in vowel perception, suggesting that they are dissociable indexes of sound processing. These results suggest that individual differences in second language acquisition success stem at least in part from domain-general difficulties with auditory perception, and that auditory training could help facilitate language learning in some individuals with specific auditory impairments.
Abstract

PURPOSE To describe the process of establishing a selective laser trabeculoplasty (SLT) service delivered by experienced allied health professionals (AHP) in a Scottish NHS Hospital Eye Service, and assess the safety and efficacy in comparison with SLT performed by ophthalmologists. METHOD A training scheme for AHPs who were experienced in extended roles within the glaucoma service was developed, consisting of supervised training by a consultant ophthalmologist specialising in glaucoma leading to the AHPs independently delivering SLT. A prospective audit of consecutive SLT procedures performed by AHPs between November 2015 and April 2017 was performed. Data were analysed and compared to a previous intradepartamental audit of SLT performed by ophthalmologists (consultants and trainees). RESULTS A total of 325 eyes of 208 patients underwent SLT, of which 117 patients had bilateral SLT in a single session. The overall rate of complications was 3.9%, however there were minor and/or self-limiting (this compared to a 3.8% complication rate in the ophthalmologist delivered SLT series). The rate of intraocular pressure (IOP) spike was 0.3%, compared to 1.4% in the ophthalmologist delivered SLT series. Mean IOP at listing was 20.9 ± 5.1 mmHg, 17.3 ± 4.5 mmHg at 3 months post SLT and 17.6 ± 3.7 mmHg at 12 months-a median reduction of 16.7% at 3 months and 17.4% at 12 months. There was no statistically significant difference between the percentage reduction in IOP in the AHP and ophthalmologist delivered SLT groups at 3 or 12 months. CONCLUSION This is the first service of its kind in Scotland and the outcomes of this study demonstrate that the AHP delivered SLT service is at least as safe as the previous ophthalmologist delivered SLT service. The data demonstrate a similar efficacy between AHP and ophthalmologist delivered SLT. In the face of increasing demand and workload, this is a practical model in service commissioning to free up medical clinicians for more complex glaucoma management.


Authors

Mungroop, Timothy H; van Rijssen, L Bengt; van Klaveren, David; Smits, F Jasmin; van Woerden, Victor; Linnemann, Ralph J; de Pastena, Matteo; Kloppmaker, Sjors; Marchegiani, Giovanni; Ecker, Brett L; van Dieren, Susan; Bonsing, Bert; Busch, Olivier R; van Dam, Ronald M; Erdmann, Joris; van Eljck, Casper H; Gerhards, Michael F; van Goor, Harry; van der Harst, Erwin; de Hingh, Ignace H; de Jong, Koert P; Kazemier, Geert; Luyer, Misha; Shamali, Aawad; Barbara, Salvador; Armstrong, Thomas; Takhar, Arjun; Hamady, Zaed; Klaase, Joost; Lips, Daan J; Molenaar, I Quintus; Nieuwenhuijs, Vincent B; Rupert, Coen; van Santvoort, Hjalmar C; Scheepers, Joris J; van der Schelling, George P; Bassi, Claudio; Vollmer, Charles M; Steyerberg, Ewout W; Abu Hilal, Mohammed; Groot Koerkamp, Bas; Besselink, Marc G; Dutch Pancreatic Cancer Group

Source
Annals of surgery
May 2019
Annals of surgery: Journal Article
29240007
Medline

Abstract

OBJECTIVE The aim of this study was to develop an alternative fistula risk score (a-FRS) for postoperative pancreatic fistula (POPF) after pancreatoduodenectomy, without blood loss as a predictor. BACKGROUND Blood loss, one of the predictors of the original-FRS, was not a significant factor during 2 recent external validations. METHOD The a-FRS was developed in 2 databases: the Dutch Pancreatic Audit (18 centers) and the University Hospital Southhampton NHS. Primary outcome was grade B/C POPF according to the 2005 International Study Group on Pancreatic Surgery (ISGPS) definition. The Score was externally validated in 2 independent databases (University Hospital of Verona and University Hospital of Pennsylvania), using both 2005 and 2016 ISGPs definitions. The a-FRS was also compared with the original-FRS. RESULTS For model design, 1924 patients were included of whom 12% developed POPF. Three predictors were strongly associated with POPF: soft pancreatic texture [odds ratio (OR) 2.58, 95% confidence interval (95% CI) 1.80-3.69], small pancreatic duct diameter (per mm increase, OR: 0.68, 95% CI: 0.61-0.76), and high body mass index (BMI) (per kg/m increase, OR: 1.07, 95% CI: 1.04-1.11). Discrimination was adequate with an area under curve (AUC) of 0.75 (95% CI: 0.71-0.78) after internal validation, and 0.78 (0.74-0.82) after external validation. The predictive capacity of a-FRS was comparable with the original-FRS, both for the 2005 definition (AUC 0.78 vs 0.75, P = 0.03) and 2016 definition (AUC 0.72 vs 0.70, P = 0.05). CONCLUSION The a-FRS predicts POPF after pancreatoduodenectomy based on 3 easily available variables (pancreatic texture, duct diameter, BMI) without blood loss and pathology, and was successfully validated for both the 2005 and 2016 ISGSPS definition. The online calculator is available at www.pancreascalculator.com.


Authors

Ellis, Natalie; Grubb, Carla-Marie; Mustoe, Sophie; Watkins, Eleanor; Codling, David; Fitch, Sarah; Stirling, Lucy; Quraishy, Munzir; Jenkins, Josie; Harrison, Judith

Authors
Kumarage, J; Khonyongwa, K; Khan, A; Desai, N; Hoffman, P; Taori, S K

Source
The Journal of hospital infection; May 2019; vol. 102 (no. 1); p. 89-94

Abstract
OBJECTIVES Flexible endoscopes are difficult to decontaminate, and endoscope-associated infections are increasing. This report describes an outbreak of multi-drug resistant Pseudomonas aeruginosa identified following an increase in incidence of clinical infections associated with flexible ureteroscopy at a tertiary care centre in the UK. METHODS Clinical, laboratory and central decontamination unit (CDU) records were reviewed to determine the extent of the problem, and links to the used endoscopes. Audits of the ureteroscopy procedure, endoscopy unit and CDU were performed. Endoscopes were sampled, cultured and examined for structural integrity. All available isolates were typed. RESULTS Thirteen patients developed clinical infections linked to two flexible ureteroscopes. The first ureteroscope was likely colonized from a known infected patient and the second ureteroscope after use on another patient infected by the first. Risk factors identified include surface cuts, stretching and puckering of the outer cover in both ureteroscopes, absence of bedside cleaning, overnight delay between the ureteroscopy and decontamination, inadequate drying after decontamination and non-traceability of connector valves. CONCLUSIONS The adequacy of flexible endoscope decontamination depends on numerous steps. With the increasing global incidence of multi-drug resistant organisms, stringent monitoring of the flexible endoscopy process by users and decontamination units is essential.


Authors
Womack, J; Pearson, J D; Walker, I A; Stephens, N M; Goodman, B A

Source
Anaesthesia; May 2019; vol. 74 (no. 5); p. 594-601

Abstract
OBJECTIVES The efficacy and safety of ultrasound-guided paravertebral catheter insertion for rib fracture analgesia were evaluated in a single-centre retrospective observational study.

Methods
A retrospective review of ultrasound-guided paravertebral catheter insertion for rib fracture analgesia was performed. The study included all patients who underwent the procedure at a single centre between January 2015 and December 2017. Data were collected on demographics, procedural details, complications, and clinical outcomes.

Results
A total of 100 patients were included in the study. The median age was 55 years (range 22-80) and 57 patients were male. The most common fracture site was the 12th rib (n = 50). The procedure was successful in all cases. The median duration of catheter insertion was 2.5 minutes (range 1.5-5). No major complications were reported. The most common minor complication was catheter displacement (n = 3). The median analgesic requirement was 30 mg of fentanyl over 24 hours (range 10-100). Pain scores at rest and during movement improved significantly post-procedure (p < 0.01). Overall patient satisfaction was high.

Conclusion
Ultrasound-guided paravertebral catheter insertion for rib fracture analgesia is a safe and effective method with minimal complications. Further studies are needed to confirm these findings in larger patient populations.

Declaration of interest
None.

**Authors**  
Sidaway-Lee, Kate; Gray, Denis Pereira; Evans, Philip

**Source**  
The British journal of general practice : the journal of the Royal College of General Practitioners; May 2019; vol. 69 (no. 682); p. e356

**Publication Date**  
May 2019

**Publication Type(s)**  
Journal Article

**PubMedID**  
30803982

**Database**  
Medline

**Abstract**  
Despite patient preference and many known benefits, continuity of care is in decline in general practice. The most common method of measuring continuity is the Usual Provider of Care (UPC) index. This requires a number of appointments per patient and a relatively long timeframe for accuracy, reducing its applicability for day-to-day performance management. AIM To describe the St Leonard’s Index of Continuity of Care (SLICC) for measuring GP continuity regularly, and demonstrate how it has been used in service in general practice. DESIGN AND SETTING Analysis of appointment audit data from 2016-2017 in a general practice with 8823-9409 patients and seven part-time partners, in Exeter, UK. METHOD The percentage of face-to-face appointments for patients on each doctor’s list, with the patient’s personal doctor (the SLICC), was calculated monthly. The SLICC for different demographic groupings of patients (for example, sex and frequency of attendance) was compared. The UPC index over the 2 years was also calculated, allowing comparisons between indices. RESULTS In the 2-year study period, there were 35 622 GP face-to-face appointments; 1.96 per patient per year. Overall, 51.7% (95% confidence interval = 51.2 to 52.2) of GP appointments were with the patients' personal doctor. Patients aged ≥65 years had a higher level of continuity with 64.9% of appointments being with their personal doctor. The mean whole-practice UPC score was 0.61 (standard deviation 0.23), with 'usual provider' being the personal GP for 52.8% and a trainee or locum for 8.1% of patients. CONCLUSION This method could provide working GPs with a simple way to track continuity of care and inform practice management and decision making.

17. Sensitivity of EQ-5D-3L, HUI2, HUI3, and SF-6D to changes in speech reception and tinnitus associated with cochlear implantation.

**Authors**  
Summerfield, A Q; Barton, G R; UK Cochlear Implant Study Group

**Source**  
Quality of life research : an international journal of quality of life aspects of treatment, care and rehabilitation; May 2019; vol. 28 (no. 5); p. 1145-1154

**Publication Date**  
May 2019

**Publication Type(s)**  
Journal Article

**PubMedID**  
30484121

**Database**  
Medline

**Abstract**  
Rib fractures are associated with significant morbidity and mortality. Ultrasound-guided thoracic paravertebral catheter insertion has been described for the management of pain secondary to rib fractures. We conducted a retrospective observational study of all patients with rib fractures who had a paravertebral catheter inserted for analgesia provision over a 4-year period. Data from the Trauma Audit and Research Network were used to compare patients with rib fractures who were managed with paravertebral catheters to those managed with systemic analgesia. A total of 314 consecutive paravertebral catheters were inserted in 290 patients. Five (1.9%) catheters were removed due to ineffective analgesia. Other minor complications occurred in three cases (0.96%). The proportion of rib fracture patients managed with paravertebral catheters increased from 31/200 (15.5%) in the first year of study to 81/168 (48.2%) in the fourth; over this time-period the observed:predicted mortality ratio fell from 1.04 to 0.66. Proportional hazard regression with and without propensity score matching demonstrated a reduction in mortality associated with paravertebral catheter use, but this became statistically non-significant when time-dependent analysis was used. Paravertebral catheters are a safe and effective technique for rib fracture analgesia; however, our data were insufficient to demonstrate any improvement in mortality.
Abstract

PURPOSE There is concern that some generic preference-based measures (GPMs) of health-related quality of life may be insensitive to interventions that improve hearing. Establishing where sensitivity arises could contribute to the design of improved measures. Accordingly, we compared the sensitivity of four widely used GPMs to a clinically effective treatment-cochlear implantation-which restores material degrees of hearing to adults with little or no functional hearing.

METHODS Participants (N = 147) received implants in any of 13 hospitals in the UK. One month before implantation and 9 months after, they completed the HUI2, HUI3, EQ5D3L, and SF-6D questionnaires, together with the EuroQol visual-analogue scale as a direct measure of health, a performance test of speech reception, and a self-report measure of annoyance due to tinnitus.

RESULTS Implantation was associated with a large improvement in speech reception and a small improvement in tinnitus. HUI2 and HUI3 were sensitive to the improvement in speech reception through their Sensation and Hearing dimensions; EQ5D3L was sensitive to the improvement in tinnitus through its Anxiety/Depression dimension; SF-6D was sensitive to neither. Participants reported no overall improvement in health.

CONCLUSION Variation in health was associated with variation in tinnitus, not variation in speech reception. None of the four GPMs was sensitive to the improvements in both speech reception and tinnitus that were associated with cochlear implantation. To capture fully the benefits of interventions for auditory disorders, developments of current GPMs would need to be sensitive to both the health-related and non-health-related aspects of auditory dysfunction.

18. Major incident triage and the evaluation of the Triage Sort as a secondary triage method.

Authors Vassallo, James; Smith, Jason

Abstract

INTRODUCTION A key principle in the effective management of major incidents is triage, the process of prioritising patients on the basis of their clinical acuity. In many countries including the UK, a two-stage approach to triage is practised, with primary triage at the scene followed by a more detailed assessment using a secondary triage process, the Triage Sort. To date, no studies have analysed the performance of the Triage Sort in the civilian setting. The primary aim of this study was to determine the performance of the Triage Sort at prioritising patients on the basis of their clinical acuity. In many countries including the UK, a two-stage approach to triage is practised, with primary triage at the scene followed by a more detailed assessment using a secondary triage process, the Triage Sort.

METHODS Using the Trauma Audit Research Network (TARN) database for all adult patients (>18 years) between 2006 and 2014, we determined which patients received one or more LSIs using a previously defined list. The first recorded hospital physiology was used to categorise patient priority using the Triage Sort, National Ambulance Resilience Unit (NARU) Sieve and the Modified Physiological Triage Tool-24 (MPTT-24). Performance characteristics were evaluated using sensitivity and specificity with statistical analysis using a McNemar’s test.

RESULTS 127 84.3% (95% CI 83.8 to 84.8), but it had the greatest specificity (98.7% (95% CI 98.6 to 98.8)).

CONCLUSION Within a civilian trauma registry population, the Triage Sort demonstrated the poorest accuracy of all triage tools at identifying the need for LSI (sensitivity 15.7% (95% CI 15.2 to 16.2) correlating with the highest rate of under-triage (84.3% (95% CI 83.8 to 84.8), but it had the greatest specificity (98.7% (95% CI 98.6 to 98.8)).

19. New evidence-based A1, A2, A3 alarm time zones for transferring thrombolysed patients to hyper-acute stroke units: faster is better.

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OBJECTIVES The National Institute of Health and Clinical Excellence and The Royal College of Physicians recommend transferring thrombolysed patients with stroke to a hyperacute stroke unit (HASU) within 4 h from hospital arrival (TArrival-HASU), but there is paucity of evidence to support this cut-off. We assessed if a shorter interval within this target threshold conferred a significant improvement in patient mortality.

DESIGN We conducted a retrospective analysis of prospectively collected data from the Sentinel Stroke National Audit Programme.

SETTING Four major UK hyperacute stroke centres between 2014 and 2016.

PARTICIPANTS A total of 183 men (median age = 75 years, IQR = 66-83) and 169 women (median age = 81 years, IQR = 72.5-88) admitted with acute ischaemic stroke.

MAIN OUTCOME MEASURES We evaluated TArrival-HASU in relation to inpatient mortality, adjusted for age, sex, co-morbidities, stroke severity, time between procedures, time and day on arrival.

RESULTS There were 51 (14.5%) inpatient deaths. On ROC analysis, the AUC (area under the curve) was 61.1% (52.9-69.4%, p = 0.01) and the cut-off of TArrival-HASU where sensitivity equalled specificity was 2 h/15 min (intermediate range = 30 min to 3 h/15 min) for predicting mortality. On logistic regression, compared with the fastest TArrival-HASU group within 2 h/15 min, the slowest TArrival-HASU group beyond upper limit of intermediate range (≥ 3 h/15 min) had an increased risk of mortality: 5.6% vs. 19.6%, adjusted OR = 5.6 (95%CI: 1.5-20.6, p = 0.010).

CONCLUSIONS We propose three new alarm time zones (A1, A2 and A3) to improve stroke survival: “A1 Zone” (TArrival-HASU < 2 h/15 min) indicates that a desirable target, “A2 Zone” (TArrival-HASU = 2 h/15 min to 3 h/15 min), indicates increasing risk and should not delay any further, and “A3 Zone” (TArrival-HASU ≥ 3 h/15 min) indicates high risk and should be avoided.