Audit

Diagnosis and treatment of pulmonary embolism? A review of current practice at Torbay Hospital

Ioan Radu Iosub

Torbay Hospital, South Devon NHS Trust

Dr Elizabeth Ginn

Diagnosis and treatment of pulmonary embolism – a review of current practice at Torbay Hospital

AIM

For risk stratification of patients with suspected pulmonary embolism our hospital uses the “modified Wells score” (MWS). For more than a year now we use the initial algorithm MWS for risk stratification. This study aimed to compare our current diagnostic rate against international studies and previous local audits.

METHODS

We have retrospectively reviewed the notes and scan results of 283 patients admitted on the acute take with suspected PE over a period of 5 months (July- November 2010).

Data was collected and analysed to assess the CTPA diagnostic rate and post-diagnosis management.

OUTCOMES/RESULTS

Over a 5 months period (July-October 2010) 283 patients qualified for a CTPA (MWS intermediate or high). 34% (n=97) of these scans were negative, 23% (n=64) confirmed the diagnosis of PE and 43% (n=122) identified other diagnoses.

Out of the patients diagnosed with PE 87% (n=56) were started on anticoagulation therapy whereas 13% (n=8) qualified for thrombolysis (massive/sub-massive embolus with evidence of right heart strain and positive Troponin T).

Out of the 8 thrombolysed patients, 7 had no complications and were discharged within 4 days from the diagnosis. Unfortunately one patient died following an intra-cerebral haemorrhage one day post thrombolysis.

CONCLUSION

This study furthers the cycle of an important audit process and confirms a CTPA hit rate comparable to international studies (Christopher Study 2006) when MWS is used for risk stratification. We conclude that we provide a high standard of care by appropriately using MWS.
Audit

Audit of the sustainability of improvements in the management of Transient Ischaemic Attack (TIA) in the Ambulatory Care setting - following the introduction of a standardised proforma

Mark Henderson
Acute Medical Unit, Ninewells Hospital

Riazuddin Muhammad
Alistair Douglas

Aim

In 2009 a structured proforma for the management of TIAs was introduced in the ambulatory clinic, Ninewells Hospital, Dundee. This significantly improved compliance with the Scottish Intercollegiate Guideline Network (SIGN) guideline.1 By 2010, the use of the proforma had lapsed. We wished to ascertain if the improvements were sustained.

Method

Thirty-three patients with a suspected TIA were referred in November and December 2010. Thirty-one case records were reviewed (two were unavailable). The results were compared with the 2009 proforma cohort. Statistical analysis was performed with Fisher's exact test.

Outcomes/Results

In 2010, 11 of the 31 patients (35.5%) experienced a TIA. There were 39 in the 2009 proforma cohort. In 2010, only 27.3% (n=3) had a documented "ABCD2 score" compared with 59% (n=25) in the proforma cohort (p=0.042). In 2010, 63.6% of patients (n=7) underwent carotid imaging within 24 hours versus 92% (n=36) in the proforma cohort (p=0.0338). In 2010, 54.5% of patients (n=6) underwent a CT brain within 24 hours of their initial assessment.

Conclusion

Failure to use the proforma has led to poor compliance with the SIGN guidelines, which could lead to sub-optimal clinical care. With any proforma, measures are needed to ensure that beneficial behaviours are sustained. This should include staff education of the intended benefits. Structured clinical records have been shown to improve compliance with other guidelines.2,3 Structured clerking documents have also been shown to be beneficial4,5 – incorporating these may help ensure changes are sustained.


Audit

Investigating chest pain: Are we getting it right?

Angharad James
Wirral University Teaching Hospitals NHS Trust

Aim:

To gauge awareness among junior doctors of the March 2010 NICE guidelines on chest pain of recent onset (CG95)
To assess how well inpatients presenting with chest pain are being managed according to these guidelines

Methods:

A questionnaire was given to junior doctors with 4 scenarios and they were asked the most appropriate diagnostic investigation. They were also asked to state three typical features of angina. This was repeated in November 2010 after an educating e-mail.

Medical records of inpatients admitted with chest pain via A&E and from GPs over a ten day period in August 2010 were assessed for diagnoses made, treatment given, troponin result, coronary artery investigation, pre-test probability. A repeat retrospective search was made for patients presenting in a similar period in November 2010.

Results:

There were similar patient profiles in August and November with 46.9% and 50% of patients presenting with chest pain having had no known coronary artery disease (CAD).

The proportion of ‘troponin negative’ patients referred for coronary artery investigation increased from 19% to 57% from August to November.

The proportion of these patients appropriately investigated for CAD rose from 12% in August to 40% in November.

The proportion of patients whom there was a failure to investigate (when pre-test probability suggested CAD investigation was indicated) dropped from 46% in August to 17% in November.

The questionnaire given to junior doctors showed a mean 62.3% improvement in correct choice of CAD investigation from August to November and a 29% improvement in recall of all 3 typical features of angina.

Conclusion:

There was little awareness of the NICE guidance among junior doctors in August many of whom had moved from other trusts where cardiac CT was unavailable and diagnostic exercise testing was still routine. The review of medical records during August reflected this with fewer patients being considered for any CAD investigation. In November, there was considerable improvement but still room for further improvement and raising the awareness of new guidelines on management of cardiac chest pain appropriately. This is pertinent as more trusts are now acquiring cardiac CT facilities.
Audit

Use of Electronic Handover by Foundation Year One Doctors in Acute Medicine - a one year audit

Michael Lyons
Sheffield Teaching Hospital

Simon Nicol
Susanna Jolly
Alan Fletcher

Aim

The implication of the European Working Time Directive (EWTD) on work pattern mandates a greater emphasis on clearer communication and improvement of handover practice\(^1,2\); electronic handover is one system to facilitate transfer of out of hour tasks\(^3\).

Our aim was to assess the online acute handover system for safe delivery of clinical tasks at Sheffield Teaching Hospitals because there was consensus that free text boxes were poorly used. The impact of training at junior doctor induction was included in the audit cycle.

Methods

The data entries ("diagnosis" etc) from the e-handover database were assessed over a one year cycle from August 2009.

All patients handed over within acute medicine from a sample weekend were assessed. May 2009 and June 2010 samples looked at the impact of making a "Diagnosis" field mandatory. August 2010 samples looked at the impact of an FY1 induction lecture on the use of e-handover.

Outcomes

Increasing medical experience in FY1 did not increase quality of information.

Enforcing the “Diagnosis” field as mandatory increased the amount of patient information included.

Induction training in the system had a slight improvement when compared to the previous August cohort.

There is consistently poor practice regarding the date and time of tasks (85-95% present).

Conclusion

E-handover is a practical means of safely transferring patient data and tasks in large tertiary centre\(^4\). Mandatory field boxes increase quality and amount of information for use. Training in the use of E-handover is an ongoing area.
1. GMC: The New Doctor 2009
Audit

Prescribing oxygen therapy in acute medical patients: improving practice

David Hall

NHS Lothian

Richard Benson
Claire Gordon
Matthew King

Background

There is increasing evidence that supplemental oxygen therapy has the potential to cause harm (1). The British Thoracic Society (BTS) has published guidelines on prescribing oxygen therapy (2). Anecdotal evidence suggests that these are rarely followed in our unit.

Aims

To compare our practice in prescribing oxygen therapy with the BTS Guideline for Emergency Oxygen Use in Adult Patient (2) before and after a targeted educational intervention.

Method

This was a prospective audit of acute medical patients treated with supplementary oxygen therapy and admitted to our medical assessment unit (MAU). 50 patients were included in both the pre- and post-intervention phases of the audit. The intervention consisted of tutorials on oxygen prescription provided to junior doctors and nursing staff, and the display of guideline summaries throughout the MAU. A Z-test for two proportions was used to analyse differences between pre- and post-intervention groups.

Outcome:

Of patients receiving oxygen therapy, 9 (18%) pre-intervention and 25 (50%) post-intervention had an oxygen prescription (P<0.05). This compares to 69% in the most recent BTS nationwide audit of emergency oxygen use (3). Of those with an oxygen prescription, 6 of 9 (66.6%) in the pre-intervention group and 21 of 25 (84%) in the post-intervention group had an appropriate target saturation recorded ("94-98% for most acutely ill patients, or 88-92% for those at risk of hypercapnic respiratory failure") (2).

Conclusion

Previous practice in our unit compared poorly to the gold-standard described in the BTS guidelines on oxygen use (2). A multi-disciplinary targeted intervention was successful in raising compliance with this guideline.

References:


Audit

Oxygen Prescribing on the Emergency Assessment Unit: A Healthcare Improvement Project

Amrit-Deep Samra

Torbay Hospital South Healthcare Foundation Trust

Elizabeth Ginn

Helen Waters

Aim

BTS guidelines remind us that oxygen is a drug and should therefore be prescribed. In acknowledgement of this, Torbay Hospital have an oxygen prescription section on the prescription chart. However, experience on the Emergency Assessment Unit (EAU) showed that the oxygen prescription was rarely completed and staff admitted a lack understanding of safe prescribing. An audit was devised to determine if BTS oxygen prescription guidelines were being followed and a Healthcare Improvement Project planned if standards were not being met.

Method

A baseline audit over 11 days, reviewing 48 patients on EAU receiving oxygen, showed that only 27% of patients had an appropriate prescription. A healthcare improvement project followed.

1. Using an already successful system for highlighting venothromboembolism prophylaxis involving the morning pharmacy round, we arranged that the pharmacy team would similarly identify those patients on oxygen without a prescription and flag this on the electronic patient board. This was then raised at the morning board round to trigger completion.

2. Audit presentation and educational sessions on oxygen prescription were held at the Grand Round Medical meeting and the EAU meeting.

3. The BTS oxygen prescription guidelines were added to the on-call intranet as a quick reference for doctors.

Outcome

Reaudit over 13 days of 42 patients showed a marked improvement in appropriate prescription, achieving 79%.

Conclusion

A reliable process, coupled with good education has improved performance in oxygen prescription within a short timeframe. This process could be replicated in other areas of the hospital.
Medicines reconciliation is an evidence based process which has been demonstrated to reduce medication errors and adverse events. Our aim was to integrate the process of medicines reconciliation into daily practice within our acute medical unit.

We audited our compliance with the medicines reconciliation process over a 6 month period. 5 patients were audited per week using the Scottish National Patient Safety audit standard. Each patient required minimum documentation of drug name, dose and frequency with an appropriate plan for each medication. The medicines reconciliation process must be completed within 24 hours of admission in order to meet full compliance.

We have demonstrated a wide variability in our compliance rates over the last 6 months. We have identified interventions which have had both positive and negative effects on our progress.

Interventions which have had a positive influence include the development of a multidisciplinary medicines reconciliation group and weekly feedback of results via email to clinical teams. Access to audit data from other acute medical units within our health board has enabled us to compare our progress and provides additional motivation for change.
Conclusion

Regular audit and feedback is an effective way of raising awareness of the process of medicines reconciliation and encouraging a sustained change in practice. We have found the involvement of an acute medical consultant is of definite value in driving the process of change and this is evident from data gathered at other sites within our health board.

References


Audit

Non-invasive ventilation bundle improves quality of care in acute type 2 respiratory failure

Allan David Cameron
Glasgow Royal Infirmary
Elaine Clark
Joris Van Der Horst

Aim

We aimed to improve the quality and consistency of our management of patients with COPD in acute type 2 respiratory failure by auditing our practice against national evidence-based quality indicators and subsequently developing a non-invasive ventilation (NIV) “bundle” to improve our performance on these indicators.

Methods

The initial audit cycle recorded in detail the management of the first 20 patients started on NIV in the AMU from January 2009 onwards, comparing their management against 17 national evidence-based quality indicators. We then developed a care bundle, in conjunction with our respiratory colleagues, using six key interventions from the British Thoracic Society’s guideline on NIV. This bundle was introduced and made mandatory on our AMU for all patients treated with NIV. The second audit cycle captured the first 20 patients started on NIV in January 2010 following the introduction of the care bundle, measuring the same quality indicators in their management.

Results

After the introduction of the care bundle, there was an improvement in all 17 of the quality indicators, with a median absolute improvement of 30% across all parameters (range 5%-100%).

Conclusion

The introduction of a clear, concise care bundle, based on the best available evidence, improved the consistency and quality of our management of patients with acidotic type 2 respiratory failure treated with NIV.

References

Available from World Wide Web:
Audit

Medical High Dependency Unit-An area for Acute Physicians to develop

Rajesh Bankar

The Princess Alexandra Hospitals NHS Trust

Rachel Tennant
Heather Rohan

Aim:
The Acute Medicine Task Force report recommended that Acute Medicine Units (AMU) should develop an augmented care area and staff with competences to deliver this level of care. At Northwick Park hospital the Medical High dependency Unit (HDU) is adjacent to the AMU designed for this role. The HDU is run by Lead consultant in acute medicine and has acute medicine ST3 and above and core medical trainees. The unit is supported by intensive care staff for escalation and transfer of patients requiring Level 3 care. Patients' satisfaction is an important indicator for quality of care and we carried out a survey to evaluate and improve the quality of care delivered on the medical HDU.

Methods:
We carried out a survey and asked the patients and their relatives about their experience on the medical HDU. The paper based questionnaire was given to the patient once they were ready for discharge from the HDU and were asked to fill in their opinion with their relatives.

Results:
Thirty two (12 male; 20 female) patients responded. Overall service was rated good by 13% and excellent by 87% patients. 13% found the nursing care excellent and 87% rated it as good. 67% rated the doctor as good and 33% as excellent. Explanation of management plan was rated as average 6%, good 39% and excellent 55% respectively. 65%, 32% and 3% felt that the explanation of their test results was excellent, good and average respectively. 58% felt they had excellent opportunity to express their concerns and 42% felt it was good. 81% had excellent understanding of their problem/diagnosis and 19% felt that the explanation was good.

Conclusion:
Our results show that the overall service on medical HDU run by Acute Medical team was rated good to excellent by 100% patients. The high satisfaction on quality of care would suggest that this model could be adapted on other AMUs to support the critical care services and improve the overall care for acutely unwell patients.
Audit

Experiences from setting up a medical HDU

David Antcliffe
Northwick Park Hospital
Kathleen Bonnici
Heather Rohan
Rachel Tennant

Aim Two years ago a four bed medical HDU was established to provide care for patients with single organ failure. The unit is run by a Respiratory consultant and Acute Medicine Trainees. There is little in the literature exploring such units. We wanted to examine our caseload and outcomes to provide a basis to improve the service and to establish some bench marks for care.

Methods Data was collected prospectively over two months for every patient admitted to HDU. We collected patient age, day and time of admission, and reason for HDU referral. Outcomes including death and transfer to ITU were examined. APACHEII scores were used as an estimate of predicted mortality to compare our performance.

Results There were 62 admission 62% came directly on presentation to hospital. 75% occur out of hours and 22% are at weekends. Our case load consists of: 40% NIV, 13% CPAP, 9% inotropic support and 46% close observation of fluid balance or conscious level. Overall mortality was 24% which was predicted by the average APACHEII score. Mortality was lowest for patients requiring NIV at 18% compared to 25% predicted. Patients admitted during the week fared better than those admitted at weekends (weekday 19%, expected 25% weekend 43% expected 25%). In the two years that the HDU has functioned no complaints have been received.

Conclusion HDU is a safe place to manage critically unwell patients not requiring ITU care. A dedicated HDU team appears to provide outcomes better than predicted by APACHEII scoring.
Audit
An audit on the use of thromboprophylaxis on the acute medical assessment unit
Channa Vasanth Nadarajah

Background
Venous thromboembolism (VTE) is a significant preventable cause of in-patient mortality\(^1\). A Department of Health report, in 2005, stated that VTEs may account for 25,000 deaths per year in the UK\(^2\).

Aims
Review the prescription of thromboprophylaxis, in medical patients, on the Medical Assessment Unit (MAU), in relation to local guidelines, and identify the cost implications of inadequate thromboprophylaxis.

Method
A prospective audit, using a convenience sample, of patients admitted over a period of seven days to the MAU at Royal Preston Hospital (RPH) in December 2009, and in June 2010 during the re-audit. Also, a retrospective review of all medical patients in 2009 and 2010, who required further investigations for in-hospital VTEs.

Results
Initially only 2.1% (n=2) had a documented VTE risk assessment, and 20.6% (n=20) were prescribed prophylactic enoxaparin. The re-audit showed that 92.4% (n=97) had documented VTE risk assessment, and 92.4% (n=97) were prescribed prophylactic enoxaparin.

In 2009, 216 patients were investigated for VTE, and 13.4% (n=29) were positive. In 2010, 95 patients were investigated for VTE, and 3.2% (n=3) were positive. Average length of hospital stay increased by 3.5 days, to 8 days per patients.

Conclusion
This audit demonstrated the need to improve VTEs risk assessment and enoxaparin prophylaxis prescription. An educational initiative, through posters, lectures, intranet screen savers, and performas for risk assessment and prescription for VTE, had shown a significant improvement in medical practice\(^2,3\). The potential cost implication to RPH of inadequate thromboprophylaxis was over £30,000 in 2009. However, this reduced to £8,000 following our recommendations.

Reference:
Audit

Direct Cath-lab Access of AMU ACS Patients at St Georges? Hospital, London

Carmen MARTIN-MARERO

ST GEORGES HEALTHCARE NHS TRUST

Ciara Haddadeen
Sandor Sipka
Luis Paiva
Pitt Lim

TITLE: “Direct Cath-lab Access of AMU ACS Patients at St Georges’ Hospital, London”

Authors: Carmen Martin-Marero (*), Ciara Haddadeen, Sandor Sipka, Luis Paiva, Pitt Lim.

(*)Contact author. AMU Lead, AMU, St James Wing, St George’s Healthcare NHS Trust, Tooting, London. Carmen.Martin-Marero@stgeorges.nhs.uk.

I-AIM:

To optimise safe, rapid diagnosis, treatment and cost-effectiveness of acute coronary syndrome (ACS) patients admitted to AMU within 24 hours of admission instead of 3-4 days with usual care.

II-METHODS:

 Patients were selected by inclusion and exclusion criteria (table 1) and identified by the AMU Consultant on call, referred to the Cardiology team –ACS Nurse, SpR or Consultant. Selected patients are transferred directly to the cath-lab for coronary angiogram and have an angioplasty if necessary. Radial and femoral access are used and assessed by previously agreed criteria.

III-OUTCOMES / RESULTS

Between November 2010 to February 2011, 54 patients were selected. 74% were males, average 63 years old. 61% had the angiogram within 24h of admission. 55% had positive troponin of whom 67% needed either PCI/CABG, and 83% had CAD/PCI/CABG. Of the troponin negative, 12.5% needed PCI and 54% had CAD/PCI. Most patients were discharged within 3 days of admission. Radial access showed reduced length of stay mainly when no intervention was needed. A proportion of patients stayed in Cardiology ward for clinical reasons (fig 2). There were weekend delays associated with reduced Cardiology input.

IV-CONCLUSION

Direct transfer to the cath-lab of ACS patients admitted to AMU improves patient’s care, safety and reduces length of stay.
Audit

VTE following in patient stay: has practice improved since the implementation of the thromboprophylaxis and risk assessment guideline and proforma?

Kevin Fagan
Southampton General Hospital

Jasbir Dulay
Chris Roseveare
Marc Atkin

AIM

Southampton General Hospital implemented a thromboprophylaxis and risk assessment guideline and proforma for all adults after a previous audit and subsequent NICE and DH guidance. We reaudited our ambulatory care patients since the proformas introduction to determine if practice has improved. We looked at the number of VTEs managed in the ambulatory clinic, how many had a hospital admission in the 3 months prior, and whether they were assessed using the proforma and received appropriate management.

METHODS

Patients in the ambulatory clinic for confirmed VTE between March and November 2010 were asked whether they had a hospital admission in the 3 months prior. The notes, e-discharge summaries, VTE proformas and drug charts were reviewed to determine whether they received thromboprophylaxis and if not whether the decision was appropriate.

RESULTS

During the 9-month audit 128 patients with VTE were managed. 34 had a hospital admission in the 3 months prior. Of these, 9 were admitted elsewhere, 21 were treated appropriately, and 4 were shown to have received substandard treatment. These 4 were all managed under surgical specialties as elective patients and did not have a VTE proforma completed.

CONCLUSION

Acute physicians are integral at initiating thromboprophylaxis appropriately. The introduction of the proforma has improved our practice. There have been reducing numbers of VTEs admitted and compared to the audit of 2009 there is a 47% reduction in the number of patients who received substandard treatment. We do need to improve our thromboprophylaxis of elective patients particularly in surgical specialties.
Audit

IMPROVING PROTHROMBIN PROTEIN COMPLEX (PCC) SAFETY THROUGH THE DEVELOPMENT OF A BEDSIDE GUIDELINE ? AN AUDIT

Mohamed Yousha Yousuf
Royal Devon & Exeter Hospital
Russell O'Brien
William Lusty
Juline Smit

AIM

Identify shortcomings in the prescription and administration of PCC in reversal of bleeding on warfarin and develop bedside guidance to support its clinical use.

METHOD

Retrospective audit of PCC (Octaplex) usage in the correction of anticoagulation in bleeding patients was undertaken. 22 cases were initially reviewed for compliance with manufacturer’s guidance for prescription, administration and monitoring. A combined bedside guideline and prescription was developed based on audit findings and subsequent practice was re-audited in 12 patients following its introduction.

OUTCOMES/RESULTS

The first audit showed considerable variation from manufacturer’s guidance and confusion about its use. Problems included delays from decision to treatment (Average time 131 minutes and longest delay 255 minutes), important differences in speed of administration (from bolus to 1ml/min) and near-total failure to monitor anticoagulation reversal. There was also poor documentation of prescription of PCC.

Following the introduction of the bedside guidance and staff training, documentation of prescription improved from 59% to 92%. Correct rate of administration improved from 23% to 75%. Re-checking of clotting profile improved from 12% to 92%. Patient monitoring improved from 31% to 92%. The average time taken from decision to PCC administration, improved modestly from 131 minutes to 107 minutes.

CONCLUSION

PCC administration is a complex task often performed by staff unfamiliar with its use. This bedside guidance led to safer practice, by providing step-wise support for staff deciding on the indication, dose and speed of infusion. It also
encouraged appropriate monitoring and the effectiveness of warfarin reversal, and compulsory discussion with the haematologist.
Audit

Right Person; Right Setting. An Audit on the Effectiveness of a Specialty Triage System

Nicola Hemmingway
Norfolk and Norwich University Hospital
Jo Southgate

Right Person; Right Setting. An Audit on the Effectiveness of a Specialty Triage System.

N Hemmingway, J Southgate.

AIM: An audit of the accuracy of diagnosis and effectiveness of specialty triage system (using defined criteria) was conducted in a large teaching hospital AMU.

METHODS: Discharge diagnosis of 409 consecutive patients was compared with admission triage specialty.

RESULTS: MFE received 32%, cardiology 11%, and other major specialities 7-9% of total admissions. Specialty triage was accurate in 96% of cases. 11 patients were incorrectly triaged (3% of admissions). 8 patients with surgical conditions were referred inappropriately.

CONCLUSION: Early specialist review, prompt discharge and appropriate specialty follow-up are all benefits of this system. Specialists continue elective work unhindered by emergency demands. Inaccurate triages to general medicine may have been due to unclear admission diagnosis. Expanding the Acute Medicine triage to accommodate all non-specialty (ie GIM) patients may improve the accuracy of the system and hence efficiency of the service. Large numbers are referred to MFE, however careful patient selection, refining the criteria, to include physiological scoring systems and exclude patients with multiple co-morbidities, may allow identification of patients suitable for AMU (Yong et al). Patients referred with surgical problems lead to problems with management, delays in discharge and work is ongoing. This audit relied upon accurate coding.

This is the first audit on the effectiveness of the triage system, showing that the system was adhered to and patients were referred to appropriate specialties according to established criteria in 96% cases. Adapting the triage criteria to meet the demands and the developments within Acute Medicine is crucial.

Audit

Improving Medical Handover

Faisal Khan
The Royal London Hospital

John Dabis
Zain Malik
Mona Waterhouse
Sarah Wallace

Aim

To improve handover from weekday medical teams to on-call weekend teams at The Royal London Hospital

Methods

Medical handover involved multiple printed patient lists being placed in a folder with weekend jobs labelled. On-call teams sorted through these lists before visiting wards and attempting to prioritise tasks. We audited our practise with anonymized open questionnaires to doctors and focus group interviews. The interviews used open ended questions to explore any unidentified issues. On the basis of our results the author introduced a series of innovations to improve service. A computerised medical handover application was designed to capture handover data and provide customized lists for each member of the weekend team, including potential discharges, ordered by ward. It allowed real time updates to work streams which carried through between Saturday and Sunday staff. A new formal weekend handover meeting, supervised by a consultant physician, addressed the appropriateness of handover tasks. The reorganisation of rotas allowed the weekend Medical SpR to attend.

Results

Data was collected from 31 junior doctors prior to the intervention and 29 following. 16% of the surveyed population agreed or strongly agreed that the handover was organised in a useful way for the weekend team in our initial audit, which improved to 97% following our interventions. The qualitative data seems to correlate well with questionnaire data.

Conclusions

Prior to the intervention, weekend handover was poorly organised. The new system has led to a service improvement. Further work is needed to address other handover periods.
Audit

The effects of introducing an Electronic GP Referral System for Acute Medical Admissions to a District General Hospital

Owain Leng
NHS Ayrshire and Arran

Simon Patten
John Duke
Andy Hardy

Aim:

To assess the effect of a new email based GP referral system to the medical assessment unit (MAU) on the proportion of patients arriving with a GP referral letter and patient information.

Method:

A survey of GP admissions to the MAU was conducted over 2 weeks. A tick-box style form was incorporated into nursing profiles to measure the proportion of patients arriving with a GP letter. The results led to the design and implementation of a new email-based GP referral system. This system linked-in with existing primary-care electronic record systems to automatically incorporate details of the patient’s prescribed medication and recent GP attendances. Following the introduction of the email system the MAU was re-audited during the same winter period.

Results:

During the initial survey, 69.6% of 135 patients arrived in the MAU with a GP letter. After the intervention, 79.2% of 106 patients arrived with a GP letter, of which 57% of the referrals were in e-mail form. Furthermore, of the e-mail referral letters 96% contained an up-to-date automatically generated record of the patient’s drug history.

Conclusion:

There was an overall improvement in the percentage of patients arriving with a GP letter to the MAU. Furthermore the automatic addition of emergency care summaries to out of hours referrals led to a dramatic increase in availability of drug histories. The email system has received positive feedback from both GPs and MAU staff. The system is currently being extended into other areas of the hospital and to further GP practices.
Audit

A novel and effective approach to communicating drug changes during a hospital admission

Alex Sweeney
University Hospitals Bristol

Amanda Beale
Kevin Gibbs
Helen Badham

Aim

Effective medication communication is vital for ensuring the right drug gets to the right patient at the right time. The National Institute for Clinical Excellence issued patient safety guidance[^1] in 2007 and recommended NHS trusts employ medicines reconciliation systems. One measure of the NHS South West Patient Safety Initiative was to record all additions, deletions, and amendments to medications to meet a target of 90% compliance. A baseline audit, in November 2009, revealed medication changes were comprehensively recorded in only 7% of our patients. The aim of this work was to improve our medications documentation to meet the 90% target.

Methods

A continuous process for modifying the drug chart and clerking pro-forma was introduced by pharmacists. Each month, twenty patients were selected randomly and their drug charts and notes reviewed and assessed for compliance. Problems were highlighted and changed using rapid test cycles, as promoted by the Institute for Healthcare Improvement[^2]. This was supported by regular teaching to medical staff.

Results

The improved method of documentation resulted in an increase in medication changes recorded, from 7% to 90%, over a one year period.

Conclusion

The tools developed and implemented by the multidisciplinary team in this study are simple, easy and prove to be highly effective on a busy medical assessment unit. The results demonstrate that these methods substantially improve the documentation of medication changes and, therefore, enhance medicines reconciliation and patient safety. Further work to disseminate these techniques to the rest of the hospital is still needed.

References


Audit

What difference does the introduction of a new drug chart make to prescribing documentation?

Diana Petrikova

University Hospitals Bristol

Kitty Hill
Helen Badham Badham
James Catterall

Aim

The National Patient Safety Agency stated 32% of serious medication-related incidents were due to prescribing errors1. Locally, University Hospitals Bristol (UHBristol) has produced standards for safe and professional prescribing2. These standards seek to ensure prescriber accountability and also informed clinical decision making by awareness of additional drug chart(s) in use and any medicine(s) not given.

Standards:

1) Prescriber identity: 100% of prescribers should print their name
2) Prescriber contact: 100% of prescribers should print their bleep number
3) Additional chart(s): 100% of additional drug chart(s) will be documented on main drug chart
4) Missed doses: 100% of medicines that are not given will have a documented reason

The project aim is to establish the achievement of the above standards within inpatient medical wards at UHBristol before and after the introduction of a new drug administration chart.

Results (see uploaded table)

Method

A data collection pre-forma was designed and piloted.

The pre-forma collected data on all inpatient medical wards in February and September 2010. The new drug chart was released in July 2010.

Conclusion

Our audit showed the redesign of the drug chart produced vast improvements in the achievement of the standards. The drug chart improves prescriber identity and improves patient safety by ensuring prescribers are aware of any additional chart(s) and/or missed doses.

References


Case Reports

'Cord Sign' with a Ring-Enhancing Lesion in Isolated Cortical Venous Thrombosis of the Motor Cortex

Ciaran Hill
National Hospital of Neurology and Neurosurgery
Maryam Khosravi

'Cord Sign' with a Ring-Enhancing Lesion in Isolated Cortical Venous Thrombosis of the Motor Cortex

AIM

This case study represents an important cause of new onset seizures and a differential diagnosis for a ring enhancing lesion

METHODS

Case Study

OUTCOMES/RESULTS

A 47-year-old lady presented with a sudden-onset involuntary rhythmic oscillations of her left thumb. This progressed over a 6-hour period to weakness of the upper limb. She underwent MR Imaging of her brain that demonstrated an area of white-matter vasogenic oedema enveloping the primary motor cortex. There was no sign of a focal lesion. The imaging demonstrated prominent dilated cortical veins that are visible as hypointense filling defects otherwise known as the 'cord sign' (see image). These findings are pathognomonic of cortical venous thrombosis. Follow up MR imaging was performed when the patient suffered a further focal seizure two weeks after initial presentation. The scans demonstrated an isolated ring-enhancing lesion. It was felt that it was not possible to exclude an underlying neoplastic or infective cause. Therefore, a biopsy was performed. Histology confirmed a subacute infarct secondary to cortical venous thrombosis.

CONCLUSION

Seizures are the commonest presenting features of a venous infarct. The clinical and imaging findings often mimic neoplasia or infection and can include ring-enhancing lesions. The patient was treated with 6 months of anticoagulation and anticonvulsant therapy. It is important to consider cortical venous thrombosis in patients presenting acutely with new seizures and we must look specifically for the characteristic radiological findings.

(all images available)
Case Reports

Stroke thrombolysis 24 hours after dual anti-platelet therapy and anticoagulation for Acute Coronary Syndrome

Shahideh Safavi
BHR NHS Trust - King George Hospital
Thofique Adamjee

Introduction

With the expansion of stroke thrombolysis worldwide, clinicians are faced with unusual situations where the evidence base for thrombolysis is unclear. This is a particularly challenging example.

Case Report

A 75-year-old man with background of hypertension presented to A&E with chest pain without ECG changes (subsequently troponin negative).

Treated as an acute coronary syndrome, he was loaded with Aspirin 300mg, Clopidogrel 600mg, and Fondaparinux 2.5 mg subcutaneously.

He collapsed 24 hours later with left visual neglect, left facial droop, slurred speech, and left arm weakness. An urgent CT head within half an hour was unremarkable.

As the onset of symptoms was less than one hour, NIHSS score 18 with no absolute contraindications to thrombolysis, intravenous thrombolysis was administered.

He died 48 hours later, having developed dramatic haemorrhage on CT.

Discussion
The SITS-MOST data showed administration of Aspirin 300mg at onset of stroke has no impact on risk of intra-cerebral haemorrhage in patients receiving intravenous thrombolysis.

On questioning 30 stroke physicians at UK thrombolysis centres, 47% supported thrombolysis, 7% were uncertain and 46% were against thrombolysis in a case such as ours. Alternative suggestions included intra-arterial thrombolysis and clot retrieval by interventional radiologists.

This highlights the need for further studies to assess the use of thrombolysis for stroke in patients taking dual antiplatelet therapy and for clarity on when it is safe to thrombolyse after treatment with low molecular heparin.

In view of the heterogeneity of such cases, prospective observational studies or case series are suitable study designs.
Case Reports

Non-resolving Pneumothorax

Shahideh Safavi
St George’s University of London
Shelley Srivastava
Adrian Draper

Introduction

Historically, non-resolving pneumothorax has been associated with pulmonary bullae, cysts, or persistent air leak due to fistula formation. We present an alternative explanation.

Case Report

A 19-year-old man, with past medical history, presented to A&E with sudden onset shortness of breath. Chest radiograph confirmed a large right sided pneumothorax. The emergency physicians inserted a 12 French Portex chest drain using the Seldinger technique, admitting him to the medical assessment unit.

Two days later, there was no improvement in his symptoms. He was re-assessed by the acute medical team who felt the chest drain was working, so applied suction and transferred care to the respiratory team. Closer inspection of the drain by the respiratory team revealed the chest drain was not connected properly to the underwater seal, resulting in persistent pneumothorax and development of subcutaneous emphysema.

Discussion

This is not an isolated example of chest drains being poorly managed, with subsequent complications and prolonged patient stay. In 2008, the NPSA reported 12 deaths and 15 cases of serious harm relating to chest drains [1].

This has become a more frequent occurrence with the use of Portex chest drains being attached to Rocket drain bottles, necessitating removal of the male connector in order to attach the two correctly.
We suggest that all chest drains are managed in an appropriate unit from time of admission, with regular training and audit of staff. Additionally, pressure should be placed on the NPSA and manufacturers to improve the compatibility of chest drain equipment.

References

Case Reports

Lemierre's Syndrome - The Forgotten Disease

KOK HOON Tay

NHS TRUST

Marco Burattin

Background:

Lemierre's syndrome, named after Andre Lemierre [1] in 1936 is characterized by recent oropharyngeal infections, thrombophlebitis of internal jugular vein and distant metastatic abscess. Introduction of antibiotics in 1940s and its usage for streptococcal pharyngitis led to radically reduced incidence of Lemierre's syndrome, termed the 'Forgotten Disease'. The mainstay of treatment are antimicrobials, surgical treatment and possibly oral anticoagulation.

Clinical case:

A 23-year-old male lorry-driver presented to Medical Admission Unit with a red, painful right elbow preceeded by sore throat. He denied illicit drug usage.

He had erythematous oropharynx, extremely swollen right elbow and rigors with T 39°C. Markedly elevated inflammatory markers and deranged liver function tests were present. Treatment for septic arthritis started but he deteriorated rapidly with severe hypoxia requiring transfer to intensive care for continuous positive airway pressure ventilation. Chest X-Ray revealed unilateral pleural effusion, consolidation with bilateral cavitating lesions consistent with septic emboli. He then developed left abdominal pain due to septic emboli in the spleen. His pleural effusion was drained, treated with aggresive intravenous (IV) antibiotics and had a stormy period.

Outcome:

He remained a diagnostic conundrum until weeks later when serial blood cultures isolated ‘Fusobacterium Necrophorum’ consistent with Lemierre's syndrome. He completed ten weeks' course of IV Penicillin in the hospital and recovered.

Conclusion:

Reaching the diagnosis is extremely challenging and there is significant morbidity associated due to prolonged hospitalization. The successful management of patient's case rests on high index of suspicion of the disease, awareness of the condition and a multidisciplinary approach.

References:

Case Reports

An Unusual Presentation of Chest pain

Sath Nag

James cook university Hospital

Ailan Raja Marian Anthony
Mavin Macauley

AN UNUSUAL PRESENTATION OF CHEST PAIN

AIM

To illustrate the importance of considering a wide range of differential diagnosis for common symptoms in Acute Medicine

CASE REPORT

A 27 year old male presented with sudden onset of severe central chest pain, constant, non-radiating and did not vary with respiration. There was no significant past medical, drug or family history and no known allergies.

He remained well with no haemodynamic compromise during assessment. Cardiac auscultation and the rest of the examination were normal except for subcutaneous emphysema which was confirmed on CXR.

Investigations included normal haematology and biochemistry. The CXR (Figure 1) and CT of his chest (Figure 2) confirmed spontaneous pneumopericardium, but the later did not reveal a primary cause. ECG was normal.

A follow up CXR, 5 days later showed some resolution.

DISCUSSION

Spontaneous pneumopericardium is the collection of free air or gas in the pericardium with no precipitating cause (1, 2). It is a rare condition, occurring mainly in young adults, and can be life threatening.

Pathophysiology involves alveolar rupture (2).

Causes include severe cough, asthma, emesis, cocaine inhalation, parturition, pulmonary barotrauma, athletics, and exposure to chlorine gas (3).

Common symptoms are breathlessness or chest pain, but it can also present asymptptomatically. Percussion note over the precodium may be tympanic if a large quantity of air is present.

CONCLUSION

Spontaneous pneumopericardium is almost always self-limiting, but treatment may be required for tension pneumopericardium (4).

Spontaneous recovery is usually expected in 2-3 weeks (3).
REFERENCES


Case Reports

Insulin Overdose: Cut it out!? The overdose that may benefit from surgery

Jan Droste
Airedale General Hospital

Jan Droste
Vikram Hundia
Andrew Pettit

Introduction

Since the introduction of long-acting basal insulin analogues, several case reports of overdoses with this medication, have been published.\(^1\)\(^-\)\(^3\) Refractory hypoglycaemia with potentially serious neurological sequelae including death can follow.\(^1\)\(^-\)\(^3\) Around thirty years ago, before human or analogue insulin were available, several authors were able to demonstrate that, in short acting and depot insulin overdoses, excision of the soft tissue at the injection site significantly lowered plasma insulin levels.\(^4\)\(^-\)\(^5\)

Case report

An 18 year old diabetic man arrived in the A&E Department 30 minutes after injecting himself subcutaneously, in a suicidal attempt, insulin glargine 1200 Units and insulin aspart 600 Units. He used a single injection site in the lower abdominal wall.

Abdominal examination revealed a small tender area in the subcutaneous tissue, where he had injected the insulin. Examination otherwise was unremarkable.

His serum glucose level showed hypoglycaemia and he had a low serum potassium level. An intravenous dextrose-infusion with potassium-supplements was commenced. The injection site was surgically excised 5 ¼ hours after the injection (4.7 hours post-admission), under local anaesthetic, removing the skin and subcutaneous tissue until reaching the muscle layer. The skin was sutured and wound healing was uneventful.

Serial blood samples were taken and insulin concentrations were measured. Excision of the insulin injection site resulted in a dramatic fall of insulin plasma levels. (Figure 1)

Conclusion

This is the first case report describing the successful reduction in insulin levels using surgical excision, after a severe mixed analogue insulin glargine and insulin aspart overdose.

References

Case Reports

An Unusual Hyperlucent Hemithorax

Jane Atkinson

RVI - Newcastle

Julie Cox

72 year old male with known severe chronic obstructive pulmonary disease presented and a previous medical history of chronic obstructive pulmonary disease (COPD), diabetes mellitus type 2, schizophrenia, and myocardial infarction presented in severe type two respiratory failure. On admission his pH 7.28, CO₂ 12.8, O₂ 8.1 (on 28% of oxygen). His chest radiograph showed a hyperlucent right hemithorax initially interpreted as pneumothorax and the plan was to insert a chest drain to decompress the hemithorax. Further comparison with old radiographs stored on the PACS system confirmed the hemithorax to be a huge, chronic right diaphragmatic hernia. An attempt to pass a nasogastric tube to decompress the stomach failed due to his poor conscious level and despite medical management of his exacerbation of COPD and non-invasive ventilation the patient died the same day. He had a congenital Morgagni diaphragmatic hernia. It had been initially diagnosed over 20 years before, at that time he was asymptomatic and the risks of surgery were felt to outweigh the benefits.

There are two main types of diaphragmatic hernia; Bochdalek or Morgagni. In a Bochdalek hernia, the lateral diaphragm does not develop properly and it presents immediately postpartum with dyspnoea, cyanosis or asymmetrical chest movements and requires surgical intervention. In a Morgagni hernia there is defective fusion of the septus transverses of the diaphragm and are more likely to be asymptomatic at birth and are found incidentally later in life or can cause minor gastrointestinal or respiratory symptoms.

Severe exacerbations of COPD are a common presentation in the Emergency department. Respiratory failure can be complicated by:

- Infection – viral, bacterial or fungal
- Non concordance with medication
- Pulmonary embolism
- Pulmonary oedema from cor pulmonale or other causes of heart failure
- Pneumothorax

Decompression of a tension pneumothorax can be life saving but accurate interpretation of the chest radiograph is vital as chest drain insertion into a bulla or diaphragmatic hernia would be disastrous.
Case Reports

A New Year A New Face?

Lauren McCluskey
Weston General Hospital

David Quinn
Kurien John

Introduction

A previously healthy, 40 year old male presented to the acute medical take on New Year’s Day with a 3-day history of sudden onset facial weakness and dysarthria.

Case Study

The patient’s medical, family and social history was unremarkable beyond a diagnosis of NIDDM made 10 years previously.

Examination identified severe bilateral facial palsy resulting in complete facial paralysis. Further examination of the peripheral nervous system demonstrated an isolated ataxia and global areflexia. Notably, limb power was symmetrical and not reduced.

Following investigations including CSF (Cerebrospinal Fluid) analysis and NCS (Nerve Conduction Studies) he was diagnosed with Miller Fisher Syndrome (MFS).

Discussion

Miller Fisher is described as a triad of ophthalmoplegia, ataxia and areflexia. This constellation represents a benign acute demyelinating polyneuropathy with a male predominance. It is considered a rare variant of Guillain-Barre syndrome (GBS) with neurological deficits typically developing 10 days post-viral infection and usually resolving without sequelae.

The external ophthalmoplegia usually presents first, beginning symmetrically with loss of abduction. Approximately half of the cases are atypical in their presentation but most carry additional signs of neuropathy.

This case is important to acute medical practice as it highlights variations in the presentation of GBS.

Learning Points

- There are very few causes of bilateral lower facial weakness and these neuropathies should be considered even without a classical presentation.
- Atypical presentations of GBS could become increasingly prevalent amongst acute medical admissions given
the multiple recent and current global viral pandemics.

- The treatment of MFS with high dose methylprednisolone should be quickly and appropriately initiated.
- At risk patients should be observed closely for ascending paralysis with FEV1/FVC measurements.
Case Reports

Does it hurt when you take a deep breath in?

Anna Mush

Ysbyty Gwynedd,

Chris Subbe
Anwar Khan
Ahsan Malik
Naushad Junglee

Abstract: “Does it hurt when you take a deep breath in……..?”

Aim: To review a rare diagnosis of a common presentation for Physicians working in Acute Medicine.

Methods: We describe a clinical case that represents a life threatening near miss.

Results: A 58years old female without significant past medical history presented with 18days history of Flu like symptoms, a sore throat, fever and a productive cough that made her bed bound. One day prior to admission she developed a typical Left sided pleuritic chest pain radiating to her left shoulder.

On admission her blood pressure was 58/40 mmhg, pulse rate 64beats/minute and oxygen saturation was 93% in room air. On examination of the chest there was reduced air entry at the left base. Abdominal examination revealed tenderness at the left upper quadrant. White cell count was 22x10⁹, CRP 224IU, virology screening was negative. A differential diagnosis of pneumonia or fulminant pulmonary embolism was made. She was resuscitated with intravenous fluids but despite this blood pressure remained persistently low, therefore transferred to ITU to be stabilized.

An urgent CTPA and CT abdomen revealed a ruptured spleen with fluid in the abdomen. She underwent laparatomy with splenectomy and made a good recovery. She was discharged nine days later on Penicillin.

Conclusion: Spontaneous splenic rupture is a rare and easily missed diagnosis in patients presenting with sepsis and pleuritic chest pain. Commonest causes of spontaneous rupture include infections, neoplasms and hematological disease (1, 2, 3). The combination of a recent viral infection, abdominal tenderness and a persistently low blood pressure might point towards this diagnosis.

References:


A case of Ortner's Syndrome

Rao Nellutla
Midyorkshire hospital NHS trust
Ashish Thakur

A case of Ortner’s syndrome

Case Report: A 66 year old gentleman presented with exertional breathlessness and hoarseness of voice few weeks following Myocardial infarction. He was assessed by ENT surgeon and was found to have left vocal cord paralysis on fibro-optic laryngoscopy. Contrast-enhanced CT Thorax and neck confirmed left vocal cord palsy in addition to bilateral pleural effusions and cardiomegaly. There were no identifiable mediastenal or laryngeal mass lesions. His Echocardiogram showed moderate mitral regurgitation, dilated left atrium and ventricle along with severely impaired left ventricular function. His breathlessness improved with optimisation of heart failure treatment but the hoarseness of voice persisted.

Discussion:

This case illustrates a rare clinical condition called Ortner’s syndrome or Cardiovocal syndrome. It is characterised by hoarseness of voice caused by compression of left recurrent laryngeal nerve in thorax due to enlarged chambers of heart or great vessels (fig1). It was originally described in association with severe mitral stenosis.

Contrast enhanced CT thorax assists in making the diagnosis. These patients are often referred to various specialties like chest medicine, ENT and cardiology before the correct diagnosis is made.

Conclusion:

1. The clinician should be aware that the hoarseness can be one of the rare symptom of cardiovascular disease, especially if the patient has enlarged heart or dilated great vessels.

2. After confirmation of diagnosis, the patient should be reassured that this is a benign condition. The improvement of this symptom depends upon the underlying cardiac pathology and its response to treatment.

References:


Case Reports

Symptomatology and outcomes of patients presenting with Mephadone toxicity

John Bright
Manchester Royal Infirmary
Shoneen Abbas
Vengal Nagareddy
Jacob Wembri
Janos P Baombe

Aim

To define symptomatology and patient characteristics of Mephedrone toxicity presenting to an inner city hospital in Manchester.

There has been a recent shift from traditional drugs like ecstasy and cocaine to substituted cathinones which has led to a sharp rise in patients presenting with mephedrone ingestion. It is difficult to determine the risks associated with their usage with any accuracy because their toxicity and metabolism are still largely unknown.

Methods

Case note review of all patients presenting to our hospital with "recreational drug toxicity" over a six week period March to April 2010.

Results

14 patients (57% male) were identified. Age range 17-65 (mean 24). Presenting complaints: collapse (29%), agitation/behavioural changes (21%) and dystonic reactions (21%). Eight patients (57%) had sinus tachycardia (range 110-168, mean 134). Ten patients were treated and discharged without formal admission. Three patients were admitted under the care of the Acute Medical Unit (all of who had severe agitation) for cardiac monitoring. One patient with polydrug overdose (GBL) and a reduced Glasgow Coma Scale of 3, was intubated and admitted to the Critical Care Unit. No patient had longterm sequelae or represented to our institution. Polydrug use was commonplace and mainly included alcohol, marihuana, GBL/GHB.

Conclusion

Clinical presentations of mephedrone toxicity are nonspecific and confounded by polypharmacy usage. However admissions where related to agitation and tachycardia. A large study should be implemented to elucidate the precise pharmacology of this emerging designer drug. The derived formal and evidence-based harm reduction advice should target the wider population and not only the younger generation.
Case Reports

The case of the blue blooded female

Simon Patten

NHS Ayrshire and Arran

Rowan Wallace

An 81-year-old lady presented to the emergency department with spontaneous bruising above her left eye. She was triaged and found to have oxygen saturations of 81% on air. She was given oxygen and referred to medicine for admission.

The patient appeared bright, well and undistressed. She gave no history of symptoms of hypoxia. She had no significant smoking history and a past history of ocular pemphygoid for which she had taken dapsone for many months. Repeat observations revealed saturations of 83% in FiO2 60%. She was noted to have a blueish discoloration of her fingers and mucous membranes. ABG on the same FiO2 demonstrated saturations of 94%. The suspicion of methaemoglobinaemia was raised. Venepuncture revealed a brownish colour of the blood sample. A bedside test was performed by placing 2 drops of the blood on white filter paper. This demonstrated no colour change with exposure (deoxyhaemoglobin brightens on exposure). MetHB levels were 25%. She was treated with methylene blue and recovered.

Methaemoglobinaemia occurs when methaemoglobin levels rise above 1% in RBC’s. Methaemoglobinaemia is due to either congenital or acquired causes. MethB contains oxidised ferric iron leading to an inability to bind oxygen. Methaemoglobinaemia has a wide range of presentations depending on the levels. The acquired condition is easy to treat with methylene blue and halting the causative agent in this case dapsone. This case highlights the importance of methaemoglobinaemia as a differential in patients with a type 1 respiratory failure not responsive to oxygen therapy.

Education

Foundation Year 1 Trainees feel Simulation Training will Enhance learning of Acute Medicine, and Development of Early confidence in Acute training may impact upon Long term Career Choice

Shairana Naleem

Martin Hamilton-Farrell

AIM

The literature suggests a challenging transition from medical students to FY1 doctors, therefore perceptions of current FY1s were explored regarding learning acute medicine and the role of simulation to support this. High-fidelity simulations have been shown to be educationally effective and have become the latest innovation in medical education.

METHODS

Two video focus groups with FY1 doctors at a DGH, were run over six months in two separate cohorts. A DVD was produced, transcribed and analysed by the lead investigator and a peer observer for validation and cross-linking of theme.

OUTCOME/RESULTS

The discussion yielded rich information and issues highlighted emerged as five themes by drawing on different values and experiences. These fell into skills, personal confidence, learning with simulation, teaching structure and future inspiration.

CONCLUSION

Results revealed that trainees felt regular simulation sessions would be valuable especially in their final year at medical school and first working weeks. Many FY1s pointed out that well supported exposure to acute jobs early in rotation, was more likely to draw them towards considering a future in an acute specialty such as respiratory, acute medicine or cardiology. Those who had not received this appeared to favour specialties such as general practice, psychiatry and palliative care. Simulation or early exposure to acute medicine may need to be addressed when exploring uptake of acute hospital medicine among junior trainees, as this initial training period appears to be crucial in shaping not only knowledge, skills and performance but also impacting upon the confidence, attitudes and future aspirations of FY1 doctors.

REFERENCES


Education

IMPACT EWTD?: Incidence of Medical Procedures by Acute Clinical Teams post EWTD?

Nicholas Robert Murch

Royal London Hospital

Penelope Smith

Aims: The training of junior doctors has changed in the wake of the European Working Time Directive. For most practical procedures standards of competence do not exist, however 'competency' in certain procedures is expected at completion of: Foundation Year 21: (Lumbar puncture, knee aspiration) and Core Medical training2: (Procedures listed above plus, central venous catheter & intercostal chest drain insertion). There was a feeling amongst trainees that competency in practical procedures would be difficult to attain due inadequate exposure. We decided to investigate the number of procedures performed in the Acute Medicine department (5 consultants, 8 registrars, 7 CMT / FY2s and 5 FY1s) of a large teaching hospital. Trainees from other departments rotate to the department to gain 'acute experience'.

Methods: There was no data available for practical procedures in our unit, therefore, prospective self-reported data was collected. All doctors (from Consultants to FY1s) in Acute Medicine were emailed weekly for 6 weeks during Feb-Mar 2010. Details requested included practical procedures performed, the grade of doctor involved, and that of any supervising colleague. Complications encountered, and ultrasound use, was also recorded. Hospital numbers were used to avoid duplication. In addition, the department's mobile ultrasound machine's logbook was studied for the same period, picking up a small number (3) of these procedures not self-reported.

Results: Only 9 interventional procedures were performed over the course of the 6 weeks (see Table). As this was a self-reported study conducted by email, it may not contain all the procedures performed (e.g. out of hours; those done by locums etc.).

Conclusion: Junior doctors have inadequate exposure to procedures (esp. knee aspiration). Reduced clinical exposure may result in decreased procedural competence. Ultrasound-guidance is commonly employed in the department. FY2s are often not supervised, and even supervising others, for some procedures. 'See one, do one, teach one' should be a practice of the past, so evolution of procedural training is necessary. Simulated training, procedural 'passports' are proposed as potential methods of providing a safe and effective environment for learning practical procedures.
Improving future prescribers in Medical Assessment Units: a near-peer approach by recently graduated doctors

David Hall
NHS Lothian
Matthew Sims
Nikki van Gemeren
Adam Archibald

Background

A significant proportion of prescriptions written in Medical Assessment Units are by Foundation Doctors, a task for which they are under-prepared (1). 9% of prescriptions written by recent UK graduates contain errors (1). A lack of focus on the practical aspects of prescribing during training may contribute to this (1,2).

Aim

To employ a near-peer model of teaching practical prescribing to medical students in the context of common acute medical scenarios

Methods

Structured practical prescribing sessions were delivered by current Foundation Doctors to small groups of third year medical students. These covered acute medical scenarios, communicating prescribing decisions, drug monitoring, adverse drug reactions and prescribing practice. After each session, students provided structured feedback using a Likert scale.

Outcome

61 tutorials were delivered to 136 students (some attended several sessions) after which 289 separate evaluations were received. 74.7% strongly agreed or agreed that the “tutorials are likely to have more influence on [their] future prescribing than [their] formal teaching sessions.” 73.0% strongly agreed or agreed that “The prescribing education provided by these tutorials is more useful than that provided during formal teaching.” 77.9% strongly agreed or agreed that they “prefer to learn from foundation doctors than more senior medical staff.”

Conclusion

Enthusiastic junior doctors can deliver a highly-rated practical learning experience for medical students. Key elements include training for tutors and structured teaching material targeted towards experiential learning with supervisory input from senior doctors. Teaching medical students encourages reflective practice and may positively reinforce foundation doctors’ own safe prescribing habits in medical assessment units.

References


**Aim:**

In the current economic climate, the gap between NHS budgets and spiralling healthcare costs is ever widening. Diagnostic investigations account for a large proportion of healthcare costs. In order to economise it is vital that Health Care Professionals (HCPs) make cost-effective decisions when requesting investigations.

The aim of this audit was to:

1. Assess HCPs awareness of the cost of 20 basic hospital investigations, utilised in the Acute Medical Unit (AMU).
2. Determine if HCPs awareness of costs would influence their clinical practice.

**Methods:**

An anonymous survey about the costs of 20 basic investigations was distributed to HCPs working in Acute Medicine. Participants were given a free text box and replies within 25% of the true cost of the investigation were considered correct.

**Results:**

HCP’s were divided into three categories (1) Allied health professionals, (2) Junior Doctors (F1/2) and (3) Middle grades (ST1 and above). The results show HCPs had limited awareness of diagnostic costs of basic investigations (see graph).

**Conclusions:**

- HCPs working in Acute Medicine have limited awareness of diagnostic costs.
- AHP had the greatest awareness of investigation costs (24%), junior and middle grade doctors both had the lowest (16%).
- The majority of professionals felt an awareness of costs would affect their clinical practice (80%).

**Discussion:**

The results show that healthcare professionals have limited awareness of costs. In light of the current budgetary constraints of the NHS it is vital that HCPs working in Acute Medicine have an awareness of these costs to make cost-effective decisions.
Aim

Initial responders to acutely unwell patients in hospital are often Foundation Year 1 doctors (FY1s). The combination of time pressure, dynamic conditions and heavy information load provides fertile ground for error. This study aimed to explore the errors made by FY1s in acute care contexts, in terms of both action and intention, so that emerging patterns of behaviour could be used to guide novel educational strategies.

Methods

Following ethical approval, 38 FY1s (from seven UK medical schools) participated in high-fidelity simulated acute care scenarios. Each video-recorded scenario was immediately followed by an audio-recorded debrief which encouraged articulation of cognitive processes. Two researchers reviewed the videos and categorised erroneous actions and omissions. Evidence from the scenario and corresponding debrief was used to classify each error according to intention using Reason’s generic error-modelling system (GEMS).

Results

In total, 238 errors were identified (8 to 20 per scenario), with sufficient evidence available to classify 167 according to GEMS. Slips were often related to procedural skills. Rule-based mistakes stemmed from the misapplication of ‘good’ rules and the application of ‘bad’ rules; table 1 displays an example of each. Knowledge-based mistakes related to both clinical and non-clinical aspects as shown in table 2.

Conclusion

Suggestions for pragmatic educational innovations that may reduce error and enhance patient safety include the gradual addition of distractions or time-pressure to the rehearsal of practical procedures. FY1s must acquire sufficient knowledge of hospital systems and equipment, and workplace based ‘cognitive feedback’ may aid the formation of good rules.

References


Koenraad Van den Abbeele
Wexham Park Hospital

Malorie Bad
er
Mike McIntyre
Stephen Dawson

Aim

New Guidelines recommend HIV testing of medical admissions if HIV prevalence > 0.2%. With 0.35% prevalence in our locality we evaluated the impact on junior doctors’ HIV testing practices with a survey before and after an initiative to increase HIV testing.

Methods

In August 2010 we surveyed junior doctors on perceived barriers to HIV testing and knowledge of Guidelines with a 5 MCQ questionnaire before and after a 4-month educational initiative involving individual/group training (S.H.A.R.P.). We used SurveyMonkey to collate survey data from electronic and paper responses. 31 of 50 responded (62%) to the initial survey of which 15 responded to re-survey (49%). We compared survey results and amount of HIV testing pre and post-SHARP (Aug’10 vs. Jan’11).

Results:

Before S.H.A.R.P 71% were not aware of National HIV Testing Guidelines, only 22% had tested >10 patients in the previous 6 months and 65% indicated at least 1 barrier deterred them from offering a test. The post-SHARP survey showed 33% unaware of guidelines, 47% had now offered > 10 tests in the last 6 months and 33% indicated a barrier to testing. HIV testing among medical admissions increased from 8% pre-Aug’10 to 17% end Jan’11.

Conclusion:

The SHARP initiative increased awareness of HIV guidelines from 29% to 67% and reduced resistance to offering HIV tests as evidenced by an increase in HIV testing at Wexham Park Hospital. A local focused educational programme can positively impact attitudes and practice in HIV testing.

References:


2. HPA, HIV prevalence by Local Authority 2009, published 2010


Supported by an educational grant from Gilead Sciences Ltd.
SIMULATION OF MEDICAL PROCEDURES FOR FOUNDATION YEAR PROGRAMME IMPROVES CONFIDENCE LEVELS AND KNOWLEDGE BASE

John Tshon Yit Soong
Brighton and Sussex University Hospitals

Helen Flanagan
Anthony Richardson
Beth Davies
Luke Hodgson

AIM

Learning a new procedure involves an experiential and iterative process of fine-tuning of one’s technique. It is essential that a safe environment exist, to enable one to learn effectively from one’s mistakes. Simulation lends itself well to this role as a teaching tool, and improves patient safety. We aim to explore if simulation is effective in increasing a learners’ clinical knowledge base and confidence of performing medical procedures.

METHODS

A 3-hour practical session was organised as part of the ongoing education programme for Foundation Year 2 (FY2) doctors working at acute Trusts within Brighton and Sussex University Hospitals NHS Trust. The FY2s were tested on their knowledge base via a multiple-choice question (MCQ) assessment, and scored their levels of experience and confidence for each procedure via a questionnaire, one week prior to the session. 6 “stations” with experienced clinical facilitators and manikin aids were organised, with small groups rotating “round-robin” style through all “stations”. A course book to augment learning was distributed at the start of the session. Following the course, the FY2s completed the same MCQ assessment and rescored their confidence levels.

OUTCOMES/RESULTS

42 FY2s attended the session. 21 (50%) and 23 (55%) FY2s completed the pre and post course assessments and questionnaires respectively. The mean total MCQ score and mean confidence rating (10-point Likert-Scale) improved from 59% and 4.0 respectively (pre-course), to 71% and 5.9 respectively (post-course).

CONCLUSIONS

Simulation of medical procedures increases clinical knowledge base and confidence of FY2s.

References:

Do the ‘Top 20 Medical Presentations’ the cornerstone of the acute internal medicine (AIM) curriculum reflect actual practice? Does the AIM curriculum need to be amended?

Catriona Maybury

Royal Sussex County Hospital

John Soong

TITLE: Do the ‘Top 20 Medical Presentations’ the cornerstone of the acute internal medicine (AIM) curriculum reflect actual practice?

Does the AIM curriculum need to be amended?

AUTHORS: Soong J, Maybury C

AIMS:

The AIM and General Internal Medicine (GIM) curricula were developed in accordance with the GMC’s Good Medical Practice as a framework for appraisal and assessment.

Competencies for acute medical, core medical and acute care common stem trainees are based around a theme of the ‘Top 20 Common Medical Presentations.’

We aim to assess whether presentations to one teaching hospital reflect the curriculum and in doing so assess its relevance.

METHODS:

2 investigators extracted data for 2000 presentations from the electronic Whiteboard (record of all acute medical admissions) on the Acute Medical Unit at the Royal Sussex County Hospital (RSCH), from 06/12/2010 to 13/01/2011. The data was analysed for frequency and coded, where possible, to match the presentations within the 2009 AIM + GIM Curricula.

RESULTS:

140 patient presentations were deemed uncodable.

Presentations due to anaemia, complications of anticoagulation, acute kidney injury (AKI) and immobility all appeared within the top 20 at RSCH although with the exception of immobility they are not featured in the curricula.

Other presentations such as Acute Back Pain feature in the curriculum’s ‘Top 20’ but not at RSCH.

CONCLUSIONS:

Acute medicine is now a specialty in its own right with a curriculum to reflect this. However the ‘Top 20’ and ‘Other Important Medical presentations’ are shared with the GIM curriculum.

The AIM curriculum should be re-evaluated with possible amendments being the inclusion of more acute presentations, (such as AKI and DKA) with the exclusion of presentations that are rarely seen in an acute setting.

REFERENCES
1) General Medical Council. Good Medical Practice: Duties of a Doctor.

2) Joint Royal College of Physicians Training Board; Acute Internal Medicine Curriculum 2009. General Internal Medicine Curriculum 2009.

3) Postgraduate Medical Education and Training Board; Standards for Curricula 2005.
Aim

There have been few studies examining changes in diagnoses during acute medical admission pathways. We prospectively followed patients presenting to our medical admissions unit (MAU) over a consecutive seven day period and recorded diagnoses made at key stages from referral to discharge. Our aims were to identify those presentations most associated with diagnostic change (to target educational activity) and to assess the value of twice daily consultant post-take ward rounds (PTWR).

Methods

Data were collected from patients’ medical notes. The primary, secondary and differential diagnoses at referral, admission and consultant PTWR were recorded. Subsequently, length of stay and discharge diagnoses were obtained from discharge summaries.

Outcomes/Results

A total of 115 patients (55 men and 60 women) were followed (93.5% of those admitted). At referral, 47 patients (40.9%) had symptoms rather than a diagnosis documented whilst after admission to MAU only five patients (4.3%) had no diagnosis. At discharge, all patients had a diagnosis. Table 1 reports the prevalence of diagnoses by organ-system at referral and PTWR. Respiratory and cardiovascular diseases were the most common diagnoses and respiratory diagnoses showed the greatest relative increase suggesting initial mis-attribution. Patients with musculoskeletal presentations (primarily falls) had the highest number of changes to their diagnosis. There was no significant difference in the number of changes in diagnosis per patient between day and night admissions (0.91 vs.0.85, p=0.76), or between different grades of admitting doctor (p=0.54). The consultant PTWR resulted in a change of diagnosis in 36 patients (31.3%).

Conclusion

Musculoskeletal presentations (primarily falls) caused the most difficulty in diagnosis, and respiratory presentations were most commonly initially attributed to other organ systems. The current twice daily consultant ward round appears
to be of value.
Peripheral Venous Lactate as a Prognostic Indicator in the Medical Admissions Unit

Anna Hartley
Barts and The London NHS Trust

Stefan Antonowicz
Jibran Mecci
Simon Coppack

Peripheral Venous Lactate as a Prognostic Indicator in the Medical Admissions Unit

Aim

There is much research on lactate as a prognostic indicator in various specific situations in hospital medicine eg. sepsis[1] and intensive care[2]. There is less data on its use in unselected emergency medical admissions. In our hospital, most emergency medical admissions have a venous blood gas performed to provide rapid electrolyte levels and to comply with the recommendations for sepsis risk stratification[3]. The significance of a raised lactate in unselected acute medical admissions is frequently questioned. The aim of this study was to determine whether peripheral venous lactate can be used as a prognostic indicator in patients admitted as an emergency to the Medical Admissions Unit (MAU) regardless of diagnosis.

Method

This was a prospective study of patients admitted as an emergency to the MAU of a large inner-city teaching hospital designed to include over 104 patients. Over a nine day period, all patients with a lactate level available on admission were included (n=108).

Results

108 patients had venous lactates available on admission. Demographic data is shown in Table 1. The venous lactate value was higher (p=0.027) in those who died than those who survived and related to an increased length of hospital stay (p=0.006) as shown in Figure 1.

Conclusion

There are associations between peripheral venous lactate and both length of stay and mortality in relatively unselected emergency medical admissions. In the acute medical setting, lactate is a promising prognostic marker. Larger studies would be beneficial in order to analyse this further.


Research

Survey of 30 day readmissions - will we be penalised for looking after the dying and mentally ill?

Wen Yi Ding

Queen Elizabeth Hospital King's Lynn

Alistair Green

Aim:

Soon hospitals will only be paid for the initial admission if patients are readmitted within 30 days [1]. Our aim was to determine the main groups of patients who are readmitted, identify linked admissions and ascertain whether these were preventable.

Methods:

We identified patients readmitted within 30 days of an initial admission. The main diagnosis from the electronic discharge letter for the admission and the readmission were compared and classified as linked if the admission diagnosis was the same or similar to the readmission diagnosis. These linked readmissions were subdivided into definitely avoidable, potentially avoidable and unavoidable. Some discharge letters were not completed and were unable to be classified. Unavoidable readmissions would include those with pneumonia, UTIs, side effects of chemotherapy, and those who self-discharged. Patients with chronic mental health problems, those with repeated admissions for chest pain and those with end stage metastatic cancers were classed as potentially avoidable.

Outcomes/Results:

Out of 86 readmissions, 42 (48.8%) were linked, 30 (34.9%) were unrelated and no information was available for 14 (16.3%). We identified 6 of the linked admissions as definitely avoidable, 18 as potentially avoidable and 18 as unavoidable.

Conclusion:

Frequently readmitted mental health patients need co-ordinated treatment with psychiatric services and hospitals should not be solely penalised for their readmission. Good community palliative care can prevent unnecessary admissions, but an acute deterioration in pain or breathlessness may merit a hospital admission to titrate medication to symptoms. Of the 86 readmissions, only 6 (7%) were definitely avoidable admissions.

References:

Medical Emergency Anaphylaxis: Comparison of survey results of doctors' knowledge of adrenaline (epinephrine) administration in two District General Hospitals Trusts

Jan Droste
Airedale General Hospital
Jan Droste
Nithin Narayan

AIM

To compare results of two surveys regarding the knowledge of hospital doctors potentially involved in adrenaline administration, to treat anaphylaxis (non-cardiac arrest situation), in adults.

METHODS

The survey results of doctors' knowledge of adrenaline administration in two District General Hospitals Trusts (Mid-Yorks-2009; AGH-2010) were compared. In both trusts a convenience sample of doctors working in medical/surgical specialties had been interviewed per direct questioning. P-values were calculated using Fisher's exact test.

RESULTS

284 Hospital Doctors had been interviewed by direct questioning. Distribution of grades/specialties and answers regarding administration route/drug dosage are summarized in Table 1.

There was a small difference in the seniority of doctors interviewed between the two trusts, but not regarding the specialties. Regarding the knowledge of recommended route of administration and correct dosage, the differences in the doctor's answers between the two trusts were mostly not significant.

Combining the results of both surveys, of 284 Hospital Doctors, 14.4% (n=41) would administer adrenaline as recommended by the UK Resuscitation guidelines from 2008.¹

CONCLUSION

Approximately half of the fatal anaphylactic reactions in the UK each year are iatrogenic and the mean time to cardio-respiratory arrest is 5 minutes.²,³

Incorrect adrenaline (epinephrine) administration in anaphylaxis can endanger patients' lives.²,⁴

This survey comparison shows that an educational deficit regarding the new UK Resuscitation guidelines is present and needs to be addressed.

We propose a mnemonic for remembering the correct treatment for anaphylaxis in the adult:⁵

“A Thigh 500” for Adrenaline into the antero-lateral thigh, 500 micrograms.

REFERENCES

5. Droste J, Narayan N. Hospital doctors’ knowledge of adrenaline (epinephrine) administration in anaphylaxis in adults is deficient: There is still need for significant improvement. Resuscitation 2010;81(12):1744-1745
Research

A simple, accurate and reliable tool to measure patient satisfaction

Vinay Reddy-Kolanu

Birmingham Heartlands Hospital

Michael Berry

Aims

Surveys are increasingly used nationally as an indicator of the performance of health systems. There is evidence that satisfied patients may faster recover and have better health outcomes. The government has acknowledged this evidence and has stated that some funding provided to hospitals may be based on the results of patient satisfaction surveys.

Our trust’s patient satisfaction survey is a long document that takes some time to complete. The aim of our research was to design and test a simple tool that could measure patient satisfaction accurately and reliably.

Methods

We designed a 10 cm visual analogue scale (VAS) that covers the four main domains environment, treatment, information and dignity explored in our trust’s patient satisfaction questionnaire. The questionnaire was modified to include all questions relevant to an acute medicine unit (AMU), 36 in total; the VAS was included at the end. 100 questionnaires were completed over a 4 week period in 2010.

Results

We have evidence that the scale has a correlation with the questionnaire. The data was parametric and repeatable. If a change is implemented only 36 questionnaires are required to give 80% power to detect a 10mm difference in the VAS at 0.05 significance.

Conclusions

Many AMUs implement changes that will impact on the level of patient satisfaction. Measuring the impact is currently a time consuming process that is rarely if ever done. We believe that this VAS is a simple tool that can measure current and changes in patient satisfaction accurately and reliably.
Service Organisation and Design

Evaluation of a Consultant-Led Telephone Triage System at Royal Bolton Hospital

Nadia Raza
Salford Royal Hospital
Cindy Walton
Adam Robinson
Kevin Jones

AIM

The biggest priority for the NHS is to reduce the number of hospital admissions. A Rapid Access Clinic with a consultant-led telephone triage system was set up at The Royal Bolton Hospital to divert patients from AMU and improve patient flow.

METHODS

In February 2010, it was decided that a consultant physician would carry a bleep from Monday to Thursday, receiving all phone calls from GPs, in order to give advice, offer an appointment for Rapid Access Clinic, or offer admission. Quantitative data were collected from Extramed, the electronic patient tracking system. Qualitative data were obtained by interviewing the staff involved.

RESULTS

381 patients attended the Rapid Access Clinic from February to May 2010. 21 patients failed to turn up for their appointment, giving a DNA rate of 4.88%. 5 admissions were avoided in January 2010 due to utilisation of Rapid Access Clinic. This went up to 30 in February (when consultant-led triage was commenced), 36 in March, 37 in April and 42 in May. During this time period there was also a monthly trend towards a reduction in the number of patients admitted with a minimum overnight stay, and in the number of admissions with a same day discharge. Analysis of calls showed no significant difference in the number of GP referrals when comparing November 2009 - January 2010 with February 2010 - April 2010.

CONCLUSION

A consultant-led telephone triage system for GP referrals improves the utilisation of Rapid Access Clinic and reduces the number of AMU admissions.
Service Organisation and Design

Improving Safety, Communication and Learning in the MAU using a multi-disciplinary Board Round

Helen Waters
South Devon Healthcare NHS Foundation Trust

Ben Benjamin
Ginn Elizabeth

Aim

To test the use of a multi-disciplinary 'board round' to forward safety agenda within a 49 bed multi-specialty Emergency Assessment Unit (EAU) in Torbay Hospital.

Methods

Acute physician and post-taking consultants review all patients on EAU from 8am daily. At 11am they meet for 40 minutes with the coordinating nurse, ED physician, surgical junior doctor, bed manager, unit therapists, critical care outreach nurse and other specialist nurses (fig1). Each patient is presented briefly using an agreed communication tool (SBAR - situation, background, assessment, recommendation¹). Topics on the safety agenda are highlighted, including infection control, venous thromboprophylaxis² and care planning (discharge) summaries requiring completion.

Outcome/results

VTE assessment and prescription rates rose to the highest in the Trust (fig2). Care planning summary completion for the unit rose from 51% completion (37% within 24 hours) May 2010 to 88% completion (75% within 24 hours) February 2011.

Decision-making was more effective as the relevant specialists and professionals were all present.

Associated benefits, unmeasured, but reported included increased confidence of unit FY1s, improved note keeping in SBAR format, better cross-specialty learning and better pre-discharge attention to secondary bone prevention post fragility fracture and driving guidelines following collapse/fit.

This system is adaptable to other safety agendas and learning opportunities.

Conclusions

Torbay's EAU board rounds have become accepted as an effective way to communicate care plans, share opinions, request specialist advice, agree on best place of care and highlight safety issues while providing a strong ward identity. They are seen by trainees as an important learning opportunity.

References


Service Organisation and Design

The multi-disciplinary team approach to patient flow.

Nicolai Wennike
Musgrove Park Hospital
Andrew Thompson
Ashraf Kamour

Aim

Acute Medical Units are set up to provide the right person in the right place – first time. The next hurdle is to ensure that the patient continues to get the right care, and this demands efficient patient flow throughout their in-patient stay. The majority of trusts operate a ‘ward-based system’ for patient care. Therefore, getting a patient requiring complex speciality input to the appropriate ward facilitates early speciality input, improves outcome and early discharge.

Prior to the appointment of Acute Medicine Consultants at Musgrove Park Hospital, patients were allocated to a speciality ward depending on their presenting complaints with no prioritisation for clinical need.

Methods

In conjunction with each medical speciality we devised a list of common medical diagnoses for that speciality and divided them into ‘definite’ and ‘desirable’ categories to prioritise who would be transferred to their ward. E.g. patients with pneumonia CURB65 score ≥3 were categorised as ‘definite’ and patients with CURB65 <3 were categorised as ‘desirable’ for a respiratory ward.

The preferred ward for each patient was then identified by the MAU Sister or Consultant using these criteria and recorded on the patient tracking system available to MAU and Bed Management teams.

Outcomes/results

Over 28 days we identified 136 out of 927 patients requiring a speciality bed and this was correctly performed in 128/136 (94.1%) of cases. The project was reviewed three months later and 132 out of 655 patients were identified and correct placement occurred in 126 (95.5%) of cases.

Conclusion

Patient flow is an essential aspect of an efficient MAU and the early identification of patients requiring speciality ward allocation ensures optimal care without impact on the MAU. We have identified a multi-disciplinary approach which has benefited our Unit.

Reference

Service Organisation and Design

Predicting length of stay in acute medical admissions

Andrew Hardy
Calderdale and Huddersfield NHS Foundation Trust

Aims

Compare predicted and actual length of stay (LOS) in acute medical admissions
Review criteria for transfer to short stay unit (SSU)

Methods

The SSU is a rapid discharge facility for patients in hospital up to 72 hours. Accurate identification of suitable patients ensures the SSU works effectively. Audit in October 2010 compared predicted and actual LOS in 200 consecutive admissions prior to expansion of SSU in January 2011.

Results

118 of 200 (59%) had a documented predicted LOS. Predicted vs actual LOS is shown in figure 1. The proportion of patients suitable for transfer to SSU decreased as predicted LOS increased (figure 2).

67 of 72 (93%) patients with an actual LOS 0-3 days had a predicted LOS 0-3 days. 67 of 83 (81%) patients with predicted LOS 0-3 days had an actual LOS of 0-3 days. 30 of 35 (86%) patients with a predicted LOS of >3 days had an actual LOS >3 days. 30 of 46 (65%) patients with an actual LOS >3 days had a predicted LOS >3 days.

Conclusions

From 01/01/2011 all patients with a predicted LOS of 0-3 days were deemed suitable for transfer to SSU. Given the accuracy of this measure (sensitivity 93%, specificity 65%, PPV 80%, NPV 85%) no other assessment tools were used. The proportion of patients discharged within 72 hours from SSU increased from 62.7% in W/C 03/01/2011 to 76.7% in W/C 14/01/2011. Re-audit in February 2011 showed documentation of predicted LOS increased to 72%. Ongoing audit is planned.
Service Organisation and Design

Acute Medical Unit Configuration in the South West

Francesca Neuberger

Severn Deanery

Ella Chaudhuri

Aim:

To compare elements of current Acute Medical Unit (AMU) design and configuration in the South West with the standards established in the Acute Medical Task Force Report of October 2007[i].

Method:

An electronic ("surveymonkey") questionnaire was cascaded to all acute medical trainees in the Severn and Peninsular Deaneries via the regional trainee representatives (see Figure 1). If discrepancies between answers were observed, a follow-up telephone call was made to the AMU in question for clarification. Simple statistical analysis of the data was performed.

Outcomes/Results:

Data was obtained from 15 AMUs in the South West ranging in size from 12 to 70 beds, with a mean number of 30.1 beds. The average take size varied from 10-20 to over 60 patients per 24 hours, with a median of 30-40 patients. The configuration data is demonstrated in figure 2.

Conclusion:

Current AMU facilities in the South West fall short of the standards set out by the Acute Medical Task Force Report and the ideal of the “Emergency Floor” is still a long way off in many hospitals.

Our data suggests that there is a lack of ready access to ultrasound/sonosite imaging and the overwhelming majority of AMUs lack a procedures room. This makes adherence to national guidelines on central line placement[ii] and chest drain insertion[iii] extremely difficult and impacts directly on patient care.

This is unlikely to be a problem unique to the South West and it would be interesting to compare results with national data arising from the most recent RCP AMU audit[iv].

References

[i] Report of the Acute Medicine Task Force (October 2007) Acute Medical Care – The right person, in the right setting – first time


Service Organisation and Design

The Performance of Emergency Ambulatory care at James Cook University Hospital, a retrospective Audit.

Allan Raja Marian Anthony

James Cook University Hospital

Alan Kelly
Mahir Hamad
Vincent Connolly

Background

Ambulatory Emergency Care is care which can be provided out with the traditional bed setting. The new National Clinical Quality Indicators include ambulatory care performance.

Aims

1. As the new National Clinical Quality Indicators include ambulatory care performance it is important to establish a baseline of how the department stands going forward and assess where improvement is required.
2. An increase in access to the clinic through consultant signposting via evening clinics and an “on call” consultant telephone service was initiated in January 2011. The establishment of the departments pre-intervention position will allow re-audit to establish their efficacy.

Methods

This retrospective audit was conducted using information request against CAMIS data files for coded entries. The search data from July – December data of 2009 and 2010 was analyzed using zero length stay against total admissions to represent the percentage of ambulatory care. These results were then compared against the corresponding condition standards in the Directory of Emergency Ambulatory Care for Adults, general medicine section.¹

Results

This study showed that only six of the twenty seven conditions investigated was the department meeting the standards from the Directory of Emergency Ambulatory Care for Adults.¹ Of these six conditions only one exceeded the standards.

Conclusion

This audit highlights the fact that there is an opportunity to develop ambulatory emergency care further with the potential to save bed days and deliver excellent patient care. The results would suggest that there is a significant opportunity to increase the throughput in the ambulatory clinic.

References

1. The Directory of Emergency Ambulatory care for Adults, Institute for Innovation and Improvement, Version 2,
March 2010.
Service Organisation and Design

Ambulatory care paracentesis

Mark Mallet
Royal United Hospital

Aim

Ascitic drainage (paracentesis) is a common procedure carried out in secondary care. 3 to 4 patients per week have drains placed in our ambulatory care area. We looked at activity, underlying diagnoses, and outcomes for this group.

Method

Our ambulatory care database was searched for patients having ascitic drains in 2008 -2010. Hospital episode statistics and electronic patient records were used to identify diagnoses, outcomes, and Trust-wide activity data.

Results

333 procedures were carried out in 106 patients. In 2009-10 this represented 50-56% of ascitic drains placed across the Trust. One procedure was abandoned as unsuccessful, and one was followed by abdominal wall infection, although we did not systematically review written patient records for complications. 13 patients (3.9% of attendances) were admitted following the procedure, for more prolonged drainage or ongoing management of the underlying condition. All others had uncomplicated procedures and went home the same day.

In the 3-year study period, 48 patients had 1 procedure, 25 had 2 drains, 16 had 3, and 17 patients had more than 3 procedures. 75 of the 106 patients had a malignant cause for their ascites, mainly ovarian, GI-tract, or breast cancers. 28 had chronic liver disease; two had heart failure, and in one patient the cause of the ascites was unclear.

Conclusion

Therapeutic paracentesis is a common procedure carried out in secondary care. In many cases it is possible to do this safely and efficiently in an ambulatory care area or equivalent. Some patients need repeated procedures.


Service Organisation and Design

Training and Retention of Prospective Acute Physicians

Alexandra Thomson-Moore

Bristol Royal Infirmary

AIM

To hear the opinion of ACCS (AM) trainees on two current training and recruitment issues

· what specialties they perceive they need exposure to in their third ACCS year?

· what is influencing them to pursue/not pursue acute medicine (AM) as a career?

METHODS

A questionnaire was sent to all national ACCS (AM) via deanery contacts that included the questions

· What rotations do you think you need as a minimum in your ST2b/CT3 year to be a competent medical registrar?

· Are you planning to stay with AM and if not why not?

OUTCOMES/RESULTS

There were fifteen respondees from five deaneries.

Over 70% of trainees felt cardiology and respiratory were a minimum requirement in their third year.

Two deaneries did not provide a third year in 2010 but will do from 2011.

70% were either definitely or unlikely to pursue AM as a career. The most commonly cited reasons were that AM training seemed poorly organised, they would prefer more clinical specialism, or that they had never intended to do AM.

CONCLUSIONS

Lack of a regional champion resulting in poor local organisation of ACCS (AM) training, eg no third year
provided, contributes to high attrition from the specialty. 

Even where ACCS (AM) training provision meets trainees’ aspirations, AM still struggles to define why it is an attractive specialty. There is a perception of being an ‘on take’ triage service with limited expertise. SAM needs to be working on making its front door and the specialty more appealing.
Aims.

There has been a nationwide transformation in the delivery of urgent and emergency care (1). A consultant led rapid access clinic began in our Trust in June 2010 to obtain a prompt and senior patient assessment. The referral source is from General Practitioners whom adhere to specific inclusion and exclusion criteria. Our aim was to evaluate the implementation of this service and determine performance, quality and safety factors.

Methods.

A computerised record of patient referrals to RACAM is maintained on a secure database. A retrospective analysis was performed on patients seen from June to December 2010 utilising patient records and hospital computer systems.

Results.

Over 6-months, 220 patients were seen. Patients with DVT were excluded (see chart). Mean and median age was 58 and 56 years respectively. In total 179 patients (81%) were discharged, and 41 patients (19%) were admitted with a mean length of stay of 6.5 days. On the appointment date, 31% (68/220) of patients required detailed radiological imaging (excluding chest radiographs). Data pertaining to discharged patients:

- 30-day re-admission rate = 4.0% (7/179);
- 30-day mortality rate = 1 %. (2/179, both were readmissions and had disseminated malignancy);
- Follow up RACAM appointment = 23% (41/179);
- Referral to a speciality clinic = 22% (40/179).

Conclusions.

The clinic offers a safe admission avoidance service. Readmission rate is low compared to the national average of 8.3% (2). Our results will promote service expansion, dedicated radiology slots and the development of rapid access appointments in speciality medical clinics.
References.

1) Directory of Ambulatory Emergency Care for Adults. Institute for Innovation and Improvement. 2006

2) CHKS. The Impact of Non Payment for Acute Admissions. NHS Confederation and Foundation Trust Network. 2011.
Service Organisation and Design

Safety of Outpatient Pulmonary embolism

Vittalrao Jadhav

Norfolk and Norwich University Hospital Norwich

Dr. Carl Heffernan
Jennie Wimperis

AIM

Evaluation of safety of ambulatory (outpatient) pulmonary embolism service

METHOD

Local guidelines and pathway for Outpatient Pulmonary embolism service was established

Retrospective analysis of all patients referred to pulmonary embolism service from April 2010 till February 2011

OUTCOME

Majority of Suspected Pulmonary embolism patients had radiological imaging V/Q or CTPA within 24-96 hours

17 percent of suspected Pulmonary embolism patients had positive radiological imaging (V/Q/CTPA) and 83 percent of suspected Pulmonary embolism patients had negative radiological imaging for Pulmonary embolism.

None of the patients were readmitted within 7 days of initial presentation.

None of the patients had any bleeding complications with Low molecular weight heparin therapy while waiting for radiological investigations.

None of the patients had recurrent thromboembolism while waiting for radiological investigations

100 percent 3 month survival for suspected pulmonary embolism patients referred from April 2010 till November 2010 (Awaiting 3 month survival results from December 2010).

60 percent patients who had CTPA had other pathology or alternative diagnosis

Significant reduction in inpatient bed occupancy was noted on AMU with suspected pulmonary embolism patients

Patient satisfaction survey revealed positive feedback

Outcomes were measured by retrospective analysis of the patient service

CONCLUSION

Outpatient/Ambulatory Pulmonary embolism service is safe with proper inclusion criteria, reduces inpatient bed occupancy and has revealed very high patient satisfaction.
**Service Organisation and Design**

Trainee ultrasound use for intercostal drain insertion in UK Intensive Care Units

Tapas Mukherjee  
UCLH  
David Walker  
Sachin Mehta

**Aim**

Bedside ultrasound (US) in acute and critical care is an essential component of safe practice. The National Patient Safety Agency (NPSA) and British Thoracic Society (BTS), have highlighted dangers of intercostal chest drain (ICD) insertion and proposed training standards in ultrasound use.

Training in AIM requires a placement within critical care to develop skills required to manage critically ill patients. We surveyed a sample population of UK Intensive Care (ICU) trainees, whose base specialties included anaesthetics, acute medicine, and emergency medicine, to identify compliance with published standards.

**Method**

57 UK intensive care units were contacted (representing approximately one fifth of ICUs in the UK) in November 2010. Consultants or trainees at Specialty Training Level 3 or above were asked:

1. Is your department compliant with NPSA/BTS guidelines on the use of ultrasound for the insertion of ICDs?
2. Is there access to formal US teaching within your current unit?
3. Is there an identified lead clinician for US training in your current unit?
4. Would a deliverable US training programme be of value in your current department?

**Results**

53 respondents (93%), agreed to participate in the survey. Only 2 respondents (3.7%) said their unit was compliant with current guidelines. Six ICUs (11.3%) ran in-house ultrasound training. 19 respondents (35.8%) could identify a clinical lead for ultrasound in their department. 48 respondents (90.6%) said they would consider incorporating a training program into their trainees’ rotas if it proved practical and sustainable. Units not interested in training believed
their trainees’ lack of ultrasound skills was not a problem, despite awareness of guidelines suggesting the contrary.

Conclusion

Guidelines strongly advise the placement of ICDs by direct ultrasound guidance, as this significantly reduces the risk of complications such as organ puncture. Our survey confirms a clinical lead for US in over one third of ICU departments, but only 3.7% of UK ICU trainees’ practices are compliant with current guidelines.

We conclude that there is an increasing awareness of US governance in ICU, but a lack of established training to date, which may in part reflect consultant and trainee attitudes to the technology.
Service Organisation and Design

Outpatient management of pulmonary embolism

Mark Mallet
Royal United Hospital
Christina Levick

Aim

Selected patients with possible or proven pulmonary embolism (PE) are now commonly managed as outpatients. We reviewed two years’ local data to assess how often this occurs, and to determine these patients’ outcomes.

Method

A retrospective search of our ambulatory care database was carried out for 2009-10, identifying relevant attendances for possible PE. From hospital activity data of admissions with proven PE we selected those with ‘early’ discharge (inpatient stay <5 days). Electronic records were reviewed for investigations, outcomes, and readmissions or deaths within 3 months.

Results

Pre-diagnosis

Of 622 ambulatory care referrals for possible PE, 156 (25%) had PE excluded by clinical assessment and negative D-dimer. Another 104 (17%) had an alternative diagnosis made without lung imaging. 362 (58%) had CT or nuclear lung imaging, with 68 confirmed PEs. Median (mode) delay for definitive imaging was 1 (0) day (range 0–6), 211 (58%) waiting at least 1 day for a definitive scan. Most were treated with LMWH.

Post-diagnosis

54/68 (79%) patients with newly diagnosed PE in ambulatory care were managed as outpatients, with 2 readmissions and 1 death (pancreatic cancer) within 3 months. 88/420 (21%) inpatients with PE were discharged ‘early’ from wards: 16 were readmitted with unrelated conditions, 6 with related problems, and 8 died (5 of malignancies) within 3 months. Overall 142/488 (29%) were managed as outpatients or with ‘early’ discharge.

Conclusion

Our experience is that many patients with possible or proven PE can be managed (at least partly) as outpatients. Early imaging facilitates this practice.
Service Organisation and Design

Using continual audit to improve service

Elizabeth Batalla-Duran

Royal Cornwall Hospitals Trust

William Lusty
Tulasi Chadalavada
Alexander Gates

Aim

NCEPOD 2007 review recommends that all patients admitted as an emergency are seen by a consultant within twelve hours of admission.

We varied our consultant work pattern to minimise time to senior review. We sought to review the impact of these changes on waiting times and safety.

Method

2000 admissions were reviewed over 2009/2010. During this time, there was a change of work pattern of admitting consultants from incomplete cover throughout the day to a continual consultant presence from 8am to 9pm. The time from admission to consultant review was audited. Mortality and readmission rates were reviewed.

Results

During the period of increased consultant presence, the average time to review by a consultant was shortened by 65 minutes compared with the previous shift pattern (from 574 to 509 minutes).

The number of patients waiting more than twelve hours for review was reduced by 10%.

The data showed that those patients admitted during working hours (0800-1700) had the shortest wait to be post-taked.

Extra consultant presence had no adverse effect on readmission or mortality rates.

Conclusion

A continued presence of a post-taking consultant throughout the day on MAU shortens the time to senior review. This means a definitive plan is put in place earlier; potentially improving patient care and outcome.

Improvements are needed to reduce delays of more than twelve hours for consultant review. In particular we are targeting late afternoon arrivals.

Continual audit of waiting times has allowed us to rota more effectively and is in step with SAM recommendations for data gathering.

References

Emergency Admissions: a Journey in the right direction? NCEPOD Executive Summary 2007
Service Organisation and Design

How different are acute admission proformas across Severn Deanery?

Mark Mallet

Royal United Hospital

Natalie Robinson

Aim

The Acute Medicine Taskforce Report (2007) from the Royal College of Physicians (RCP) recommended that clerking forms for acute medical admissions should be standardised across the NHS. We aimed to identify the similarities and differences in clerking proformas used across the eight Trusts within Severn Deanery.

Method

Section 2 of “A clinician’s Guide to Record Standards – part 2” (Health Informatics Unit (HIU) RCP, 2008), suggests points for inclusion in the admission record and provides a link to a recommended proforma template. We compared acute medical admission proformas in Severn Deanery with the recommendations of the HIU, and looked for any other useful ideas not included in this standard.

Results

In total there are 54 headings and subheadings in the HIU publication. In 26 fields all Trusts incorporate variations on these titles in their proformas. 7/8 proformas were congruent in a further 8 fields, 6/8 in another 3 and 5/8 in one other. Those fields achieving 50% congruence or less have been identified as areas for consideration. Some potentially valuable headings were not included in the HIU template.

Discussion

About half the headings and subheadings suggested by the HIU are incorporated in all acute medical admission proformas. Fields not commonly used include relevant legal information, potential risks, patient concerns and expectations, mental state, and information given to the patient and/or authorised representative. Sharing our findings might lead to greater standardisation of documentation within the Deanery, and generate discussion as to the feasibility of implementing a national admission proforma.
Service Organisation and Design

The "Value" of Ambulatory Care

Gavin John Francis
Arrowe Park Hospital
Alyson Davenport

Background

In 2009 we embarked on an unfunded ad hoc ambulatory care pilot expediting discharge for acute medical admissions whose investigation and care was then undertaken without prolonged inpatient stay.

Methodology

An audit of 200 patients attending the pilot was undertaken examining their electronic health record and casenotes.

We analysed age and sex distribution, reason for attendance, length of inpatient stay prior to “ambulatory management”, time from inpatient stay to ambulatory care visit, overnight bed stays saved and resultant cost savings.

As a marker of effectiveness and safety the 30-day readmission rate for the group was compared to the trust average and NHS peer average.

Results

45% of patients were male with an age range of 18 to 91. 51% of patients were over 60 with 12% over 80 years old. Figure 1 shows reasons for attendance. 45% of patients had an initial inpatient stay of less than 4 hours and 71% less than 8 hours. In total 376 overnight stays were avoided [1.88 bed nights per patient] with an estimated cost saving of £150,000.

30 day readmission rates were better than trust average and in line with peer organisations – Figure 2.

Conclusion
The pilot showed patient care and financial benefits in terms of reducing hospital admission and unnecessary bed nights. It also highlighted the safety of ambulatory care in terms of emergency readmission.

A full funded and staffed ambulatory care clinic has now commenced with a target of 2000 patients per annum and potential cost savings £1.5 million.
Service Organisation and Design

A profile of medical readmissions

Gurkaran Samra
Victoria Hospital Blackpool
Eoghan Mcgrenaghan
Eoghan Mcgrenaghan

Aim

To create a database of all medical readmissions to the Department of medicine.

To create a profile of patients at high risk of readmission

Methodology

100 patients readmitted within a month of discharge were identified from a list of 1370 patients admitted to Clinical Decisions Unit (CDU); Blackpool Victoria Hospital, between 01/05/10 and 10/06/10 using Patient Admission Database (PAD)

Using Hospital Information Support System (HISS), data relating to the Profile Elements was collected and analysed.

Results

Age

• 68% readmitted patients were more than 60 years old

• There was no significant difference in age distribution and number of second readmissions

Living circumstances vs Morbidity & Mortality

• 20% of all patients readmitted from supported living died during the third hospital stay or within 2 weeks of discharge after the second readmission

Alcohol and/or substance misuse related readmissions

• 12% of all readmissions

• 25% of which had 2 readmissions within a month of the first presentation
Number of patients with same diagnosis on second admission

- 65% patients were readmitted with the same presenting complaint on the second admission
- 25% of the above group went on to have a second readmission within a month of the first discharge from hospital

Specialty vs number of readmissions (represented in attached graph)

Specialty vs duration of stay (represented in attached graph)

Conclusions

High Risk Patients

Morbidity –

- More than 60 years old
- Alcohol and/or substance misuse
- CDU, COE, Stroke (gap between stay 1-2 less than one week)
- CDU, Gastro – higher readmission rate
- Readmissions with same diagnosis

Mortality –

- Supported living
- Respiratory patients (inpatient)
- Gastro patients (two weeks post-discharge)

Department of Medicine Readmission Rate: 5.6% (NHS average 6.8%)
Service Organisation and Design

Impact of extended pharmacy input on supply of discharge medicines from acute medicine units: The UTOPIA project

Alastair Graham

Department of Pharmacy, Gloucestershire Hospitals NHS Foundation Trust

Maria-Belen Espina
Emily Stubberfield
Shiva Sreenivasan

Impact of extended pharmacy input on supply of discharge medicines from acute medicine units: The UTOPIA project

Alastair Graham¹, Maria-Belen Espina², Emily Stubberfield¹, Shiva Sreenivasan²

1. Department of Pharmacy, Gloucestershire Hospitals NHS Foundation Trust, Gloucester, UK
2. Department of Acute Medicine, Gloucestershire Hospitals NHS Foundation Trust, Gloucester, UK

Email: alastair.graham@glos.nhs.uk

Aim

Dispensing of medication is a common reason cited by patients (61%) for a delay in discharge¹. We report the effect of a recent programme (UTOPIA) that extended and improved pharmacy input in our Acute Medicine Units (AMUs). The aims were to expedite patient discharge by increasing the ratio of pharmacist versus physician-written prescriptions, increasing availability of discharge medication on the ward (versus the dispensary), and to improve accuracy of prescriptions and medicines reconciliation. This new service comprised:

a) Extended pharmacy input with twice-daily pharmacist ward rounds on weekdays and once daily on weekends (since August09).

b) An increased range of ‘one-stop dispensed’ ready-for-discharge items and the use of patient’s own drugs (since August09)

c) Expanded availability of discharge prescriptions pre-packed on the ward (since June10).

Methods

Data regarding medications ordered and supplied during two non-consecutive months (February 2010 and June 2010) were compared with one month data pre-UTOPIA (February 2009). The average time delay was estimated at 15 minutes for ward-dispensed medication and 90 minutes for medications from the dispensary. The ratios between ward/dispensary medicines and physician/pharmacist prescribed medicines were examined using chi-square test.
Results

The proportion of pharmacist-written prescriptions increased significantly (p<0.001) after UTOPIA implementation. There was a significant (p<0.001) increase in ward-dispensed medications from 38% pre-UTOPIA to up to 70%. The time delay in dispensing discharge medications (minutes/patient requiring prescription) reduced from 61 to 38 (Table 1).

Conclusion

These findings suggest that extended pharmacy input in AMUs significantly reduces delays in patient discharge.

References

Wrong Person, Wrong Setting... What time? Problems & Prospects for managing Acute Kidney Injury on the AMU

Anna Mushu
Ysbyty Gwynedd,
Chris Subbe
Hassan Mohammed
William Jones
Yasser Hameed

Wrong Person, Wrong Setting... What time? Problems & Prospects for managing Acute Kidney Injury on the AMU

Aim
The majority of patients with Acute Kidney Injury (AKI)(1) are admitted through Acute Medical Units (AMUs). Sepsis is a common cause and complication of acute renal failure (2) and detection and management is highly standardized (3). We explored synergies in management between the two conditions.

Method
Service evaluation of patients with AKI seen in the AMU of a DGH over a 2-months period in 2010.

Results
126 patients full filled criteria for AKI. Mean age was 77 (+/- 13) years. 22 were admitted to the renal ward and 2 to Intensive Care, 94 patients had suspected or proven infection on admission. Mortality rate was 34% in patients with evidence of infection on admission vs 13% without. On day 7, among the 18 patients with a CRP < 20 on admission, 8 had a repeat CRP (mean rise of 38).

2/3rds of patients had improved renal function within 7 days in patients seen during the day (p<0.057). Improvement of renal function was faster in those admitted with sepsis (p<0.012) and in those admitted during the day (p<0.057 for trend).

Conclusion.
Only a fraction of patients with AKI are being managed in clinical areas that are likely to deliver the more appropriate care and improvement of renal function is often slow. The high proportion of patients with AKI that suffer with suspected
or proven sepsis suggests that common educational pathways (3) might be highly effective in improving care and outcomes of patients with AKI.

References.

1. Adding Insult to Injury. NCEPOD (2009)
3. www.survivingsepsis.org
Service Organisation and Design

Developing a Scoring System for Medical HDU

Laura Harvey
Ayrshire & Arran Acute Hospitals
Joanne Howieson
Colin McVay

Aim

Within Medical HDU, whilst dependency can be measured using the ICS Levels of Care, it was felt we needed a more objective system for Level 1 and Level 2 patients so we could measure their response to treatment and need for escalation in terms of medical management and/or referral to ITU.

Methods

Following an extensive review of the literature, it became evident that there was little evidence of any such systems being used in the HDU setting. Most scoring systems were used to identify illness, not measure response to treatment.

The authors therefore undertook an extensive case note review to determine triggers for treatment escalation and medical response. Based on treatment options and physiological data, a system was developed and called “HEWS” - HDU Escalation Warning System. The system was then tested using recognised improvement methodology - PDSA cycles and changes were made based on findings. following PDSA testing, the system was rolled out to all HDU patients and used for a period of 4 months, before the final system was adopted for continual use.

Outcomes/Results

The results of ongoing audit demonstrated speedier medical involvement for escalation of care, earlier ITU referral with an increase in transfers to ITU, and earlier end of life decision making. Furthermore, the system was a good objective measurement for referral to the Emergency Response Team (where applicable).

Conclusion

We are satisfied we have developed a useful escalation scoring system that facilitates effective HDU management and early referral to Level 3 care, amongst acutely ill medical patients.

References

Intensive Care Society (2002), Levels of Critical Care for Adult Patients
Service Organisation and Design

Use of Physician Assistants in an Acute Medicine Setting

Frank Patrick

Ijaz Ahmed

The use of Physician Assistants in an Acute Medical setting is a new concept in England. Physician Assistants is an American idea that has had increased interest in the UK. Training is 24 months in length. In most programs, there is a year of didactic education and then a year of rotations. Our high care team is composed of a consultant, registrar, and PA. The PA is a vital member of the acute care medicine team. In the high care unit, the PA provides a continuity of care, which gives a sense of stability for both the nurses and patients. The role of PA involves daily ward rounds, requesting, and interpretation of investigations (including ECG and radiology studies), formulation, and implementation of care plans, requesting studies and serving as liaison with other specialty services in the hospital. The PA on our unit is well versed in procedures, including chest drain placement, lumbar punctures, use of NIV, etc. The PA also serves as an educational resource for staff on the ward.

Physician Assistants at this time are not able to prescribe medications. This is due to a lack of a regulatory body and not the lack of knowledge to perform this function. The PA can complete the drug chart with either the consultant or registrar signing the document.

We have found the addition of a PA to our team has enhanced the ability of the doctors to spend more time with the sicker patients, while the PA handles the routine ward issues.
Service Organisation and Design

Do admitting junior doctors manage acute kidney injury appropriately?

Nithin Narayan
Nottingham University Hospitals
Channa Nadarajah
Amanda Pine
Magdi Jelly
Shirine Boardman

Introduction
Acute kidney injury (AKI) is defined as an abrupt (within 48 hours) reduction in renal function characterised by either an increase in serum creatinine (sCr) or reduction in urine output. An NCEPOD report, in 2009, highlighted poor outcomes and the need to improve management of patients with AKI. This audit aimed to evaluate the initial management of AKI, at an Emergency (Medical) Admission Unit (EAU) in a district general hospital (Grantham & District Hospital).

Methods
We reviewed casenotes of all patients with a sCr > 120µmol/L (with a minimum rise of 26.4µmol/l from baseline) on admission to EAU, from October to December 2010. A 14 page guide on AKI management was available on the Trust intranet. Management by the admitting (predominantly junior) doctors and nurses were examined.

Results
Of the 687 admissions, 68 (9.9%) were found to have AKI. 38 of 68 (55.9%) were not diagnosed as AKI. Only 16 of 56 (28.6%) of patients commenced on fluid resuscitation had a completed fluid monitoring chart. 25 of 50 (50.0%) did not have nephrotoxic drugs (NSAIDs, ACE-Inhibitors, Diuretics) stopped. 40 of 68 (58.8%) did not have a documented urine dipstick. Renal function was not repeated within 24 hours in 35.3% of patients.

Conclusion
Audit standards for AKI were not adequately delivered by admitting junior doctors or nurses. A simple tool to assist the admitting team was urgently needed. AKIT (Acute Kidney Injury Tools) consisting of an AKI management and fluid resuscitation flowchart (figures 1, 2) has been designed to improve delivery of care.

References
Service Organisation and Design

Bed closure: will ambulatory care be transformative for acute medicine?

Georgina Wood
Salisbury District Hospital

Aim – Over the past decade a reduction in amount of hospital beds has coincided with a vast rise in number of acute medical admissions. [i] This has led to overcrowding within hospitals and congestion within acute departments. This study aimed to analyse ambulatory care regards intention to manage a significant proportion of emergency adult admissions on the same day without use of a hospital inpatient bed. [ii]

Methods – This prospective observational study assessed all patients admitted to Salisbury District Hospital MAU over a period of 5 months, for day zero discharge (DZD) and waiting times; before and after the ward was reconfigured.

Results – MAU with a 4 trolley ambulatory care area with 18 acute medical beds, led to an average 31% DZD. Expanding the ambulatory area to 6 trolleys improved DZD to 34%. Mean waiting time decreased by 36 minutes. Patient satisfaction was improved.

Conclusion – Significant remedial delays exist during the course of many acute medical admissions. One fundamental barrier blocking DZD is appropriate assessment areas. Data shows that reorganisation of the medical assessment unit improved patient experience. The emergency care process was successfully improved in view of waiting time and DZD, consequently releasing acute care beds for inpatients. This is in-keeping with guidance from the Institute for Innovation and Improvement.


Service Organisation and Design

The increased mortality associated with a weekend emergency admission is due to increased illness severity and altered case-mix

Olga Mikulich
St James's Hospital Dublin

Bernard Silke
Elizabeth Callaly
Deirdre O'Riordan
Kathleen Bennett

Background:

A weekend emergency medical admission may be associated with higher mortality. We report on the outcome of weekend admission (Saturday or Sunday presentation), over an eight year period (2002-2009).

Methods:

All emergency medical readmissions were categorised by weekday or weekend presentation. We examined the respective 30-day in hospital mortalities; in addition the case-mix and Illness Severities were compared. We utilised a multivariate logistic model to predict 30-day inhospital mortality outcome; the univariate and model fully adjusted Odds Rate of a weekend admission were determined.

Results:

There were 49337 episodes recorded in 25883 patients; mortality with weekend (9.9%) was slightly higher compared with a weekday admission (9.0%) with an Odds Ratio of 1.11 (95% CI 0.99, 1.23: p=0.057). Weekend admissions had similar proportions of respiratory and cardiology diagnoses, but more neurological diagnoses (22.8% vs 20.4% : p = 0.001) and less gastrointestinal disease (18.3% vs 21.1% : p = 0.001). A biochemistry only aggregate score (based on age adjusted disturbance in biochemistry) predicted a higher mortality (9.7% weekend vs 8.8%: weekday: p=0.004) – close to that observed (9.9% weekend vs 9.0% weekday). The mortality of a weekend admission has declined over time (RRR 60.8%) from 13.4% in 2002 to 5.2% in 2009 with NNT to avoid one death of 18.0.

Conclusion:

Patients admitted at weekend show increased Illness Severity and altered case-mix compared with weekday admissions; their increased mortality is predicted from a validated model linking biochemical disturbance with subsequent outcome. An AMAU model has substantially reduced weekend mortality over time.
AIM:

Ultrasonography is a potential skill for Acute Medicine physicians to develop.

We perceived a delay obtaining this emergency diagnostic for our patients, so we looked to set up a service to facilitate rapid, expert access.

Our AMU is 48-bedded. We have an unselected take.

Here we evaluate the introduction of Point of Care Ultrasonography (POCUS) to our AMU provided by a skilled ultrasonographer.

This is provided Monday to Friday with findings filed “real-time” in the patient notes.

METHOD:

We retrospectively analysed all requests for the first four full months of the service.

We examined request cards, formal reports and where necessary patient notes.

We looked at imaging indication, time from request to scan, effect of scan result on patient management and whether the investigation was complete.

RESULTS:

Of the 4581 patients admitted to our AMU, 200 (4.3%) received POCUS.

129 (64.5%) were performed the day of the request. 163 (81.5%) within 1 day.

62% were requested for a hepatobiliary or renal cause (table 1).

35% had positive findings of which 3% were unexpected and directly affected patient care (table 2).

13% of scan were incomplete (eg due to patient body habitus or current morbidity) despite experience of ultrasonographer.

CONCLUSION:
POCUS is delivered promptly on our AMU.

A skilled ultrasonographer allows accurate diagnosis including unexpected diagnosis directly affecting patient management.

Despite this, a significant minority of scans remain “incomplete”.

Training Acute Physicians to perform POCUS may improve safety of therapeutic procedures, though perhaps at the expense of increased number of “incomplete” diagnostic scans.
Service Organisation and Design

Identifying in-patient and ambulatory care pathways for acute medical presentations

John Tshon Yit Soong

Brighton and Sussex University Hospitals

Catriona Maybury

AIMS

Acute medical hospital admissions are costly, increasing in demand, and place certain vulnerable patients at high risk\(^1\). In 2008/2009, 1,502,591 of the 5,451,133 adult emergency hospital admissions in England had a length of stay (LoS) of zero\(^1\), whilst it was estimated that over £1 billion could be saved across the NHS by appropriate alternatives to hospital admission or reduction in LoS by even half-a-day to a day\(^1\). We aim to highlight areas for development of ambulatory care and in-patient pathways to reduce LoS and improve the efficiency, quality and safety of acute medical care.

METHODS

2 investigators extracted data for 2000 patient presentations from the electronic Whiteboard (record of all acute medical, care of the elderly and cardiology admissions) on the Acute Medical Unit at the Royal Sussex County Hospital (RSCH), from 06/12/2010 to 13/01/2011. The data was analysed for frequency and coded, where possible, to match the presentations within the 2009 AIM + GIM Curriculum\(^\text{Table 1}\). Potential ambulatory care and inpatient pathways were identified, whilst referencing NHS Institute for Innovation and Improvement’s Directory of Ambulatory Emergency Care for Adults\(^1\).

RESULTS: 140 patient presentations were deemed uncodable due to insufficient data or duplication of patients. In addition to the existing 6 in-patient and 9 ambulatory care pathways at RSCH, we have identified a further 4 in-patient and 11 ambulatory care pathways respectively\(^\text{Table 2}\).

CONCLUSION

Identifying potential ambulatory care and in-patient pathways represents the first step to improving acute medical services.

REFERENCES

1) NHS Institute for Innovation and Improvement’s Directory of Ambulatory Emergency Care for Adults (March 2010)
Service Organisation and Design

The impact of a respiratory in-reach service into the emergency assessment unit (EAU) on treatment, length of stay, and re-admission rates.

Fenella Johnstone
Royal Wolverhampton Hospitals NHS Trust
Lee Dowson

Aim: Respiratory illness is the second commonest reason for admission to hospital in the UK. Specialist input leads to better outcomes and reduced length of stay. Approximately half of respiratory patients, at New Cross Hospital, Wolverhampton, are not reviewed by a specialist during their admission. The aim of this study was to assess whether addition of specialist respiratory input into the EAU, would optimise patient management, and thus reduce length of stay and re-admission rates.

Methods: During the weekday working hours, we piloted a twice daily respiratory ward round in the EAU. We audited management against current BTS guidance, altering treatment where necessary. We compared length of stay and re-admission rates during the pilot month to that of the preceding month. We collected data on whether patients would have been appropriate for referral to a respiratory ‘hot clinic’, to assess the need and demand for this service in the Wolverhampton City PCT.

Results: 73.1% of patients had management altered, according to BTS guidance. 53.7% of patients had underlying respiratory disease on admission, and of these, only 50% were optimally treated according to guidance. Re-admission rates decreased by 13.4% and length of stay decreased by 1.38 days. 25% of patients could have been seen in a ‘hot clinic’, preventing a hospital admission.

Conclusion: This study has shown there is a role for the addition of a respiratory specialist ward round in the EAU of New Cross Hospital. This will optimise management of patients with respiratory illness, and reduce patient length of stay and re-admission rates. These findings could be generalisable to many trusts across the United Kingdom.