

Title: Better than the real thing- In situ simulation on AMU

Category: Education

Main Author: Nicola Finneran

Co-Authors: Claire Levi

Aims

It is difficult for AMU staff to leave the ward to attend formal teaching sessions. Often sessions that are attended are lecture based topics that staff can be difficult to apply to a clinical context. We wanted to develop a stimulating, relevant and dynamic teaching package delivered to the "real" team in their own place of work.

Simulation teaching is well established in other acute specialties but has been little used for medicine beyond straight resuscitation training. The development of high fidelity simulators can change this. Newer simulators have pulses, blood pressures, breath, bowel and heart sounds and can talk.

We trialled in situ simulation on AMU using deteriorating patient scenarios, to investigate if it is a feasible, enjoyable and useful way of delivering teaching to the multidisciplinary AMU team.

Methods

Three members of staff ran each simulation

The operator- to run and "speak" for SimMan

Observer/debriefer

Nurse co-ordinator -to ensure that the simulation was not negatively affecting the clinical work on the unit.

SimMan was admitted and clerked in like any other patient. The scenarios ran for 20 minutes involving any other members of staff necessary as the scenario changed. The scenario was terminated once the learning points had been achieved and a 10 minute debrief commenced. Evaluation forms were distributed to assess effectiveness.

Results

The sessions were very successful with good feedback. Whilst we knew the scenarios would enable us to teach our staff, more interestingly they also allowed us to test the environment and the human factors involved. In each case the normal functioning of the unit was not compromised proving that in situ education is feasible and safe.

Conclusion

This pilot has demonstrated that simulation could be an exciting development in teaching on the AMU and is now a regular event on our unit.

Title: Challenging the traditional model of undergraduate physiotherapy clinical education in the Acute Medicine Unit (AMU)

Category: Education

Main Author: Jennifer Willis

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Aim

The aim of this project was to challenge the traditional model in which undergraduate physiotherapy (PT) students are supervised on placement in the Acute Medicine Unit (AMU).

Historically, physiotherapy and Occupational Therapy (OT) students are supervised by a clinical educator from their own profession^{1,2}. In the NHS in some clinical areas e.g. AMU the clinical roles and professional boundaries of PTs and OTs are becoming more extended scope in nature, mirroring the role enhancement and transdisciplinary model of PT and OT^{1,2}.

Method

A band 6 OT supervised a PT student for their AMU placement. At the same time two other students, one PT and one OT, also completed placements with the same team. All the students and the therapy team completed pre and post placement questionnaires to capture their opinions on the education and supervision model. A focus group with the 3 students was also held at the end of their placement.

Outcome

All students felt that they had positive experiences whilst on their AMU placement, they achieved the same key objectives from their placements irrelevant on the education model used, and specifically the PT student supervised by an OT gained more skills in this enhanced style of working compared to the other 2 students.

The therapy team felt this model of clinical education was beneficial to students, supporting their learning of different therapy roles and reflected the clinical model of therapy provision delivered in the AMU, ensuring the students acquired the appropriate skills to work in this setting once qualified.

Patients on the AMU benefitted as students are exposed early in their career to enhanced working styles as part of a multi-disciplinary team (MDT), thus providing an optimal service for users³.

Conclusion

The initial objective to challenge traditional models of undergraduate physiotherapy clinical education was successful. There were many positive outcomes, with no negative impacts, to the students, the team, the patients and the service and provided.

References

1. Overton A, Clark M, Thomas Y. A review of non-traditional occupational therapy practice placement education: a focus on role-emerging and project placements. *British Journal of Occupational Therapy* July 2009;72(7):294-301.
2. Bogo M, Paterson J, Tufford L, King R. Interprofessional Clinical Supervision in Mental Health and Addiction: Toward identifying Common Elements. *The Clinical Supervisor* 2011;30:124-140.
3. Chipchase L, Allen S, Eley D, McAllister I, Strong J. Interprofessional supervision in an intercultural context: A qualitative study. *Journal of Interprofessional Care* 2012; Early Online:1-7.

Title: Close Encounters of a Third Kind: Repeated Supra-Therapeutic Ingestion of Paracetamol (RSTIP)

Category: Education

Main Author: Zain Karim

Intro:

RSTIP is a similarly dangerous but poorly described third category of Paracetamol overdose, often due to therapeutic or iatrogenic misadventure^{1,2}. It is commonly - and potentially erroneously - managed as an intentional staggered overdose with four indiscriminate infusions of N-Acetylcysteine (NAC)³. Acute medicine remains pivotal in continuing care for Paracetamol overdoses; hence a proper appreciation of RSTIP management will help select unsafe patients that are at higher overall risk than the single acute overdose¹. Using a wide literature search, this poster highlights and compares relevant evidence to aid acute medical physicians in assessing this uncommon, little appreciated, yet important case presentation where even 4g/24hour doses in vulnerable livers can kill¹.

Method:

Five-part search strategy for evidence focussing exclusively on RSTIP: PubMed literature search; Toxbase guidelines review; Cochrane database review; UpToDate and Dynamed review; and a focussed Internet search. Evidence assessed and compared.

Outcome:

Search yielded nine papers, two guideline sub-sections and three educational reviews relevant to the study topic⁴. There was universal agreement that clinical hepato-toxicity necessitates immediate NAC treatment. The dose threshold for RSTIP needing further assessment has no consensus evidence with a range of >200 to >75mg/Kg/24hours and >150 to >75mg/Kg/48hours. There is near universal agreement that in patients with whichever defined excess, Paracetamol levels >20mg/L (>120µmol/L) or ALT >50 IU/L necessitates NAC treatment; studies have not shown any adverse outcomes without these abnormalities.

Conclusion:

Appropriate RSTIP management by acute physicians is important to balance the risks of NAC overtreatment with the dangerous outcomes of hepato-toxicity. Assessment thresholds are challenging to define; however when exceeded, case management appears fairly universal. A sensible take-home plan would be: In patients taking multiple doses over 24 hours who have exceeded your local significant overdose threshold (or exceed the licensed dose with hepatic risk-factors) admit and treat those with Paracetamol levels >20mg/L (>120µmol/L) or an ALT >50 IU/L.

1. Craig DGN, Bates CM and Simpson KJ et al; Staggered overdose pattern and delay to hospital presentation are associated with adverse outcomes following paracetamol-induced hepatotoxicity; Br J Clin Pharmacol. 2012 Feb; 73(2): 285-294.

2. Zhou L, Maviglia SM, Rocha RA et al; Supratherapeutic dosing of acetaminophen among hospitalized patients; Arch Intern Med. 2012 Dec 10;172(22):1721-8.

3. Toxbase Guidance on Paracetamol overdose management

4. Nine relevant papers identified through PubMed "(Paracetamol[Title] OR Acetaminophen[Title]) AND Supratherapeutic"; Toxbase and UpToDate sub-sections; Google search for "Supratherapeutic Paracetamol" - Life in the Fast Lane Toxicology Handbook, BMJ Best Practice, Medical Journal of Australia

Title: Critical thinking and diagnostic error on the AMU

Category: Education

Main Author: Nicola Cooper

Co-Authors: Uche Anyanwagu

Aim

To identify the prevalence of errors in clinical reasoning present in the 'clerk-ins' (and any subsequent senior review) on a typical post-take ward round.

Decision-making is the most important aspect of patient care involving both diagnosis and management and requires a systematic approach which relies largely on critical thinking¹⁻⁶. However, doctors frequently make assumptions when assessing patients, and may write a diagnosis that has no basis on the evidence they themselves have gathered in the history and examination and initial test results. The reasons for these assumptions tend to fall in to three categories: knowledge gaps, system faults (e.g. missing information) and errors in clinical reasoning.

Methods

A descriptive cross-sectional study using mixed methods conducted on case notes of patients admitted to the Acute Medical Unit during and after the morning ward round by two independent assessors (consultant and specialist registrar).

The case notes of patients were reviewed. The diagnosis and grade of the assessing doctor was extracted. Data from ambulance sheets, referral notes and ED notes where indicated was also used. These were exported in to STATA 13 software for analysis.

Results were presented as summary statistics in the form of tables and graphs, while a thematic analytical approach was used to explore emerging themes from the observed diagnostic errors and assumptions in the case notes.

Outcomes/results

The majority of case notes reviewed contained significant assumptions (i.e. conclusions not based on any evidence in the history, examination and initial test results gathered by the doctors making the conclusions), leading to diagnoses unsupported by any evidence. Assumptions were not limited to junior doctors, meaning that critical thinking skills - not knowledge - was a significant cause of the assumptions made.

The poster will present some of the clinical examples we encountered.

(References will be presented on the poster).

Title: Curriculum Based Teaching and Presentations in Acute Medicine Departments-A Consideration for Future

Category: Education

Main Author: Pradeep Kumar Mallisetty

**Co-Authors: James Rudge
Raj Chandrappa**

Aim:

To evaluate the satisfaction with current conventional teaching on the Acute Medical Unit, Heartlands Hospital among the junior trainees and facilitate improvement to enhance the trainee satisfaction.

Background:

Acute Medical Units are busy areas operating 24/7 for the assessment and treatment of patients with acute medical illness. High-quality teaching and learning have a direct impact on patient safety, quality of care and the experiences of trainees. On quite a few occasions there had been feedback from the trainees that they had difficulty in acquiring soft evidence in their e-portfolio for curriculum presentations from the current weekly teaching in the Acute Medical Unit. Also it was felt that a formal teaching session on "How to perform common practical procedures" would be useful.

Methods:

The trainees were initially asked to vote on whether they were satisfied with current acute medicine teaching and presentations. They were then invited to attend a meeting to discuss ways to improve the existing teaching. The trainees were divided into three focus groups as per their training stream-foundation year, ACCS and CMT. The focus groups were requested to write their comments on flip charts about the improvements that they felt were required.

Outcome/Results:

Most of the CMT, ACCS and Foundation year trainees voted indicating that they were NOT satisfied with existing teaching. The following action points were drafted based on common themes of suggestions from the trainees which were then piloted for a period of one month

1. Presentation topics aligned to the CMT/ACCS/Foundation curricula and links to possible curriculum competencies suggested.
2. Presenters provide an overview of their topic to be reviewed by attendees in advance, to ensure improved involvement by the group.
3. Attendees to have reviewed best practice guidelines prior to the session.
4. Speaker to make the session as interactive as possible and act as facilitator for discussions.
5. Once monthly presentations by senior trainees on practical procedures in line with CMT/ACCS/Foundation curricula including by speakers from other specialities with an opportunity to ask real life questions from experienced colleagues.
6. Feedback forms to be completed at the end of each session. If feedback needed online e-mail addresses to be provided.

Conclusion:

There was a significant improvement in satisfaction among the trainees at a follow up meeting. They were able to link their reflection on teaching as soft evidence on their e-portfolio curriculum and also the session on practical procedures was felt to be extremely useful.

Title: Delivery of a robust educational programme for CMTs working in the AMU

Category: Education

Main Author: James Storey

Co-Authors: Amanda Barclay

Simulated teaching programme for AMU-based Core Medical Trainees (CMTs) at Leeds Teaching Hospitals.

AIM:

It is widely acknowledged that working on an AMU as a junior doctor can be a very busy and challenging experience. Trainees often dissociate formalised teaching with the experience of 'learning on the job' in their training and development. Feedback at National, Local Education Training Board and Departmental level confirms this. Our aim was to improve the education and learning experience for CMTs working in AMU using simulated practice.

METHODS:

We introduced weekly simulation sessions for CMTs working on AMU. The design of scenarios enabled trainees to experience curriculum-linked, time-critical, low-frequency/high-risk clinical situations that are rarely encountered in clinical practice, for example anaphylaxis. They received dedicated Consultant facilitation. Individualised feedback was focused on clinical management skills and Human Factors.

OUTCOMES:

The sessions received overwhelmingly positive feedback and improved trainees' awareness of hospital pathways and guidelines. To activate their learning prior to these sessions, such Trust guidelines are highlighted at their departmental induction and our weekly educational meetings.

Trainees expressed the significant impact the human factors-focused feedback would have on their approach to future clinical practice. They acknowledged the crucial role that human factors play in the management of acutely unwell patients and wished to receive more training on this subject.

CONCLUSION:

We firmly believe that a junior doctor's development benefits more from nurturing a learning environment on AMU than solely focusing on formalised teaching. Feedback emphasises that simulation-based teaching sessions have improved the overall educational experience of trainees that rotate through our department. Such was the demand from the CMTs that we plan to expand the sessions to capture more trainees and increase the sessions' frequency. We aim to further develop these to incorporate more "in-situ" training to benefit the wider multi-disciplinary team.

It is hoped the improved training experience will attract more trainees to the specialty of Acute Medicine.

Title: Development, Implementation & Evaluation of the Nursing the Acute Medical Patient CPD Programme.

Category: Education

Main Author: Laura Mitchell

**Co-Authors: Orla Leonard
Emily Bury**

AIM

The *Nursing the Acute Medical Patient* programme was developed in June 2014 to support nursing staff within the Acute Medical Unit to deliver quality, evidence-based care. Within the recently established AMU, the junior nursing team was challenged by the diversity of clinical presentations and the associated patient needs. At the outset of the programme, 58% of nurses employed in the Acute Medical Unit had less than 5 years clinical experience.

METHODS

The 6 month programme was developed in collaboration with the Nurse Tutor & the Advanced Nurse Practitioner Candidate in Acute Medicine. The programme was accredited by University College Dublin and was awarded 10 ECTS credits. Six AMU Staff Nurses undertook the programme. The clinical teaching and practical implementation of the programme was led by an appointed Clinical Facilitator.

OUTCOMES/RESULTS

At the outset of the programme, students completed both a self-assessment of their knowledge and a summative MCQ to establish baseline knowledge. The programme was positively evaluated throughout by the students at the end of each study day. At the end of the programme, students re-assessed their knowledge using the same framework and repeated the same MCQ. Significant improvements were identified in student confidence and this was demonstrated through their improved self- assessment of knowledge scores. Furthermore, student competence increased through higher MCQ results when compared with results from the first day of the programme.

CONCLUSION

This inaugural programme has made a contribution to both staff development and patient experience. Our patients in the AMU are being cared for by an engaged, knowledgeable team of nurses. This programme is now running for the second time with a further group of 6 AMU Staff Nurses.

REFERENCES

Royal College of Physicians of Ireland (RCPI), Irish Association of Directors of Nursing & Midwifery, Therapy Professions Committee, Quality and Clinical Care Directorate (2010) *Report of the National Acute Medicine Programme*. HSE, Dublin, Ireland.

Society for Acute Medicine (SAM) (2015) The Society for Acute Medicine. Accessed on 10th July 2015. www.acutemedicine.org.uk

Title: Pneumonia Patient Information Leaflet

Category: Education

Main Author: Samra Arshad

Co-Authors: Andrea Abbas

Aim: Recent NICE¹ and updated BTS² guidelines for the diagnosis and management of pneumonia recommend that patients should be offered, either at the time of discharge or at follow-up, access to information about community acquired pneumonia. A patient information leaflet was created which was handed out to patients at the time of their hospital discharge.

Methods: NICE and BTS guidelines for the diagnosis and management of pneumonia were reviewed and information was gathered from a patient information website³.

Outcome/Results: A clear and simple leaflet was produced explaining the symptoms, causes and treatment of pneumonia. An expected recovery timeline was included.

The leaflet was tested on patients who had treatment for pneumonia. The feedback was very positive. Patients found the information helpful and easily understandable. The majority of patients were unaware of how long it could take to recover.

Conclusion: This leaflet provides useful and important information for all patients treated for pneumonia. It will allow us to help to change the common misconception that patients expect to feel 100% well at the time of leaving hospital. It helps to educate patients about the length of their recovery period and manage expectations.

References:

1. NICE guidelines (CG191) 2015. Pneumonia. Diagnosis and Management of Community and Hospital Acquired Pneumonia in Adults.
2. 2015 Annotated British Thoracic Society Guideline for the Management of Community Acquired Pneumonia in Adults.
3. <http://patient.info/health/pneumonia-leaflet>.

Title: Should Acute Medicine be Allergic to Allergy Management?

Category: Education

Main Author: Zain Karim

Co-Authors: Caroline Lewis

Aim:

Acute allergy and anaphylaxis is a common and potentially life threatening hospital presentation. Severe or slowly resolving cases are often referred to acute medicine for evaluation, with steroid therapy forming a mainstay of treatment to avoid bi-phasic reactions. Using a recent audit as an example, this poster will review current evidence and guidelines regarding allergy management, and discuss the evidence behind using steroids and admitting patients under acute medical take. The audit was performed at a large North Western teaching hospital aimed to review the management of acute allergy, appropriateness of referrals and discharge management.

Method:

A retrospective case-note review of 101 patients from January to March 2015 was undertaken of all adult patients coded as 'allergic reaction' or 'anaphylaxis' who presented to secondary care. Notes were reviewed against NICE guidelines as documented on the departmental allergy assessment tool.

Outcome:

Results demonstrated highly varied reaction severity stratification, influencing subsequent patient management. It highlighted poor utilisation of local and national guidelines. Only 84% of patients were discharged appropriately meaning there were 16 inappropriate admissions for patients presenting with acute allergy. 44% of patients were given inappropriate in-patient therapy with unnecessary corticosteroid use accounting for 80% of those prescriptions. On discharge, 52% were given inappropriate TTOs, a maximum of 16% of anaphylaxes were given an adrenaline injector or Allergy clinic follow up and no patients were given appropriate discharge advice regarding subsequent reactions.

Results:

As shown, allergy cases can be managed inappropriately, admitted inappropriately and poorly managed at discharge. Often, this is due to misunderstanding of allergy severity. The most recent evidence suggests that steroids have no clinically important impact and we potentially over-admit patients¹. As Acute Physicians have a role in the management of acute allergy and anaphylaxis, it is important that a standardised approach is recognised for optimal care.

1. Grunau BE, Wiens MO, Rowe BH et al; Emergency Department Corticosteroid Use for Allergy or Anaphylaxis is Not Associated With Decreased Relapses; *Annals of Emergency Medicine*; Article in Press; 2015

Title: The Achilles Heel of Medicine: Improving Acute Medical Handover through Simulation

Category: Education

Main Author: Julian Siah

**Co-Authors: Afsheen Khaku
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Introduction:

Increasing shift work within the NHS has resulted in acute healthcare providers becoming more dependent on handover to ensure continuity and safer patient care (RCP,2011). The IPASS study showed implementation of a handoff-bundle involving an hour of simulation training, standardised documentation and a mnemonic reduces the rate of preventable adverse events by 30% (Starmer, *et al.*,2014).

Aim:

Improve doctor's ability to contribute to, lead and effect a change in clinical handover within their current speciality through a novel simulation-based handover course.

Method:

We developed a one day simulation-based handover course to teach handover using the core principles of simulation training: human factors and crisis resource management. The course was delivered twice in a London NHS Trust Simulation Centre for a total of 17 London trainees (foundation to registrar level). The candidate's perception of handover and the course was collected via pre- and post-course questionnaires.

Outcome:

Comparison of pre- and post-course questionnaires showed the majority of candidates felt more confident to contribute to (94%) and lead (85%) a handover meeting (figure 1). Furthermore 58% of candidates felt more confident to effect a change in handover practice within their speciality.

The post-course questionnaire revealed 100% of candidates agreed or strongly agreed that the knowledge they learnt would improve their clinical practice and patient care (figure 2).

Only one candidate was satisfied with their undergraduate teaching and exposure to handover and 100% believe that there is a role for both formal undergraduate and postgraduate handover training.

Conclusion:

A simulation-based handover course can instil good medical practice through increasing the confidence of doctors to contribute to, lead and effect a change in clinical handover, improving service delivery and patient safety. We recommend that all newly graduated and postgraduate trainees should undergo simulation-based handover training for their preparation for practice and continued professional development.

References:

1. Royal College of Physicians, 2011. Acute Care toolkit 1 Handover. Royal College of Physicians. Available from: <https://www.rcplondon.ac.uk/sites/default/files/acute-care-toolkit-1-handover.pdf> Accessed on 18/7/2015.
2. Starmer A. J. *et al.*, I-PASS, a Mnemonic to Standardize Verbal Handoffs. *Pediatrics* 129(2): 201-204.

Title: Ultrasound on Acute Medical Unit: A mandatory skill for the Acute Physician!

Category: Education

Main Author: Tala Andoni

**Co-Authors: Lynn Affarah
Sarbjit Clare**

Background

We recommend that all Acute Medical Units (AMU) house an ultrasound scanner and that acute physicians are skilled to use this equipment in the acutely unwell patient. At City Hospital, a dedicated ultrasound was introduced to the department in 2011.

Aim

Our aim is to continue empowering the acute trainee through local ultrasound courses and re-assess training delivery from the results of this annual evaluation.

Methods

From 2011 until 2014, data was collected on operator use, type of scan and indication on 300 scans.

Results

20% of scans were undertaken out-of-hours, and of these 70% were to investigate pleural effusions. Prior to the dedicated ultrasound scanner, patients waited an average of 48 hours for a chest ultrasound scan (USS). It is now feasible within 24 hours of admission on AMU. Furthermore, patients who had scans on AMU had lower lengths of stay compared to the hospital average.

Echocardiography is predominantly carried out by consultants, with some combined registrar training sessions. Previous urgent diagnoses include severe right heart failure secondary to pulmonary emboli, pericardial effusion, and two cases of post-partum dilated cardiomyopathy. This led to prompt management and transfer to the Intensive Care Unit.

With regards to vascular access, 8 scans were undertaken for peripheral cannulation. The highest operator use in this category was core medical trainees (CMT). Reporting of image quality as "Good" has improved over the four years for all categories.

Discussion

The number of thoracic and abdominal USS undertaken illustrates the need to continue USS training. A yearly course "Ultrasound at the Front Door" was established to train registrars and consultants, and since then image quality ratings continue to improve. Further training will include ultrasound-guided peripheral vascular access for foundation and CMTs as this is becoming increasingly popular.

Acute physicians and trainees should be competent in ultrasound scanning as it is core skill in diagnostics that will improve patient experience, waiting times to scans, and length of stay. Operator competence and instant availability of the scanner are key.

Title: Ultrasound on the Acute Take: Five Years On

Category: Education

Main Author: Zoha Khan

**Co-Authors: Zain Karim
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Tania Syed**

Aims

The use of ultrasound in guiding procedures relevant to acute medicine is becoming more widespread, focussing on improving patient safety and improving diagnostic decision making. Pleural tap and, chest drain insertion are common procedures for which ultrasound has been proven to improve outcomes such that BTS and NICE guidance now recommend its routine usage.

This poster will assess the attitudes of medical specialty registrars (SpR) from the North Western Deanery on the use of ultrasound as a diagnostic and therapeutic tool during an acute take. It will also compare with data obtained in a similar previous study to assess for any changes in medical practise.

Method

This analysis involved a paper-based questionnaire answered by medical SpRs. It assessed guidance awareness, self-assessed competency, individual use of ultrasound, formal teaching, equipment availability and overall opinion. There were 66 responders. Their responses were analysed and compared to 2010 where there were 69 responders.

Results

More than 90% of responders were aware of NICE and BTS guidelines both in 2010 and 2015. 58% routinely used ultrasound for chest procedures in 2015 versus 25% in 2010. In both cohorts approximately 80% of trainees received some sort of ultrasound training and just over 80% felt ultrasound helps them in their decision making. In 2015, 7 departments (37%) of 19 had their own ultrasound machine with a further 4 having shared access as opposed to only 3 of 17 (17%) in 2010.

Conclusions

Ultrasound remains an important tool in diagnostic and therapeutic decision making for SpRs on the acute medical take. The availability of scanners has increased in the last five years. It is encouraging to see that ultrasound is used now widely used perhaps due to increased availability. Refreshingly, SpRs are using ultrasound to guide more procedures which will improve patient safety in-line with the current guidance.