A survey of junior doctors on training in lumbar puncture

Ashton Harper

Education

Aim

Sudden onset severe headache is a common and potentially life-threatening event, which requires safe and effective investigation to ensure a timely diagnosis. The lumbar puncture (LP) is a key investigation in the diagnostic pathway and is crucial in cases of false negative subarachnoid bleeds on CT. We hypothesize that the training of junior doctors in LP and CSF collection is inadequate.

Methods

We distributed questionnaires regarding essential aspects of LP procedure during a foundation year 2 (FY2) lecture day at Barking, Havering and Redbridge NHS Trust in 2011. 44% of the completed questionnaires were returned.

Outcomes/Results

17% of FY2 doctors had not performed an LP. Of the remainder, 30% claimed to conduct LPs without senior supervision. In response to the question “How many bottles would you send?”, 29% stated 3, 42% stated 4, 21% stated 5 and 4% stated 6. When asked about sequential bottle numbering, 21% gave no answer and 8% said no. In response to the question, “when should LP be performed?”, 24% made reference to time post onset of headache, of which 50% correctly stated > 12 hours.

Conclusion

Adequate and safe technique in CSF sampling is essential in the diagnosis of acute subarachnoid haemorrhage. Our study suggests poor knowledge of junior doctors in LP procedure at present. Mandatory rigorous training should be incorporated into the Foundation Training curriculum.
Acute medical ultrasound for medical students and doctors in training: the future is echogenic

Martin Dachsel

Education

Introduction

An increasing number of guidelines recommend the use of ultrasound as a near patient test to aid diagnosis and management \(^1,2\). While teaching of ultrasonography is common in many universities in continental Europe \(^3\), in the United Kingdom it is rarely taught at Undergraduate level \(^4\).

Methodology

As part of a KSS Deanery Leadership module, a business case successfully procured a hand held ultrasound device (VScan\(^\circledR\)) for the AMU to develop basic ultrasound teaching for final year medical students and doctors in training. Surveys before and after the teaching were circulated which included 7 multiple choice picture tests. The teaching programme over 1.5 hours included ultrasound theory, interpretation of ultrasound images and hands-on experience.

Results

Prior to the teaching programme, 96% of medical students and doctors in training were ‘very’ interested in basic ultrasound teaching. They had little prior knowledge of ultrasound theory or practice and none had had any formal training. After four initial sessions, 95% of participants rated the sessions as ‘excellent’ and 61% were encouraged to seek further formal training. A post training survey conducted after 3 to 4 weeks found good recognition of common Ultrasound pathologies (83-100% recognition).

Conclusion

The delivery of basic ultrasound training was well received by medical students and trainees with evidence of improved knowledge. With increased reliance on ultrasound technology as a near patient test, wider training at the undergraduate level and within foundation years is likely to enrich the trainees experience and should be considered for curricula development in the United Kingdom.

References:


**Aim:** Cross-sectional survey to assess the knowledge and quality of pre-pregnancy counselling (PPC) in women with a pre-existing medical condition through the Acute Medicine Unit (AMU).

Nashita Patel

Education

**Aim:** Cross-sectional survey to assess the knowledge and quality of pre-pregnancy counselling (PPC) in women with a pre-existing medical condition through the Acute Medicine Unit (AMU).

**Methods:** Questionnaires were handed to women on day 2 of admission to the AMU.

**Results:** In total 9 questionnaires were handed out; 3 of these questionnaires were incomplete. All were Caucasian; age ranged from 16-34 years. The hospital admissions were related to: 4- acute asthma attack; 1- Addisonian Crisis; 1- DKA. All participants had >2 hospital admissions within the year.

5 of the participants were in a long-term relationship, only 2 women were utilising a method of contraception as suggested by medical advice. 5 of the participants previously had children and suffered complications as a result of their pregnancy (n=1 relapse of chronic-condition; n=3 recurrent UTIs). None of these women had received PPC in relation to their long-term medical condition although it was rated as 'very important'. None of the women knew how their chronic condition would affect their pregnancy or the impact of their current medication on their offspring.

General knowledge regarding pregnancy was poor. Only n=1 knew the correct limit for alcohol consumption, whilst n=0 knew the care they would receive during pregnancy.

**Conclusion:** The key recommendation of CMACE not being met. Women at highest risk of mortality and morbidity during pregnancy are not being prepared for pregnancy. The AMU is an opportunity for health professional to inform women of the risk of pregnancy and importance of stabilising chronic medical conditions.
Could a mobile phone app help to manage patients on AMU?

Kavina Manalan

Education

AIM:

Many doctors use smart phones on which they use applications (apps). Apps are increasingly being used for medicine. We assessed knowledge of common scoring systems used by participants (medical students to ST4 doctors) within the AMU. We aimed to increase the use and understanding of these scores using a free medical phone app.

METHOD:

Data was gathered between March to May 2012. In the first phase of the study, 34 participants, completed the preliminary questionnaire. Participant's knowledge of the following scores: CURB 65, TIMI, CHA2DS2-VASc, ABCD2, PESI and Blatchford score were assessed. They were also given case examples and asked calculate a score using an appropriate tool.

We compared content and accessibility of existing apps then worked with the creator of this QxMD to make it more user friendly and updated commonly used scores.

In the second phase, 25 participants completed the same questionnaire using the free app, QxMD calculate.

RESULTS:

The phone app lead to improvements in several areas (see table 1):

- Awareness of when to use a particular tool
- Understanding of the implications of a high score
- Correct identification of a maximum score

The app also improved selection of an appropriate tool and calculated score for case examples. (see table 2)

CONCLUSION:

QXMD calculate app significantly increased knowledge related to scoring tools. As most doctors already have their own smart phones and the app is currently free, this strategy could easily be followed elsewhere.

Further studies could investigate whether the use of phone applications improves patient outcomes.
Development of Acute Medicine Speciality Care Support Nurses (CWS) - “Equipping to cope (2)”

Joanne Cosgrove

Education

Development of Acute Medicine Speciality Care Support Nurses (CWS) - “Equipping to cope (2)”

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AIM

The Acute Medicine (AM) nurse safeguards the patient journey; expediting treatment, driving clinical decision making and preventing incidents such as prescription errors utilising advanced clinical skills. This makes it a challenging and difficult environment for nurses and therefore difficult to attract an effective nurse’s for a care support role.

The aim of this project was to attract new CWS nurses to the AMU and provide the right environment for them to thrive and quickly develop the basic skills required to function on the unit.

METHOD

10 new CSW nurses were recruited to the AMU and completed an intensive structured 12 week learning and development programme. Nurses on the course attended multiple workshops including managing alcohol withdrawal and diabetes crisis management led by specialist nurses and consultant physicians. A Core Clinical Workbook for Acute Medicine (SRFT 2012) was completed to validate competencies in skills such as cannulation, venepuncture, ECG and Cardiac monitoring. A final certificate of achievement was given for development portfolios and as proof of obtaining objectives and goals laid out within the appraisal system ongoing within SRFT.

OUTCOMES

The new CSW nurses were equipped with the skills necessary to work with confidence in the AMU. The recognition that an AMU CSW needs to have extended skills in order to be a safe and effective support system to the qualified nurse was highlighted. Comparisons between new nurses joining the AMU 2 years ago suggest a higher level of confidence and functionality. Other results suggest earlier identification of nurses who require additional support or prefer a different type of nursing through ongoing feedback and appraisal.

CONCLUSION

High acuity, high intensity nursing can be seen as too much of a challenge for new staff and attrition rates can be high. With a comprehensive training programme new CSW nurses can
start their career in the AMU with confidence, enhancing patient care by adopting extended roles in a supportive environment.
Educational strategies on the acute medical take

John Hounsell

Education

Aim: To evaluate learning opportunities inherent in the initial assessment of acute medical patients. What learning strategies are used by trainees? What factors enhance learning opportunities (or detract from them)? What are the implications for the structure of the acute medical 'take' to optimise it from an educational perspective?

Methods: Whilst in my OOPE year (working as an A&E 'middle grade'), 6 in-depth individual interviews were conducted with a mixture of FY1 and FY2 trainees from within the department. The interviews were then transcribed with subsequent thematic analysis.

Results: Factors optimising learning included the nature of the cases themselves, whether a paired or individual approach to clerking was used, and the environment including overall workload and approachability of multidisciplinary colleagues. Direct supervision had many benefits such as improved trainee confidence and many more informal opportunities for learning. Proactive supervision was also important. Other topics included optimising feedback, role of self-reflection, role modelling and the use of peers/near-peers.

Conclusion: The results have potential implications for the structure of the acute medical take and the roles of team members. A single assessment area (rather than say both A&E and an AMU) enhances opportunity for direct supervision. The role of near-peers could potentially enable some of the SpR workload to be better shared. Supervisors should consider a mixture of paired clerkings and the traditional individual approach and be proactive - for example matching cases to trainees and not just relying on the trainee to initiate requests for assistance.

References:


Involving, Engaging and Empowering Foundation Doctors in Medicines Reconciliation

Shuang Wang

Education

Aim

Medication-related problems (MRPs) arising from transitions between healthcare interfaces pose a major risk to patients. Medication reconciliation (MR) has been shown to reduce the numbers of MRPs. The majority of previous studies have focused on pharmacy-led interventions to the MR process. We set out to improve patient safety by raising foundation doctors’ awareness of the importance of discharge MR.

Method

A multi-faceted pharmacy-led approach over one year (August 2011-July 2012), was used to involve, engage and empower foundation doctors. This included:

- Quarterly pharmacy-led teaching sessions timed to coincide with junior doctor change over.
- Recruiting foundation doctors as ‘project ambassadors’ to assist in teaching sessions on MR and to provide feedback on performance to peers.
- Using a hospital-based competition and certificate of excellence as a way of rewarding doctors
- Assessing progress using weekly audits of discharge summaries to monitor quality of discharge MR.

Outcome/Results

Early outcomes show an improvement in the number of patients discharged with error-free medicines from 29.5% to 51.8%. The total number of discharge medicines with errors was reduced by 39% in the same sample. Use of statistical process charts demonstrated that improvements in performance correlated to training sessions, the competition, and the award of certificate for Excellence in Prescribing.

Conclusion

This study has highlighted the importance of engaging and educating foundation doctors to improve MR at discharge. Regular real-time auditing has demonstrated sustainable improvement. MR should be an integral part of foundation doctor’s training particularly around their rotations.
Simulation training for the acute medical specialist trainees: a pilot

Ben Lovell

Education

Aims

Simulation training is an innovative method of interactive clinical teaching and training for healthcare professionals. Acute medical registrars are often working with highly unstable patients in high-pressure situations involving a complex interplay of situational challenges and human factors. We designed a pilot training day to investigate the effectiveness of simulation training for acute medical registrars.

Methods

The learning outcomes of the training day were deliberately linked the Acute Medical curriculum. A dedicated simulation suite was designed to resemble a typical side-room in a ward setting. The simulation model was attached to a standard observation monitor depicting the vital signs of the patient. The monitor was connected to the control console, allowing the vital parameters to be adjusted in real-time by an operator. Trainees encountered scenarios involving confidentiality, best-interest treatment and consent, as well as clinical conundrums.

Results

The discussions following each scenario were lively and varied. Trainees sometimes took polarised stances on issues regarding ethics and treatment in high-pressure situations, although a general consensus was usually reached. The emphasis was on opinion, rather than the ‘correct’ answer. In feedback, all trainees were ‘satisfied’ or ‘very satisfied’ with the training day.

Conclusion
Simulation training has a significant role in the training of acute registrars. It allows development of clinical expertise, and skills in clinical reasoning, infection control, and the legal aspects of medicine. Crucially, doctors were able to make mistakes without harming patients. The training is seen as invaluable and enjoyable by the trainees, and provokes healthy discussion and exposure to other healthcare beliefs previously unconsidered by acute medics.
T.O.T.A.L: Time Out To Actively Listen: Improving Care on an Emergency Assessment Unit

Janice Christian

Education

Aim

Opening the EAU in September 2011, the initial priority became operationalising the unit. The 4 hour wait target was maintained at 95%, however, Complaints and incidents were high and patient perception measurements suggested that patient experience warranted improvement.

Over 100 nurses were recruited or redeployed to the unit, from a variety of backgrounds and with a wide range of experience, study days were scheduled to aim for a reduction in complaints and incidents and an improvement in patient experience.

Method

Recognising patient stories as a rich source of data for quality improvement (Gullick 2008), individual nursing teams were allocated to attend a team specific time out day away from the unit. One patient who had experienced poor care and one who had experienced good care agreed to talk through their story with the teams. The patients were invited to spend the whole day with the staff, culminating in their feedback and an opportunity for the team to ask questions.

Outcome/Results

Staff rated the day very highly and felt better able to cope with the challenges of the unit. Complaints reduced and patient experience results improved. Patients involved in the study day also felt it helped them come to terms with their hospital experience and were happy they had been able to proactively improve nursing care.

Conclusion

Patient stories are challenging to plan and manage as emotions run high for both staff and patient. Defensive behaviour can inhibit learning but hearing the stories direct from the patients has had a significant impact on subsequent patients’ experiences.

A study day that allows time to listen to and reflect on patient stories, rather than focusing on the fast pace and high pressure of the EAU environment, is a worthwhile innovation.

References

Thoracic Ultrasound for an Acute Physician

Vinod Daripally

Education

Aim

BTS Pleural disease guidelines in 2010 strongly recommend thoracic ultrasound guidance for all pleural procedures for pleural fluid, and at least level 1 competency is required to safely perform independent thoracic ultrasound. Here we report the pleural service at our hospital and training opportunities for acute medicine trainees.

Method

We retrospectively assessed all the scans done by the Respiratory Department since start of our pleural service in September 2011.

Results

Total 308 (154 patients x 2 sides) ultrasound scans were done, based on the radiological appearance of pleural effusion. Referrals were mainly from medical admissions unit, and our own Respiratory unit. Age of the patient ranging from 30 to 94 with average age of 71 yrs. Total 100 pleural procedures (diagnostic/therapeutic aspirations, chest drain insertion) were done under ultrasound guidance, and had only 1 complication of pneumothorax. This is thought possibly be due to ‘trapped lung’. In 79 patients the effusion was small on chest x-ray, and out of which 41 patients we aspirated under guidance, but in 38 patients (48% of small effusions and 25% of all scans) the effusion was too small to be aspirated safely even under ultrasound guidance, so not intervened.

2 Consultants and 4 Specialist Registrars (include acute medicine, respiratory, ITU), achieved level 1 competency through our service in last 6 months. 8 junior level trainees (all grades) were trained in performing pleural procedures safely and under ultrasound guidance.

Conclusion

Performing the pleural procedures under ultrasound guidance by level 1 trained acute physician in MAU can reduce the length of patients hospital stay, speed up the treatment process, and enhances patient care. Our data strengthens the safety of ultrasound in pleural procedures. A dedicated service can provide great training opportunities.
Using a Computerised Induction Package to Improve Junior Doctor Competencies on a Busy Assessment Unit

Andrew Marriott

Education

Aim

The EAU at Salford Royal is a busy 55 bed assessment unit. To comply with the European Working Time Directive we have 25 junior doctors taking part in the medical on-call rota in 4 week blocks. The unit’s size coupled with this timeframe means that the juniors find it difficult to adjust and understand what is expected from them. The aim was to produce an induction package that would alleviate this problem.

Methods

Juniors and senior staff were questioned regarding how effective they felt the current written induction package was and what they felt should be included in a new package. Using these results as guidance a combination of Powerpoint™ and recorded interview footage with the unit’s consultants were used to construct a professional induction programme. All this required was one individual (with little IT knowledge) in their spare time recording, developing and editing using readily available software.

Outcomes/Results

An induction package was created that could be given to each doctor (on DVD) before starting work on the unit. It included details on unit layout, their role on the unit and a section regarding common patient management pitfalls. It can be easily edited and updated to reflect changes in unit practice without compromising on the quality of the package. The juniors were extremely satisfied with the new improved programme.

Conclusion

We believe that using this time efficient and reliable method to deliver junior doctor induction will improve performance and reduce stress and improve the standard of patient care.
Using Simulation to teach essential curricula items to Core Medical Trainees (CMTs): pilot scheme

Charlotte Ward

Education

Aim: Traditionally, the generic training days for CMTs were lecture based, with little or no input from the trainees themselves. New technology has advanced to allow us to design real life scenarios with computerised mannequins and structured video feedback in small groups to establish deep learning.

Methods: We designed 3 scenarios - concentrating on the “emergency presentations” of the curriculum: shocked patient, cardio-respiratory arrest, anaphylaxis. The trends in heart rate, oxygen saturations and blood pressure were programmed to improve or deteriorate depending on what action was taken by the trainee. Trainees were instructed to behave as if they were on the ward, with all actions happening “real time” and help available on request (nursing and medical staff). We also had 3 models to practise core skills that are not commonly seen on all wards: pleural/ knee aspiration and lumbar puncture. There were 2 communication stations with actors. We designed pre and post questionnaires for trainees to assess their own performance and competency against each curriculum item.

Outcomes: We learnt a lot from the days; 20% of trainees at the end of their first year of CMT had never seen a case of anaphylaxis, 10% had not seen a chest drain or ascitic tap and 30% had not seen a central line being inserted or an ascitic drain. 40% had not seen a knee aspiration and 50% had never seen temporary pacing. After the training day, there was an increase in confidence at dealing with the “top 4” emergency presentations and chest pain. The trainees felt that they had gained confidence with leading a crash team, and experience with aspirations and lumbar puncture.

Conclusion: There is clear evidence from feedback that the trainees found the simulation day useful and left with an increased confidence to take back to real life patients. We also have plans to develop other scenarios in line with the CMT curriculum to deliver future training days.
Workplace-Based Assessments on the AMU: are they being used as effective learning and assessment tools?

Charlotte Ward

Education

Aim: The Acute Medical Unit is an ideal place for juniors to achieve a wide range of skills and competencies. Workplace-based assessments are currently widely used by trainees as a marker of progression throughout their training. If done correctly, these can be very useful and often highlight areas that need improvement or help the trainee further their knowledge of a subject. They are a vital piece of the learning cycle. My suspicion, however, was that the majority were just regarded as “box-ticking exercises” after a weekend on-call or set of nights, rather than true learning aids to demonstrate competence. I designed a questionnaire and distributed it around medical registrars in the Yorkshire Deanery to gain an overview of how the assessments are completed and viewed.

Methods: I designed a questionnaire using Survey Monkey, with 10 simple questions and emailed it to Medical Registrars that were involved in General Medical on-calls in Yorkshire. I received 76 replies and analysed the results.

Outcomes: The majority of registrars completed 1-2 assessments per on call block. I learnt that 60% of respondents had received formal training on the use of WPBAs, only 10% routinely completed the assessments “real time” (fig 1) and sat down with the trainee to offer feedback and 25% always made an action plan with learning goals (fig 2). Just over a third of those that responded felt that they were a true reflection of competence.

Conclusion: A busy Acute Medical Unit is a fantastic place to see a variety of clinical presentations and many practical skills can learnt on the job. However, assessments are being completed in a panic, without adequate feedback and discussion. Some Registrars have not received training on their use and do not have time to complete them properly. Less than 50% of those asked felt that they were a true reflection of competence. More emphasis needs to be put on completing the assessments "on the job", for example on the ward round or immedicately after supervising a procedure.