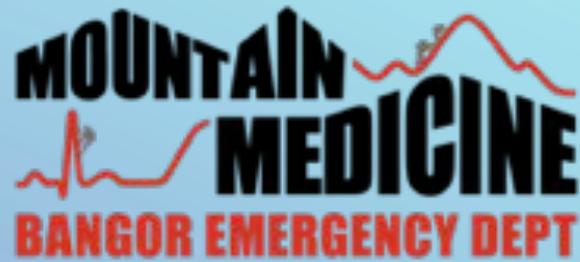


Another #FOAMed production by



CEM 2014 Conference DAY 2 & 3

10th & 11th September



Exeter Cathedral

OUR CPD YOUR CPD

#FOAMed

Sharing the learning...

Brought to you by the intrepid reporters of
Team Bangor EM and friends from across
the UK - viva la #FOAMed!

www.mountainmedicine.co.uk

Edited & designed by Dr Linda Dykes

v 1.0 - 22nd Nov 2014

Introduction - Report of Days 2 & 3

Welcome to our report of the 2014 College of Emergency Medicine Scientific Conference, which took place in Exeter, England, on 9-11th September.

This is now the fourth conference we have covered in this way - you can find reports from 2013 EMS Expo, 2014 CEM Spring CPD event and Retrieval 2014 in our Conference Report collection at Scribd website - www.scribd.com/BangorED.

For the first time, our tiny band of 1-3 intrepid reporters has been boosted by a large number of guest contributors, to whom we are very grateful. Some are former members of Team Bangor ED (i.e. students & former junior docs) who knew they'd be helping, but we also roped in many innocent bystanders either in person or via Twitter, and discovered some really talented reporters in the process! The result is far more comprehensive coverage of the event than we could have imagined - you'll find many of the major Day Two talks in here.

It does take many hours to turn hastily-scribbled notes into this magazine-style format (the editor/designer nearly had a nervous breakdown, as the reports are about twice the size we anticipated!) so please forgive us as we tackled this project in chunks over autumn! Keep an eye on our [Bangor ED Scribd page](#) but please do bear in mind this is an all-volunteer production.

We must make an important disclaimer. Whilst we try to make our reports as accurate as possible,

this whole publication is based upon *notes made during the lectures* with all the attendant distractions and possibility of mis-recording the words of individual speakers. Whilst we have cross-checked data where possible, and included links to some studies cited during lecture, we can accept no responsibility for any errors or omissions we have made (or that the speakers made and we may have inadvertently propagated).

You should never change your clinical practice based solely on a report like this, but, we hope it will provide you with a springboard for learning & discussion.

*Linda Dykes & Alison Walker
(Chief Reporters, on behalf of the
Intrepid Reporter Team)*



*Just some of your reporting team from Exeter 2014:
L to R - Alison Walker, Lynn Roberts, Charlotte Doughty, Helen Cosgrove & Linda Dykes*

Twitter: #CEMExeter14



There was great Twitter activity running throughout the conference - over 2000 tweets by over 405 participants.

If you haven't yet [entered the world of Twitter](#), make #CEMExeter2014 one of your first search terms!

Reflection
for your
CPD

We've flagged up further reading (and some topics for reflection) in these snazzy green boxes, and included links to relevant papers, abstracts and websites.

This is a mixture of material that **we** have looked up and found, and also material/papers/reports mentioned by the speakers.

Contents - Days 2 & 3

Our coverage of Days 2 & 3 isn't quite as comprehensive as Day 1 - several of our reporting team were tied up supporting juniors and presenting in Free Paper sessions, and some of the heavyweight talks were attended by several of the team simultaneously, leaving other sessions unreported. Nevertheless, we hope you will enjoy our report - there's still plenty we did get to!

2/3	Introduction & Contents plus Charity Appeal
4/5	Presidential address - Cliff Mann
6/7	Killer Bugs - Marina Morgan
8	Common Shoulder Injuries - Lennard Funk
9/10	Concussion - William Stewart
11-14	Chest Pain & Troponins - Martin Than followed by Steve Goodacre
15/16	Lessons from abroad - Ellen Weber
16	Sustainable Careers in EM - multiple speakers
17-21	Reports from the APEM stream 
22	NOACs - Amanda Clark
23/24	Advanced Procedural Sedation - Gavin Lloyd
25	Managing serious bleeding in the ED - Anne Weaver
26	Traumatic Cardiac Arrest - David Wise
27	“Silver Trauma” - major trauma in the elderly - Anthony Kehoe
28/29	When is a PE not a PE? - Dominic Williamson
30	Beyond FAST: EM US for the future - Lisa Munro-Davies
31	Dragon’s Den - The Dragon’s Den Panel
32	Safer handovers - Chris Beach & Drew Fuller
33/34	ED flow and the future - Ian Higginson
34	A final pot-pourri (snippets on other talks)
35	The CEM conference stuff from Team Bangor ED
36	Shameless advertising - Fancy joining the team who led the creation of this conference report? Bangor ED in North Wales is recruiting...
37/38	Acknowledgements, reporter bios, how to submit feedback & corrections, and another Charity Appeal ... go on, please give us some money to help Tusk Trust!

See the speakers!



After delivering their keynote presentations, the speakers of the major sessions were asked to summarise their key messages in a video clip.

Visit the [College of Emergency Medicine's Youtube Channel](#) to see them, plus campaign videos on many aspects of UK EM.

APPEAL:

Tusk Trust



We created this report because we're passionate about FOAMed. But, if you enjoy it and find it useful, could you consider making a donation to the **Tusk Trust**? This wonderful charity is dedicated to protecting rhino and elephant populations endangered by poaching.

Please visit our [Just Giving page by clicking HERE to donate](#)

Presidential Address - Dr Cliff Mann

Reported by Alison Walker



“It's a great honour to be the College President and it's the most professionally satisfying thing I have ever done” was Cliff Mann's opening line, as he commenced his account of one year on in the role of CEM President. There is a heck of a lot of activity going on at the College to support us and our EDs - with a big emphasis on influencing the mind and plans on those who run the system. Here are the key points of Cliff's talk.

- We need to build a “patchwork of documents and work” - and Cliff added that he became aware of the **importance of media work** only when a senior Department of Health (DoH) lead said, "... we only thought we should contact you after we saw you on Newsnight!"

- The **coding data set** needs changing e.g. pneumonia can be coded in over 100 ways and that a Treasury lead who had done a shift in an ED has persuaded the DoH to give a million pounds to do it. *[So don't underestimate the power of engaging with others and helping civil servants understand the reality of EM - Ed]*

- From the British Medical Association (BMA) - “Mark Porter said if we don't **change the contract**, then the problems in emergency medicine will not be resolved” - not a change in the contract for EM only, but a change in intensity payments for out of hours (OOH) working for *any* speciality affected like us... but, realistically, “this probably won't change until after the next election”. However, all political party health leads have agreed that the proposed changes are reasonable.

- **Monitor** don't agree with CEM in terms of strategy for emergency and urgent care. *[So heaven only knows what their proposed solution is - Ed]*

“If the media are interested, the politicians are interested...”

- DoH are now issuing guidance from CEM as part of *their* guidance on **crowding and urgent and emergency care**. This is a real step forward. The TDA medical director is also keen on our crowding, co-location and tariffs information and suggestions.

- The **"Prescribing the Remedy"** document is a joint colleges document and is only 4 pages long! (CEM try to keep all their own documents short and easily read).

- **Princess Anne** is a significant supporter of the college, she is coming to our Leaders Day in November and is keen to support our royal college application.

- CEM are going to **all the political party conferences** to lobby the politicians directly on our behalf. In addition, CEM is writing a paper to appear in "The House" - a publication for all politicians - to appear on the page opposite the articles from all the health leads for each party.

- The **British Journal of Hospital Medicine** has asked for a series of articles from CEM: these are all being published in one issue this year *[they have since been published, open access - see Green Box - Ed]* and there will be a series of commentaries from CEM in the **EMJ** soon.

- An **Exit Block video** and a **CEM map** have been produced to compare 4-hour performance across the UK, and CEM is also collecting data to undertake our own analysis on information on EDs.

Presidential Address - Dr Cliff Mann

- Good news on **recruitment** at last: we are up 140 on 2 years ago, and we now have the highest number of ST4s for the last 5 years. Retainment is up in other groups - with improvements in terms of contracts and tariffs.
- Cliff says he, "...doesn't necessarily agree with **The Keogh Review**". Initially Keogh said they would downgrade EDs, but now "195/220 EDs are likely to remain as major Emergency Care Centres..."

“Today's inpatient admission-to-discharge ratio produces tomorrow's ED crowding...”

- Cliff says he *does* support **enhancing 111**, but doesn't agree with all paramedics being university trained.
- The elephants in the room are still the **mismatch between the numbers of people that attend EDs and the numbers of doctors and nurses available to see them**, plus the the environment and working conditions in EM which as we all know, are often difficult too.
- The **CEM Sentinel site audit** was an audit of ED attendees who could be treated by a GP or ED doctor... only 15% of patients could be sent away *from triage* to see a GP within 24 hours...it

*Cliff on Primary Care co-location:
“If people insist on walking over the grass, you should build a path”*

seems like “the DoH would have liked to silence us on this finding, as it contradicts their data...”.

- New **CEM guidance is being issued for Trust Boards**. ED Tariffs range from £29 to over £6000, to treat a Resus patient.
- Cliff believes that **Primary Care co-location with ED** is an important part of the solution - "if people insist on walking over the grass you should build a path". We *could* have 40% streamed to a GP in ED/co-located and 60% seen in ED.
- There has also been a **recent downward trend in ED performance**. ED attendances are still rising, as is elective care, with a massive reduction in beds available, especially overnight. There has been an increase in ambulances dispatched by 111 and rising recommendations to attend ED because "The Directory of Services is empty OOH" - GPOOH consultations have fallen at the same time. A Nuffield report (“Focus on A&E attendances”) showed that we are soaking up the increase in demand.
- It's **difficult to get people out of hospital and the ED**: there are rules stopping the elderly going home at night, borderline clinical decisions always occur, and family and patient expectations are high in terms of admissions and “everything being sorted out” before they go home. *[which does call into question the concept of “discharge to assess being promoted by some AM colleagues - Ed]*

Reflection
for your
CPD

You can find [“Prescribing the Remedy”](#) here.

The Nuffield “Quality Watch” report “Focus On: A&E attendances” is [here](#).

The [themed issue of BJHM](#) that Cliff mentioned is now published, and contains a superb collection of articles by the big names in UK EM, with a variety of articles ranging from the future of EM (Cliff), recognition and consequences of Exit Block (Katherine Henderson & Adrian Boyle), sustainable working in EM (Taj Hassan - who else?!) and more about the Sentinel Sites project (Chris Mouton, Cliff & Michelle Tempest), amongst others. Do take a look.

The killer bug talk - Dr Marina Morgan

Reported by Pam Nelmes

Dr Marina Morgan is a Consultant Medical Microbiologist at the Royal Devon and Exeter Hospital, who delivered an inspiring and thought-provoking session on PVL toxin-producing *staphylococcus aureus*. Describing herself as a 'fast speaking Welsh woman' Dr Morgan went on to prepare us for a 'crash course' in microbiology!

Keeping current, we were told the session would not discuss the media "hot" topic of Ebola - in fact Dr Morgan pointed out that Ebola infection doesn't signal a death sentence, has a lower mortality than rabies, and careful hygiene precautions go a long way in prevention.

Whilst that was all very comforting, it quickly became apparent that Dr. Morgan had something else to share with the audience, as she highlighted paper clippings and headlines such as "Killer virus ate my mother in 10 minutes". Several gruesome images later, narrated with reference to patients who had presented with symptoms that included rashes, blisters, boils (old and new), red eyes, and pain disproportionate to physical signs -leading in several cases to critical illness or a speedy death - it was clear this presentation had much to offer, and the audience had much to learn.

Following a fast-paced, yet comprehensive overview of *Staphylococcus* and *Streptococcus*, gram negative and gram positive, endotoxins and exotoxin, blue and pink (stains!), Dr Morgan went on to highlight that Group A *Streptococcus* is the Number One killer in pregnancy, that there are four different types of necrotising fasciitis and that "PVL toxin-producing staph aureus" is increasingly seen (but missed) in the Emergency Department.

PVL or Panton-Valentine Leukocidin may sound like a romantic novel, however the clinical features and high transmission make this anything but a positive experience! Skin-to-skin spread makes this bacteria easy to share, with infection presenting (usually) insidiously with recurrent skin infections.

See a boil/lesion with a black spot in the centre and act!

Dr Morgan stressed the need to "...beware the normal white cell count" (which may not be reassuring: PVL toxin destroys white blood cells) and also to watch out for significant pain that reduces to zero - another falsely reassuring feature of PVL infection, which can be due to infarction of nerves and, again, is an ominous sign!

Young, and otherwise healthy people may present with the most

serious infection "necrotising haemorrhagic pneumonia" following a "flu-like illness" and sadly this has a high mortality.

So onto risk factors: Dr Morgan has significant experience working with locally-based Marine Commandos (one of whom died of PVL) and she acknowledged that military training camps, prisons, households, gymnasiums and "close contact" sports are risk factors for PVL-related infection. Communal facilities such as "hot tubs"/ jacuzzis may seem tempting, however I for one will think twice before languishing in such luxuries having heard this talk!



One of the early high-profile PVL cases in the UK - 2005

The killer bug talk - Dr Marina Morgan

Investigations and treatments, including Intravenous Immunoglobulin (IVIG) in necrotising pneumonia, were also discussed, along with decolonisation and screening of close contacts, surveillance, “reporting” and the importance of infection prevention and control in the community, the hospital and the home.

Dr Morgan certainly managed to pack a lot into 30 minutes sharing her experience generously and passionately with clarity and credibility. She welcomed questions from the floor and invited further contact for those wishing to learn more.

Reflection
for your
CPD

Want to know more about PVL? There's some good information in [this patient.co.uk article](http://this.patient.co.uk), or for slightly more learned approach, if you have access to the Lancet online you can track down the full version of [this systematic review](http://this.systematicreview).

Missed the 2014 CEM CPD Event?

OUR CPD YOUR CPD

STOANES

Toxicology & Trauma

College of Emergency Medicine
Spring CPD Event 2014 - Day 1
The unofficial report

Compiled from the lecture notes made on the day by our intrepid reporters:

Dr Alison Walker
Consultant in EM, Harrogate

Dr Helen Salter
Consultant in EM, Bangor, North Wales

Sharing the learning...

Topics include:

- "Legal topics"
- Crystal Meth
- Carbon Monoxide
- CRIS & CRIS
- Head, spinal, burn and urological injuries

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Compiled, designed & edited by
Dr Linda Dykes, Consultant in EM, Bangor

OUR CPD YOUR CPD

STOANES

Mostly Paediatrics

College of Emergency Medicine
Spring CPD Event March 2014 - Day 2
The unofficial report

Day 2 topics include:

- HIV in the ED
- Paediatric major trauma imaging
- Atrial Fibrillation
- Paediatric CNS tumours (and how not to miss them in the ED)
- Paediatric Acute Severe Asthma
- Urological emergencies

Sharing the learning...

Compiled from the lecture notes made on the day by our intrepid reporters:

Dr Helen Salter
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www.mountainmedicine.co.uk

Compiled, designed & edited by
Dr Linda Dykes, Consultant in EM, Bangor

OUR CPD YOUR CPD

STOANES

Sports Medicine, innovation & controversies

College of Emergency Medicine
Spring CPD Event March 2014 - Day 3
The unofficial report

Day 3 topics include:

- Concussion in sport
- Cardiac problems in athletes
- Widespread: Beyond Drowsy
- Diagnosing PE
- Training in trauma management
- A "field hospital" for city-centre drunks
- Your ED and your coroner

Sharing the learning...

Compiled from the lecture notes made on the day by our reporter:

Dr Alison Walker
Consultant in Emergency Medicine, Harrogate

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BANGOR EMERGENCY DEPT

www.mountainmedicine.co.uk

Compiled, designed & edited by
Dr Linda Dykes, Consultant in EM, Bangor

Catch up with the Bangor ED conference reports: **full coverage of all three days of the Cardiff CPD event** - plus others - at our Scribd Conference Collection site.

Think you'd prefer this view from the office? OOPT in rural EM



Photo - Joss Images

ST4-6 in a city deanery? If you'd like to experience rural EM in North West Wales (or like the look of living within minutes of the mountains of Snowdonia, beaches of Anglesey or watersports playground of the Menai Straits?) in a friendly department with plenty of major trauma & high-acuity patients, and enthusiastic trainers, talk to us about OOPT - see www.mountainmedicine.co.uk

Common Shoulder Injuries

- Lennard Funk

Reported by Michael Stewart

Dr Lennard Funk is a Consultant shoulder surgeon from Wrightington. He thoroughly debunked all the orthopaedic stereotypes with an engaging talk about common shoulder injuries that present to the ED on a regular basis, with advice on the immediate management and longer-term assessment.

Proximal Humerus Fractures

This section was removed from the talk to allow more time on the other topics. He did offer a brief summary of how to appropriately manage these patients in the ED – ‘Put them in a sling and send them to the shoulder clinic’ covers almost all scenarios safely!

Clavicle fractures

Lennard started with two pleas:

- Support these injuries in a broad arm sling, *not* a collar and cuff – the latter leads to a lot of muscle spasm and pain.
- Get a 20° cephalad x-ray as this most clearly shows displacement.

Surgical and conservative approaches both have their place. The aim is to achieve union for better function and less pain. Early union is less likely in displaced or comminuted fractures, and more likely in younger, male patients. Mid-shaft fractures do better than those in the lateral third. A [calculator is available](#) that will give the likelihood of persisting non-union at 6, 12, and 24 weeks; this is useful to discuss options and agree a plan with each patient. Early rigid fixation is the best option for many of these patients – while the decision might not be made in the ED, it may help us to discuss what is likely to happen to them in the future.

Acromioclavicular joint injuries

Grading systems are not particularly helpful with these injuries. X-rays should be done but have limited sensitivity and specificity. Clinical judgement is more important, and the key question to ask is ‘how is this patient coping with the injury?’

Leaving aside open injuries and neurovascular deficits, the vast majority can be treated with broad arm sling and analgesia, then reviewed at three weeks and three months. Those that are improving and coping well can be left alone; those that are struggling (more likely in athletes and those who do a lot of overhead work) can be offered surgical repair. Repair has a relatively high complication rate, so is rarely the preferred early option.

Shoulder dislocations

Differentiate the first time, high energy dislocation from the frequent recurrence, low or no trauma patient. There are many described techniques to reduce the former – most have a success rate between 80 and 100%, with little to choose between them. Earlier reduction is better for reducing pain.

Chronic, recurrent dislocations can be difficult to manage, and reduction is less of a priority as many will have unstable, hyperlax joints. Indeed it may be appropriate to discharge them with the shoulder dislocated for outpatient review by a shoulder specialist [*prior agreement with your shoulder surgeon colleagues recommended - Ed*]. Previous records, physiotherapy, and discussion with a shoulder surgeon are also useful in decision making.

<http://www.shoulderdoc.co.uk> – Wealth of information from Dr Funk and colleagues, for patients and clinicians.

<http://www.shoulderdoc.co.uk/article.asp?article=544> Robinson’s prognostic index calculator, based on Robinson et al., Estimating the Risk of Nonunion Following Nonoperative Treatment of a Clavicular Fracture, *J Bone Joint Surg Am.* 2004 Jul;86-A(7):1359-65.

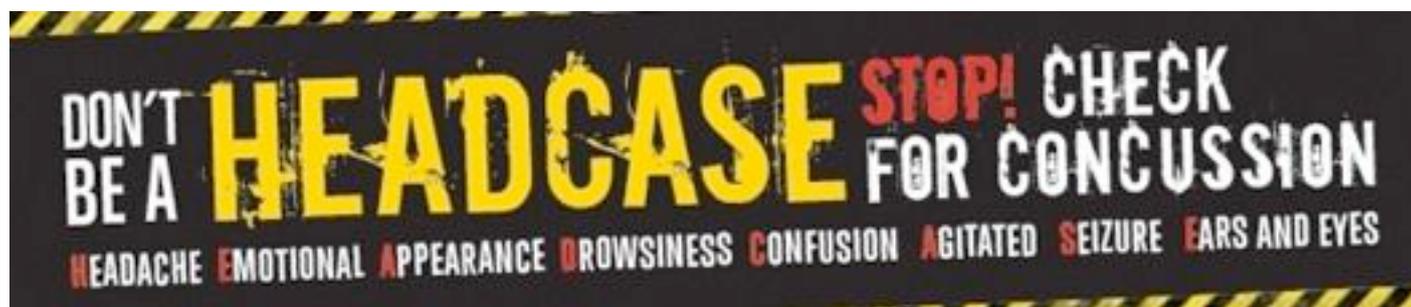
Reflection
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Concussion: the end of contact sports? - Dr William Stewart

Reported by Alex Lomas

Dr Willie Stewart is a Consultant Neuropathologist at the Southern General Hospital in Glasgow and an Honorary Associate Professor at the University of Glasgow.

He delivered an engaging talk on concussion, addressing both the recognition and acute management of concussed individuals, whilst also offering some insight into some of the chronic pathology which may result. This session linked well with the earlier talk from Dr Robson who had discussed his personal experiences as medical lead for the Scottish rugby team (sadly, we don't have a report from that talk, unless anyone is able to volunteer to send us one for a 2nd edition?).



What is it?

Concussion, or mild traumatic brain injury (MTBI), can be defined as “a temporary disturbance in brain function as a result of trauma”. It may present with a wide variety of physical or cognitive signs and symptoms, and whilst a history of loss of consciousness makes diagnosis much easier, it's a relatively uncommon feature. Headache is the primary presenting complaint in the majority of cases.

Current best practice

Much of the current guidance regarding the acute management of concussed individuals relates to athletes, although the initial advice given can be applied to anyone diagnosed with MTBI: for 24

hours following injury, patients should avoid watching TV/ using computers, driving, alcohol, and any sporting activity.

For athletes, it is recommended that they rest for the first two weeks post-injury, and once symptom-free are progressively re-introduced to training over the course of at least one more week prior to any competition.

This gradual return to play is crucial in the prevention of “Second Impact Syndrome”, a term used to describe the diffuse cerebral swelling and brain herniation which may occur if an individual with post-concussive symptoms suffers a *second* MTBI. While extremely rare, such cases typically result in death or severe disability, and often in the young.

In the long term...

In addition to the acute management, much of the focus of current research is into the chronic neuropathologies that may develop as a result of both single and repetitive MTBI.

Chronic traumatic encephalopathy (CTE), or “punch-drunken” syndrome, is a progressive degenerative condition that has long been recognised in boxers as a complication of repeated MTBI.

However in recent years, evidence of CTE has been found at post-mortem in athletes who had competed in *other* contact sports, suggesting a much higher prevalence than previously reported.

Concussion - Dr William Stewart

What's coming?

Looking forwards, Willie highlighted the need to identify a biochemical marker that can be used in the diagnosis and management of MTBI, a so-called "troponin for concussion". He also noted an absence of any criteria with which either a clinical or a pathological diagnosis of CTE can be confirmed. Given the increasing interest in concussion within the literature, these are certainly avenues to be explored.

Ultimately, concussion is a disorder that is under-diagnosed, often through a combination of lack of recognition of the condition, and under-reporting by athletes themselves at the pitchside.

It is becoming ever more significant not only in the practice of sports medicine, but also emergency medicine, due to massive increases in litigation in the USA, and the media attention associated with this.

Key messages

- Majority of focus in both the literature and the media is on concussion in sport, however **it can happen in any setting where a head injury occurs**
- Assessment tools are available to use, but especially at amateur level: "if in doubt, sit them out"
- Appropriate post-concussion advice is crucial in avoiding further morbidity/mortality, however this is reliant on recognising the condition in the first place

Reflection
for your CPD

Links/CPD

IRB Concussion Management e-learning - <http://www.irbplayerwelfare.com/concussion> - includes a range of modules aimed at anyone from the general public through to elite level match day medical staff, with certificates for portfolios at the end!

SCAT3 (Sport Concussion Assessment Tool – 3rd Edition) - <http://bjsm.bmj.com/content/47/5/259.full.pdf> - the full SCAT3 proforma, detailing a comprehensive assessment of athletes with suspected concussion.

Pocket Concussion Recognition Tool (based on SCAT3) - <http://www.rfu.com/takingpart/playerhealth/concussion/~media/files/2013/taking%20part/concussion/pocket%20scat3.ashx>
A brief tool based on SCAT3 to aid in the recognition of concussion, aimed at the sports medic, but could equally be put to use in the ED.

Consensus statement on concussion in sport: the 4th International Conference on Concussion in Sport held in Zurich, November 2012 - <http://bjsm.bmj.com/content/47/5/250.long>

Chest Pain & troponins - Martin Than

Reported by Debbie Godden

This was my favourite lecture of the conference- a captivating expert talking about a fascinating part of our daily work! Martin is an Emergency Medicine Specialist and Director of Emergency Medicine Research at Christchurch Public Hospital. He is also a Senior Clinical Lecturer at the Christchurch School of Medicine, University of Otago.

As Emergency Physicians, we need to understand more about troponins and the use of them in assessing chest pain patients in ED – “we should be experts in this - not Cardiologists”, said Martin, drawing parallels with head injuries 20 years ago who were then still “owned” by Orthopaedics.

The problem is that different specialities need different things from a test. Cardiologists want a highly specific test to rule *in*, *but* Emergency Medicine wants a highly sensitive test to rule *out* infarction. Of course, our specialty starting points are completely different - 80% of those being investigated for ACS in the ED with Troponin do not actually have ACS.

Understanding your assay...

1. Know exactly which assay you are using in your hospital, and look it up on [this chart](#).
2. Make sure you know what units you are using - are you working in micrograms/litre (e.g. 0.03) or nanograms/litre (e.g. 30)
3. Get your head around the characteristics of your assay:

Level of Blank (LoB)

This is the highest apparent analyte concentration expected when replicates of a blank sample containing no analyte are tested... in other words, it's the signal the assay gets when there isn't any troponin there at all.

Limit of Detection (LoD)

This is the lowest analyte concentration likely to be reliably distinguished from the LoB and at which detection is feasible

99th percentile

The cut-off below which 99% of the result occurred in a sample reference (apparently) healthy population

Coefficient of variability (CV)

The reproducibility of the result if the same sample is tested repeatedly

Undetectable high sensitivity cTnT at presentation has a very high negative predictive value and so may be considered to rule out AMI, identifying patients at low risk of adverse events.(J Am Coll Cardiol 2011;58:1332-9) and there's a Swedish paper due to appear in American Journal of Cardiology which looked at over 14,000 patients using TnT<5 as a rule out.

Where are we now?

Ever since cardiac biomarkers arrived on the scene, it has been recognised that demonstration of a rising/falling pattern is needed to distinguish the changes seen in AMI from background levels: the first universal definition of MI from 2007 said we need “one elevated value” above the decision level.

“... We have a terrible fear of patients dropping dead from us mistakenly ruling out the very condition they sought help about...”

The arrival of high-sensitivity troponins has thrown the subject up in the air again, and we only have ourselves to blame: “high sensitivity troponins were developed because clinicians *wanted* a CV of under 10%” - i.e. more precision. But this striving for increased precision also brought along the ability to detect much lower levels of troponin. That's all very well, but the significance of these low levels remains uncertain.

Troponins go up in just about any condition that makes you sick (sepsis, renal failure, SAH, stroke...) as well as anything that results in myocardial injury (HOCM, myocarditis). It also goes up in exercise - marathon runners have a 30% rise in troponin post-event. We still don't know the prognostic value (if any) of any of these other causes of raised troponin, but it isn't all due

Chest Pain & Troponins - Martin Than

What to do about it?

A show of hands from the audience revealed that many of the audience still do 12-hour rule-outs, but others are doing 6-hour rule-outs.

The tipping point of harm versus benefit - taking into account radiation protection and complications of testing - appears to be about 2%

Thankfully, there are now some papers that may help guide us.

The [ADAPT study](#) (whose lead author was the speaker) was an RCT (3500 patients over many sites) comparing a 6-hour control pathway versus a 2-hour accelerated troponin protocol, and found that twice as many people could be discharged by 6 hours.

The EDACS (Emergency Department assessment of chest pain) risk score - also by the speaker - described the derivation and validation of an ACS risk score in the ED setting, with the aim of identifying low-risk patients who could be eligible for early discharge and outpatient follow-up. This is the first protocol of this type that has been subjected to an RCT.

The EDACS paper is [here](#) - and some kind colleagues in Adelaide have devised an [on-line calculator](#).

If your head is spinning after reading this - ours was after trying to write it up - try [this Medscape summary](#). And for a further insight into the mindset of our awesomely clever colleagues who do this stuff for us, check out [Rick Body's post in St Emlyn's](#) on his clinical decision rule and [more St Emlyn's stuff about hsTn](#) (we do ♥ St Emlyn's)

Reflection
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The MI myths - Steve Goodacre

Reported by Linda Dykes

Taken from the talk following Martin Than's - reported on the next page - Steve's "Diagnosing MI: Common Beliefs" provided some food for thought...

The accepted wisdom	The Goodacre view
1. A major adverse cardiac event after ED discharge should be an avoidable event	No, probably not. The ageing population and epidemiology means we will always miss some.
2. Missed MI must be avoidable at all cost	No. If ruling-out MI becomes the massive focus, other things get left out and tests have consequences for patients and the system. Don't fill your beds with patients with nonspecific chest pain.
3. Everyone with chest pain needs troponin testing	No, but it often feels like it!
4. Everyone with an elevated troponin needs hospital admission	No - only admit if doing so would benefit the patient. There is much to gain for a young patient with undiagnosed vessel narrowing, much less in a patient already known to have IHD who is a nursing home resident with other co-morbidities.
5. Every ED needs a chest pain protocol	Not necessarily - we used to manage ok!

NICE & high-sensitivity Troponins -

Steve Goodacre

Reported by Linda Dykes

Diagnosing MI is difficult

It was good to hear Steve arguing against “cookbook medicine” - he pointed out that diagnosing MI requires clinical knowledge and experience (“I’m sure oncologists don’t delegate diagnosing cancer to their F2s”) and, whilst guidelines may be helpful, this is not something that can be delegated to a protocol or algorithm.

Why do we use troponins? - to be clear...

1. To diagnose MI
2. To predict adverse outcome ([Mills, JAMA 2011](#))
3. To predict treatment benefit (but only if MI is diagnosed, because that triggers strong secondary prophylaxis and halves the risk of recurrent events)

But we have a problem in that we have a diagnosis (partly/largely) based on the test, which is racking up the numbers we diagnose. And whilst we know that a raised troponin has some prognostic significance, as we heard in Martin Than’s lecture, it’s really not all clear cut.

What is a “high sensitivity” troponin assay?

- It’s an assay with optimal precision (CV <10% - see box on page 12) at the 99th percentile *and* the ability to detect troponin in at least 50% of apparently healthy individuals.
- Requires manufacturer to provide acceptable data
- Not always clear cut
- High sensitivity offset by lower specificity (compared with conventional troponin reference standard) - the price we pay for higher early

Assay	Manufacturer	99th percentile	CV	LoD/LoB
Elecsys TnT	Roche	14 ng/L	10%	3 ng/L
ARCHITECT STAT TnI	Abbott	26.2 ng/L	4%	2 ng/L
AccuTnI+3	Beckman Coulter	40 ng/L	10%	3 ng/L

The Universal definition of MI

Detection of a rise and/or fall of cardiac biomarker values with at least one value above the 99th percentile upper reference limit (URL) **and** with at least one of the following:

- Symptoms of ischaemia
- New or presumed new significant ST-segment-T wave (ST-T) changes or new left bundle branch block
- Development of pathological Q waves in the ECG
- Imaging evidence of new loss of viable myocardium or new regional wall motion abnormality
- Identification of an intracoronary thrombus by angiography or autopsy

(Thygesen, JACC 2012)

What about a troponin mismatch?

Patients who have an elevated high-sensitivity troponin (but a normal standard troponin), are diagnosed with MI if other criteria are met, but were not classified as MI in the accuracy studies for high-sensitivity troponin assays. However, this mismatch situation carries prognostic importance, as this group had an increased risk of an adverse event compared to both assays being negative, but a lower risk than if both assays were negative. Unfortunately we don’t yet know the therapeutic importance (this is subject to further study) but it has certainly raised the diagnostic yield of MI.

Hypertroponinaemia

Chronic troponin elevation is seen in a number of conditions - increasing age, renal failure and heart failure. Remember that *diagnosis of MI* requires a rise and/or fall in troponin - but whilst raised

troponin levels *per se* do predict death and adverse events, this doesn’t necessarily mean such patients will benefit from treatment.

NICE recommends these two assays as options for early rule-out of NSTEMI in people presenting to ED with chest pain and suspected ACS

Acknowledgments

Many thanks to Dr Rick Body & Dr Avril Wayte for helping to check the content of pages 11-14 for us!

NICE & high-sensitivity Troponins - Steve Goodacre

So, can we use high-sensitivity troponin to rule out MI within a four-hour ED stay?

Steve then compared the two high sensitivity assays recommended by NICE: the Abbott HSTnI and the Roche HSTnT. The characteristics of these assays when used at presentation or after 1-3 hours are tabled below.

Steve commented that the Roche assay actually has a sensitivity of 98% if used at the 3ng/L level at time of presentation - “high enough if you’re a pragmatist” - but apparently the biochemists on the NICE panel “quibbled about the CV of this assay”.

When it all comes out in the wash, NICE has concluded that the most cost-effective strategy is to assess high sensitivity troponin **at presentation and 3 hours later**, whereas in comparison, doing the second tests at 10-12 hours is not cost-effective. However, it is “not possible” to drawn conclusions about the relative cost-effectiveness of different HS assays and different timings.



The bottom line: how to use high sensitivity troponins now

NICE make clear that results of troponin tests should be interpreted alongside clinical judgement and clinical assessment. Healthcare professionals “should take into account the pre-test probability of NSTEMI, the length of time since the suspected ACS, the possibility of chronically elevated troponin levels

in some patients and that the 99th percentile thresholds for troponin T and I may differ between sexes”.

Steve placed these recommendations into his own framework, and explained how his practice is to undertake the following clinical assessment before testing: is there an alternative diagnosis? What’s the pre-test probability of MI? What’s the potential for the patient to benefit from treatment? What were previous troponin results? Are there any cardiac or renal co-morbidities? and when were the worst symptoms?

“The only way to avoid missed MI and adverse events after discharge would be to admit everyone...”

Abbott HSTnI				
Strategy	Sensitivity	Specificity	LR+	LR-
Presentation >URL (26.2 ng/L)	80%	93%	11.47	0.22
Presentation >LoD (4 ng/L)	100%	35%	1.54	0.01
1-3 hours after presentation >URL of 26.2 ng/L	98%	90%	10.16	0.02

Roche HSTnT				
Strategy	Sensitivity	Specificity	LR+	LR-
Presentation >URL (14 ng/L)	89%	82%	4.96	0.14
Presentation >LoD (3 ng/L)	98%	40%	1.63	0.05
1-3 hours after presentation >URL of 14 ng/L	95%	80%	4.75	0.06

Who *not* to do troponins on...

- Clear non-cardiac diagnosis
- Very low pre-test probability of MI
- Little potential to benefit from treatment
- Multiple previous negative or low positive troponin results
- Combinations of the above

Determine timing of test(s)

- High pre-test probability & potential to benefit → immediate testing and cardiology referral
- For most patients → test at 0 and 3 hours after presentation
- Patients presenting >12 hours after peak symptoms → you’re still ok to do a single test (this is why NICE says patients will “typically” need the two tests rather than insisting on two tests)
- Suspected (chronic) hypertroponinaemic → immediate and delayed

Lessons from Abroad: surviving our success - Ellen Weber

Reported by Alison Walker

Professor Weber - the new editor of the EMJ - gave a thought-provoking presentation that held the audience's attention for the whole talk. She talked about how the USA would like the 4 hour target, as they "have mastered waiting room medicine" because they can't get patients into ED cubicles, with patients waiting for up to, and over, 24 hours. The evidence is that this is the same in European countries and it doesn't matter if there is strong primary care or good insurance systems.

So, what's happened to EM?

It's our fault because "we built a better mouse trap": we are the only place that can deliver time sensitive care for MI, and yet we are being told to send patients away from the ED at the same time patients are being bombarded with information telling them to worry about chest pain, stroke etc.

People come to us because they are scared and cannot know the difference between an emergency and a nonemergency - "we are the victims of our own success". Yet now we are telling patients to go away and that they are "inappropriate visits" to the ED. But even *we* don't always recognise the emergency when they walk through the door.

Is this sensible? "The airline industry don't tell you that the train is only a bit slower and better for the environment...."

The politicians would say if the ED consultants don't think patients need to be there, then

it's not surprising that they don't want to pay us for seeing them. In the USA, Medicaid tried to stop paying for some patients attending EDs - thankfully, ACEP sued and won.

"As EM physicians we feel undervalued because we are told our patients shouldn't be here, and that GPs could do it cheaper and better..."

Just as alternatives to EDs have sprung up in the UK, the USA now has "minute clinics" and "pay as you go advice lines".

So what does the evidence really say? Have we got our counter-arguments ready?

The cost thing

There's no evidence that GPs working in or near EDs save money ([Cochrane](#)),

patients with non-urgent conditions don't affect ED crowding or costs ([Schull](#)) and others have shown that creating alternatives to ED creates more - not fewer - patients for ED.

Ellen's suggestion was that we need to place different services behind a single ED front door triage (e.g. nurses, Emergency Physicians, GPs, CDU etc).

But, she said, we must stop calling patients "inappropriate" because it does nothing but cause problems and they cannot realistically be

expected to decide themselves.

UK vs. USA

In the UK not everyone is triaged, and we do fewer CTs and fewer investigations. In the USA, all patients are triaged, and all have five vital signs done even for minor injuries. The Lesson is that the way to see more patients is by using clinical skills rather than tests.

Lessons from Abroad - Ellen Weber

Lessons from EM in a developing country

Ellen illustrated this by describing her Third World experiences in Tanzania: here they "...do a lot with very little" and she described the satisfaction of learning that, despite a long career in US EM, she did still have her

clinical skills and was "reminded why I became a physician in the first place".

She held the audience in silence when she was talking about working with a trainee and his dedication, how much he appreciated being a physician and the care he took of his (probably only)

Emergency Medicine:

"Where you can be Sherlock Holmes & John Watson all in one"



The BBC's Sherlock Holmes and John Watson. Just so we can, er, admire Ben & Martin [Behave- Ed]

"It's time to start believing in your patients and yourself."



Sustainable careers in EM

Taj Hassan, Sunil Dasan, Susanne Hewitt & Rob Galloway

Reported by Linda Dykes

This was a well attended and useful afternoon session - although the irony of talking about

work-life balance when many delegates had disappeared off on the recreational afternoon was not lost on the attendees!

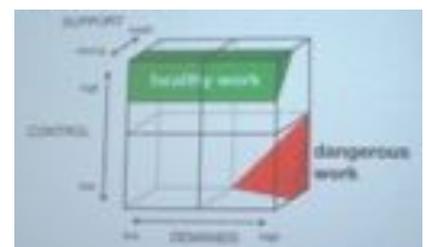
Because the material covered in this session is largely included in the comprehensive CEM document (pictured above left - available on the CEM website or click [here](#)) only a few key points are included here.

Taj Hassan introduced the session and promoted the new report, much-needed in light of a recent CEM survey which found 62% of us described our present post as "unsustainable".

Sunil Dasan then moved onto "decades of consultant life and how to stay focused", and threw a curved ball to the audience by pointing out our jobs are actually highly repetitive (patient after patient for a full shift, in the same place, with the same colleagues) - which is a problem for people who perceive themselves as lovers of variety! Sunil advised that by doing "lots of things well, you are likely to be *more* productive at each of them"

Susanne Hewitt then talked about well-being & burnout, an intensely personal talk that obviously resonated with many of the delegates. We were urged to be "honest about the problem" - Taj having already set the scene that US data suggests that the highest rate of burnout (measured using the Maslach Burnout Inventory - [try it!](#)) is seen in the frontline specialties (EM, Family Medicine, GIM) at 37.9% cf a general population figure of 27.8%.

Suzanne also showed a very useful slide of the "damage control support model" highlighting how high-demand work can be healthy - but only if associated with high levels of support & control.



Rob Galloway

then explained Annualised Self-Rostering, a system so flexible it seems almost too good to be true - "this is the means to make EM the specialty people take up because of the rota, not in spite of it".



A day in the APEM stream

Reported by Rachel Rowlands

The balance of play in the APEM stream at CEM is always a tricky one. It's attended by both traditional ED folk but also the rogue Paediatricians who have subspecialised in EM. The two groups tend to have different "comfort zones" and gathering together a group of speakers to satisfy both can be a challenge. However I think the assembled masses - some bleary eyed from the social gathering the night before - all walked away with something new to take back to their own departments or work on for the future. My personal top learning points from the day all seem to have something to do with kids and their heads...

Imaging in Paediatric Trauma (Judith Foster)

Now, I am a tad biased on this topic having gone to the original launch in Nottingham many moons ago of the proposed new Royal College of Radiology guidelines ("Paediatric Trauma Protocols" - [now available](#).)



I have heard them discussed at a few more meetings since then including Trauma.org and RCPCH 2014 but, given the importance of the message and change in ethos required by some, I was happy to hear them again.

As with everything we do in children we should always question how the investigation will change our management - if it won't, why are you doing it?

This is especially true in imaging where we need to use the ALARA (as low as reasonable achievable) principle to prevent UK kids from glowing [like this unfortunate soul in the USA](#). Pan scans have become common place in adults and in many areas their use has crept into childrens trauma- but with very little proven benefit.

"Back in the day" we used to repeat the c-spine x-ray if it was inadequate with a swimmers view or by pulling down the arms. Nowadays, it's too easy just to add on a c-spine when doing a CT of the head but as Dr Judith Foster pointed out this irradiates the developing thyroid (*not good*).

Equally, why x-ray a paediatric pelvis that you are sure is broken when the pelvic surgeons will want a CT reconstruction to operate with? Bottom line is to have a good reason for the imaging and do what you really need first time.

Concussion (Brian Carlin)

Next up was Brian Carlin who has a CV as long as this review, but suffice to say he has a wide range of experience in pre-hospital, sporting (both round and oblong balls) and disaster based medical support and runs many of the [HMIMMS courses](#) around the UK, Ireland and has recently branched out to Australia!

Brian's talk focused on the much neglected topic of concussion and the difficulties in management for both coaches and medics. It's a shame that NICE did not include guidance on concussion in the recent update but it appears the International Rugby Board (IRB) and many others are plugging the gap with [accessible educational materials](#).

Brian's talk discussed the [risk to young people](#) but also commented on the fact that even when people know what they SHOULD do it can be difficult in the face of a coach and player wanting to continue to play to pull them off the field.



As a mum of a 7-year old rugby player I can assure you this is not just an issue in elite level sport: Jose Mourinho has nothing on some of the yummy mummies pacing the touch line on a Sunday morning in the suburbs!

A number of really useful guidelines and tools were signposted in the talk (see below) and I know a few of us have walked away wanting to work these into our practice.

One of the most fascinating things mentioned in the talk was the way computer games manufacturers have taken on the cause- EAGames NFL game the play is stopped if a player is concussed and they have to leave the field. This seems a great way to educate kids to become their own, and their team mates, protection.

Concussion resources

Ontario Neurotrauma Foundation [guidelines](#)

The [Pocket Concussion Recognition Tool](#) & the [Child SCAT3 assessment tool](#).

Reflection
for your
CPD

The final topic I will report on here is **Dr Gillian Combe's talk on paediatric psychiatry and CAMHS**. Shockingly, Gillian told us that DSH levels in the UK are the highest in Europe with 20% of 15 year old girls self harming

“There is no health without mental health. CAMHS needs to be a priority and no longer a neglected service”

- Gillian Combe

We were shown some of the positive aspects of the internet in helping children with emotional issues and DSH such as the [Butterfly Project](#) but to also reminded of the fact that that the internet can ‘normalise’ problem behaviour.

I must admit I am more and more aware of the number of teens I see with self-harming scars, and the fact of the matter is that CAMHS can't see them all.

It is up to schools, GPs, EDs and CAMHS to work together to help

these young people get the help and support they need. Many people can feel uncomfortable approaching these issues opportunistically- the [HEADDSS assessment](#) is a great way to structure your approach and allow you a way in.

I also find much of the information in the [Adolescent Health Program through the RCPCH](#) is great for understanding the teenage years and the fundamentally different ways in which young people process information as the brain matures.

So did I learn anything new? Yes.

Did I come away enthused and with things I want to 'fix' with my colleagues? Yes. Did I enjoy the South West hospitality, sun, beaches and general bonding with EM colleagues? Oh yes.

Looking forward to Manchester already!

The top-scoring APEM Abstracts



The next three pages (19-21 inclusive) contain Damian Roland's Storify summary of not only the Liz Molyneux presentation, but links to a whole bunch of other stuff as well.

It's a great example of how Twitter can be used to report sessions and share messages, and for those of you who aren't already on Twitter yet, we do encourage you to take the plunge.

The prizes for APEM wit goes to...

- 1) Dr Kirsty Westwood for the presentation title: *“What's coming through the front door? Paediatric and adolescent gynaecology in the ED”*
- 2) The delegate who, after hearing about a parent trying to treat a child's burn with flour, asked *“is this an example of a battered child?”*

APEM (at #CEM2014) Top Scoring Abstracts

Selection of tweets from the abstract session (Liz Molyneux Presentations) at the College of Emergency Medicine Conference 2014 (Exeter, 2014)



Emergency Medicine UK :

UK Emergency Medicine site: CEM, EMTA and FASGEM. This website gives information about working, training and standards of care in emergency medicine in Britain.



These are selected tweets taken from my storify of the [whole day](#)

First up an abstract on consultants working overnight...Overall findings that generally people found this supportive with a few predictable caveats about juniors needing to learn without the 'over-the-shoulder' presence of a senior. Also important to recognise the consultants in this study were non-PEM specialists.



Damian Roland
@Damian_Roland

What are perceptions of staff when a consultant works overnight in a children's Emergency Department emj.bmj.com/content/31/9/7...
[#CEMExeter2014](#)

2 MONTHS AGO



Damian Roland
@Damian_Roland

One nurse reported on varying skills and knowledge of the Consultants... emj.bmj.com/content/31/9/7... [#CEMExeter2014](#)

2 MONTHS AGO

Next a session on an innovative method called "Fix Freddie - pulling strings to reduce pressure on minors"



Damian Roland
@Damian_Roland

Great initiative bringing health promotion direct to families
emj.bmj.com/content/31/9/7... Fever repeatedly big cause for concern
#CEMExeter2014

2 MONTHS AGO



Steve Corry-Bass
@SteJC

Fever biggest cause for health seeking behaviour in pre intervention
questionnaire - Fix Freddie #CEMExeter2014

2 MONTHS AGO



Damian Roland

Clearly was a positive experience for those involved but research is
needed on the actual effect this has on health seeking behaviours.

 2 MONTHS AGO

I was up on next on educational interventions in ED. Key point was that 'education' can and should be viewed as an intervention if we are to evaluate properly



Damian Roland
@Damian_Roland

Talking to this abstract emj.bmj.com/content/31/9/7... at
#CEMExeter2014 Background info here from @smaccteam
#SMACCGold rolobotramples.com/2014/07/18/eva...

2 MONTHS AGO



Damian Roland
@Damian_Roland

Some background for my talk on educational evaluation can be found
at bit.ly/mededvalidity and bit.ly/evalref #CEMExeter2014

2 MONTHS AGO

There was then a talk analysing paediatric trauma data from Afghanistan. Outcomes better than expected from a traumatic arrest group but...



Damian Roland
@Damian_Roland

Survival in traumatic cardiac arrest: emj.bmj.com/content/31/9/7...
Effect of brilliant trauma teamwork skills in unique pt group?
[#CEMExeter2014](#)

2 MONTHS AGO

and an important caveat that virtually no rehabilitation services exist.



Damian Roland
@Damian_Roland

Q from floor: Is it ok to resuscitate kids with traumatic arrest knowing poor outcomes AND follow up virtually non-existent [#CEMExeter2014](#)

2 MONTHS AGO

Following this a presentation on paediatric gynaecological presentations to the ED. There were some questions about the quality of data in this study as only one straddle injury was reported over the course of a year.



rachel
@rachrwlnds

Gynae makes up less than 1% of presentations to ED at Birmingham Childrens. All the more reason for clear guidance for depts
[#CEMExeter2014](#)

2 MONTHS AGO

A qualitative study next on clinical decision making by doctors. Difficult capturing the information via twitter so worth reading the [abstract](#)

There was a good question on how you know a doctor is using intuition or not?



Damian Roland
@Damian_Roland

The balance between intuition and lack of insight discussed in relation to junior doctors developing skills.... [#CEMExeter2014](#)

2 MONTHS AGO

And finally a presentation on the use of intra-nasal ketamine in procedural sedation. Lots of potential promise here - just need to get the practical research off the ground!

Anticoagulation: a new era - Amanda Clark

Reported by Michael Stewart

Amanda Clark started by pointing out that ‘Novel’ Oral Anticoagulants (NOACs) have been around for more than a decade, so the name has become something of a misnomer. As the abbreviation has become recognised, they are sometimes now referred to as “Non Vitamin K antagonist Oral Anticoagulants”. She then managed to turn a subject I have always found complex into an interesting and important talk

In 2010 there were three NOACs licensed in the UK, but by 2012 the number was up to 12.

There are two main families of NOAC drugs: *Dabigatran* is a direct thrombin inhibitor, whilst the “-xabans” are factor Xa inhibitors.

Emergency Physicians are often wary of them, as they are still relatively unfamiliar, we have no good way of measuring their action, and no reliable method of reversing them.

Dabigatran is 80% renally excreted, so levels can rise rapidly in patients with renal failure. There is also an association with peptic ulceration and coronary artery disease. The half life is 8 hours so shorter than Warfarin, but often still too long in a patient with a life threatening bleed – and worse if they have renal impairment.

What do we (and the haematologist) need to know?

Most crucially, the timing of the last dose. After this, any co-morbidities, other medications, and their renal function. Why they are on the drug, and the site and severity of the bleed are also important!

Can any tests assess the drug activity?

Yes and no. The thrombin time is very sensitive to *Dabigatran*, and if it is normal there is unlikely to be much drug activity. It’s not part of the standard coagulation screen though, so does need to be specifically requested. PT, aPTT and fibrinogen may be abnormal if drug is present, but normal results don’t exclude an anticoagulant effect – and the size of the abnormality (when it is there) does not correlate well with the bleeding risk.

There are some drug specific assays out there, but they’re not in routine use. TEG/ROTEM may also be useful in the future with the right reagents, but again are not ready for routine use.

So how do we manage the bleeding patient?

- Start with normal measures – control the bleed if possible, IV access, hypotensive strategies, and cross matching. Tranexamic acid is pretty safe to use at an early stage.
- If bleeding can be controlled, relying on the shorter half-life of the drugs may be an option in some cases. Reducing absorption with activated charcoal is also an option if the last dose was taken in the last two hours.
- Vitamin K, FFP, and Protamine are not effective. Haemodialysis is effective in removing *Dabigatran*, but is not often practical.
- Four-factor Prothrombin Complex Concentrate (*Beriplex* or *Octaplex*), recombinant Factor VII, and FEIBA (Factor Eight Inhibitor Bypassing Activity – although good luck getting hold of it outside a haemophilia centre) have all shown mixed results, predominantly in animal studies. PCC is likely to be the most available option – discuss with a friendly local haematologist!
- Specific antidotes are in development – but no word yet on when they will be commercially available.

How about if we ‘want’ to make them bleed?

As ever, weigh up bleeding risk against thrombotic risk. If surgery can be delayed, leave at least 48 hours to adequately clear drugs. In more urgent cases, think about TXA and PCC as above.

Stroke thrombolysis is contraindicated in patients on NOACs, as with Warfarin – it should, however, be (relatively) safe to give antiplatelet drugs.

For those on prophylactic doses who now need formal anticoagulation, assess the overall bleeding risk. In the young and healthy it’s reasonable to immediately add an extra dose or new drug. For frailer patients wait until the next NOAC dose was due.

Advanced Procedural Sedation

- Gavin Lloyd

Reported by Michael Stewart

Gavin Lloyd discussed a range of pertinent issues around sedation in the ED. Long gone (fortunately) are the days of giving a good dose of Midazolam and relying on Flumazenil to wake them up at the end.

There is a good and growing evidence base that Emergency Physicians can safely sedate many patients, and Gavin talked about how to safely extend our use of sedation. Unfortunately I arrived from an earlier session a few minutes after the talk started, so missed some of the opening comments.

Ketofol

A 50:50 mixture of Propofol and Ketamine, either mixed in one syringe or given in sequence), has gained popularity. It may have a role in some cases and can be safely used, but there is no convincing evidence that it reduces the incidence of hypoxia or is safer than Ketamine used alone.

ACEP Guidelines

The ACEP (American College of Emergency Physicians) clinical policy on procedural sedation was published in 2013. While it is not a UK guideline, the evidence base presented is useful to consider. Key points:

- Routine pre-procedural fasting does not reduce the risk of vomiting or aspiration; do not delay a procedure for a fixed period of fasting (level B recommendation)
- Capnography picks up hypoventilation and apnoea earlier than clinical assessment and pulse oximetry and should be used routinely (level B recommendation)
- One physician and one nurse may be appropriate (level C recommendation); in other cases two physicians (a dedicated sedationist and someone to perform the procedure) may be useful. *[NB - Gavin advocated having three members of staff present routinely - Ed]*
- Propofol can safely be used in adults and children (level A recommendation); Ketamine can safely be used in children (level A recommendation) and in adults (level C recommendation); Ketofol can safely be used in adults and children (level B recommendation)

Governance

It takes times to establish a culture of safe sedation within a department, and often more so to have this recognised in the wider hospital. Gavin advocated careful attention to training and credentialing, and to ongoing audit of safety. The SIVA audit tool was recommended as a structured way of recording adverse events.

Gavin and colleagues recently published their experience of Propofol sedation in the ED: of note the paper was submitted to and accepted by an *anaesthetic* journal, emphasising the growing acknowledgement of our role within other specialities. In 1008 cases they have 11 sentinel events (1%) with no adverse outcomes.

Properly used, sedation is a valuable tool in the ED – we can do it safely, and with attention to detail can use these skills on more patients than we have done previously.

Reflection
for your
CPD

Sedation Resources

[ACEP guidelines](#)

Weingart SD, Levitan RM. Preoxygenation and Prevention of Desaturation During Emergency Airway Management. [Ann Emerg Med. 2012; 59\(3\):165-175](#)

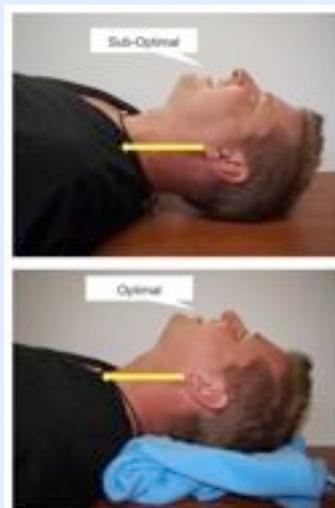
Newstead B *et al.* Propofol for adult procedural sedation in a UK emergency department: safety profile in 1008 cases. [Br J Anaesth 2013 doi:10.1093/bja/aet168](#)

Mason KP *et al.* Adverse event reporting tool to standardize the reporting and tracking of adverse events during procedural sedation: a consensus document from the World SIVA International Sedation Task Force. [Br J Anaesth 2012;108\(1\):13-20](#)

Advanced Procedural Sedation - Gavin Lloyd

Safely sedating sicker patients

- Consider your target level of sedation. Deep sedation may be appropriate and can be delivered by Emergency Physicians with the proper training and experience. Consider halving your starting dose of drugs in the elderly, especially if using propofol.
- Sit them up! Use a ramped position to improve ventilation and oxygenation - an obese patient may require several pillows, not just one!
- Optimise airway patency – adopt the “ear to sternal notch” position - (see the talk by Cliff Reid in the [Day One](#) report and photo to right)
- Maximise pre-oxygenation; consider elective use of BiPAP before and during the procedure with a close eye on the airway ([see the paper by Weingart et al.](#))
- Use apnoeic oxygenation with high flow nasal oxygen (see the talk by Ed Gold on [Day One](#)) – if a problem develops, it buys you safe time to sort it out
- Ensure that you are able to provide BVM ventilator support with the patient at their current height; adjust the trolley before starting if necessary
- Ensure experienced colleagues are available and consider formally doubling up the sedationist role
- Have a time out before starting – think about using a checklist to ensure all critical steps are considered
- Know your limits – there are still times when a formal general anaesthetic in an operating theatre is the best option



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See www.mountainmedicine.co.uk



Managing serious bleeding in the ED -

Anne Weaver

Reported by Charlotte Doughty

Anne Weaver from the Royal London and London HEMS kicked off her talk with a lot of facts!

Anne pointed out that we miss the “Golden Hour” - it takes 66 minutes on average to get patients to hospital - so she proposed starting blood resuscitation out of hospital to gain maximal effect.

However, having a massive haemorrhage protocol *and using it* are important too, as are obtaining vascular control of bleeding, utilising permissive hypotension & carefully handling and packaging patients to preserve any clot that has formed - “the first clot is the most effective”.

There was great emphasis on “doing the basics well” which is a timely reminder for many things we do in ED.

If you can compress the bleeding, *do so*:

- Consider [Olaes \(Israeli\) bandage](#) for abdominal wounds
- Blanket-stitch scalp wounds (I thought I was the only one who did this, it was great to realize I’m not! If you want to know how to do

blanket stitch [here’s a Youtube tutorial!](#))

- Indirect pressure - use tourniquets “turn it till it hurts then turn it one more time”.
- Be creative or even a bit Heath Robinson... a urinary catheter has many uses!



Israeli Field Dressing/Bandage

What and how should we transfuse?

- Fresh whole blood would be great, but we don’t have it with our blood transfusion services, so we need red blood cells & plasma in a ratio of 1:1 or 1:2. Even better, if you can, mix them together in a rapid transfuser *before* you transfuse.

- Don’t forget to correct the calcium, get an ABG and keep hypotensive till you have vascular control.
- [REBOA](#) (resuscitative endovascular balloon occlusion of the aorta), is now a pre-hospital tool [*and if you haven’t seen the BBC clip of the London team undertaking REBOA in their resus room, [here it is](#) - Ed*]
- ROTEM traces were mentioned (and I have to admit my complete ignorance about these but have since looked into it further and recommend [this article](#)).

One great question from the audience was, “is there a role for haematologists in the resus room?”

Answer - “you’re probably better off with transfusion nurses”!

... but if you don’t fancy PHEM, we have other options!



We know that some post-ACCS trainees want a productive “year out” after ST3 (or as OOPE later in their ST4-6 years), but don’t fancy PHEM.

So we came up with some other options... 80% rural EM and 20% of whatever you like, although our suggestions are MedEd/Simulation, or Medical Management/Quality Improvement, for which we’ve negotiated access to the very highest levels of NHS Wales.

6 to 12 month posts, flexible starting dates.

See www.mountainmedicine.co.uk

Traumatic Cardiac Arrest - David Wise

Reported by Charlotte Doughty

David's talk took the audience through managing traumatic cardiac arrest (TCA) from the theoretical to the practical... "101 uses for an incopad"!

Traumatic cardiac arrest is often not a "stopped" heart at all, but a very low output state with the patient's circulation empty, or, due to a tension pneumothorax or cardiac tamponade.

These three things are potentially fixable, and it is towards this that treatment should be targeted.

David's list of interventions in TCA were:

1. **No** chest compressions - they're ineffective & harmful in TCA
 2. **No** vasopressors/adrenaline - ditto
 3. Oxygenate
 4. Give blood & FFP centrally (or via rapid infuser)
 5. Perform immediate bilateral chest thoracostomies
 6. U/S heart
 7. U/S abdomen
 8. CXR
 9. pelvis x-ray
- If a pulse returns with these actions, get them to theatre or interventional radiology.
 - If there is no response, they are dead.

What about opening the chest?

You can consider resuscitative thoracotomy, but time is short. Pericardiocentesis is totally pointless as blood inside a traumatic cardiac tamponade is clotted, but if you spot a cardiac tamponade on your ultrasound scan of the heart, and vital signs were lost only a few minutes ago, it's worth a try.

All you need are a big scalpel and a good pair of scissors - if you have a Gigli saw, all the better, but it's not essential.

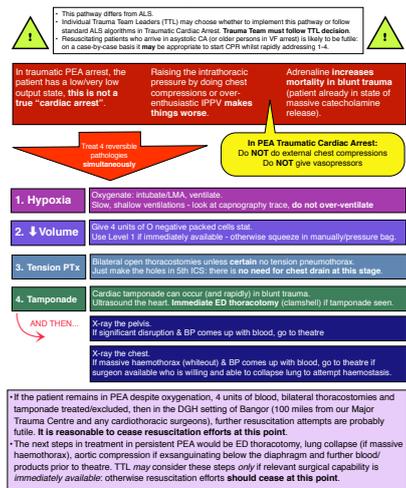
How to do a resuscitative thoracotomy

- Join the two thoracostomies with an incision right across the front of the chest
- Put your scissors in and cut between ribs
- Cut the sternum using your scissors or a Gigli saw
- Open chest - use your hands if you don't have any rib spreaders
- Open pericardium with a small nick and scoop out the clot
- Find a hole? Put in a Foley catheter in or a big stitch
- Give quality internal massage
- Defibrillate with internal paddles if VF

Want to know more? Check out the [EMJ's "How to](#)

PEA Cardiac Arrest in Major Trauma

Does not apply to medical CA with minimal trauma (e.g. elderly patient who has sustained minor RT in course of collapsing)



Does your ED have a TCA protocol?
This is ours from Bangor ED in Wales.

Now for the incopads!

- If there's no tamponade and no clot, but the heart is empty, you can compress the thoracic aorta with a rolled up incopad *behind* the heart, then do internal cardiac massage whilst you fill the patient's circulation up.
- If you want single lung compression, stop ventilation, wrap an incopad around the injured lung, compress, and hey presto, you have collapsed the lung.

and finally... the other stuff...

- **REBOA** - the guys at Shock Trauma interviewed for [Em Crit podcast](#) (it's not just London...!)
- **SAAP** - selective aortic arch perfusion - is this the next big thing? Again, [EM Crit podcast](#) reveals the concept to us.

Question from audience - why do an ultrasound if you will do a thoracotomy anyway?

Answer - it only takes 10 seconds to look at the heart, and can give you helpful information.

“Silver Trauma”: the inconvenient truth about major trauma in the UK

- Anthony Kehoe

Reported by Charlotte Doughty

This talk gave us facts on “silver trauma” - i.e. trauma in older patients - that we probably all know but haven’t either realized the importance of, or haven’t decided whether or how to act upon. It is pertinent to all of us working outside Major Trauma Centres, as these high-risk patients are presenting to us, and sometimes we are not as swift as we could and should be to recognise the extent of their pathology.

As we all know, the definition of “major trauma” is a number: an Injury Severity Score over 16.

But whereas we are traditionally taught that “trauma is a disease of the young”, actually, it isn’t true. Most patients sustaining injuries scoring an ISS over 15 are over 75 years of age, and sustained their trauma by a fall of <2m. This is certainly so for the Derriford area (where the speaker works) and is probably true elsewhere in the country.

Why have older patients become so predominant in our trauma stats?

- There has been a successful reduction in RTC deaths
- Increased utilisation of whole body CT means we are picking up more pathology (and hence more injuries to score!)
- More older people around due to the increasing elderly population.

Coming right now to your ED...

Because elderly patients can sustain severe injuries without dramatic mechanisms of injury - and often without much initial change to their physiological parameters/observations - these patients will often not bypass your ED to a MTC (major trauma centre).

To compound matters, triage tools are less accurate in the last decade of life, and GCS is 20% less sensitive. Old people can have an intracerebral problem or injury with a GCS of 14 which, in a younger patient, would give them a lower GCS. They appear to tolerate it better.

Specific problems to look for

- GCS underestimates injury severity in the older patient
- Co-morbidities are not taken into account.
- Blunt chest wall trauma - a big killer in “silver trauma”.

Points from the audience

- Should this patient group be managed as we do # neck of femur patients, i.e. with multidisciplinary teams of interested clinicians & therapists?
- When should we call for a trauma team (? every elderly patient with a chest +/- head injury)
- Should we do full body head-to-pelvis CT scans on every elderly faller?
- Trauma is no longer the bastion of the young, but have we now set up trauma services to deal with a small subset of patients whose ISS is >15?
- Does this group of “silver trauma” patients need a different approach?

When is a PE not a PE?

- Dominic Williamson

Reported by Charlotte Doughty

Dominic opened his talk with a few facts:

- PE has an exponential increase with age after 40yrs of age, and it is 10x more common in the over 70's.
- Incidence has doubled (62/100,000 1997; 120/100000 2008) but *mortality* remains unchanged.
- Signs & symptoms are non-specific but combinations of them increases the likelihood of PE being the diagnosis.
- Risk scores are widely used e.g. Wells, Geneva, Charlotte, Pisa
- D-dimer *can* exclude PE, but its use is also driving increased use of imaging

The thing that may be a game changer...

- D-dimer rises with age: after 50 years of age, the upper limit should be age x 10µg/l.
- Adopting this level would reduce imaging by 2-4 fold.

This, for me, was the take-home message of the talk, and I'd suggest you go back to your departments and change this *now*: it will be a cost reduction programme for ED and these don't come around too often, can also be badged as quality improvement and so easy to audit to show progress!

The imaging dilemma

- Gold standard investigation is CTPA, but VQ scans seem to be coming back into vogue.
- VQ vs. CTPA = 30% increase in pick-up with CT but *there's no difference in outcome for those "missed" by VQ scan*. So don't moan if your local radiologists are swinging back to using VQ scans!

Harms of CT

This is something we really need to be thinking about at the moment, not just in PE, in the whole of our ED practice:

- Increased cancer risk (especially young females)
- Contrast nephrotoxicity

- Allergy
- False +ve rate of 10%
- Resource utilization
- Identify harmless pathology requiring further investigations

Investigations

Other options include ultrasound of the lower limbs, SPECT (single photon emission CT), or MRI. But, do we increase harm as we treat more patients for PE? We need to consider the clot burden to identify those for whom treatment benefit outweighs the treatment risks.

PERC (PE Rule Out Criteria)

- Age < 50
 - HR < 100 bpm
 - Sats > 95% on room air
 - No unilateral leg swelling
 - No haemoptysis
 - No recent trauma or surgery
 - No history of DVT/PE
 - No exogenous oestrogen use
- If all these are negative & low pre-test probability, there is no need for further investigations... in fact, risk of further tests outweighs the risk of harm from condition.

The Simplified PESI (PE Severity Score)

- Age >80
- Hx cancer
- Hx chronic cardiopulmonary disease
- HR >110
- Systolic BP <100mmhg
- Oxygen sats <90%

Score 1 point for each positive answer

Patients with a low PESI score (score = 0) and negative troponin have 0% mortality.

Download the paper [here](#).

When is a PE not a PE? - Dominic Williamson

Who should we treat?

We know what to do with three categories of patient:

1. High risk/very sick, shocked patient - thrombolysed
2. Still pretty sick, not not severely shocked - ? thrombolysed or not. You need to determine if there is cardiac compromise (Troponin, BNP & ECHO may help)
3. If high risk of recurrence, anticoagulate

Evidence free zone ahead

But what about other patients? We currently have *no evidence base* for what we currently do - it just “seems to make sense”. But given that there’s no reduction in mortality if patients are *not* treated, do we need to assess clot burden in PE?

There is a large grey area here, which we need to decide what to do with.

Treatment

- Major bleed rate is 2-3% (of which 10% die) - a shocking risk to take if they really didn’t need treatment in the first place!
- A pre-test probability of up to 30% may be required before benefits of treatment outweigh the harm.

When is a PE not a PE?

- When it doesn’t need treatment
- When it is isolated or subsegmental
- When the risks of treatment/investigation outweigh the benefits
- If you are not going to treat it - don’t investigate it

To think and do....

This was a really thought-provoking talk, following which I am already working with our acute physicians, and hopefully the haematologists, to change our D-dimer cut-off in older patients to an age-related upper limit of normal. There’s a [round-up on Medscape](#).

The new [European Society of Cardiology Guidelines on diagnosis and management of Acute PE](#) were published in August 2014.

Reflection
for your
CPD

Think you’d prefer this view from the office? OOPT in rural EM for ST4-6 trainees



Photo - Joss Images

ST4-6 in a city deanery?

If you’d like to experience rural EM (or just fancy the idea of living within minutes of the mountains of Snowdonia, beaches of Anglesey or watersports playground of the Menai Straits?) in a friendly department with enthusiastic trainers (including the people who prepare these reports!) plenty of major trauma & high-acuity patients, talk to us about OOPT - see www.mountainmedicine.co.uk

Beyond FAST: EM USS for the future

- Lisa Munro-Davies

Reported by Alison Walker

The CEM USSC (Ultrasound subcommittee) was formed in 2006, it was the first formal group in UK EM. Its aims are still the same now. Worldwide, the Australians were first to use EM US in 1999 and then the USA in 2001. These systems were the forerunners for the UK, Canadian, South African and German systems. We are still trying to get US engrained in EM practice and training in the UK.

“PoCUS stat”!

IFEM & PoCUS

The International Federation for Emergency Medicine produced Curriculum Guidance for Point of Care Ultrasound in March 2014 which is still locally applicable, and emphasizes the need for adequate training, credentialing and governance for ED ultrasound programmes.

Training

Adequate training should be multifaceted, with sonographers and possibly radiologists involved. However there is a paucity of trainers and 1:1 supervision is not always possible.

The use of simulation is becoming more established as well as web-based resources become more popular. In the USA, EM PoCUS fellowships are well established [*and there are some appearing in the UK now, too - Ed*]

Governance

Lisa warned that in some UK Emergency Departments "the partially sighted are leading the blind" due to a lack of trainers.

Hence, there is now a focus at CEM to quality assure the training structure and onward practice. Credentialing is going to be through the ability to demonstrate competence using triggered assessments and assessed competencies: the revised 2014 CEM PoCUS governance document is due to be published soon.

Changes in UK EM PoCUS:

- Core and enhanced modalities from 2014 (rather than Level 1, 2 etc) EFAST included with PNX and pleural fluid assessment.

The history of UK EM PoCUS

- 2006 Level 1 EM US introduced
- 2008 Level 1 revised to include the heart in cardiac arrest and level 2 EM US was introduced.
- 2010 CFEU (College Certificate in Focussed Ultrasound) introduced
- 2013 level 1 mandatory for CCT and included in FCEM. Massive change in focus, but more work is still needed.
- 2014-21 now have 21 [regional ED US leads](#) in place

- New governance structure; who can train and sign off for EM US, credentialed through a finishing school system in each region.
- Reciprocal recognition with ACEM/ASUM 2014
- New TA (triggered assessment) tools are coming in 2015

Next steps for UK EM PoCUS:

- User feedback for the choice of development of future enhanced modalities.
- Further work on the Prehospital applications of PoCUS
- Increase research opportunities in PoCUS
- Expand UK PoCUS fellowships
- Possibly a CEM Professorship in PoCUS?

- The IFEM PoCUS curriculum guidelines can be found [here](#).
- Did you do your Level 1 course a while ago? Are you worried about keeping your skills up to date if you've not used them for a while? Contact your local or regional EM PoCUS leads for information on keeping your skills up and how to develop further.
- If you are an EM US trainer, please do ensure you are linked into your regional finishing school and training to help keep the UK EM PoCUS momentum going!

Reflection
for your
CPD

The Dragon's Den

Panel: Professor Tim Coats, Professor Jason Smith,
Professor Fiona Lecky & Dr Paul Ewings

Reported by Pam Nelmes, Sarah Black & Alison Walker



The dragons consisted of three Professors of Emergency Medicine and, even more terrifyingly, a statistician from the Research Design Service! Bidding for £500/project, *without* the use of PowerPoint, three brave EM entrepreneur project pitchers entered the Den...

1) Biers block for paediatric forearm fractures:

- The pitch: IVRA is an internationally accepted technique, with side effect rates of only 2% - but it's currently only used on adults.
- Using it on children has potential to reduce their length of stay in the ED.
- Planned to recruit 50 children over 12 months.

2) Ultrasound in the ED for suspected ectopic pregnancy:

- The pitch: ED abdominal US v EPAU TV ultrasound.
- In the entrant's ED, of patients presenting with abdo pain in early pregnancy, 8% had an ectopic pregnancy.
- Plan: Comparative study, 2 phases: first, train EM doctors in EPAU and then compare them with sonographers, prior to moving on to a full study.
- Complex plan.

3) Novel analgesic strategy for the management of the pain of renal colic:

- The pitch: Pain is caused by ureteric spasm. There are beta-2 adrenoreceptors in the ureter, salbutamol in animal studies reduces smooth muscle spasm, and a recent Cochrane review supports the theory.
- The entrants wished to fund a feasibility trial in an ED setting: an RCT with IV salbutamol at 2 different doses as well as a placebo. They planned to use a pilot study to inform the power calculation for a full trial. PPI project funding and support for systematic review for the study needed.
- They planned to measure patient-centered outcomes; pain on arrival and at 30 and 60 minutes (and ED LoS) looking for pain reduction of at least a third.

Top tips for success

- Choose a single question to answer.
- Be clear about what you want the Dragons' money for.
- If you have a novel idea, that's more likely to popular with the dragons.
- Always check it hasn't been done before!

Reflection
for your
CPD

So, you've got a research idea that you think is great and you just don't know what to do next?

Greatresearch.org has advice from Professor Nick Feamster - not medicine specific, but a general overview.

Cambridge University has [this advice](#).

and our personal favourite - "[Karen's Foolproof Research Proposal Template](#)" - includes the wonderful "Hero Narrative"!



Were they in or out....??

The Dragons gave their research support funding to the salbutamol study, and also a modified trial of Biers block in paediatric forearm fractures.

Safer sign-out & safer admit

- Prof Chris Beach & Mr Drew Fuller

Reported by Charlotte Doughty

This talk – subtitled “High-reliability tools for physician handoff and team communication” - was from an “over the pond” perspective, so the terminology we would use would be “handover”. The handovers referred to in the talk were both between ED doctors at shift changeover and to the admitting/specialty team.

There was nothing particularly earth-shattering and novel in this talk, but it was a useful reminder of the need for a consistent approach - understood by everyone - that can make this dangerous process safer.

The speakers recommended doing handovers *in front of the patient*, with all their notes and results available and with other team members there too (e.g. nurse).

For referrals to specialities, there was an interesting suggestion of using telephone referrals set to speakerphone - which enables everyone this end to hear the receiving team’s questions and have input. However, I’m not sure many UK EDs have the space to do this and still retain confidentiality.

Some of the obvious differences between practices between the UK and US showed in this session: it seemed groundbreaking for them to involve the nurses looking after the patient into the handover process, and also to preface a “rubbish” referral with that acknowledgement, whereas like many

UK Emergency Physicians, I always find if you state this to the admitting team they take pity on me!

Using a framework for handover results in fewer errors and less risk of important information being missed. The system advocated by the speakers seem to be time-consuming, but a simplified version certainly would make sense.

A quick google reveals a host of resources about safer handover from many learned bodies: here are just some!

Many contain links to the relevant literature (or cheat and use the [NHS Evidence](#) website or page 71 of [this report!](#))

Here are just some examples:

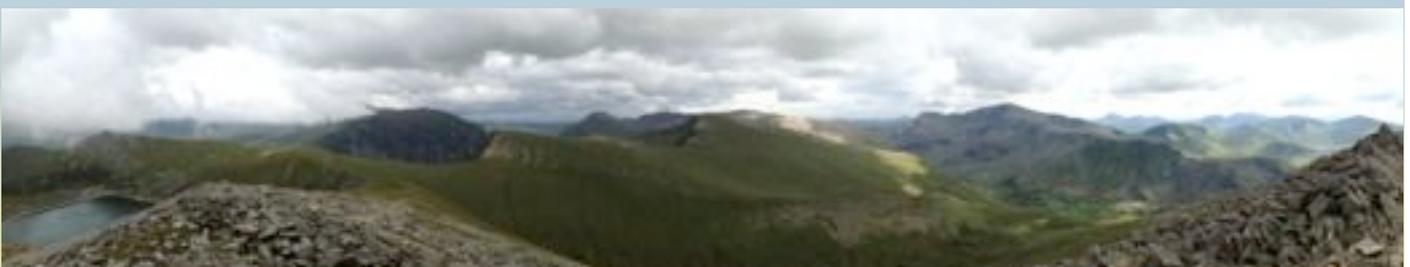
[World Health Organisation](#)

[Royal College of Surgeons](#)

[Royal College of Physicians](#)

Reflection
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We’re looking for a new consultant colleague in Bangor...



Approaching CCT, or fed up with life in the rat race and want a move? Take a look at our unofficial website - www.mountainmedicine.co.uk - and see whether you like the sound of our team. If you like to work hard and play hard, in a relaxed and friendly department (egos are left at the door here), get in touch. Even better, from 2015 there is the opportunity of PHEM sessions. And getting paid to fly over the magnificent scenery of Snowdonia National Park as part of your day job is, let’s face it, simply awesome.

ED flow and the future

- Ian Higginson

Reported by Linda Dykes

“Higgi” is one of our UK gurus on ED processes and flow. He is fearsomely clever, and - like our troponin gurus reported on pages 11-14 - somehow gets his head around complex stuff on behalf of the mere mortals that make up most of the Emergency Physician camp!

His talk was fascinating, engaging... and also threw down some challenges to us all.

ED crowding is the number one problem affected EDs around the world, but there’s no internationally agreed definition so it’s difficult to measure. But we all know it when we experience it - “it’s when you’re afraid to go to the drinks machine in the waiting room”!

There are various tools in use - one called ICMED is being trialled by Adrian Boyle and his team - but simpler measures may be the overall occupancy rate in ED, or the % of ED spaces occupied by inpatients awaiting a bed on a ward. Ian introduced the concept of working out what, in your own specific ED, is the % occupancy when it all starts to go wrong... and it’s before 100%.

“ED crowding is when you are afraid to go to the drinks machine in the waiting room...”

As for inpatient beds, the oft-quoted 85% occupancy rate is based upon a “model 6-ward system” - but it seems to work - whereas occupancy above 90% is known to be bad for ED crowding. The inflection point between 85% and 90% is not clear. Also, if wards are segregated, the maximum occupancy for good system flow “may be as low as 65%”.

There is some limited evidence that improving the efficiency of ED processing can help, and having an observation unit/CDU definitely helps.

Important to grasp is the concept that Minors patient’s don’t actually cause crowding... so *don’t* expect having a GP stream to help with your crowding problem, although it would have other benefits and CEM now recommends co-location with primary care services.

Western Australia recently introduced a four-hour target and has seen reduced mortality and reduced ED crowding as a result... [*yes, it’d be even worse if we didn’t have the target!* - Ed]

Higgi also suggest re-framing how we lobby our lords and masters:

- “Would you let a surgeon operate in a theatre that was [as chaotic as] our ED?”
 - “If you had arrived at that time seriously ill or injured I would have had no horizontal space to put you”
 - In other words, use narrative and personal stories
 - Make clear it’s all about quality.

Things that *don’t* work include ambulance diversion, demand management (except possibly some chronic disease schemes), GPs in the ED and building bigger EDs.

The culture you need to build in your ED...

Internal

Relentlessly positive (avoid being the victim)
Realistic and honest
Intolerant of poor quality care
Don’t chase targets at the expense of patient care

External

Crowding is **NOT** okay
Crowding is **EVIL**
Frame the problem
It is a system problem

ED flow and the future - Ian Higginson

What ED needs to do

- Clear leadership
- “Fat & thin controllers”/flow coordinators
- Sustainably match capacity to demand with a coherent workforce plan
- Get Minors sorted
- Implement best practice (clinical and process)
- Analyse your breaches

What others need to do

- Accept it is a system problem, not an ED problem
- Have internal standards for timely response to anything the ED needs - like diagnostics
- Effective escalation policy
- Full capacity protocol
- Extended hours/ seven-day working/ support
- Advocate improved flow (with all that entails)

And finally... managing Mordor

Higgi urged delegates that the eye of hospital management is always upon us - the “Eye of Sauron”.

We must keep “our side of the street clean”, and, if it is all going belly up, for goodness sake, make sure Minors is sorted and the consultant in charge knows what is going on!



A final pot-pourri

Reported by Linda Dykes

Snippets from the Day 2 CEM Moderated posters

Suzanne Mason presented her work exploring the **system influences on paramedics’ decisions around “care transitions”** - and identified that they are faced with an increasingly complex scope of decision making. She recommended addressing both training needs of ambulance colleagues, reducing the inconsistency between pathways & use of more protocols and joint working between professionals.

Mark Winstanley **audited the placement of chest drains** (32 patients with 42 drains between them) and found only 64% were in the 5th ICS, with 19% outside their local guideline of 4th or 5th ICS. He also noted very poor documentation and in some cases no mention in the notes of the procedure having taken place at all!

Ian Higginson looked at **ED occupancy against performance**, and found meaningful correlations at all thresholds if ED occupancy went above 85% at any point during the day. He recommended system escalation should kick in hard when ED is 80-85% full... not, as we so often see, when it is over 100% full!

Edward Norris presented “KISS” - the Kiosk Injury Surveillance Study, which was **installing a kiosk in the waiting room** for patients to book themselves in. There was a poor correlation between what patients said they’d injured, and what clinicians found they’d injured, and he commented that the kiosk wasn’t well used.

The CEM Sentinel Sites Survey: “Better data, better planning” - Chris Moulton

The driver behind this work was the suspicion that the NHS benchmarking Network (2013) probably showed poor data, with suspicions that some of the patients recorded as having left ED “without treatment” may have been incorrectly coded.

So the Sentinel Sites Survey was a hand-trawl through notes on a certain day and this is the source of data on ED usage now quoted by CEM.

The survey estimated that only about 15% could be “sent away if a GP could see them within 24 hours”, although 22% could be seen by a GP based in the ED. This rose to 25% if ambulance cases were excluded.

Of note, the suitability for GP care was age-dependant and estimated to be a third of kids but only one-eighth of over-65s.

Chris’s conclusion? We do need primary care services to be co-located with ED.

The stuff from Team Bangor ED...

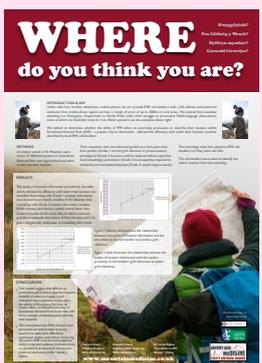
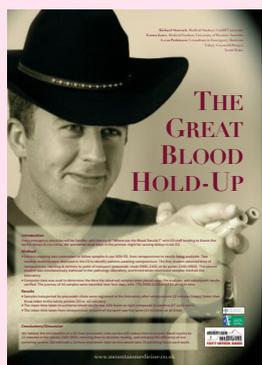
Reported by Linda Dykes

In a complete and flagrant abuse of editorial privileges, I am taking this opportunity to share with you the contributions to CEM by Team Bangor ED - especially our trainees and medical students (our doc-lings). We are *immensely* proud of them and their enthusiasm and willingness to undertake projects is part of what makes our little department punch above our rather small size!

Posters

We took six posters to the conference, the first three went into the moderated poster sessions. Well done to our former students (Alex Lomas, Richard "2-poster" Sturrock, Aaron Owen), our F2s (Bryn Ellis, Vicky Thorp) and Clinical Fellows Dafydd Williams and Jason Rigby.

The posters can be viewed properly in our on-line [Poster Collection](#).



Free papers

Our Academic F2 **Dr Vicky Thorp** (pictured right with our former student Aaron Owen) presented "*Do patients deteriorate during long ambulance journeys to hospital*" -

a 991-patient series of patients travelling to our hospital which has a very large catchment area and journey times of up to two hours by road. She found no statistically significant relationship between clinical deterioration en route and distance from hospital.

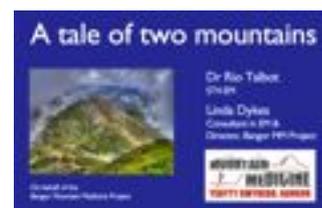


Our Matron **Lynn Roberts** presented the findings of her MSc project, "*Emergencies by Appointment*" which asked patients with minor injuries whether they'd like to have the option of pre-booking an appointment (overwhelming yes) or, if arriving at a busy time, to be issued with an appointment to return (still preferable to a long wait). Vets, dentists and GUM clinics offer "emergencies by appointment" - Lynn advocates we work towards a "phone first" system.



Finally, yours truly presented "*A tale of two mountains*", a comparison of epidemiology of mountain casualties from the famous tourist mountains of Snowdon and Tryfan. The

former had both a higher proportional & absolute number of casualties with medical problems, probably enough to justify tailored training for the volunteer Mountain Rescue Team first-aiders of Llanberis MRT who cover Snowdon.



L to R: Alex Lomas and Aaron Owen with their posters, and former Clinical Fellow Rich Griffiths poses beside Jason Rigby's "Snowdonia Mountain Fallers" - Rich is the climber falling off a rock-face on the background image!

Photo: Joss Images



Bangor, North Wales: *Where EM is still fun!*

Clinical Fellows - unique middle-grade posts, 6-12 months

Our acclaimed **Clinical Fellow** posts, primarily designed for post-ACCS trainees wanting a productive “year out” from formal training posts, were the first to offer **20% Pre-Hospital Emergency Medicine** in the job plan.

- The perfect “prep school” for PHEM sub-specialty training, we welcome PHEM beginners
- PHEM shifts are undertaken with Welsh Ambulance (ground assets & Helimed) plus experience of SAR
- 6 to 12 months posts available, flexible start dates between now & August 2015

NEW: two new variants of our popular Clinical Fellow posts: **20% Medical Education/Simulation or Quality Improvement/Medical Management (QIMM)**.

Both options include relevant courses (e.g. PGCertMedEd) and unusual opportunities. For example, MedEd options include paramedic training, and QIMM posts provide insights into the very heart of NHS Wales, at regional & national level. Call us, or visit our website, to learn more.



Consultant - Locum or Substantive

Come and join Team Bangor ED!
We are seeking a new colleague, and happy to consider locum-with-a-view.

Or why not come to us and try rural EM on sabbatical from your own ED like a colleague from NZ did this summer?

- Civilised 1-in-7 rota, 4-day week if full time... or work LTFT and enjoy the playground of Snowdonia even more!
- We have a track record of supporting new consultants in their first post
- Fantastic friendly department
- Plenty of major trauma (minimal bypass from scene) & high-acuity medicine
- ENPs handle much of the Minor Injury stream, and we are co-located with our GP OOH service
- Plus the satisfaction & challenges of working 100-miles away from our tertiary referral centres

Advertising this autumn on NHS Jobs, but to find our more, visit mountainmedicine.co.uk, email Linda.Dykes@wales.nhs.uk or Rob.Perry@wales.nhs.uk (ED Consultants) tweet us @mmbangor, or call our secretary on 01248 384003 and ask her to track one of us down!

Specialty doctor? Sessional work? ST4-6 interested in OOPT/OOPE?

Please contact us if interested in any of the above. We can offer OOPT in rural EM, OOPE in the Clinical Fellow posts, and well-supported middle grade posts for Specialty Doctors and sessional doctors. We also enjoy supporting returners to medicine.

Where is Bangor?

Sandwiched between the outdoor playground of Snowdonia National Park and the beautiful coastline of Anglesey in North West Wales, this is the place to live and work if you like the outdoors, with everything from rock-climbing to kite-surfing on the doorstep. We are one hour by road to Chester/M6, 3 hours from London by train, or a quick ferry ride to Dublin.



Your conference reporting team



Dr Linda Dykes (@mmbangor) came up with the idea of reporting conferences like this, and compiles, edits, & designs the Bangor ED Conference reports, plus squirrelling out stuff for the magic green boxes.

Linda graduated from Newcastle Medical School in 1996. She trained in Emergency Medicine in the Northern & Mersey Deaneries, and in General Practice in Wales. She has been a Consultant in Emergency Medicine since 2005 in Bangor & still does occasional GP (family practice) locums to keep her hand in!

Linda is seconded to Welsh Ambulance Service Trust as an Honorary Assistant Medicine Director one day a week, bringing her a small step closer to her ideal portfolio career combining EM plus EMS/primary care interface, and teaching. Her research interest is Mountain Medicine & she particularly enjoys teaching medical students.



Dr Alison Walker graduated from Cambridge University in 1995 and developed an interest in EMS by 1996. She held an EMS research post in 2002-3, and was Medical Director of Yorkshire

Ambulance (i.e. the whole EMS system of one of the UK's largest counties) 2006-2013.

Alison has been a Consultant (Attending) in Emergency Medicine with a special interest in EMS since 2004, and her special interests are research and Urgent/Emergency Care systems. She recently moved to take up a new post at Harrogate hospital and this is her third conference reported in partnership with the Bangor ED team.



Dr Charlotte Doughty has been a Consultant in EM for more than 13 years now, and works at Stepping Hill Hospital, Stockport.

Charlotte's interests in ED are drugs (she has an MSc in Clinical Toxicology) & ultrasound, and at home, "mostly chutney-making at the moment, well it's that time of year"! Charlotte has a wife and two cats at home, and "supports a rubbish footie team, although they used to be good!"



Dr Michael Stewart (@mjs_gradmedic) graduated from Cambridge University in 2006, having seen the light & entered medical school after a degree in Physics.

After foundation years he started speciality training in Emergency Medicine in North West Deanery, where the weather came as something of a surprise to someone brought up in Devon. He was recently appointed as a Consultant in Emergency Medicine at Lancashire Teaching Hospitals.



Sarah Black (@sarahhuggy) has been Research and Audit Lead for South Western Ambulance Service NHS Foundation Trust for over ten years. She is passionate about building the evidence base, and using data to inform and improve the quality of pre hospital urgent and emergency care.

She is aiming to finish her own Doctoral studies soon, and in her spare time enjoys spending time in the mountains!



Debbie Godden is an EM Consultant in Harrogate, North Yorkshire, who has a "passion for wild/outdoor swimming"!



Pam Nemes (@Pam007Nemes) qualified as a nurse in the early 80s (!) working in acute, critical and intensive care at Derriford Hospital (Plymouth, Devon). A keen interest & involvement in clinical research, a desire to enable others, coupled with her own professional development through a MSc in Clinical Science, led to a post in Higher Education (2001). Pam's educational adventures are varied, with

involvement in undergraduate pre-and post registration nurse & paramedic programmes, and she currently leads the BSc (Hons) Programme for Plymouth University.

Frequently found on Twitter, and, weather/work dependent, on the beaches of Cornwall!



Alex Lomas is an FY1 working at the Royal Bolton Hospital. He graduated from the University of Manchester in 2014, and also undertook Plymouth University's intercalated BSc in Emergency Care in 2013. During medical school, Alex says he was "fortunate enough to experience EM and PHEM in a wide variety of settings, from the contrasting EDs in Preston and Bangor, to spending time frontline with the North

West Ambulance Service and the British Superbikes medical team". In his spare time Alex is a keen cyclist, and can often be found heading out to hit the roads before work.



Rachel Rowlands (@rachrwinds) is a Consultant Paediatric Emergency Physician (MRCPE) who works in a mixed ED in Leicester. Passionate about improving care for kids, Rachel describes herself as a "sailor, skier, sandy beach seeker and a single super mum". Rachel is well known to the EM Twitter community!

The last page...



A last-minute post-deadline stop-press reporter bio!

Dr Damian Roland (@Damian_Roland) is a Consultant and Honorary Senior Lecturer in Paediatric EM in Leicester. he has interests in recognition of the acutely unwell child and educational evaluation.

THE END

That's it folks - the end of our report of Days 2&3 of the 2014 CEM Conference. Please tell us what you thought of what we've produced: firstly, it's all good fodder for our appraisal/revalidation folders but much more importantly, we also need to know if we have any corrections to make!

if you have any feedback/suggestions please email Linda.Dykes@wales.nhs.uk or contact us via Twitter to @mmbangor.

And if you are on Twitter or Facebook and enjoyed the report, please, please help to disseminate the link to it... this is an all-volunteer production, and many dozens of hours of precious and scarce free time have been donated by the reporting team and designer/editor to bring this to you.

Seeing the number of hits rack up makes it all worth it. And finally, do bear in mind that the team who produced this are all healthcare workers, definitely not professional journalists and designers!

Please feel free to share this document widely, in the spirit of #FOAMed, but it may not be used for commercial purposes without our express consent.

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PS - Please make a donation to Tusk Trust! We'd love to fundraise for them but these reports take so much time and energy we haven't any time available to raise money the conventional way. Go on, even if it's just £1/\$1... this report has saved you a fortune on the cost of attending the conference itself!

Please help us fundraise for the Tusk Trust

This report hasn't cost you anything. If you have found it useful, please could you make a donation to the Tusk Trust, a wonderful charity dedicated to protecting rhino and elephant populations endangered by poaching and the greed for rhino horn and ivory? We have donated many hours of our time to preparing this report and this is a way of enabling us to fundraise whilst helping you.

If everyone who reads this report donates even £1/\$1 we could raise a substantial amount of money.

[You can visit our Just Giving page by clicking here.](#)

