

#FOAMEd

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
- Ankle injuries: beyond Ottawa
- Diagnosing PE
- Training in trauma management
- A "field hospital" for city-centre drunks
- Your ED and your coroner



Sharing the learning...

Another #FOAMEd production
by

**MOUNTAIN
MEDICINE**
BANGOR EMERGENCY DEPT

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

Dr Alison Walker

Consultant in Emergency Medicine, Harrogate

www.mountainmedicine.co.uk

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

Introduction - Report of Day 3

Paeds, urology & a couple of medical topics

Following the enthusiastic reception of our previous conference reports ([EMS Expo 2013](#) and [Retrieval 2014](#)) we realised that sharing our key learning points from conferences was something we'd like to do more of, especially in these days of restricted study leave budgets.

So, we decided to do it again at the College of Emergency Medicine Spring CPD Event that took place in Cardiff (UK) in March 2014. Our report of Day One and Day Two can be found [here](#), and this is our report of Day Three. This report is *completely unofficial* - from our CPD portfolio to yours, and nothing more.

It takes many hours to turn conference notes into this magazine-style report so please forgive us whilst we tackle them one conference day at a time - *we do this in our own time!* An amalgamated version of all three days will eventually go onto our Scribd website - www.scribd.com/BangorED

We must make an important disclaimer. Whilst we tried to make our notes 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 were 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.

Alison
(your intrepid Day 3 reporter)
& Linda (editor/designer)



Dr Alison Walker

Twitter:
#CEMCard14



There was some Twitter activity running throughout the conference - although not compared to some American conferences. Something to work on next time!

Reflection
for your
CPD

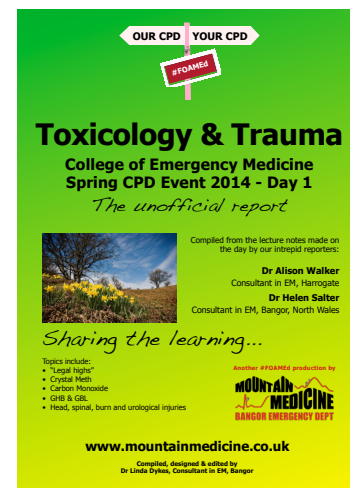
We've flagged up further reading (and some topics for reflection) in these snazzy green boxes, and included links to relevant papers, abstracts and websites.

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

Contents - Day 3

2/3	Introduction & Contents plus Charity Appeal
4	Medical Organisation for a Global Sports Event - Chris Brookes, Wigan Rugby League
5	Concussion in sport - Chris Brookes
6	Beyond Ottawa: ankle diagnoses not to be missed - Paul Catterson
7/8	Complex cardiac problems in Sport: how do they present to the ED? - Kiran Patel & Mark Gillett
9/10	To PE or not to PE - Adam Reuben
11/12	Cardiff Alcohol Treatment Centre - Wayne Parsons (and an invitation to help create the next report like this!)
13	Technical innovations in healthcare - Cieran McKenna
14	Education, Empowerment and Exploding myths in trauma Dindi Gill and Sue West-Jones
15	What BP doesn't tell you - Prof Tim Rainer
16	Your ED and the coroner - Steve Leadbetter & Mike Smith
17	Come and join Team Bangor ED!
18	Acknowledgements, team Who's Who, and another Charity Appeal ... go on, please - give us a pound!!

Have you seen our report of Day 1 of this event?



Our previous conference reports - include Day One of the Spring CPD Event (this is Day Three) can be found in our [Conference Report Collection](#) on scribd.com.

**Fab jobs in a fab rural ED!
Take a look at Page 17!**

Please help us support Tusk Trust!

We created this report because we're passionate about FOAMED, and wanted to share what we'd learned. 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 the greed for rhino horn and ivory - but also education and supporting communities in Africa. If everyone who reads this report donates even £1/\$1, we could easily raise several thousand pounds for the Tusk Trust.

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



Medical Organisation for a Global Sports Event: Transferring the skills of an EM Consultant outside the ED - Chris Brookes, Wigan Rugby League

Chris talked about his role as Medical Lead for the 2013 Rugby League World

Cup, followed by the “hot topic” of concussion in sport.

“Rugby League is a *brutal sport* with *elite athletes...*”

Teams at the [2013 RLWC](#) had a wide disparity in medical resource, so the organisers had to put in place a system to ensure reliable clinical care was provided to standard specification.

Registration of medical staff

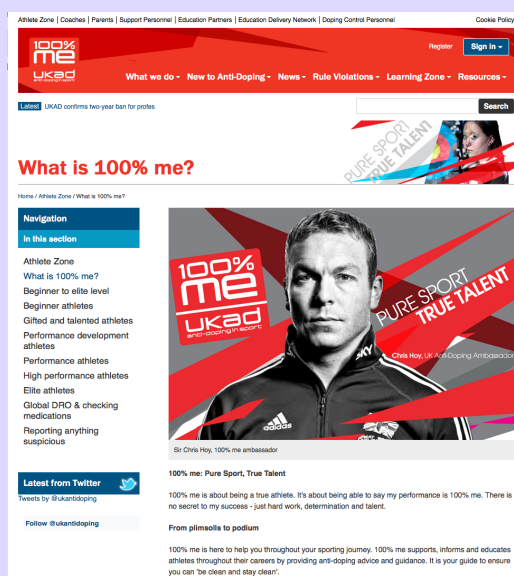
- GMC overseas doctors had a "special purpose registration".
- UK doctors had to have completed an IMMPOP (field of play) course or equivalent Faculty of Prehospital Care accredited course.

Tournament regulations

- Chief Medical Officer for the tournament
- Mandatory medical staff briefing before the event
- Comprehensive tournament manual for medical support teams.
- Medical specialist standardised kit was provided for *every* team in the competition, with a central library of equipment, mandatory reporting of use and automatically reordered replacements.

How it works

- Doctors sit on the team bench, clearly identified in medical kit.
- All medical staff sign a "code of conduct".
- There are specified circumstances when you can go onto the pitch and mandatory reporting of injuries.
- There is *immediate* replacement of players with blood injuries, who are sent off to go to the medical room.



The “100 Me” programme

The UK anti-doping agency, UKAD, has educational courses for athletes, doctors, coaches and parents.

All team doctors working at the 2013 RLWC had to be “100 Me” qualified. A working knowledge of anti-doping rules is worthwhile for anyone treating athletes and essential for those interested in sports medicine.

Visit the UKAD website by clicking [here](#) to learn more

Reflection
for your CPD

Concussion in sport - Chris Brookes

Evidence based management of concussion and HI in sport has become a major issue, and Keith Moore (BBC journalist) raised concerns years ago.

The **Ben Robinson case**, where a young player was allowed to play on after a concussion injury and subsequently died, raised the profile of the issue and prompted further medical systems to be put in place. These developments are much needed: there is a well known example of post-traumatic epilepsy in a senior RFU player after having a HI and being allowed back on to continue playing. There is a need to overcome the “macho culture”, which means leadership by ED and SEM consultants/doctors is essential.

Management of concussion in athletes

- Get them off the field of play and examine them properly.
- Standardised check list - the SCAT3 assessment - supports clinical decision making, and helps to ensure that off-field assessment is more standardised.
- "If in doubt, sit it out"

Graduated “return to play” after a concussion injury:

- No further play that day - which is day zero
- Test until symptoms resolve
- Return to play over a planned 5-day programme, with no symptoms
- Neuropsychological assessment using SCAT3 is against a baseline recorded pre-injury.

Concussion

Symptoms

- memory loss
- ataxia
- confusion
- "feeling like fog"
- emotional lability

Signs

- amnesia
- ataxia
- Behaviours - irritability
- Cognitive - slowed reaction time

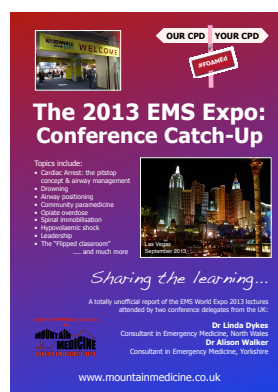
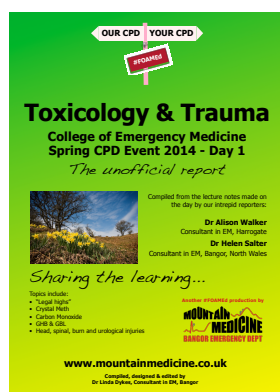
“Only 15% of concussion cases have had a LOC”

Reflection
for your
CPD

For details of the SCAT testing scheme, click [here](#).

You can read one of Keith Moore's BBC News articles [here](#).

We reported in some depth on the issue of paediatric concussion and sports related head injury in our report of Day One of this CPD event - see page 9 of the report which can be found [here](#).



Our previous conference reports - include Day One & Two of the Spring CPD Event can be found in our [Conference Report Collection](#) on scribd.com

Visit our main website: www.mountainmedicine.co.uk

Beyond Ottawa: Foot & Ankle diagnoses not to be missed - Paul Catterson, Newcastle United FC

The Ottawa ankle rule was introduced into EM practice after Steill *et al* [published their paper](#) in Annals of Emergency Med 1992. The rule had a 100% sensitivity, 40% specificity and gave a reduction in radiographs of 36%. The Ottawa Ankle Rules were later ratified in JAMA in 1994.

This talk reminded us of how much we have forgotten - or don't actually know (and possibly never have!) - about detailed examination of the ankle after an injury. How many of us really inspect, then look at gait, palpation, movements and special tests.. rather than just prodding the "Ottawa areas"? How many of us check that patients have 55 degrees of dorsiflexion and 15 degrees of active plantarflexion, or carefully check the ATFL, CFL and PTFL....

Specific points included:

- **ATFL** is usually injured in plantar flexion
- **Peroneus longus and brevis** are superficial to the CFL and the **PTFL** is not commonly injured.
- **Deltoid ligament** has superficial and deep parts, requires a major force to injure this, so always look for another injury too e.g. proximal fibula fracture.
- **ATFL**: the anterior drawer test is 70% sensitive and 97% specific. Compare it to the other side, 4mm+ is positive.
- Talar tilt test **CFL**, inversion to feel for excess laxity, can measure on radiographs where normal is 5-25 degrees, increased if over 6 degrees
- **Syndesmosis injury** is often missed and is found in 0.5% of ankle sprains with no fractures, and 13% of all injuries. It usually occurs from forced external rotation of the foot and can be thought of as a "high ankle sprain". The AITFL sits just above ATFL and is weaker than the PITFL, which needs major force to be injured. The IO membrane goes round the full length of the lower leg, separating the anterior and posterior compartments of the leg. There's also the IO ligament and the inferior transverse ligament.
- **Osteochondral fracture**: forceful inversion injury, behind medial malleolus is tender, posterior-medial talar dome fracture.

Radiography of the ankle:

AP, lateral and mortice views

- Tibia/fibula overlap
- Medial clear space is less than 4 mm normally
- Tibia-fib clear space is normally less than 6mm on AP and mortice views.

Syndesmosis injuries

- Treatment is non-operative if stable, go into boot, and non weight-bearing for 2 weeks at least until can weight bear.
- Operative management is used for unstable injuries: screw, or "tightrope"

Reflection
for your CPD

So, be honest - are you really sure how all these ligaments do their job, and where they all are... really?

Even those pesky interosseous ligaments?

Just in case you need a revision, [try this excellent video tutorial](#)... the bits talked about in this report are around the 3 minute mark!

Complex Cardiac problems in sport: How do they present to the ED? -

Kiran Patel & Mark Gillett

Kiran and Mark presented cases which showed the difficulties and differences in presentations of elite athletes with cardiac symptoms.

Since Fabrice Muamba's highly-publicised cardiac arrest, anxiety amongst sport/athletes has risen, as he *had* been screened for cardiac problems - that was normal.

The cases

Case 1

19 yr old, normal CRY cardiac screen, semi-professional footballer, who felt dizzy and blacked out twice, went to ED.

Referred to cardiology OPD: he had an ECHO which showed mild LVSD, and his MRI was reported as Dilated Cardiomyopathy (DCM).

He was told he had heart failure, told to stop training and advised to have an ICD... *but the findings were normal for an athlete*: incomplete RBBB, low normal LVEF, physiologically dilated ventricle.

The drugs were stopped, he had a repeat ECHO at 6 months, he now needs rehabilitation...

Case 2

16 year old footballer, who had palpitations for 3 years intermittently, of sudden onset, lasted up to an hour. No family Hx or stimulants.

Given hand held device to record monitoring, which showed an episode of 260bpm, AVNRT, he had ablation and now is in rehab.

Case 3: Recurrent chest pain

A 25 year old player, with knee and back injuries in 2011 (for which he was taking NSAIDs) who had anterior chest pain during a game. There was a pleuritic component, which radiated to the left shoulder, with no dyspnoea. Only occurred with activity, worse on a treadmill. He had a family Hx of IHD.

Clinical Examination was NAD, although his systolic BP 15mm higher on left than right. 12-lead ECG looked like pericarditis. His CRP of 21 was raised (note that CRP can go up 2 or 3 after a game).

They couldn't exclude upper GI involvement, so he had an OGD, which found an inflammatory pseudo polyp so he was started on a PPI. The player was still not comfortable.

He had a consultant cardiology review, and at that point they found a high arched palate, an interdental gap, ECHO showed mild MR, CTA showed no dissection.

ST elevation was resolving, it was agreed the diagnosis was pericarditis, but the symptoms were masked by NSAIDs for his previous back injury.

The OGD was a false positive, and the ECHO a false negative.

He had a recurrent episode, and pericarditis was confirmed on cardiac CT.

Complex Cardiac problems in sport: Kiran Patel & Mark Gillett

Pick of the Take-home messages

- Normal findings in an athlete include: incomplete RBBB, low normal LVEF, physiological hypertrophy & dilation (stress ECHO shows normalisation of this physiological dilatation)
- 5% athletes have low vagal tone due to exercise.
- **Cardiac symptoms during exercise are a red flag:** exclude stimulant use, teach the valsalva manoeuvre.
- 1:1000 athletes have pre-excitation AF, can progress into VF. Needs risk stratification.
- Often see bradycardia with PR prolongation. Also wandering atrial pacemaker.
- Very fit people may be at higher risk of pericarditis, as they have little cardiac fat: **use cardiac CT if the ECHO is normal.**
- Sudden uptake of large amounts of exercise in the over-35s are more at risk of sudden death [*sounds like a good excuse not to bother - Ed*]
- Comparisons of ECGs of Athlete v pericarditis: pericarditis changes are seen all over the ECG, whereas athletes may have changes that look like pericarditis in some leads but not others.
- For under-35s being screened: screen for sudden death risks (electrolyte abnormalities,

catecholamine surges, acidosis, and platelet aggregation). If necessary, these athletes can have an implantable ICD in the right ventricle.



CRY - Cardiac Risk in the Young - is a charity who support young people and families affected by cardiac disease in the young. They organise subsidised screening programmes for young people and it is worth having a look at their website www.c-r-y.org.uk so you are aware what "CRY screening" has involved. Their [FAQ](#) about their screening programme is also worth reading.

Reflection
for your
CPD

Judging by his publication pedigree, Jonathan Drezner from Washington State, USA is a guru in this area.

His recent BJSM paper on "Abnormal ECG findings in athletes: recognising changes suggestive of cardiomyopathy" is open access and can be found [here](#).

Whilst googling to find this link, we stumbled across the [NZ Journal of Sports Medicine](#) - take a look at a copy [here](#) - interesting stuff!

"Sudden death is extremely rare - and *even more rare* in athletes"

Interested in Sports & Exercise Medicine (SEM)?

- Ongoing for the past 4-5 years
- It is currently possible to dial-accredit with SEM and EM.... but if you are interested, get a move on, as the regulations may be changing to limit entry to Acute medicine trainees only.
- Check out the Faculty of Sports & Exercise Medicine [website](http://www.fsem.co.uk), www.fsem.co.uk for more information.



To PE or not to PE - Adam Reuben

Adam opened his talk by asking whether we are doing more harm than good in our quest to diagnose and manage PE - “Are we compromising our oath?” and following this up with a warning that his talk was intended to court controversy!

?PE in the Emergency Department: what do we do?

Manage, diagnose, risk assessment (take risks, accept risk and manage risk) - but we have to remember that investigations and treatment for PE are not benign. And there's been an 80% increase in the diagnosis of PE in recent years.

Why it isn't easy

Much of our ED management is driven by our fear, be that fear of the next PE or fear of the failure to diagnose. But there has to be an “acceptable miss” rate when diagnosing PE, just like any other disease. Unfortunately, the Classic PE triad is seen in only 10% of patients (pleuritic chest pain, dyspnoea and tachycardia) and patients don't always present in a helpful textbook manner....

The case to think about

56 year old women collapsed. She has metastatic cancer, a 12-lead ECG showed S1Q3T3, and she's “hypo-everything”. Working diagnosis PE, “?for thrombolysis”

“Imaging today is so sensitive that a couple of platelets holding hands at the wrong time may be accused of bring a PE...”

Did you know?

- Exogenous oestrogens are now regarded as a minor risk factor... but varicose veins are a major one.
- The disease has changed... there's been a hundred-fold reduction in mortality from PE since the 1960s.
- A case report in the Western Journal of Emergency Medicine suggested hiccups as a presenting complaint and suggested that D-dimer screening is indicated for this presenting complaint [stop giggling - Ed]
- Intravenous oxygen as been tried as a treatment for PE [no waaaay - Ed] but patients did worse, due to symptoms associated with the air embolism [did anyone check it wasn't an April 1st journal date?! - Ed]

So what exactly is a PE... are you quite sure you know?

Virchow: described PE as a “thrombus in the pulmonary vascular bed” (and developed his famous triad!)

VQ scans: used to be a nightmare - especially the pesky “intermediate probability, correlate with clinical presentation” - problem reports.

CTPA: now diagnoses clots *less than 2mm in size*. Maybe the lungs act as a sieve for clots anyway, as a protection against systemic emboli flying round to the left side of the heart??

Isolated subsegmental PE (SSPE) was a new diagnosis named in [2010 Donato et al...](#) and there was no evidence of harm at 3-months in his series of 97 patients with SSPEs who were untreated.

To PE or not to PE - Adam Reuben

The ED response

We could be considered a "Consultant Pragmatician" rather than a "consultant diagnostician"... but investigations hold traps for the unwary.

For EM purposes, CTPA may also assist with a differential diagnosis, but ECHO is helpful if the patient is too sick to go to CT. This is great, but "CTPA leads to up to 10% nephropathy from IV contrast, and there is a risk of longterm cancers...." - the principles of "first do no harm" are being challenged.

So we follow guidelines... oxygen, IV fluids, thrombolytics for the bad cases (and a recent study, yet to be published, may support this for critical care patients) and then commence heparin/warfarin. Simple? Maybe not...

The [landmark study](#) for anticoagulating patients with PE was performed in Bristol by Barritt & Jordan in the late 1950s, and published in the Lancet 1960. They used random allocation to anticoagulation for PE, and there were no deaths in treated group and 20% in untreated group. Anticoagulation for PE had arrived. Unfortunately, the study had dubious methodology (no blinding, no placebo), included only 35 patients, and it was conducted pre-CT, so based upon clinical diagnosis only. And to make matters worse, subsequent review of PM data suggested alternative diagnoses in patients who died, such as sepsis.

"I looked for a meta-analysis of subsequent trials on warfarin for PE in the 50 years since the original paper... there are none"

But even if we take the anticoagulation of patients with nasty PEs - the kind that our predecessors could diagnose half a century ago without the benefit of CT - we are now dealing with a new disease: patients with possible PE *without* haemodynamic compromise.

Warfarin is not a benign treatment

It can be dangerous: 10-16% of patients have major bleeds - and there's the inconvenience of regular blood tests. So don't be afraid to involve the patient in decisions about starting treatment.

Validated tools for risk stratifying for PE

- **Well's score:** originally had high, intermediate, & low risk - but now it's just high and low risk group. Somewhat subjective.
- **PERC rule** (also known as the **Charlotte Rule**): objective criteria sensitivity 97%, and there is phone app for it. But it was validated in low risk population, and isn't applicable in all patients - it may only be 20% of patients with possible PE.
- **Geneva criteria:** Revised Geneva score, consists of objective criteria, but requires an ABG.
- **Clinical acumen:** increasingly being referred to as "Gestalt" [*though we don't know why...Ed*] "should be the core of the Emergency Physician, and we should be teaching others to aspire to this."

Summary

- Develop our Gestalt
- Do not test/treat to treat ourselves
- Be clear why we are testing & treating.

[Medscape](#) has a nice summary of the available tools for assessing probability of PE, and you can find a 2010 systematic review & meta-analysis by Ceriani et al - [abstract here](#).

Reflection
for your
CPD

Cardiff Alcohol Treatment Centre - Wayne Parsons

The public health consequences of binge drinking are coming home to roost in the UK, with alcohol-related liver disease increasing in young people. But for those of us working in EM, the more immediate concern is the influx of inebriated young people to many EDs each weekend. Wayne told us about the service that has been developed in Cardiff as an alternative to transporting incapably apparently-drunk people to the ED.

Taking the ED into town

Like many UK university towns, Cardiff, the Capital City of Wales, has a problem with binge drinking. Transporting large numbers of incapably drunk young people to hospital was tying up the resources of the police and ambulance service, as well as the ED.

So the Cardiff ED team - especially the nursing staff - set up what amounts to an ED “field hospital” in the city centre at weekends, specifically to look after the incapably drunk.

How?

The unit was set up with multi-agency input (from Cardiff University - students sadly being major culprits! - the local substance misuse team, Public Health & the Council), and operates every Friday and Saturday 8pm-8am, plus other nights if there are major events occurring in Cardiff city centre.

The involvement of the council enables links back to establishments licensed to sell alcohol.

Why?

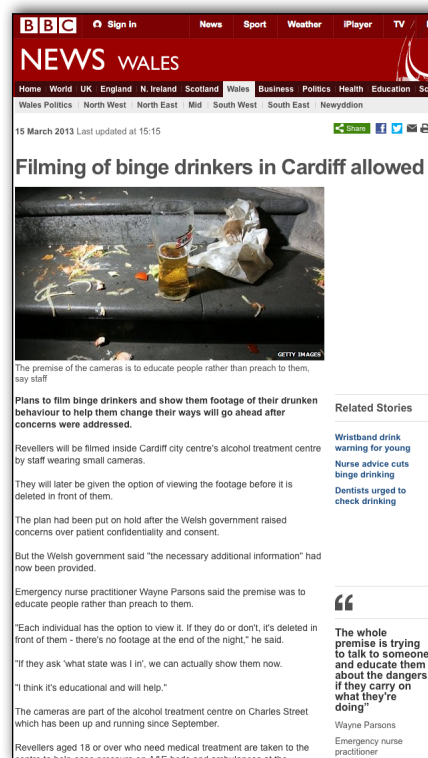
- Improved police turn-around and reduced aggression to ED nurses.
- Patients can also be turned around from the ED if they arrive by ambulance, back to the city centre unit. All cases are referred on the phone first.
- Police can also take people direct to the unit.
- Crime has also reduced in city centre anecdotally and Night Clubs can contact the centre direct.

The drinking culture

In Cardiff, there used to be a student game: getting 50 points if taken drunk to the ED, 100 points for being admitted etc etc...

The practicalities

- An early decision was taken that the unit with be nurse-led, not medicalised.
- Standard Operating procedures were, however, devised working closely with the ED consultants.
- There are Patient Group Directives in place to enable nurse practitioners to administer drugs and fluids guided by the unit SOPs.



The initial opening of the unit was not free from controversy ...

Cardiff Alcohol Treatment Centre - Wayne Parsons

What happens at the centre?

- Once deemed suitable (anyone with a any history of loss of consciousness, for example, is not eligible) the patient is accepted into the centre.
- Chronic alcoholics are usually not suitable, but sometimes enter the unit for up to an hour.
- Minimum age is 16, and 16 and 17-year olds are only accepted after discussion by phone.
- To try to educate the centre users, and reduce the risk of future harmful drinking behaviour, brief interventions are done at the centre, including engagement with drug and alcohol services.

“It’s a different form of nursing...”

How effective is the unit?

- 998 attendees March 2013-Jan 2014
- 547 cases generated through calls to Welsh Ambulance
- 219 brought in by police
- 61 self attendances
- 105 cases were referred on to the ED from unit

What about the money?

- The successful 3-month pilot led to a 3-year agreement to continue the service.
- From a health economics perspective, the unit needs to see 10 patients a night to be cost-effective, which it is now regularly exceeding.

•The controversial bit - filming of patients on arrival when they are incapably drunk - is intended to show patients how awful their behaviour was - and what a danger they posed to themselves! The video is shown to patients after they sober up (and their parents, too, where applicable), and then deleted in front of them.

Future challenges

- Sustainability of the unit is a major issue - enthusiastic staff are required, but working a nightshift every weekend is a very big ask of staff.
- A police officer is based in the unit for the whole shift
- The unit is now seeing more recreational and harder drug use, hence even more working with the drug and alcohol agencies.

Fancy joining the reporting team in EXETER at the CEM conference to produce a report like this?

It's the CEM Annual Scientific Conference next week in Exeter, and we'll be there frantically taking notes to make a report like this, about the event.

The more volunteers we have, the more talks we can cover (two reporters and a multi-stream conference cannot possibly end in a comprehensive report!) - would you like to help?

We will supply full instructions, and of course all contributions will be fully acknowledged... and it's great fodder for your appraisal folder/e-portfolio!

Please [email us](#) before Sunday 7th Sept or contact via Twitter @mmbangor

Technical Innovations in healthcare -

Ciaran McKenna

Ciaran discussed apps, 3D printers & more...and opened with a challenge!

Are you a good learner? Are you a good problem solver? Are you a true innovator?

Attributes of emergency physicians

Did you know that the typical attributes of Emergency Physicians are the textbook descriptions of good innovators? We:

- Manage risk
- Cope with uncertainty
- Curious
- Team workers
- Creative solutions
- Creative and situational awareness.

And our world is ripe for innovation:

Pathways, equipment, IT, patient flow....

The App World

- The arrival of apps on our portable electronic toys means that downloading new systems is easier, e.g. Apple and Google.
- However, there are around 100,000 health apps - and no effective regulation.
- They're also widely used by the public (the Top 10 apps are about babies, plus an App called "Almost a doctor"!) and some are potentially dangerous.

Some innovations...

- A folding microscope made from one piece of paper that can be used in the Third World
- Epipen that talks to you "is it the right way up?" to prevent injury to the user
- Chest wall patch for 14 days of ECG monitoring.
- Laryngoscope view on a mobile phone is currently under development

How to create an app

Learn to write code!

Everyone creating apps has a responsibility for them... and the public also have a responsibility for reading the disclaimers!

“It’s not about gadgets. It’s a better way of doing something...”

Some recommended apps:

make sure you tell your juniors which apps you approve of and are happy for them to use!

- BNF
- Up-to-date
- Medcalc
- EFAST
- Resuscitation
- Paeds emergencies
- Mersey Burns

We may be a step closer to health apps having some [regulation behind them](#), with NHS England talking to America's FDA.

There is an [NHS Choices Health Apps Library](#), intended to help patients/public pick apps who have been checked for suitability. However it still seems a little sparse!

Reflection
for your
CPD

Education, empowerment & explosion of myth in trauma - Dindi Gill & Sue West-Jones

With the somewhat baffling title of “TREATS, superheroes and Jolly Green Giants”, Dindi & Sue covered a lot of ground in their talk, from Human Factors to the TREATS (Trauma Education And Resus Training Sessions) course which is now CEM-accredited.

The Swansea TREATS course

So far, 14 courses have been run and 360 people trained. It is a low-cost, accessible course where nurses and paramedics are trained free and doctors pay a minimal amount. Any profit goes back into the ED for equipment and future courses.

Course content includes:

- Damage control resuscitation talk and how it translates into civilian care) is delivered at the start of the course by a military anaesthetist.
- Reinforce Damage Control Resuscitation (DCR) concepts, providing an understanding linked with local guidance: they use the course to check knowledge and understanding of local guidance.
- There are a series of small workshops
- They use a "Pitstop professional" system similar to some EMS training for cardiac arrests in the USA, including role rehearsal and have a "best practice scenario" run by the faculty.
- There are a series of immersive scenarios, first run by a trauma team leader, then other members of the team are in charge.
- The courses utilise relatively low-fidelity simulation using iPad apps etc.

Effects of the course in Swansea

- TARN data shows an increase in consultant led cases.
- Time to CT reduced.
- Increased early activation of the Massive transfusion policy and of TXA use.
- No change in survival between pre and post courses period - possibly because only part of the process for a trauma patient is in the ED.
- Qualitative feedback is very positive.

Next steps

- TREATS QI programme.
- Precourse material.
- Core skills course
- Surgical specialties and paediatricians courses.
- Trauma leadership and thoracotomy

When Swansea ED decided they wished to support changes in the reception and resuscitation of trauma patients with a QI programme, they used a locally-devised course (based on educational input from Sue West-Jones and experience of a similar training programme at QMC in Nottingham).

The educational strategy behind TREATS is based on evidence:

- Working with others (in Domain 2 of the medical leadership competency framework).
- Evidence for training of teams.
- Life long learning
- Outcomes not objectives
- Facilitators not teachers
- Contextual learning.
- Widen participation, multi-professional training, incorporating military learning

“Avoid flying low”

- If you are overloaded with information, you can't synthesize it and will be unable to act appropriately. So the TREATS team advocate using checklists and a “confirm and challenge” approach in their ED.
- Their structure is safety checks, briefing (planning roles and equipment), and hot debrief.
- Plus, empowering all team members to speak out “beyond their role” when necessary.

Whereas most UK-based Emergency Physicians are now familiar with the story of Elaine Bromley (the young woman who died in a can't-intubate-can't-ventilate situation during routine ENT surgery, whose airline pilot husband has become a campaigner for application of CRM principles in healthcare) our overseas readers may not be. Visit [Life in the fast Lane's blog](#) to link to more info.

Reflection
for your
CPD

The role of noninvasive transcutaneous doppler ultrasound-derived haemodynamics in the ED -

Professor Timothy Rainer, Hong Kong

We're going to be honest - this was a very, very intense talk from someone who is clearly very, very clever. He certainly had the audience foxed - his presentation included a quiz on the management of BP problems and demonstrated that none of the audience really understood what goes on... but we will try here to report a few of his key messages.

Forget the BP: it's all about oxygen delivery

Haemodynamics is about blood flow and tissue perfusion. We measure pulse, BP and sats - but the real target is tissue perfusion and oxygen delivery. Blood pressure doesn't tell you anything about oxygen delivery, as delivery is not the same as uptake (this is true in trauma as well as sepsis - recent work suggests that SBP is an imprecise marker of the need for fluids in trauma). It's Cardiac Output optimisation that will maximise oxygen delivery.

Hence, basic haemodynamic methods should include CO and SVR... and it's now 6 years since a paper advised not to use CVP.

To work out DO₂ (Delivery of Oxygen) you need to know the Hb, SO₂, and SV. There are a number of methods of CO monitoring - USCOM video was shown as an example of how to measure SV.

Was Rivers right?

The debate about Dr River's Early Goal Directed Therapy in sepsis continues, with Professor Rainer citing a NEJM paper that appeared on line just the day before his talk comparing EDGT protocol vs. no protocol vs. another protocol.

But his take-home message was clear: information from blood pressure measurement is limited.

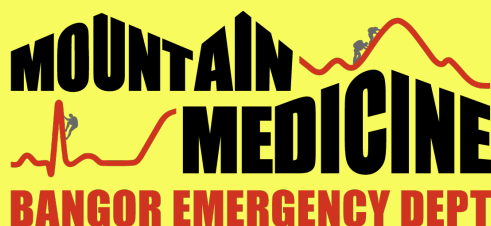
Meet Team Bangor ED in Exeter!

Team Bangor ED will be at the 2014 CEM Scientific Conference in Exeter in September - look out for our polo shirts featuring our Mountain Medicine logo!

We have our trainees, Clinical Fellows and Medical Students presenting in many of the Moderated Poster and Free paper sessions, and we'll be there supporting them.

If you'd like to know more about Bangor ED, please do collar one of us for a chat!

Linda Dykes



The NEJM paper mentioned by Professor Rainer was the ProCESS Trial - you can read the abstract at <http://www.nejm.org/doi/full/10.1056/NEJMoa1401602>

And, on the off-chance you have been living in a hole for the past 13 years, the original Rivers paper can be linked to from here: <http://www.nejm.org/doi/full/10.1056/NEJMoa010307>

Reflection
for your
CPD

Visit our main website: www.mountainmedicine.co.uk

"When, despite your best efforts...":

Interactions with your coroner - Steve Leadbetter & Mike Smith

There are new upcoming death regulations coming out for consultation soon, and we are classed as a "qualified attending practitioner". This legislation should ensure better flow of information between you and your coroner.

What's the same, what's new?

As now, we **must** refer the death (verbally or in writing) if we do not know the cause of death, and "attending" can be at any time in the period of the previous 28 days, up to and including the date of death.

There will be statute that we **must** refer patients to the coroner in certain circumstances. The relevant coroner must record in writing the information provided, and then we must confirm that the record is correct... so it is probably easier to do it in writing in the first place!

Example "Must refer" cases where death is:

- Related to a medical procedure or treatment
- Death that is clinically unexplained.
- Possibly due to neglect or failure of care, or delay in care.

Do we accidentally alter evidence?

The Coroners and Justice Act 2009 (Schedule 6 part 2) makes it an offence to "alter evidence", and he discussed removal of an ETT after death "..." could we, in the future, use videolaryngoscope images possibly in the future to confirm tube placement before an ETT is removed?"

The coroners investigations regulations imposes a duty on coroners to notify certain persons of the date, time and place of a PM, who has notified a coroner in advance. Coroners must notify the hospital in which the patient died, and it is reasonable for ED to send a covering letter to get the results of PMs.

Access to PM reports

Coroners must inform interested persons (including the hospital if the quality of care is called into question) of PM results, or if they "have a sufficient interest" in the view of the senior coroner, and this can include for the academic interest of ED staff who cared for the patient.

Rule 43 Reports are now called "Reports to Prevent Further Deaths" and all information is available on the Chief Coroner's website www.judiciary.gov.uk

Reflection
for your
CPD

Reflections on Reflection

- Dr Keith Walters

This talk took the audience on a personal journey with Keith as he described his own immersion into reflective practice.

He advocated embracing reflection, rather than paying lip service to it at appraisal time, and to use it as an opportunity to *"take on new ideas, incorporate them into new belief systems, and the result should be a change in behaviour and therefore learning..."*

As well as finding a method of recording reflection that works for you (diary? journal? portfolio? - always using "we" and "I"), he ran over some academic aspects, and suggested that we should have reflection IN action (if something goes well or badly - write it down at the time), reflection in anticipation (resus room events), and reflection on actions (after the event).

Have a think about this:

- Single loop learning: read something to try to learn it.
- Double loop learning: why didn't I know this in the first place?
- Triple loop learning: Is there a better way of doing something?

Reflection
for your
CPD

Snowdonia's ER



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.



www.mountainmedicine.co.uk

The last page...

Your conference reporting team

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 fourth conference report in partnership with the Bangor ED team.



Dr Linda Dykes compiles, edits, and designs the Bangor ED Conference reports, and squirrels out much of the 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.

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 fund-raise 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.](#)



THE END

Please tell us what you thought of this report: 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 and enjoyed the report, do help disseminate the link to it!

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.

Copyright © 2014 Linda Dykes.

PS - Please, please make a donation to Tusk Trust!

See you in Exeter: CEM Conference, 9-11 September 2014