Question Report

JRCALC Stud 851 6377 2939 Nov 18, 2021 8:01 AM

#	Question	Asker Name	Answer(s)
	Frailty and older people		
2	Is there a link for online training for the clinical frailty socre?	Wayne Thomson	https://www.bgs.org.uk/resources/introduction-to-frailty
3	Please provide the reference details for the frailty papers?	Ian Smart	Collateral hx - https://pubmed.ncbi.nlm.nih.gov/29197964/ https://pubmed.ncbi.nlm.nih.gov/26787918/ AF - https://pubmed.ncbi.nlm.nih.gov/31955707/
4	Falls with long lies are one of the biggest challenges within our frail community that I feel we are not managing well. There is hardly any evidence to inform decisions as to who needs a serum CK/renal function is, it seems that a lot of the guidelines/policy seems to be based upon evidence of rhabdomyolysis in other contexts (e.g. crush syndrome) or expert opinion. As such a large number of patients are conveyed to ED after falls with a few hours time on the floor for no reason other than to have these bloods. This can often lead to patients spending a hours queuing outside ED (paradoxically contributing to their long lie given how hard the stretchers are), as well as exposing them to all of the risks associated with a patient with frailty being taken to hospital. How do you think we can improve this situation? Increasing the availability of community services that can respond on an urgent basis to take blood for these patients at home, review who needs these bloods etc?	Mat B	Yes - would a community service that can rapidly take and process bloods be the answer ?
5	How important is it that clinicians select a Rockwod scale , and who uses this information?	Anonymous Attendee	Good point ! Though we rolled it out accross the county and everyone was using it (proving you can at least achieve that) there is no point if it isnt useful or being used. It was used for some research pieces but how useful it was clinically for people on the ground is questionable - I suspect not much, but does that mean it can never be useful ? I think it's useful to know what the functional level of the patient was before their acute episode and to guide referral to alternative care pathways in the community or frailty assessment units.
6	Looking for notes, ReSPECT etc is, of course, good advice but what work is being done to ensure jouined up electonic access please? SWAST has another initiative to ask what we want. I can't answer because I don't know what is out there. Needs to be top down push, not bottom up pull	Ian Smart	Joined up electronic access in the NHS. A holy grail ! In Cambs we are working on somethign which will allow much better access to electronic records but you are right it woudl make a massive difference. The IT people would have to explain why it is so hard to do.
8	What was the link with your service and end of life care teams? Did you find that it increased the identification of the last year of life?	Jen Scott-Green	Most EoL care was provided by the district nursing service so we had excellent links but I am not sure we did a piece of work focusing on EoL - but you are right, it is really important
11	Please could the link for the article be sent out?	michael groves	https://www.ox.ac.uk/news/2021-04-19-study-finds-caring-older-people-home-can-be-just-good-or-even-better-hospital-care

12	How can we sustain an excellent service like this when ambulance trust remove key practitioners from the service meaning they leave to work in services?	Keith Bromwich	Excellent point. No point robbing Peter to pay Paul - and why we need to be working together to look at our resource as a system and seeign where it is best deployed.
13	How do you differentiate between a patient's baseline cognitive state if they have a background of dementia and a possible presentation of delirium?	Mark	This is where collateral history and the idea of Rockwood come in - ask their husband / wife / son / daughter - what was your relative like 2 weeks ago ?
	Non traumatic back pain		
15	Would NSAIDs be appropriate in some patients with acute inflammatory arthtritis if no contra indications on medicine interaction?	michael groves	Yes
17	Re. these red flags for back pain, if the patient is in pain and been on analgesia containing paracetamol wouldnt you then be sceptical about temperature and would it force your hand to convey??	Kyran Thomas	It is important that the whole person is looked at. Temperature is not the only indicator of infection. Does the patient look well? How are they communicating? Check in with reletives/friends if possible to ask how they have been
18	Is it better for a person with collapsed vertebrae to keep moving?	Adam	No, they need to be conveyed in the same way as a traumatic fracture. A collapsed vertebra patient should also follow advice given by the spinal team they are under.
19	Can you tell us what the in hospital diagnostics would be if required for back pain? Just for info	Eve B	If the patient attends an ED, they will have a full clincial assessment including a neurological assessment. If CES is suspected an MRI is the most likely imaging investgation, but it's important prehospitally not to promise any specific imaging, as this will be the responsibility of the ED or other clinician to decide. For other conditions such as Osteoporotic vertebral collapse, radiographs might be more appropriate. Imaging is not always required e.g back pain secondary to constipation.
20	Thoughts on appropriate pain relief for non-traumatic back pain being managed at home if over-the-counter options are not sufficient? For reference, in my Trust we can supply codeine, diclofenac (PR) and/or diazepam.	Mat B	This is another area where traditional GP practice and paramedic increasing scope have overlapped. It's certainly not standard across trusts. The key is integrating the care so that all those involved are able to look at the care given and follow up appropriately. They should be encouraged to use OTC meds ie paracetamol, ibuprofen (if they can take NSAIDs) or co-codamol and NSAIDs. They should be encouraged to speak to their GP/other prescriber in primary care if they need more pain relief. Best to stay away from any opiates. MRI for all of the emergency conveyance, if suspected Ca, may be a CT, if insufficiency they may choose an xray
21	What about the people you find frozen on their hands and knees refusing to move?	Carolyn English	They can be coaxed. It is about lots of reassurance. They will be scared and it is counterintuitive to move. It sometimes helps to suggest helping them to move into a comfortable position to assess properly so that you can then help them appropriately.
22	Patients with new, non-traumatic back pain, no other red flags but a history of CA, do they need imaging?	Mat B	They need review by their Primary care or specialist system, but probably don't need emergency imaging. But yes if you suspect a metastatic cord compression. Can be difficult.
23	Could the red flags be put into JRCALC?	Steve Dawber	Yes the red flags will all be in the back p[ain guideline when its completed and published
25	Very hard to telephone triage these patients on red flags and general advice tends to be challenged. What else is their to stop an ambulance attendance. Most have issues in contacting a GP.	David Court	I agree, the telephone triage is tricky. GP practices should ALL be doing face to face assessments. The way to make sure this happens is by a paramedic writing clear instructions on your paperwork, make sure primary care receive your care record and write on it needs to be seen urgently.
26	Why is diclofenac a blacklisted drug?	Jen	There is a high link to mortality, especially due to cardiac issues

27	Best option if the patient is unable to fully communicate their symptoms, i.e. a patient with dementia, where the carers are concerned the patient looks uncomfortable?	A Peters	? If just uncomfortable need to settle pain and reassure relatives. It is not a reason for conveyance. When talking to the relatives, need to go through the red flags with them, they will know for eg if the bladder/bowel symptoms have changed for eg has their gait changed? Do they have a drop foot suddenly, do they have a diagnosed cancer etc
28	Do we have an average timeframe of how long it takes for a back pain patient accessing a physio via GP? Thanks	Shea O'Hagan	If the practice has an MSK advanced practitioner or physiotherapist they should get an acute appointment immediately. For rehabilitation in core physiotherapy services, the wait varies regionally/locally
30	If suspecting vertibral insuuficiency fracture, what's the best way to transport - would there be a need to immobolise?	Samantha Lailey	No need to immobilise these often frail patients if there is no history of trauma, they can let us know which position is most comfortable for them.
31	Would you advise topical agents such as deep heat?	Anya Critchley	Yes and heat and ice
32	Patient with red flags for CES but still able to mobilse / sit in a car... safe to be transported by car? e.g. by a relative	Rob P	Yes, according to your local trust procedures
33	Would you recommend topical NSAIDs (voltarol/ibuprofen) over oral for pain management?	Albert	If in pain + oral will be more effective. If they cant take NSAIDs they could try topical + paracetamol or OTC co codamol
34	A lot of the time we are going to patients with back pain for past few months that cannot get a GP appointment. Can we assume there will be no red flags with these people?	Chris Ellison	No, we can't assume anything unfortunately, they'll still need an appropriate history and examination.
35	Please discuss how assesment of loss of anal tone would be performed by ambulance staff	Carl Potter	This would need to be through the history incuding questions on faecal continence.
	PARAMEDIC3		
36	Is Paramedic 3 a nation wide trial if so how can you take part?	Wayne Thomson	All Trusts in England and Wales. Scotland has different consent requirements
37	Is the envelope randomisation universal? Or are trusts doing it differently?	Vicky	Each Trust will find the best way for randomsation to occur.
38	With the IO route and the IV route is there a stipulation on best site eg right humerus etc?	Keith Bromwich	You can choose where to site the IO device - it is not specified by the trial protocol. We will undertake an analysis to look for any differences in effectiveness between different IO access locations
39	Will the trial collect the SITE of IO access ie humoral v tibial	Dave P	Yes it will and we will analyse to see if any differences in effectiveness
40	Establishing effective BLS is key to successful resuscitation with drugs secondary. Isn't this trial going to the shift the focus away from BLS to ALS?	Alistair	High quality uninterrupted CPR remains the first priority during a resuscitation attempt, but it won't restart the heart by itself. PARAMEDIC3 is designed to dovetail in to current practice when you consider vascular access and drug administration. The sooner these are done the better the outcomes for your patients.
41	Why not assign skill to individual paramedics similar to the Airways2 trial rather than each patient being randomised?	Tom Owen	Great question - the challenge with this approach is that not all patients are eligible for the intervention. With a cluster trial (e.g. assigning intervention to paramedics) then all patients treated by that paramedic are included irrespective of whether they receive the intervention. It makes interpretation of the trial difficult (in AIRWAYS2 a significant number (?25%) didn't receive the randomised intervention. Hope that makes sense
42	Will the trial include organisations that respond alongside the NHS? I.e HEMS? We attend a large number of OHCA cases, so potential to influence the outcomes	Mark Hodkinson	Yes - NHS ambulance services will be briefing their response partners. The sweet spot though is likely before advanced assets arrive on scene (unless they are closest)

43	Looking to the future, is there going to be a trial to decide on timings of when to give adrenaline? Whether a smaller or larger dose more often is going to change the outcome?	Alistair	Paramedic 3 isnt changing the times, its about drug routes. One step at a time...
44	If the first IO is knocked out during the resuscitation attempt and a second IO sited correctly, does that make the results null and void?	Alistair	the patient would still be included in the trial, the additional information would be included.
	Anaphylaxis		
	Can you confirm the repeat time. Previously it was repeat AFTER 5 mins. This was changed to after 5 mins or sooner if symptoms return or worsen, this made sense as the effective can wear off at different speeds for different patients		
46	With the removal of hydrocortisone and changes to antihistamines how would a patient whose allergy is so bad/complex that they have a history of having to have all three as sometimes one of the three drugs would work one time but not the next?	Julie Allen	Any medication prescribed by other healthcare providers will also be amended according to the updated guidelines. There is actually very little, if any, evidence that antihistamines and/or hydrocortisone are effective in managing even severe allergic reactions.
47	Anaphylaxis; Can you confirm the repeat time. Previously it was repeat AFTER 5 mins. This was changed to after 5 mins or sooner if symptoms return or worsen, this made sense as the effective can wear off at different speeds for different patients and it's vitaly important to treat anaphylaxis quickly. The recent changes now seems to have reverted back to repeat only AFTER 5 mins, this is concerning as it could delay the administration of repeat doses.	SmallS	The advice to repeat only after 5 mins is correct. The adrenaline will take a few minutes to be absorbed and become effective, so giving it more frequently risks the preceding dose not having had time to work.
48	Why have the algorithms been split into two rather than having a continuous single algorithm?	Naomi Watt	Most patients will not need to progress past the first algorithm. It is a bit like having a BLS and ALS algorithm, hopefully making it clearer for the clinician.
49	To add, some settings may only have auto-injectors with 300mcg, which would not last as long as 500mcg.	SmallS	yes the guidelines are primarly for NHS Ambulance Services where 500mg is the standard dose, in other situations the lead organisation may need to consider which doses are available for HCP use in anaphylaxis.
50	Is the IV fluid bolus given as standard when in refactory anaphalaxis? or just when clinically indicated i.e hypotensive?	Wayne Thomson	Yes, if the patient is hypotensive.
51	You've mentioned that the refractory anaphylaxis algorithm starts after 10mins (2x 5min doses of adrenaline). In reality as an ambulance crew of 2, one person would draw up the adrenaline and the other would immediately apply monitoring and O2; I'm assuming that is acceptable? (in other words, not explicitly waiting >5-10 mins to give O2 where there is a spare pair of hands)	Stuart	Yes that's right, care can be given simultaneously when there are sufficient clinicians available.
52	Regards the <6month adrenaline dose is using 100-150 mcg giving chance for hesitation in administration.Would a standard 100 or 150 mcg be more appropriate ? Even though rare to see	Keith Bromwich	TBC
53	Another concern is that with no IV access until after the second dose of adrenaline, we have no IV access if the patient arrests (as would have been an issue on a recent job)	Naomi Watt	The Resus council were concerned that attempts to gain IV access in a rapidly deteriorating patient, might lose the opportunity to reverse the deterioration which IM adrenline has been shown to be effective for in the first few minutes. IV access can be inserted while still focussing on the main intervention of IM adrenaline intially, especially if there is more than one clinician on scene.
55	In the presentation it said oral only for mild-moderate reaction. It is still in the JRCALC regarding mild-moderate reaction to be able to give IM Chlorphenamine. Will this be changing? As in my trust we don’t carry PO anti-histamines.	Jessie Wycherley	Yes we left this in for the time being as ambulance services are looking at the introduction of oral antihistamines, this will be reviewed again.

57	Who is allowed to restain? I have never been given any training around this	Wayne Thomson	Technically restraint is any physical intervention that limits a patient's movement.... even if this is minimal. If there is a risk to the safety of staff or patients.... this can be esclated through organsiaitonal systems for additional support including police support if the risk is signficant. There is some naitonal NHSE work ongoing around restraint and training for restraint under health and safety systems, we are hoping for some more infromation on this through ambulance service systems.
58	Are the duty of care laws applicable in Scotland or just England and Wales?	Wayne Thomson	The duty of care guidance was based on English law. Devolved nations have some differences which your local ambulance service will advise on.
60	Any updates coming to support management of post-ROSC patients? E.g. adrenaline for haemodynamic support or a benzodiazepine for agitation/sedation?	Mat B	Good question. We will be adding adrenaline for post ROSC, and for agitation we will be adding some wording to the effect of: For an agitated/combative patient post-ROSC patient who may also be difficult to oxygenate, consider calling for additional support from enhanced care teams to consider the need for sedation-as per local procedures
61	Will the IM TXA dose be significantly reduced from the IV as this is already over 10 minutes how long would this take to administer a dose?	Sarah Sutton	It can be given split into two IM injections, if IV access is unachievable and IO is not appropriate at the time.
62	Police in Scotland will not restrain a patient to receive treatment as this in Scotland is deemed assault.	Wayne Thomson	We can go back and check but we have had assurance that as the first priority for all emergency services is to save life and prevent deterioration that police officers should act under the mental capacity act to protect others.
63	Is there a reason why Ketamine has not been added into the JRCALC guidelines, for analgesia in severe cases, and in the use of ABD guidelines for sedation? I have used ketamine in all the services I have worked and it has been safe.	Cameron Horner	That's a good quesiton and one that we are hoping will be answered by the PACKMaN study starting in YAS and WMAS comparing IV ketamine at a subdissociative dose with IV morphine.... watch this space!
64	Is there not a fallacy in using unscheduled ED visits as an indicator of whether discharge at scene decision were/were not correct? I.e. these could have been appropriate discharges where parents are following the worsening advice they have been gven? Is there not a danger of creating a culture of fear if we push the message that any sort of unscheduled (re)attendance indicates an error in the initial decision to discharge at scene?	Mat B	Unscheduled recontact is a crude measure but easy to measure and probably best we have at the moment - need to understand this area more
66	Do you call direct to GP as telephone handover? We have a GP summary which goes to the practice, is this acceptable at night or if we cannot get hold of anyone?	simone carey	Idealy you should go direct to GP 24/7-depending on local pathways, sending a summary is rather weak
68	Does Discharge on scene or from hospital reflect "no intervention"? Either clinical, refereal pathway etc Good to advocate for a study that considers also this?	Naomi Morris	Certainly discharge from ED doesn't reflect on intervention or no need for the patient to have gone there - senior review, diagnostcs, observations etc are all important
69	Like we have Virtual Wards for Frailty, could we have similar for paediatic's as a posible referral pathway?	Jon Iwanejko	Direct referal for paediatrics and access to specialist paeds advice is being discussed and can be developed locally as a pathway-needs to be locally determined but we are trying to influence nationally as well
70	Is it acceptable to allow family to make their own way to the hospital for the child to be assessed if deemed appropriate by the clinician? What might the repercussions be if the family then decide to not go once ambulance has left scene and the child deteriorates?	Joe	I think this will be case dependent but in many cases that is what a GP would do where approrpiate for example

72	Generally the difficulty with getting Police to the scene is due to decisions and interpretations made by the Duty Sergeant or Inspector within the Police Control Centre. When the Police officers arrive, they are very helpful and have a team approach. How do we change the outdated procedures in the Police dispatch centre?	Alistair	ACCE and the NPCC (National Police Chiefs Council) have set up a joint working group which some of us are included in, we are looking at joint responses to support patient and staff safety acorss the ambulance and police services. Police support to ambulance staff at risk of assault is being included and will be national guidance when it comes out.
74	A question for the panel later on. The excellent report from AACE highlighted ambulance delays and the impact on patients. Although a letter from Prof Willet clarified in 2017 responsibility of care is with the hospital once the patient arrives to the ED, paramedics are still involved in the care of these patients. Is JRCALC looking at developing guidance nationally for how to care for these patients?	Anonymous Attendee	NASMeD have issued guidance for patients held in hosptial handover delays, if you are in an ambulance service it should be available to you, probably be on the Plus part of your App. Ask within your trust if you are unable to find this guidance.
75 Dawn K	I have listened to some of your previous podcasts and aware you have changed what is available in maternity packs in SECamb area, are you in touch with other services to change maternity packs on a National level to the same specification?	Alistair	We are continuing to try and influence so that there can be efficiencies and consistency by all having the same matenrity [ack.
Dawn K	Agree that I-gel is way forward but i think we still need OPA and use the step airway in case the I-gel fails - would you agree?	Keith Bromwich	Yes. We agree
Dawn K	I've been reading recently that leaving a cord attached during resus improves SP02 and APGAR scores. What are your thoughts on this?	Frances	Answered live: It's a question of practicality for resusitation of the baby. Almost certainly going to be more difficult to deliver effective interventions with cord attached.
78	What amount of oxygen whilst doing chect compressions on a newborn?	cheryl	It will be 100% oxygen during chest compressions,
Dawn K	What are your thoughts on now starting some additional ALS eg. IO use and medications- although very very rare should we now be aligning approaches more ?	Keith Bromwich	At the present time I think we need to focus on getting the basics right first. Drugs is farther down the line in neonatal resus and therefore we should be on our way to or present in an acute trust by the time this is needed. It is rare (less than 2%) thankfully and I think we would therefore not be best placed to give this care owing to skill fade etc etc. Leaving scene asap and delivering to a neonatologist is key to maximise the babies chances. This will ensure the best possible outcome for the baby.
80	As a private ambulance provider we dont have access to the Plus part of the JRCALC app	Kyran Thomas	The 'Plus' enables a service to add their own local notices, PGDs, pathways, any deviations to JRCALC. But the full JRCALC content is still there
Dawn K	Would it also be possible to include a specific plastic bag within the maternity pack?	Alistair	This needs to be determined by your own service.
Dawn K	The App seems to have the old NLS flowchart. Will it be updated to th new one showed in the presentation?	James Aldcroft	Yes, it will be updated.
Amanda	Is it time to get together all the training organisations and really develop a true paramedic training guideline and programme from student to NQP and beyond	Keith Bromwich	Good idea, we will consider this.
Dawn K	How can we learn more about supporting women & families when a baby is born before 21 weeks + 6 days?	Helen Pocock	The following charities have some excellent resources but essentially kindness and compassion are key: SANDS; MISCARRIAGE ASSOCIATION; ACHING ARMS; MARIPOSA TRUST

Amanda	Thank you Amanda, do you support pre-hospital practental clamp removal to improve placental drainage and improve delivery of placenta and reduce chance of PPH?	Joshua Ager	
89	Should a standalone Midwife led unit or home birth have a private ambulance provider and not call 999?	Anonymous Attendee	This is an interesting question, I have discussed this recently with a number of midwives, where there is consideration for how transfers are commissioned
91	Not seeing pre term often how to diferentiate betweem 21 and 22 weeks. ?	Gaylene	Yes Gaylene, it is extremely difficult and unless the woman knows her exact date, there is room for error
Ashley	From experience have you found any ways of highlighting human factors and making it “relatable” to individuals/clinicians who can’t massively understand the benefits of identifying and managing them?	Jack Shacklady	As with all areas of practice, continued exposure to further training opportunities will help.
93	Learning from signficant incidents within my Trust tends to be disseminated as single page memos by email which can easily be missed and/or the rationale not understood. Do you think that there would be better uptake of the learning from these incidents if these processes were more transparent, perhaps with meetings available to internal staff either live or recorded, similar perhaps to the hospital M&M meeting?	Mat B	There's always a balance between supporting those involved in these often distressing incidents and openly sharing the learning. I think there are more ways we could share the learning from incidents and also consider all the human factors in incidents, perhaps through online M&M meetings, podcasts, infographics and other methods.
94	A question to all participants, do people feel we are still trapped in a blame culture in the ambulance service?	Danny Grace	Gosh I hope not . I started in ambulance services in 1997 and have seen significant change in this regard. I’m not saying it doesn’t still happen but the movement has been is a very positive direction since then.
96	Are we seeing any improvement on paediatric hospital cardiac arrest care	Keith Bromwich	The OHCA registry focus primarily on adult CA, we have asked previously if they could do the same for paediatrics, but it couldnt be done at the time, we can revisit this with them.
97	PAD Decrease in 2020, is that because people weren't around in 2020 due to Lockdowns with businesses and local shops also closed where some PADs are?	Alistair	Yes you're right.
99	Is incidence of OHCA higher in certain seasons, i.e. in the winter?	Mike Dunkley	OHCAO do publish annual epidemiology reports on their website so that will be the best place to find the data and references.
100	I assume c spine should be considered in all cases of hanging?	Wayne Thomson	Yes
101	I was unfortunate enough to go to one of thease incidents whilst on my last placement. Though I understand that this is part of the job I felt that for my mentor that they were left in a bit of a black hole in discussing this with me, or were under prepared. Is this something that is given coverage for mentors during their mentor training?	Daniel	Debriefing and supporting staff figures highly in all training. Was your mentor affected perhaps and unable to talk about it?
102	If there is a hanging discovered at a house fire and fire crews inside are sayng no signs of life and ambulance crews unable to go in as fire managment ongoing, should patient be cut down and brought out by them regardless, or left in place for crime scene investigation?	Joe	That’s a dynamic decision with the fire service applying the JRCALC Verification of Death and Termination of Resuscitation guidance. There is no single answer here.
103	Where do we stand on stacked shocks for EMS witnessed arrests?	Vicky	We don’t give them
104	Do you suggest changing pads position & new pads after 5/6 shocks?	Lyn Evans	For refractory VF, consider using an alternative defibrillation pad position (e.g. anterior- posterior).
105	If you want to sandwich the heart between two pads, why is that the optimal pad placement (and not axilla on both sides) which would intuitively appear to place the heart more directly between them?	Stuart	The recomended position is thought to align with the electrical axis of the heart.

Charles	Please talk about pad placement for pacemakers on the RIGHT of the chest. I've got one!!! :-)	Steve Richards	Unfortunately time precluded talking about defibrillation in more detail.
108	Interested to know thoughts on Lucas device in OOHCA, and optimal airway when using mechanical CPR device. I-gel vs ET?	Mike	I am a supporter of mechanical chest compression devices, even though they have not been shown to improve outcome. They transform the management of cardiac arrest by delivering uninterrupted good quality chest compressions and allow more of a focus on identifying any correctable causes. They also ensure that chest compressions can be continued when moving the patient and help with safety issues in the ambulance if CPR is still required. My preferred airway is an I-Gel as it is quick and easy to insert. Only if ventilation appears inadequate would I consider intubation. It may be that the iGel acting as a blow off valve for high airway pressures limits intrathoracic pressure, improves venous return and optimises cardiac output; which may not be the case with an airway that is sealed with a tracheal tube.
109	As dual sequential defibrillation has been found to be damaging to the heart using full joules x2, would it be acceptable to think that by halving the joules (such as 100J per pair of pads to equal 200J total) would have a better outcome? Or would the joulage be too weak if used in that way?	Sara Hasan	There is limited data regarding optimal energy and single/dual defibrillation. However, 100J is likely to be inadequate (please see guidelines for references as to why we recommend a minimum of 150J). Whether a lower energy delivered across two different vectors is better than a single higher energy level is not known at present. There is a large Canadian study presently underway looking at dual sequential defibrillation in more detail.
110	Some trusts insist of fluid therapy prior to inotropic adrenaline. Your thoughts?	Jackie Norman	That is correct once we have an arterial line and CVC in place. Otherwise you can't target the therapy. Fluid therapy is only indicated in patients who are thought to be hypovolaemic. Excess fluid in a failing hard may precipitate further failure and even cardiac arrest. The updated 2022 guidelines will clarify the indications for IV fluid post-ROSC.
111	With reference to cooling, I note that the guidelines are likely to be updated and remove focus on TTM. However, I have seen a lot of OHCA becoming cooler, particularly below 36, and even toward 34 and the range for TTM due to location of the resus, exposure of the patient and lack of preventative measures owning to ALS. If TTM is removed from guidelines, do you have any thoughts on how we should mitigate temperature loss in OHCA cases? It would be good to see some in depth research on temperature in OHCA and if it is accidentally occuring as an effect of the provision of ALS.	Mark Hodkinson	The recent TTM study showed that there was no difference in outcome at any temperature in the range of 33-37 C. If the patient cools from 37 to a lower temperature before arriving at hospital, it is unlikely to adversely affect outcome. TTM will not be removed from the guidelines, but modified to state that anywhere in this range is acceptable
112	Sorry, I missed the reference about adrenaline bolus post-rosc. Will this be included in the current guidelines?	Michael Nicholls	Yes, this will be coming in when we revise and update the resus sections of JRCALC.
113	What is the panels opinion on fluid therapy during resus? Some ambulance trusts indicate fluids regardless of arrest cause (even if an MI is suspected)	jacob	Fluid therapy is only indicated in patients who are thought to be hypovolaemic. Excess fluid in a failing hard may precipitate further failure and even cardiac arrest. The updated 2022 guidelines will clarify the indications for IV fluid post-ROSC.
115	What are your thoughts on the JRCALC sepsis guidelines and the difference between these guidelines and the sepsis trust and nice guidelines. Do you think a uniform approach would be beneficial?	Sue brown	Unfortunately there isn't a unified approach. the two guidelines you mention have different approaches, the sepsis trust's bundle approach was found not to be effective. Have a look at Monty Mythen's recent-ish publications also. When I led the guidance we had to try and marry up these varying approaches. Ron Daniels' sepsis trust for example suggested the use of point of care testing which was a surprise recommendation. We decided that the priority was transfer to hospital in significant sepsis. It was also noted that Ron Daniels had become linked to a point of care testing sompany so that greyed the recommendations somewhat for us as we couldn't see the evidence stacking up. Teasing out the genuine evidence based items can be very difficult in guidance which may just be expert viewpoint.

116	In our service a lot of specs are advising paramedics to hyperventilate cardiac arrest patients to improve excess co2. Is this wrong and should our patients never be hyperventilated in cardiac arrest?	Anonymous Attendee	In a cardiac arrest, end tidal co2 is not a reliable number so shouldnt be used as a target. The presence or absence of end tidal Co2 MAY help identify effective ventilation but not on its own.
117 Ashley	Who do you think "owns" or is responsible for any national CCP framework or development of a national scope of practice etc?	Mark Hodkinson	Not within JRCALC remit at present so reverts to NASMeD