Manchester Arena Inquiry

Day 160

October 11, 2021

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Monday, 11 October 2021

(9.30 am)

(Delay in proceedings)

(9.42 am)

MS CARTWRIGHT: Good morning, sir. The gentleman in the witness box is Mr Keogh. Could I ask that he is sworn, please.

MR PHILIP KEOGH (affirmed)

Questions from MS CARTWRIGHT

MS CARTWRIGHT: Could you please tell the inquiry your full name?

A. Philip Christopher Keogh.

Q. It's right, isn't it, that in May of 2017 you were a senior paramedic with North West Ambulance Service?

A. Yes.

Q. Do you still continue to be a senior paramedic?

A. I do.

Q. If we just deal with a little bit of background, it's right, isn't it, that you first joined NWAS in 2004 working with the Patient Transport Service?

A. Yes.

Q. You then became an emergency medical technician?

A. Yes.

Q. You then completed your studies as a paramedic, qualifying in September of 2010?

A. Yes.

Q. But prior to starting work with NWAS you were then deployed to Afghanistan as a reservist army paramedic from October 2010 to February 2011?

A. That's correct.

Q. You give us some detail of the experience that you gained in Afghanistan. You tell us that you had responsibility for military and civilian casualties injured in battlefield situations.

A. Yes.

Q. And as part of that team, you were dealing with all the multiple patients who were transferred to the hospital?

A. Correct.

Q. And you had direct experience of dealing with a mass casualty incident when children and soldiers were injured?

A. Correct.

Q. You set out that you had experience therefore of treating patients with shrapnel injuries?

A. Mm-hm.

Q. Gunshot wounds?

A. Yes.

Q. Also dealing with traumatic amputations?

A. Yes.

Q. You detail that battlefield trauma was a regular occurrence and you had had extensive exposure to injuries of that nature?

A. Yes.

Q. So could I ask you then, from your experience gained in Afghanistan, what was the significance of those patients you had seen that had had catastrophic bleeds?

A. When you ask for the significance, in terms of the numbers, the severity?

Q. The necessary emergency treatment for those injured and sustaining catastrophic bleeds.

A. Ultimately, it's to stem the catastrophic haemorrhage, so the first point of call is to stop any catastrophic bleed where we can, whether that is with the use of a tourniquet, a CAT device, or with it -- it might be haemostatic agents or just plugging it with a hand.

Q. Thank you. I think the description Dr Daley used on Thursday was "to turn the tap off". Then having stemmed the bleeding, what would be the next necessary emergency treatment for someone who had sustained a catastrophic bleed?

A. From there, we have to -- we go through a linear approach, if you like, so we talk about it in a list format. But in reality, it's a horizontal resus, so we perform a horizontal resus approach. So we look at the big C, which is the catastrophic haemorrhage, and we

will stop that. We will then look at the airway, the breathing, the circulation, the disability, and then we expose and examine the patient.

So after we've turned the tap off, as Dr Daley said, we would look then to ensure that the airway of the patient is secured, whether that's with an airway adjunct or whether it is just they're talking and they are conscious we can assume they're secure. We then look at monitoring that, measuring the breathing, and from there, depending on what we found during the assessment, that would dictate the treatment that we would we deliver to that patient.

But ultimately, further down the line, if you like -- so with the military's prescriptive we have role 1 through to role 3 and 4 points of care, if you like. If somebody has a catastrophic haemorrhage they need damage-control surgery, it needs to be turned off internally and it needs to be rectified, and with that they also need blood products to repair and replace those products that have been lost during the catastrophic haemorrhage.

Q. So can I ask, not just for in a battlefield situation but we'll be coming on to deal with John Atkinson specifically, when you have a patient with a low circulating volume as a result of a catastrophic bleed,

what's the thought process that is gone through in respect of replacing that lost fluid?
A. Historically, it would be clear fluids because that's what the service carry, if you like, so things like normal saline. Obviously, the process is —— (inaudible) patient needs to be replaced with —— or replenished with blood: they've lost blood and they need blood going back to them. That's pretty much...
If they've lost it, they need it given back. The body will not produce blood fast enough to replace what it's lost in a catastrophic haemorrhage.
Q. Thank you. We know that NWAS did not carry blood products. But can you assist, you mentioned I think sodium chloride there. What's the thought process around other fluids such as intravenous fluids and sodium chloride to assist in replacing fluids?
A. So it's —— the idea is to make a normal tensive patient, if you like. So they would historically —— and it's historically, we don't do it now, we would use fluid. The downside of using salines and clear fluids, if you like, is that they do not carry oxygenating properties, they can't oxygenate the blood, it can't carry any oxygenation around the body, so all it's literally doing is filling the body up with something that's going to dilute the blood products that we have left in the body,

so we don't do that unless we have a really low circulating volume and we may consider putting a little bit of volume back in just so that we can maybe get a systolic of approximately 90.
Q. Thank you. Perhaps we'll come on to look at that in terms of what happened for John later on that evening.
You tell us that in February 2015 you qualified as a senior paramedic and you still continue to undertake the role of a reservist army paramedic alongside the day job.
A. Yes.
Q. You do that 28 to 40 days a year dependent on your shifts. I know you keep nodding, but you will need to answer the questions so the transcribers can capture that.
A. Sorry.
Q. Thank you.
On 22 May 2017 you were working a 7 in the evening to 7 in the morning shift based from Rochdale Ambulance Station?
A. Yes.
Q. And it's right, isn't it, that you were operating from a rapid—response vehicle, R449?
A. I was.
Q. You tell us that you had been assisting other patients

when you received information from control about the incident at about 22.35, and I think specifically from a Dave in the control room. Could you tell us about the information you were given at that time?
A. I'd just cleared an incident. I'd put my clear through on the computer in the car. And then I was awaiting further instruction then to return to base, which would normally come, or a different incident on the computer.
Dave contacted me from control and said there'd been an incident at Manchester. At that time, they weren't exactly sure what the incident was. They were receiving multiple calls into the EOC at Manchester there, and they'd not ascertained the true nature of what was going on, but he did go on to suggest they thought it may have been some type of explosion.
With hearing that, I suggested that I would make my way straight to scene as I was some distance from Manchester —— I was actually in Lancashire at the time, approximately 25 miles from the arena, so I suggested that I make my way to scene.
Q. Thank you. You reference in giving that last answer that control had told you there'd been some sort of explosion, but within your witness statement you specifically referenced that a bomb was referenced.
A. Mm.

Q. Is that correct?
A. Yes.
Q. Just to help us with this because it seems that at the same time as you were receiving information from control on your radio, you were also conducting a personal mobile telephone conversation.
A. Yes.
Q. I think that personal mobile phone conversation continued to the extent that the person you were on the phone to was then able to ascertain information from Twitter to try and inform your situational awareness as to what was happening at the arena.
A. That's correct.
Q. Then just as a very brief query, we've heard some evidence in the inquiry about the impact on the Airwaves when mobile phones are used during major incidents. So did you have any awareness at the time about whether you should be using a mobile phone when a major incident —— or something is evolving of this significance?
A. As I already suggested I was 25 miles away in Lancashire, I was in a little village called Water, which is in Rossendale. So the way that satellite and mobile network towers work, that call that was coming in from Preston wouldn't have affected any mobile network in the Manchester area.

Q. So there was no need for you to terminate that personal call?
A. I terminated it on en route anyway. So I had terminated it within half a mile of me setting of just so I could get to where I needed to be.
SIR JOHN SAUNDERS: I understand all that, but was that something that was pallet of your thought process at the time, "Can I use my mobile phone? Will that affect things locally to where the incident has happened"? Were you actually thinking that at the time?
A. Due to my proximity it wasn't a consideration.
SIR JOHN SAUNDERS: But as you got closer? You said you had turned it off, did you?
A. I had turned it off before I left Lancashire.
SIR JOHN SAUNDERS: Okay. For that reason or you just so happened to have turned it ——
A. So that I could —— so that my bandwidth could be concentrated on what I was doing and where I was going.
SIR JOHN SAUNDERS: Thank you.
MS CARTWRIGHT: You tell us in the witness statement that as part of the conversation with Dave from control you asked him specifically if he wanted you to make to the scene due to your previous experience gained in Afghanistan.
A. Yes.

Q. And essentially you didn't get an answer, but you made the decision to self—deploy to the arena?
A. Yes.
Q. We know from the interrogation of the data on your rapid—response vehicle that you arrived at the scene at 23.10.22.
A. Yes.
Q. Could I ask you then to deal with what you saw when you arrived at the arena area, please?
A. So initially, the computer on the RV would have automatically arrived me at scene, so without me actually pressing the buttons. It does so within approximately 400 metres, I think, but I'm not too sure. So my first recollection, if you like, is as I pulled down with the arena on my left and the Old Boddington's factory on my right, I was stopped by a police officer there who basically just moved the barrier so that I could continue accessing down the main road.
Directly in front of me is the junction with the Lightbox on the left—hand corner. I initially went straight over the junction and had a correspondence with another vehicle that was on scene at the time, because I had received some information off control that they had been told there was an active shooter and they had actually in fact instructed me to return to an RVP

because of the active shooter. But because I was on scene, I deemed that I went to —— go and do what I could.
But also because I had a crew straight in front of me, I wanted them to be under no illusion that they needed to leave the scene due to the potential risk of an active shooter.
So I proceeded to them. I had a very brief conversation with one of the crew members, who was tending to a female, that they needed to remove themselves and the patient from scene. That was backed up by a police officer that came along and just said, "Yeah, if you could move, you need to move".
I then got back into my response vehicle ——
Q. Just pause there for a moment.
A. Sorry.
Q. You are indicating that you had been given, proximate to arriving at the arena, information from control that this was an active shooter; is that correct?
A. Yes. So do you have the copy of my radio logs?
Q. Yes.
A. So there's a radio log conversation where they come in and ask me to —— at approximately 23.10 they state that there's reports of shots fired, so they've now been instructed to return all resources to an RVP point.

That was just as I arrived at the arena's location if you like.
Q. Thank you. So just to be clear then, when that information was given by control, why was it that you then overrode that direction to go to an RVP and continue to the arena?
A. Two reasons, I guess. Firstly, I could see a crew straight in front of me that were outside the Lightbox, tending to a patient. I wanted to reduce any potential impact to that crew and obviously their safety is paramount, as is everybody's, and they needed to move.
Also, people were at the arena and I was aware there were obviously people that were injured at the arena and if I wasn't going to go, then who was going to go? So I made the decision to go.
Q. Thank you. On the data that we have from your rapid response ——
SIR JOHN SAUNDERS: I am really sorry but I don't quite understand that. You are talking about the ambulance in front of you?
A. Yes, sir.
SIR JOHN SAUNDERS: Who you want to send off to —— really take the patient to hospital and then go to the RVP; is that right?
A. Yes, sir.

SIR JOHN SAUNDERS: And what you just told me was you decided to go on to the arena, which obviously is the right thing to do, so no criticism at all, but you were saying that if you hadn't gone, the ambulance would have gone?
A. No, sorry, sir.
SIR JOHN SAUNDERS: Then I have misunderstood.
A. What I'm saying is my mindset was if I didn't go to the arena, then people there that were injured would have to wait longer for care. So if I didn't go, who else was going to go?
SIR JOHN SAUNDERS: Right, thank you. I now understand, thank you.
MS CARTWRIGHT: You tell us in your witness statement that control told you there was no running job to allocate you to and certainly from your vehicle there's nothing to indicate that control had allocated you to this incident, is there?
A. Initially, no. What happens when we got allocated a job -- obviously it comes up on our vehicle's screen and we acknowledge that job. So my understanding was, due to the volume of calls control were initially receiving, they were finding it difficult to actually put an incident in, so give it an incident number, if you like, and actually log an actual incident. So

although they had resources running towards the incident they were finding it difficult to log the incident due to its complexity, I'm guessing, but I don't work in control so I'm not too sure. I was just under the impression that it was due to the volume of calls.
And then whilst I was running to the incident, whilst I was driving, approximately on the motorway, a job came through to my computer on the...
Q. Are you saying then you were allocated to attend the scene the arena?
A. Yes, I've got the times for that as well. Would you like the times or have you got them?
Q. Please. I think 22.58.04.
A. Yes. So yes, 22.58 was when it was allocated, so that was sent to my computer, to my machine then.
Q. So at the point when you've read from the log the call with control where they were saying to go to the RVP, were control aware that you were not going to follow that direction but head to the arena, you were heading to the arena?
A. No.
Q. So why didn't you update control to say that you in fact were making your way to the arena, notwithstanding the direction to go to the RVP?
A. I should have done and it was my remiss that I didn't.

Q. Just dealing with the ambulance that you've told us about that was there treating a patient that had injuries to the leg, were you directing then and dispatching that ambulance to attend the hospital with that patient?
A. I was suggesting that that crew remove themselves and that patient for their safety because, as far as I was aware, there was an active shooter on scene. They're obviously trying to treat the patient there and ascertain and, you know, actually look after the patient on scene. But a big yellow ambulance makes a -- in my mind, a big yellow ambulance makes a massive target and I wanted them to reduce their risk by removing themselves and the patient.
Q. So can we just be absolutely clear where this ambulance was situated in the proximity of the arena and the station, please?
A. It was where the Lightbox is, the shop, I really don't know the name of the road, I'm really sorry, but it was parked approximately 10 metres beyond where the Lightbox was or the Lightbox shop is and it was facing away from the arena.
Q. Did you see -- did that ambulance leave the area at that time?
A. Yes. They put the patient on board that they were

treating and they went off to hospital with their patient.
Q. So would this have been around 23.10 as you arrived at the arena?
A. Approximately, yes.
Q. Were you able to see -- because you've described the casualty having injuries to the leg -- what you would have categorised those injuries as under a triage process?
A. No. I eyeballed the patient very quickly, saw that she had injuries to her leg, and that was it.
Q. So did you give any thought at that time -- I appreciate the context of it is the call which makes reference to an active shooter, but did you give any thought at that time that you were potentially dispatching an ambulance resource that might have been far better used for more of a priority patient than the casualty with the injuries to the leg?
A. At that time my thought was the safety of the crew and the patient they were currently dealing with.
Q. Are you able to help us at all as to the identity of the paramedics that were with that ambulance? Because we've got the data from NWAS and we've got a number of ambulances that do not take P1 and P2 patients that are on our list but do depart the arena at around this

relevant time. So can you help us as to the identity of those paramedics?
A. I'm just seeing if there is a call sign log, if I've logged it with control that I can see a vehicle. If not, then no, I can't.
Q. Can I ask you then, because we can see ——
SIR JOHN SAUNDERS: Have you had time to look or not?
A. I'm just looking, sir.
MS CARTWRIGHT: Sorry.
(Pause)
A. Alpha 534. So I'd want to suggest at 23.11, on the call transcripts from the radio:
"I have just instructed Alpha 534 to just ——"
Obviously it's a transcript:
"—— we've just been stopped on the way in and they've got a patient —— just to get up and get gone and actually head back to the RVP."
Q. In terms of A534, the information we have is that that's an ambulance operated by Burgess and Rohde that was at the scene at 23.05 but in fact did not leave the scene until 23.48, so some time after the 23.10. So can you assist us at all in respect of what seems to be some delay before that ambulance leaves the scene?
A. No.
SIR JOHN SAUNDERS: Burgess and the second name?

MS CARTWRIGHT: Rohde. It's probably my pronunciation, sir.
SIR JOHN SAUNDERS: Could you spell it for me?
(Pause)
Don't worry, we can find out.
MS CARTWRIGHT: I'll give it to you in the break.
My note is R—O—H—I—D—A, but it may be incorrect and I'll check it on the log.
Can I ask you then, having seen the ambulance and advised it to dispatch with the patient to hospital, what did you then do, please?
A. I then returned to my RV, I then drove over the central reservation, back towards the crossroads where the arena is, and drove on to Hunts Bank.
Q. What did you see when you got to Hunts Bank?
A. An awful lot of response vehicles —— police vehicles, a lot of police vehicles.
Q. Thank you.
SIR JOHN SAUNDERS: And ambulances?
A. Not that I recall, sir. There was another RV, another response vehicle, but not an ambulance.
SIR JOHN SAUNDERS: Thank you.
MS CARTWRIGHT: You describe then, I think, parking your vehicle on Hunts Bank and gathering up equipment that you had available to you in your rapid—response vehicle that you thought might be needed.

A. Yes.
Q. You detail in the witness statement that that included your high— visibility clothing?
A. Yes.
Q. Helmet?
A. Yes.
Q. Your triage cards?
A. Yes.
Q. Response bag?
A. Yes.
Q. And your drugs bag?
A. Yes.
Q. And you specifically reference that you were conscious you may need TXA?
A. Yes.
Q. You also set out that you put dressings, tourniquets and gloves in your pocket?
A. Yes.
SIR JOHN SAUNDERS: Did you say "and bloods"?
MS CARTWRIGHT: Gloves.
A. Gloves.
SIR JOHN SAUNDERS: Right, sorry.
MS CARTWRIGHT: Can I ask then, in terms of in your drugs bag, other than tranexamic acid, what other drugs did you have available to you in your drugs bag?

A. I would have had a pouch of what we call cardiac medication, so that would have been adrenaline and atropine. We would have also had drugs that would not have been useful at the scene, such as anti—seizure drugs, stuff like that, paracetamol for children, and there would have been some glucose 10% and some saline fluid.
Q. Would than the sodium chloride?
A. Yes.
MS CARTWRIGHT: I have now found the spelling for Rohde: R—O—H—D—E.
SIR JOHN SAUNDERS: Thank you.
MS CARTWRIGHT: You also describe that as you made your way then on foot with the items you'd retrieved from your response vehicle, you came across a gaggle of crews at the back of an ambulance, paramedics and EMTs, that had —— they advised you that Jim Birchenough had told them to wait there.
A. Yes.
Q. And so then can we just be exactly where that gaggle of crews were?
A. Are you aware of where the stairs are that go up to the arena?
Q. Yes.
A. It was approximately in that location there, so further

down from the actual junction in the corner. It was around there.
Q. These are the steps on Hunts Bank?
A. Yes.
SIR JOHN SAUNDERS: These are crews who come from ambulances?
A. Yes.
SIR JOHN SAUNDERS: But you didn't see any ambulances?
A. So at the bottom of Hunts Bank, where I parked, I couldn't visualise any ambulances. When I turned to walk up Hunts Bank, that's when I could see them.
SIR JOHN SAUNDERS: And a number of them? I don't want you to recount them but just...
A. I recall seeing an ambulance, one or two maybe.
SIR JOHN SAUNDERS: Before you move on, because I will forget it otherwise, I am well aware that the situation in Afghanistan is obviously entirely different to the job you're doing there, but as a matter of interest when you were working in Afghanistan, did you carry blood products with you them?
A. I worked in the role 3 facility which was the hospital at Bastion. However, the role 2 facility would carry products. So to explain -- do you want me to explain how that works?
SIR JOHN SAUNDERS: So they're paramedics who go out?

A. And a doctor on an airframe asset, so they were going out on the Chinook, and they would carry blood products with a doctor.
SIR JOHN SAUNDERS: Thank you. If I can make it clear, I accept it's an entirely different place and different way to be working.
MS CARTWRIGHT: Can I examine a little more the answer you just give to the chairman that there were one or two. Your witness statement describes you came across "a gaggle of crews at the back of an ambulance". So is one or two what you meant to indicate by a gaggle of crews.
A. Yes, there would have been at least two ambulances because if it was one I would have said a crew because that would have been two people. Again, I can't really recall the numbers. This initial statement was given some time after the event, but there was at least four people there.
Q. You go on to tell us in the witness statement that, notwithstanding those paramedics that you'd come across, and EMTs, telling you that they'd been instructed to stay there, you wanted to find someone that you describe as "someone of your own grade or more senior" to find out what you needed to do?
A. Yes.

Q. Did you explore at all with those paramedics as to why the instruction had been to remain there?
A. No.
Q. It's right, isn't it, you then went -- proceeded towards Station Approach and I think located there Mr Smith?
A. That's correct.
Q. Can you tell us then about the discussion you had at that time with Daniel Smith, please?
A. It was very brief. I can't remember the exact discussion. But it would have been something -- well, it was something along the lines of there was a patient that was on the floor, just in the doorway on the right-hand side, and it was along the lines of: can you take a look at that patient and can you help with some triaging? But I can't remember the exact conversation.
SIR JOHN SAUNDERS: Did you know him beforehand, Dan Smith?
A. Yes.
SIR JOHN SAUNDERS: Thank you.
MS CARTWRIGHT: Did you inform Daniel Smith that you had directed one of the ambulance resources to leave the scene, so he was aware that that had taken place before you'd arrived at Victoria Station?
A. No, I did not.
Q. Were you clear as to what role Daniel Smith was performing that night when you approached him?

A. My assumption, because Dan Smith was obviously a consultant paramedic at the time, was that he was commanding in some operational capability.
Q. You've described that you were initially asked to triage patients and then there came a time when you were specifically instructed to assist John Atkinson, so do more than simply triage. But can I, before leaving the issue of ambulances, just ask you if you can assist us at all through what you learned that night during your time assisting casualties? As well as ambulance A534 that you told us about that you indicated should go to hospital with the patient, there are two other ambulances, A394 and A499, that are recorded as on scene and leaving, not with any of the P1 or P2 patients that we've been provided details of.
So ambulance A394 was on scene at 23.11 and left at 23.39. Ambulance A499 arrived on scene at 23.36 and left at 00.11. So can you assist us at all how it was that ambulances were coming but not going with the P1 and P2 patients we're aware of?
A. No, I can't answer that question.
Q. Then can I ask you a question about Paramedic Darch because he is one of the paramedics you reference in your witness statement at a much later time in the evening where you give some directions to...

Certainly when one looks at the ambulance that Paramedic Darch was in, ambulance 428, that ambulance is recorded as at the scene initially at 23.38 and then left the scene at 23.50, and then is recorded as being at the rendezvous point at 23.51. So were you aware there was a further ambulance that had come to the arena but had been dispatched away back to the rendezvous point?
A. No, and I think the reference to Graham Darch, the paramedic in this statement, is actually some time further down.
Q. It is.
A. A lot later on. So in the initial contact I do not recall seeing Graham at all —— the initial —— when I first arrived.
Q. Thank you. To be absolutely clear, your witness statement makes clear it's at a much later time when Paramedic Darch returns to the arena from the rendezvous point.
But certainly during the discussions you had with Paramedic Darch that evening, you had no knowledge about him having been at the scene at a much earlier time?
A. None at all.
Q. In terms of Mr Smith's direction to assist with triage, you identify two other paramedics who were performing

triage that the inquiry have heard evidence from and have heard that they were triage officers, Paramedic Mottram and Paramedic Hedges. So is your understanding that you were being tasked by Dan Smith to be a third triage officer?
A. My understanding, because it was very direct —— as I've mentioned already, there was a patient on the right—hand side and he'd directed: first, have a look at that patient and do a triage for me. I was not, from my understanding, to go anywhere further forward to do any further triaging as I was aware there was already people triaging.
Q. So when you're indicating a patient to the right, is that the patient that was just through the doors of the station and to the right of the doors sat on the ground?
A. That's right, a female patient.
Q. We have in fact heard evidence from that patient, but I'm going to take care in not identifying that patient at this stage.
You indicate that Mr Smith told you to do a triage. So had it been identified that there were patients in the casualty clearing station at that time that had not undergone a triage?
A. It wasn't clearly —— it wasn't specifically said.

I guess my understanding was that there probably would be people there that have brought themselves down that hadn't been triaged. It was quite a large concourse area with multiple access and egress points, so I would imagine it would have been difficult to triage everybody.
SIR JOHN SAUNDERS: We've heard that triage isn't something that necessarily happens once, but the way we would know whether this particular patient had been triaged before is if there was a triage card ——
A. A smart card.
SIR JOHN SAUNDERS: —— a smart card on her. Was there?
A. No.
SIR JOHN SAUNDERS: Thank you.
MS CARTWRIGHT: We know that the triage cards were only provided to Patrick Ennis, from evidence that's been given, I think at 23.17. So certainly all of the patients that were in the casualty clearing station up to that time would not have had triage cards on them?
A. I would assume so. I wasn't aware that Paddy didn't get triage cards until 23.17.
SIR JOHN SAUNDERS: Sorry, is that necessarily true?
MS CARTWRIGHT: That's the information that ——
SIR JOHN SAUNDERS: Were there no people downstairs before that time?

MS CARTWRIGHT: Certainly, sir, there were no triage cards in the City Room, so they would not have had a P1 or P2 applied to them from the City Room.
SIR JOHN SAUNDERS: It couldn't have been ——
MS CARTWRIGHT: Whether or not, once they'd arrived in the casualty clearing station —— then that had taken place after their arrival.
SIR JOHN SAUNDERS: That's what I was querying. So whether we can actually say that before that time there would have been ——
MS CARTWRIGHT: Certainly before that time there would have been no one that had come from the City Room that had come down with a triage card on them.
SIR JOHN SAUNDERS: No, absolutely, but they could have been triaged once they got down?
MS CARTWRIGHT: Absolutely. And that's when —— we can see from the footage when the P1 and P2 cards are applied to them.
But can I ask you then, in terms of around this time when we've got 13 patients that have come from the City Room, none of whom have had triage cards applied to them, did you ascertain at any point from Mr Smith that it had been identified that none of those patients in the early phase had come down from the City Room having had a P1 or P2 card applied to them?

A. That wasn't something that I considered at the time.
Q. But certainly your first direction from Mr Smith was to go and triage the female patient that was to the right of the doors, just through?
A. That's correct, yes.
Q. You tell us that at some point after treating that patient, you lost all of your equipment. Can you tell us about that, please?
A. So the scene became quite -- when I initially arrived there wasn't many people in terms of crews there and I'd taken quite a large amount of equipment with me: response bag, defib, drugs bag. I had placed it down and at some point during the evening, whether that kit was moved by somebody else, distributed somewhere else, I don't know, but I lost sight of some of my equipment.
Q. So can we just be clear then, so at the time you left this patient to go and assist John, and we have you captured on the CCTV at 23.24.48 moving towards John Atkinson, what medical equipment and drugs did you still have access to?
A. In my pocket, as detailed previously, I had tourniquets, but I had no drugs at that time, no cannulation equipment.
Q. Did you still have access to any haemostatic dressings?
A. I would have had blast dressings, but they're not

necessarily haemostatic, so they don't have the agents on them.
Q. You'd have had blast dressings and tourniquets?
A. That's correct.
Q. How many tourniquets would you have had access to?
A. In terms of spare on my RV, there was only one spare and that would have been in my pocket. The other tourniquet would have been in my response bag.
Q. So, sorry, can I be clear, so when you go to John Atkinson did you have then the one in your response bag still and one in your pocket?
A. There would have been, yes.
SIR JOHN SAUNDERS: But you hadn't got your response bag?
A. I hadn't got my response bag.
SIR JOHN SAUNDERS: So you only actually had one?
MS CARTWRIGHT: That's why I want to be clear, because I know the drugs bag has gone. But the response bag is something different to the drugs bag, isn't it?
A. It is. So the response bag is the large light green and yellow bag. The drugs bag is a small square --
MS CARTWRIGHT: Thank you.
SIR JOHN SAUNDERS: And as I understand it, you had lost that too?
A. The green/yellow bag, it was somewhere on the side. Whether it had been moved, sir, I don't know.

SIR JOHN SAUNDERS: My note is he said: I lost all my equipment after triaging the patient, the first one.
MS CARTWRIGHT: So when you go to John Atkinson at -- after 23.24.48, you still had access to the one tourniquet in your pocket and access to blast dressings?
A. That's correct, yes.
Q. Thank you.
Can you assist then in terms of what Daniel Smith said to you when effectively changing his instruction to not just do triage but to assist John Atkinson, please?
A. So again I can't recall the specifics of the conversation. I recall that there was quite some commotion behind me more than what you would imagine was standard in that situation. I recall Dan instructing people to put Mr Atkinson down and then Dan just directing me, "Phil, can you come over here", or words to that effect, but I can't remember the specifics of what Dan would have been instructing me to do.
Q. Thank you. Certainly it's right, isn't it, that where Mr Atkinson was placed down was very, very proximate to the female patient you had been assessing just in the door?
A. Yes.
Q. And also I think very close to what was identified later as her sister that was sat very nearby?

A. Yes.
Q. So can I ask, in terms of when one looks at the stills or the footage from that time, it does seem that you have three patients almost on top of one another. Was there any issue during the time you were treating John or those other two patients about where the patients had been placed in terms of the ability to provide treatment because of just so many people working in such a small area?
A. That in itself brings issues -- yes, the situation in the area was ever so confusing, very chaotic. People were either self-presenting because they could see there was people being put down or they were actually just literally put there and it became a very difficult situation to manage due to the sheer numbers of people that were there.
Q. But certainly in terms of where John Atkinson was placed, your evidence is that was at the specific direction of Mr Smith to put Mr Atkinson down there?
A. Yes.
Q. In terms of Mr Atkinson at that time --
SIR JOHN SAUNDERS: Sorry, I just want to understand that clearly. Is Dan Smith saying, when John Atkinson is coming down as we have heard, "Put him down"? Or is he saying, "Put him down in that location there"? Is he

choosing where John Atkinson is put down or was that the people who were carrying him who made that choice?
A. I have no recollection to that, sir.
SIR JOHN SAUNDERS: Okay, thank you.
MS CARTWRIGHT: In terms of, as you approach John, it's clear, isn't it, that he has very little, if no, clothing on him at that point in time?
A. Yes.
Q. And in fact, really it's just the top of his T-shirt that had been cut away that just still sat over his shoulders?
A. Yes.
Q. And you tell us in your witness statement about concerns you had at the time from your knowledge, but also experience when being a reservist, about people being on the floor and hypothermia?
A. Yes.
Q. Can you tell us about that, please?
A. With trauma, obviously blood loss is the biggest cause of death within trauma, but that gets -- that increases with hypothermia, so the traumatic patient is classed as hypothermic that the normal body temperature of you and I. So our normal body temperature may between 36 or 37. A patient that's had a significant trauma and blood loss at 36 we would consider that patient is hypothermic.

With the hypothermia, there's something that's called the Lethal Triad of Death from Trauma and it's three aspects of that that increase each other's -- a negative feedback loop and make the chances of recovery even slimmer.
The first one is hypothermia. With the patient being -- well, it starts with being hypovolaemic or hypoperfused, so no perfusion, very little circulating volume. With that, a patient rapidly becomes hypothermic because they don't have the warm oxygenated blood to circulate around the body to keep their body temperature up. That then can affect the clotting agents within the body because if the body's too cold, some of the enzymes that we need to clot will not clot sufficiently, so we would continue to bleed, if you like.
That then leads to an aerobic response from the body. The heart starts to beat a lot quicker, we start to breathe a lot quicker, and we get then a release of aerobic acids and that then drops our pH and we become acidotic, and that then also affects the body and it affects the myocardial muscle.
So that's the -- the hypothermia's one thing but with the three, if you like, they all collectively come to form this Trauma Triad of Death, and with trauma

patients it is something that I am quite aware of.
Q. Thank you. You set out that:
"People were on the floor and I was conscious that we needed to get them moved as quickly as possible as hypothermia can be the second biggest killer after blood loss in trauma patients."
A. Yes.
Q. So in terms of where John Atkinson had been placed down, you'd agree that he is already at risk because of the trauma he had sustained --
A. Yes.
Q. -- which you, I think it is clear, had identified on a visual viewing of John Atkinson?
A. Yes.
Q. That he did not have the assistance of clothing or blankets at that time?
A. Correct.
Q. But also he has been placed down directly in the doorway of the station at a time now after 23.24. So whilst it had been warm in the day, do you agree it was cold in that doorway area?
A. Yes, it was.
Q. So where John Atkinson was placed down effectively put his body under further stresses as a result of the lack of clothing, but also the location in the doorway of

a train station?
A. It possibly had a contributing factor, yes.
Q. So in reality, his body would have just had to work that much harder to try and counteract the effects of the hypothermia?
A. And everything else that came -- yes.
SIR JOHN SAUNDERS: Can I just -- obviously you've had a lot of experience as we have gathered. Would other paramedics have the same sort of knowledge and be as aware of the risks of hypothermia as you are?
A. I can't answer for other paramedics, but obviously the training I received from the military perspective is a lot different from the training that a civilian paramedic would receive, especially associated around trauma. The demographic that I deal with in the military is predominantly young, active people, and their injuries are always traumatic. So we probably spend, within the military, a greater proportion of the time training for traumatic injuries rather than medical emergencies.
In civilian practice, it's flipped on its head and the demographic that we deal with in the civilian life is a lot different and a lot more of our patients are more medical emergencies, chronic medical emergencies that haven't been dealt with and so --

SIR JOHN SAUNDERS: You have a lot more experience, but that's not saying that others don't have some training for these sort of injuries?
A. We receive some training, but it probably wouldn't have been maybe to the level maybe that I received in the military.
SIR JOHN SAUNDERS: Thank you very much.
MS CARTWRIGHT: But in terms of the triad triangle that you've described, we've heard some evidence earlier on, last week, from a trainee paramedic, Mr Billington. So would it be something that was routinely trained to trainee paramedics?
A. If I recall when I was at Edge Hill University we did not touch the Trauma Triad of Death as a student paramedic.
Q. You are with John Atkinson, I think, for 5 minutes initially. I think it's right, isn't it, that you then cause Paramedic Ruffles and EMT Worrall then to assist John because you didn't have the availability of the equipment you'd brought with you?
A. Yes, that's right.
Q. Can we deal with the 5 minutes that you were with John and deal with the description that you gave on a first capture of John as he appeared in the casualty clearing station? He was conscious and breathing?

A. Yes.
Q. But your description of how John appeared was his appearance was "as waxy as hell"?
A. Yes.
Q. So could you describe what you meant by "waxy as hell"?
A. Pale, clammy, the absence of any circulating volume at all. If you think of Madame Tussauds, before they put the make-up on the dolls that they have done, that's the colour that John was.
Q. In terms of you as a paramedic with your medical training, what does that paleness indicate to you on a visual inspection?
A. A massive blood loss or circulating volume loss.
SIR JOHN SAUNDERS: Are they the same thing?
A. Potentially not, sir. With burns patients we lose fluid through plasma through the skin rather than just blood.
SIR JOHN SAUNDERS: But in terms of what we are dealing with it is the same thing?
A. My initial reaction was that he's lost an awful lot of blood.
MS CARTWRIGHT: Now, clamminess in a patient is a significant sign for a paramedic also, isn't it?
A. Yes, cold and clammy.
Q. So what does the clamminess also indicate that's going on for the patient?

A. We've had some exertion at some point, some sweating maybe, and that the body has been trying to work hard.
Q. You indicate that he was pretty much naked, which was a point we've already addressed together, and he had makeshift tourniquets on his lower limbs. Could you just describe what you saw on John's legs at that time?
A. When I do a rapid assessment, obviously I'm looking for the catastrophic haemorrhage, so I'm looking up and down John, and I am drawn immediately to his lower limbs because there is some bloodstaining on his lower limbs, so he is not actively bleeding, but it's bloodstaining, so it's drawn me initially, immediately there.
I can see at the top of John's legs bilaterally there was multiple -- what I would suggest were fragmentation injuries, so fragments of the bomb had obviously penetrated John there.
And then above them, so proximal to them, were two makeshift tourniquets. I think ones with a T-shirt, and another was a belt, I think.
Q. Do you recall that the belt was being held by a member of the public that had come down with John Atkinson?
A. There was a member of the public with him. I don't specifically recall from my first statement that there was something that stayed with John. It wasn't until I had the opportunity to see the stills that obviously

that memory then was returned.
Q. You recall then a belt and a T-shirt?
A. I think it may have been a T shirt, yes.
Q. We know that Paramedic Ruffles goes on to describe what he thought was a CAT tourniquet. Did you see an item that was wrapped around both of John's legs at that time other than a belt?
A. No.
Q. But would it not be very important to be absolutely clear what was on the patient at that time to understand the extent to which a tourniquet is being effective on a patient?
A. What's important to me at that time is to make sure that he's not bleeding any more and both of those tourniquets were working. There was no active haemorrhage from either leg when John was placed down at the foyer with me. And at that time when I'm doing a rapid assessment all I want to assume is that there is no catastrophic haemorrhage, whatever's stopping that catastrophic haemorrhage is doing its job, and I was happy with that.
Q. There came a time whilst you were still with John where it's captured that at 23.28.41, Mr Blake, who had been holding the belt tourniquet for almost an hour, was no longer holding the belt.
A. Mm-hm.

Q. So you've already indicated you don't recall Mr Blake. So would it follow that you had not identified that the pressure was no longer being applied to the belt by Mr Blake?
A. I would have identified that there was blood loss if that was the case, and there was no further blood loss.
SIR JOHN SAUNDERS: I'm not sure we asked Mr Blake, but it does depend a bit how the belt is secured. It could be secured without someone actively to keep it tight as well?
A. Absolutely, yes.
MS CARTWRIGHT: We know that you've told us already that you had a tourniquet in your pocket. So did you see any need for you to apply that tourniquet to John at that time?
A. No, because the tourniquets that were on John were working.
Q. I'm going to ask, I know you indicate you don't recall what I have described as the tourniquets over John's legs, but it follows then that you wouldn't have identified what it was and that it was not a CAT tourniquet?
A. It definitely wasn't a CAT tourniquet. They're quite distinctive, they're orange -- in civilian practice, CAT tourniquets are orange, so we would have noticed that

straightaway.
Q. Thank you.
You have indicated that you had identified that there had been a massive blood loss and I think you tell us later on in your statement that TXA for another patient took a period of 10 minutes to administer. So what consideration did you give to the urgent need for John to receive TXA?
A. There would have been -- I don't recall specifically thinking, "John needs the TXA now". I recall thinking that John needs blood products, but I had to do a complete assessment of John. I also wouldn't have had the equipment with me, so although I packed it with my drugs bag, it was wherever it was to the side, and I'd lost sight of it, so I was unable to gain access to give him TXA anyway.
Q. I appreciate you indicate that you were unable to give TXA, but would there not have been just as much need for John as there was for the patient you then next go to, who gets TXA, for John urgently to receive a dose of TXA?
A. There definitely would have been a need.
Q. It doesn't appear that any request was made for TXA to be provided or obtained to enable it to be administered to John during this 5-minute period when you're doing

your assessment of him.
A. That's correct.
Q. Would you accept, Mr Keogh, that that should have taken place for John?
A. I would accept that.
SIR JOHN SAUNDERS: Would you accept that you should have given the instruction to someone who maybe had some TXA or access to it or to go and fetch it?
A. I think the consideration --
SIR JOHN SAUNDERS: I know there is a lot going on (overspeaking).
A. Obviously it isn't as simple as pulling out a vial of TXA and just popping it into somebody. That vial need to be checked and broken, it then needs to be drawn up into a syringe, we need to then gain IV access. To be able to administer it, it has to be administered IV and then it has to administered slowly over a period of 10 minutes.
So within that five-minute period, and while also completing a rapid assessment to ascertain that there's no further injuries that need immediate attention, then to deliver TXA at the same time is possibly logistically not possible due to the fact that we would have to gain IV access, draw the drug up separately, flush it, and then start administering the drug.

So within the 5 minutes -- I appreciate it's a long time but there's an awful lot going on in that five-minute period that would have made it a consideration that wasn't really at the forefront of my mind at the time because I wanted to ascertain there were no further injuries that could have been as potentially life-threatening to John. Because at this point I've still not assessed his chest properly to see if there's any injuries to his chest that are going to cause any problems as well.
MS CARTWRIGHT: We will come on to the other things you observed at that time in a moment.
So can you help us with this, just dealing with the TXA and the evidence you have just given about the need to administer it over a 10-minute period? We know from the PRF form that was completed that at 23.40 it's recorded that John was given TXA. But certainly he is not afforded a 10-minute period before he goes into cardiac arrest at 23.47 and then there's the movement to the ambulance. So can you just assist us as to whether, when the TXA was finally commenced to be administered, whether you saw that John had had a full therapeutic dose of the TXA at that time?
A. I wasn't aware. I have not seen sight of the PRF because at that point John was being looked after by

Mike Ruffles, so I couldn't answer that question for you.
Q. Can you assist us in understanding how then over the 10−minute period what happens practically when you administer TXA?
A. So if we administer it too fast, it can have an absolute −− have a contra effect of dropping the patient's blood pressure, which is what we do not want to do. So the recommendation of the manufacturer is it's administered slowly over a period of 10 minutes. That then is literally to reduce the potential risk of dropping the blood pressure and making the patient's condition worse.
Q. So again in terms of you would draw up the TXA into a syringe −−
A. Yes. The TXA is presented in two separate glass vials of 5ml each and we deliver 10ml to the patient, if you like. So each glass vial is broken, it is drawn up into a syringe, and then that syringe then holds 10ml, and the TXA is administered slowly then.
Q. Through what route?
A. IV.
SIR JOHN SAUNDERS: When you say slowly, does that mean you put some in and then have a gap and put some more in?
A. Ideally, yes, so a mil a minute. We don't have the

benefit of syringe drivers in the Ambulance Service, which would do it for us, if you like, so we could just programme it to do it over that period, so it has to be a manual operation.

And in my −− not with John specifically, because I didn't administer TXA, but my personal experience of administering TXA in a traumatic injured patient is your bandwidth is doing something else at the same time and you're trying to do a number of activities as well as deliver the TXA so it can become a time−consuming −− depending on the other injuries of the patient. So it can become difficult.
MS CARTWRIGHT: So I appreciate you didn't administer the TXA, but a 10mg dose of TXA, that would need to be administered over a 10−minute period in a careful way because otherwise it can also have the contraindication effect of lowering even further the patient's blood pressure?
A. The risk of a rapid infusion is, yes, it will lower blood pressure.
Q. Then going back to John's presentation when you first came upon him, John also said to you, "Don't let me die"?
A. Yes.
Q. Again, the significance of a patient that has a fear or

a sense of impending doom, that is also significant for a patient, isn't it?
A. It is.
Q. What can that indicate?
A. If a patient feels −− the theory behind it, because obviously most patients have an impending sense of doom if they then do go to pass, we don't −− we might not be able to gather the evidence off them. The impending sense of doom is a −− what we would suggest is a telltale sign that we are −− you know, this patient is not very well, they're very poorly and they're at great risk of dying.
Q. So when John said to you, "Don't let me die", in conjunction with the observation of "waxy as hell" and a consideration that he'd had a massive blood loss, did you also see that as a further sign of concern when he said that to you, "Don't let me die"?
A. I already had signs −− I already had concerns for John prior to him saying that. The look −− the presentation that I had for John when I saw him, and again with my previous experience, I already had grave concerns for John's outcome.
Q. You tried to get a pulse oximeter on John to measure his heart rate. Is that simply the device that you would put over a patient's finger −−

A. That's correct.
Q. −− that gives you respiration rate but also the oxygenation in the blood?
A. Yes. It gives us heart rate and saturation.
Q. It's right, isn't it, that there was no reading that was possible to be gained through the pulse oximeter?
A. That's correct.
Q. And that gave you an indication that he had no circulating volume due to his blood loss?
A. I didn't expect it to come back with a reading because peripherally John was what I would suggest was shutting down, so the body in an attempt to maintain hypostasis some type of normality, had took the blood that it needed −− had took the limited blood volume it had left and had brought it centrally, so shutting down peripheral organs, arms, legs, just not needing to be oxygenated.

So when I put the sates probe on, that was −− I was not expecting a return, but I did that whilst I was carrying out some further observations in the hope that maybe I would get a return, but I wasn't surprised when it didn't.
Q. You had identified that on just a straight visual identification that John was a P1 patient?
A. Yes.

Q. Would that be applying the categorisation of a catastrophic bleed?
A. Yes, that's correct.
Q. So that on the algorithm straightaway gets John as a P1 patient, that being a patient in need of immediate life-saving treatment.
A. (Inaudible) intervention.
Q. I think it's right from your other observations at that time it was clear that John Atkinson needed an urgent dispatch to hospital, didn't he?
A. Yes.
Q. Because what John Atkinson needed was the circulating volume to be replaced?
A. Correct.
Q. And there was no ability in the casualty clearing station for that to be corrected, was there?
A. None at all.
Q. It would also have been within your mind, would it be fair to say, Mr Keogh, that a patient who is hypovolaemic, that has had a significant loss of blood, is at very high risk of going into cardiac arrest?
A. That's correct.
Q. And so as well as needing urgent hospitalisation to replace the blood, there is a window of opportunity before the patient crashes into cardiac arrest?

A. Correct.
Q. So that was a further matter that required John's urgent dispatch to hospital?
A. Yes.
Q. So with your knowledge and experience and the assessment that you had undertaken of John shortly after 23.24, and during the 5 minutes, what did you do to try and facilitate his urgent dispatch to hospital?
A. It can be seen obviously that I'm trying to gain attention so I can get a crew to John. On one of the stills, I'm not too sure which one it is, I'm seen turning back to get somebody's attention so I can get a crew.
John is a P1. Nothing I can do at this time is going to help John: I need a crew with him so we can start commencing the treatment.
Q. When we see that John did not get dispatched to hospital -- and I appreciate that you after your 5 minutes left John and left him with Paramedic Ruffles and EMT Worrall, but were you communicating from your own assessment that John needed urgently to go to hospital?
A. So when Mike Ruffles came to me, and I would have given a handover, again I can't remember the specifics of what I would have said to Mike, but I would imagine it would

have been along the lines of, "This patient is a P1". With that alone, that's an indication that we need to, as quickly as practically and logistically possible, move the patient.
Q. In terms of conversations with Mr Smith, because you've already told us there had been some paramedics that you had seen that had been directed by Mr Birchenough to stay where they were, but also you had yourself dispatched an ambulance with another patient. Did you speak to Mr Smith about the urgency of getting this P1 patient, John Atkinson, on the next available ambulance?
A. I don't recall specifically, although I believe there's some still footage that shows Mr Smith coming over to have a conversation with me. I don't recall what that conversation was at this time, but the sheer -- that this is a P1 patient would be enough, we shouldn't -- we don't need to have that further conversation.
If we triage somebody as a P1, we know that patient is of a high priority that they need to be getting definitive medical care.
Q. John's dispatch to hospital was not timely after the 5 minutes you spent with him. In fact, there's a further half an hour that passes before John eventually is on the ambulance that's reversing down Station Approach. Would you agree that a further half

an hour delay for John after you had made your assessment that John urgently needed to go to hospital was inadequate for John?
A. I do agree.
Q. And would it also be a fair analysis that as the minutes ticked by for John and he did not get the assistance of medication and replacement blood products, it reduced his chances of survival?
A. Yes.
Q. You've already indicated about gesturing to ambulances and a conversation with Mr Smith and so at 23.26.57, you are captured gesturing towards the ambulances and, at 23.26.51, catching the attention of Mr Smith and a brief conversation taking place. I think you gave evidence a moment ago that you can't recall the nature of that conversation, but would it not be obvious that what you were saying at that time, bearing in mind you were with John, was that John urgently needed to go to hospital?
SIR JOHN SAUNDERS: I'm not sure he can answer that. If I think that's a proper inference to be drawn, then I will do it. I'm not sure it's a terribly helpful question for him to answer really.
MS CARTWRIGHT: Then I will move on, sir.
Can we just be clear then, when you hand over John

to Paramedic Ruffles and EMT Worrall, would you have said anything specifically about what you'd already done and your clinical observations of John?
A. Again, I can't remember specifics of the conversation, but it would have been, I would imagine or I would assume it was along the lines of: this is John, he's a P1 category patient, he's got bilateral tourniquets fitted on his lower limbs, I can't find a radial —— I may have mentioned the assessment I had done on John to rule out any further injuries, but I can't recall specifics.
Q. Then when you just indicated in that answer, "I can't find a radial", can you just be clear about where the radial pulse is?
A. It's the pulse that we deem the furthest away or one of the furthest away from the heart and the radial pulse is on our wrists.
Q. Thank you.
Now, you then leave John with Ruffles and Worrall and I think are then treating a patient in very close proximity to John?
A. Yes.
Q. And just so we are clear, the rationale for you moving away from John is because you do not have the kit or drugs to provide any further assistance to him?

A. And there was other patient that is also needed assistance and maybe at that time we didn't know what they were categorised as.
Q. Thank you. So did you think that after you'd left John that he was likely to receive any form of medication that you'd not given him, such as the TXA?
A. I trust my colleagues, so I would assume that they would do the same.
Q. And would you have thought John would go on to receive some sodium chloride?
A. Maybe a small volume, but putting sodium chloride into a hypovolaemic patient that's got or had massive blood loss and potentially isn't clotting will just result in diluting what clotting agents we have in the body and could further impeded any further clotting anyway.
Q. Thank you.
Can I ask then as well, just to complete the drugs that we know are available in a drugs bag, if you'd had access to drugs during the 5—minute you were with John, would adrenaline or atropine have been clinically indicated?
A. Adrenaline definitely not because adrenaline is only clinically indicated for cardiac arrest and John was conscious and alert throughout.
Q. Yes.

A. Atropine —— I couldn't find a radial, he had a carotid, I don't know whether it was being brady. But potentially —— but again I wouldn't have been able to gain access, IV access, and it's another time—consuming drug to give. Same process again logistically where we have to get access, we have to draw the drug up, and then deliver the drug.
Q. When you say you wouldn't have been able to get access, is that because John's circulating volume is so low due to the massive blood loss he has suffered?
A. Potentially that and also I didn't have any cannulation equipment.
Q. Thank you.
We can see from the analysis of the CCTV and body—worn footage that there are occasions when you are seen to be speaking to the triage officers, so I think there's occasions when you are captured with Hedges and Mottram. Can you recall if there was any specific conversation about John and his need to go to hospital with those two triage officers?
A. Up until seeing this still footage I didn't recall actually seeing them at all so I do not recall any conversation.
Q. And can you assist us then, before you then go back to assist John at a time when he has deteriorated still

further, were you observing at all John during the time when you were away from him or were you focusing on the other patients nearby that you were helping at that time?
A. I would have been aware that John was still there maybe, but more focusing on the task at hand, so whoever I was dealing with at that time.
Q. It's right, isn't it, that at 23.45 and thereafter, you go back to assist John?
A. Yes.
Q. And can you please tell us about what you saw of John at that time, please?
A. So if I recall, I'd gone back to assist to get John on to the stretcher —— he was on the scoop at that time, I think —— and to lift him on to the stretcher.
He had —— in terms of treatment, I think there was O2 on there, he had some monitoring equipment on, so I do recall seeing some monitoring equipment around, such as the defib, which would monitor his heart rate and things like that. He was still very pale. There was access gained. I think I recall seeing IV access in his ACF.
Q. Just pausing there, is ACF being his antecubital fossa?
A. Yes.
Q. Can you just indicate where that is, please?
A. Yes, in the crease of your elbow would be the best

indication of it.
Q. When you came upon John at this time and —— were you surprised to still see John in the casualty clearing station and not having been moved on to hospital?
A. At that time, I actually lost track of time if that makes sense.
Q. Okay.
A. So because of the flurry of activity that was going on, my concept of time had gone. So still seeing John there was a bit "Oh" but I had no concept of how long he'd been there.
Q. Can I ask, was it a surprise at that time to also see that John was still in his naked state, effectively, not having been assisted with blankets or coverings to try and combat the effects of hypothermia?
A. Yes.
Q. Because would it be fair to say that that's the most basic of treatment that could have been provided to John in the doorway of the station?
A. Secondary to comfort, yes.
Q. Yes.
SIR JOHN SAUNDERS: These other patients that you saw in between, were they also P1s, can you remember?
A. Not that I recall, sir, no.
SIR JOHN SAUNDERS: But there were other P1 patients around?

A. Definitely would have been, yes.
MS CARTWRIGHT: The first patient that the witness described, she was a P2 patient, and then there was some evidence given by the other patient that she had —— was re—categorised to a P1.
SIR JOHN SAUNDERS: Okay.
Do you categorise within the P1s whose case is most urgent?
A. So once we've done the initial categorisation or triage we then go on to the SORT, if you like, which is another algorithm we should use and do use within major incidents. It's a little bit more in—depth in terms of allowing us to detail the potential risk to these patients. So they would be triaged and then if we've got only one ambulance but we have four P1s, we would look at the SORT.
SIR JOHN SAUNDERS: Was a SORT done on John Atkinson?
A. Not that I recall, sir.
SIR JOHN SAUNDERS: Thank you.
MS CARTWRIGHT: Do you recall that when you returned to John, that Helen Mottram specifically was overheard directing that the ambulances should be used to take John to hospital?
A. I don't recall that conversation.
Q. I think it's right, isn't it, after that direction was

given, John in your presence then did go and crashed into cardiac arrest?
A. Yes.
Q. And you then, I think, commenced chest compressions to John?
A. That's correct.
Q. Can you then, please, just describe what was going on between you and Paramedic Ruffles and EMT Worrall during that period of time while John first goes into the cardiac arrest and then the process of taking him to the ambulance?
A. John was already on the stretcher and literally I had —— on recollection he was ready be wheeled out to the ambulance when he arrested, so I immediately started to perform chest compressions. I believe Mike and Worrell Laura picked up some of the equipment and then we began to wheel John out to the ambulance.
There was an awful lot of obstacles on the way and I do state that in my statement and I was surprised that the ambulance we were going to was the furthest ambulance away.
Q. So when you say you were surprised it was the furthest one away, because would it be fair to say it would have been far better if it was the first ambulance outside the station that John was put on?

A. Yes.
Q. Had you had any experience at that time about how the system of getting the patients on to ambulances in a way quickly (sic) was being operated?
A. My environmental awareness at that time was —— of that actual task was none.
Q. You describe that John is then pushed along Station Approach, where there were a lot of obstacles on the way?
A. Yes. The bollards were up. There was also —— there were some crates of —— I don't know if they were a delivery to a shop or something, but they were also on the pavement, but there was an awful lot of obstacles.
And also as we are pushing —— well, I'm not pushing because I'm doing chest compressions, but the team are pushing John as we can and as we go. Obviously, they've got their equipment on their back as well and that in itself causes an obstacle because it limits their ability to push and pull effectively.
Q. Is it correct that John was then taken to the ambulance at the very back of Station Approach, so the furthest ambulance away?
A. Yes.
Q. Did you observe anything at that time around the administration of TXA to John as you were making your

way to the ambulance?
A. I'm doing chest compressions and the crew are pushing and pulling. There's nobody else to deliver —— ideally in all cardiac arrests we'd love to have a team of individuals so that we can horizontally resus our patients. But in this situation, there was three of us and then a doctor came. I remember the doctor coming. There's no chance that we could have administered TXA whilst on the move.
Q. Thank you.
SIR JOHN SAUNDERS: How difficult is it doing chest compressions when you're on the move?
A. Extremely, and actually the effectiveness is limited as well due to the fact that if there's too many moving parts, the effectiveness of chest compressions is always questionable. Doing it on the move increases the lack of effectiveness.
MS CARTWRIGHT: Can you maybe just assist us —— you have told us earlier about a defibrillator and we know I think that John is in pulseless electrical activity. From your experience, would there have been any indication for John receiving some form of shock from the defibrillator?
A. None at all.
Q. Can you perhaps expand as to why that might be the case

for John?
A. So, first of all —— there's only —— in terms of shock, what we call shockable rhythms, when the heart goes into cardiac arrest it will go into a number of rhythms. And if it's shockable then it basically means the heart is in a rhythm that we can shock it back into some normality. So the heart may have stopped beating but the actual muscle itself is still in some type of contraction. So it's either fluttering away, if you like, or there's some —— there's no regular contraction of the heart. So shocking the heart slowly or immediately stops it with the idea that the muscle memory of the myocardium will jump back into place and get the heart eating again.
If the patient is in asystole, which is the flatline, or PEA, pulseless electrical activity, there's no electrical conductivity of the heart, so there is no benefit in actually shocking that heart.
Q. Thank you.
I omitted to ask you earlier: when you had conducted your initial 5—minute examination of John, had you made any observations as to whether or not there was any evidence of a pneumothorax?
A. My assessment of all the patients, as I said before, is a CABCD approach on a trauma and it's done —— and again

I mentioned before it's done on a horizontal plane so you are doing more than one thing. Now, I did a chest examination. There is an image where you can see me actually with my hands on John's chest like this (indicating) in this part of the chest examination. We use a tool called RISE N FALL to do that and that allows us then to elimit —— eliminate the presence of a tension pneumothorax or a haemothorax. I did that and with that finding I suspected there was no chest injury.
Q. Thank you. So when you observed the rise and fall, would it be fair to say you experienced that John had equal rise and fall?
A. Yes. So the term RISE N Fall, actually it's an acronym. Would you like me to go through that to explain how it's done?
Q. Please, just in terms of how that allows you to then rule out that there's presence of a pneumothorax?
A. The RISE N FALL is something we're trained for in the military. The civilian practice have a different approach but it does the same job.
The RISE stands for —— the R is the rate, so we assess John's rate of respiration. I is injury, so visually examine the body: front, (inaudible) sides and back. On this occasion I was unable to roll John on my own, so I couldn't examine his back.

S is symmetry, so that is the image where you see me with my hands on John's chest. I am feeling for symmetrical breathing or paradoxical breathing which may suggest the presence of an injury to the chest.
And then we look at John's efforts, so that's the RISE aspect of it.
We then look at N, which is where we actually concentrate our examination around the neck. We're looking at the trachea and we are looking to see whether we've got any deviation of the trachea, left or right, which may indicate we've got a tension.
I am looking for any wounds on the neck, any cervical emphysema on the neck. I'm listening to John talking and, you know, he's talking fine. I'm listening for that, making sure the larynx is fine and that enables me to reconfirm that I have not got any issues with John's airway.
I am also looking for distended neck veins and, with the absence of them, John's neck is fine.
I then go on the FALL aspect of the RISE N FALL assessment.
So I'm going to feel bony aspects, so again I have got my hands on John's chest, so I'm feeling ribs, sternum, I am feeling the clavicles, to make sure they're all present and in place.

I would ideally like to assess resonance, but in that environment it was difficult due to the noise. I then would ideally like to percuss or listen to John's chest. Again, due to the environment I was in I couldn't do that. And again, I would look.

Now following that chest examination, which actually seems like quite a lengthy process, we do a lot of that, as I said already, horizontally. So whilst I'm feeling for symmetry and the rise and fall of John's chest to look for equal rise and fall, I'm also feeling for bony cavities and stuff, so I am doing more than one task at a time.

After my assessment of John, although I noted that he did appear to have some small injuries to his chest, I didn't believe at that time that John had a tension pneumothorax or haemothorax.

Q. Thank you.

When then you get John into the back of the ambulance and you have told us Dr Daley had joined the group at that point, you go into the back of the ambulance with John as well, don't you?

A. I do.

Q. And I think you're in the ambulance until -- you're observed emerged at 23.57.57.

A. Yes.

Q. So you remain on the ambulance for a period of time after Dr Daley has left?

A. Yes.

Q. Can you assist us as to what took place in the back of the ambulance for John, please?

A. So there was a needle decompression of John's chest, bilaterally. Continuous chest compressions. We would also have been securing equipment before moving John. A definitive airway would have been inserted. That would have continued, really, until we was happy that we were safely ready to move.

Q. Dealing with the needle decompression, did Dr Daley consult you about the fact he was to perform a needle decompression on John?

A. On any traumatic cardiac arrest, it's suggested on the Resus Council, the UK Resus Council, that needle decompression is always a potential to do to rule out any reversible cause. So although I've examined the chest and was quite happy in my examination that at the time that I examined the chest there was no tension, that's not to say one wasn't developing.

Also when we decompress a chest --

SIR JOHN SAUNDERS: Okay, I'm really sorry, I think I understand all that and Dr Daley told us that automatically he'd do one. The actual question was

whether you discussed it or not.

A. Oh right.

SIR JOHN SAUNDERS: And I think the answer is probably no, but you're not surprised he did it because it's normal procedure?

A. Absolutely, sir, yes.

SIR JOHN SAUNDERS: I hope that's sufficient for everybody.

MS CARTWRIGHT: Thank you.

Can I ask, because Dr Daley's period of time with John is just over 2 minutes and he has given evidence that he was not aware from what he saw and what he was given that John had had a catastrophic bleed. So did you provide any information to John (sic), or anyone else in the ambulance, in addition to what would have been obvious visually that John had had a catastrophic bleed?

A. I didn't speak to the doctor at all. I would assume that -- I think on the walk to the vehicle, when I was carrying out chest compressions, that's when I first remember the doctor coming. It would be practice, if you like, to go to the head of the patient because mostly at the head is the person that's leading the resuscitation attempt. So that would be the person to take any further information from, to get a handover from, if you like. So my assumption would have been

that he would have got a handover off Mike, but I don't know if that's the case or not.

Q. But in terms of the consideration, and I hear what you have said about the Resuscitation Council and when you come across a patient in cardiac arrest, but in your mind was it clear that the cause of the cardiac arrest was the blood loss that John had sustained rather than a tension pneumothorax?

A. I suspected heavily it was due to the blood loss, but you can't rule out that there was not a tension or a cardiac tamponade.

Q. And then can I ask, plainly from the answers you have given, it was what Dr Daley decided to undertake, but it's right, isn't it, that if a patient does not have a tension pneumothorax and you perform a bilateral needle decompression, that you can, by the very act of performing that, create a pneumothorax?

A. You can, but the risks of not doing it could outweigh you actually doing it. So when somebody's in traumatic cardiac arrest, although you may assume -- and in John's case my assumption was it was due to hypovolaemic shock or blood loss, I still can't rule out without the assistance of fast scanning in the field, whether we have got a tension, a pneumothorax, or whether we've got actually got a cardiac tamponade, which can be caused by

a tension pneumothorax that is developing and preventing the heart from beating. So the process of doing a needle decompression, I think, was the right process at the time regardless of what my thinkings were because at the time of my assessment things can change.

SIR JOHN SAUNDERS: Let's just stop for a moment. I've asked that the experts instructed consider this particular point. I well recognise the expertise, if I may so, of the witness but equally, we will get, I hope, an authoritative answer which will (inaudible) prepared for. That's not a criticism of you, please don't take it that way, but it will give an overall picture of whether and in what circumstances doing the tension pneumothorax (sic) was right or wrong.

MS CARTWRIGHT: Thank you, sir.

Mr Keogh, can I ask you next then, we know that you exit the ambulance at 23.57.57. The PRF for John indicates that sodium chloride was administered to him at 23.57 and adrenaline at 23.58. Were you present when those medications were provided to John?

A. Not the adrenaline. If it was 58, I was probably gone by that point but the fluid would have been set up.

Q. And would you have assisted in the setting-up of the fluid for John?

A. I was doing chest compressions throughout. That was my

focus at that time.

SIR JOHN SAUNDERS: Was adrenaline the right thing at that time? I thought you rather said it wasn't the right thing.

A. Adrenaline?

SIR JOHN SAUNDERS: Yes.

A. So the adrenaline is because he's in cardiac arrest so that would be the drug you would have.

SIR JOHN SAUNDERS: So once that happened the adrenaline became --

A. Yes.

SIR JOHN SAUNDERS: Thank you.

MS CARTWRIGHT: So can you assist us? We know the adrenaline's been given 11 minutes after John has gone into cardiac arrest. Is there an indication as to how quickly a patient in cardiac arrest should receive adrenaline?

A. So the guidelines would suggest ideally every 3 to 5 minutes once we've got access. But again, if some of that time is taken up with the logistics of actually moving the patient, then that will extend that time, if you like. And moving a patient -- the timescales are quite lengthy: getting the patient on to the ramp of stretcher, getting them in, locking them down into the stretcher -- into the vehicle, so ideally in a static

cardiac arrest situation every 3 to 5 minutes as soon as you've got access, if you like, but in a situation that's fluid, obviously there's been a delay and I can only assume that the delay is due to the fluid situation of us moving at the time.

Q. Can I then just explore a little further we're -- not going to be able to receive EMT Worrall's evidence for reasons well-known to the inquiry, but certainly it's observed she leaves the ambulance and heads back into the casualty clearing station and is then captured heading back at 23.52.56, and she has a bag with her. You've been shown that still this morning, haven't you?

A. Yes.

Q. And are you able to identify what the bag is that EMT Worrall is returning to the ambulance with?

A. That looks like the drugs bag which would have carried the cardiac medication.

Q. So in terms of the -- any delay in provision of the adrenaline or the saline, could that just be because the drugs bag was not with the patient and not on the ambulance?

A. It's a fair assumption and it could have been.

Q. And do you remember any discussion about that once you were on the ambulance --

A. Not that I recall.

Q. -- that the drugs were not available to immediately administer to John?

A. Not that I recall.

Q. Before Dr Daley left the ambulance, do you recall, was there a discussion about whether the doctor and/or you or anyone else should be going with John to hospital?

A. Not before the doctor left, but before I left I had that discussion briefly with Mike. So as I have already alluded to earlier, ideally with a cardiac arrest we'd have as many hands as we could to manage that arrest so we could manage the compressions, the drug administration.

And obviously in the back of a moving ambulance it just creates a bit more safety so that if you are stood up doing chest compressions, the other person can be holding on to you so you're not going to fall.

I had a very brief discussion with Mike and again I can't recall exactly, but it went along the line of Mike saying something similar to, "You're needed in there, Phil, so you need to get -- go in there", so I returned back to the arena.

Q. Just following the logistical and practical difficulties of a patient in cardiac arrest in the back of an ambulance, in an ideal situation there should be two sets of hands in that ambulance assisting John; is that

correct?
A. In an ideal world, yes. If there was just one patient and we were dealing with a single cardiac arrest, then we would have as much resources as we can get, but obviously this situation wasn't just one patient, so it meant that decisions were made in the spur of the moment to try and do what we could for as many as we could.
Q. But was any attempt made to identify somebody else that could go with John and Paramedic Ruffles in the back of the ambulance?
A. No.
Q. It's right, isn't it, that when you left John and exited the ambulance, he was still in cardiac arrest?
A. I believe so, yes.
Q. Can you assist in terms of then was there agreement that the sodium chloride should be provided to John?
A. In cardiac arrest we want to cover our reversible causes. Hypovolaemia is a reversible cause. Obviously we believed that that's had a contributing factor to John in this cardiac arrest, being the traumatic nature of it. We would try and put some fluid in, so it would be a normal attempt to put some fluid in, so it would be something I would do, but I don't recall having the conversation to do it.
Q. Certainly it would seem that after John received the

sodium chloride and the adrenaline, 2 minutes later, at midnight, there was a return of spontaneous circulation for John?
A. Yes.
Q. And so on one view, plainly the medication in conjunction with the sodium chloride did assist John in being able then to breathe spontaneously on his way to hospital?
A. So for the return of spontaneous circulation, I obviously wasn't present.
Q. No.
A. I don't know whether that included breathing because return of spontaneous calculation, or ROSC as we call it, would only -- would -- potentially could only just be a return of a heartbeat and not necessarily mean that someone's breathing again. So that would have to -- you'd have to speak to Mike about that.
Q. Thank you.
In your witness statement you say this as to the period of time directly after you left John on the ambulance:
"I walked back up the front of the station with a different perspective. I had gone from thinking that we needed to triage and treat people to we need to get them off the floor and get them moved. I told

Jim Birchenough that we needed to get the patients off the floor."
So in identifying that as a thought process as you left John, can you just expand a little more about what you mean by that?
A. So to refer back to what I said earlier with the hypothermia and the risk of that, also if we consider the perspective that I'd just been in, so I'd just been with a patient who had asked me not to let him die. At the time when I said to him I wouldn't, I thought then that his chances of survival were absolutely slim, but I wasn't going to lie to him -- sorry, I was going to lie to him, I wasn't going to tell him the truth, because it's just not what you do; you provide comfort to people like that.
Losing John had a profound effect on me that night in terms of just walking away from that vehicle. Him having gone into cardiac arrest changed my perspective in terms of, "I want to get people off the floor and I want to get them where they need to be", and it was a definitive moment, if you like, for me that that was the catalyst for it.
It's literally just that: we had patients that were all over the Victoria Train Station floor, which is a marble-y floor, I believe, which is ever so cold, and

we've got patients that have suffered catastrophic injuries. We needed -- literally, we needed to get them off the floor, at least provide that level of protection against the hypothermia.
So I was in a position then when I got back to have that conversation and then to be able to provide that ... to be able to get that in place for some patients.
Q. And that included you specifically saying stretchers need to be off ambulances and brought in for patients to be placed on?
A. Yes. There was an opportunity where, when I got back, the Fire Service arrived on scene and they were making their way into Victoria Train Station. My mindset then was, "What are they going to do?" Whereas I've got all these ambulances here and I've got crews there and I've got nobody to get the stretchers and I've got these fire crews here, so I instructed them to get the stretchers off the vehicles and to basically form a line, if you like, so I could then start allocating them to patients so we could get the patients off the floor.
Q. Thank you.
SIR JOHN SAUNDERS: This is something you took upon yourself, really, to organise?
A. Yes, sir.
SIR JOHN SAUNDERS: It's obviously the right thing to do so

it is not a criticism, but in a way that ought to have been structured by someone more in command or did they just have lots of other things to do?
A. I think the weight of was going on —— and there were an awful lot of bodies —— the —— I think it as just an opportunity that was there —— the fire were literally walking past me and I just grabbed them and said, "Right, come here". Whether or not anybody else had noticed them, I don't know.
SIR JOHN SAUNDERS: Okay. But it's obviously the right thing to do, so please don't think it is any criticism.
A. No, sir.
MS CARTWRIGHT: In terms of you saying get patients where they needed to be, that's hospital, isn't it?
A. It is.
Q. So did you do anything actively, as you did with the stretchers, to try and get patients moving to hospital far more quickly?
A. So I spent a lot of the time then, once we got the patients on stretchers with the crews, so they were already receiving active treatment from the crews, but then liaising then with Dan, with Jim, and with the ambulance loading officer as to when we can get patients away, but also being acutely aware that there's no point lifting the problem from there and just putting it

at the hospital, it just doesn't work, because all your doing is lifting the problem without any —— you know, without streamlining it. So, you know, we could have just loaded them —— well, we probably couldn't have just loaded them on but what I'm saying is you can't just load them all from the hot zone and go to hospital because the hospital would then be outnumbered with patients versus their capability and capacities.
SIR JOHN SAUNDERS: I think we do understand that, but I'm not sure from the evidence we've heard that there was a situation where the hospitals were saying, "Don't bring them here yet we're just not ready for you". So my impression —— and we've got to go over all the evidence again —— is that the delay was actually at the arena end rather than the hospital end.
What I've been told is you've got a row of ambulances, you've got all the paramedics off the ambulances helping people, so you can't actually move anyone in those ambulances which are now empty until you can release the crews to actually drive them.
That actually seemed to be something which ought to be capable of a solution. I'm not suggesting what the solution is. Do you have a solution?
A. I have thought about potential solutions and again I don't know what the solution is because we can plan

and plan and no plans survives first contact. So we can train and ——
SIR JOHN SAUNDERS: What does that mean?
A. It's a military term that no plan survives first contact. We train hard and we train really hard so that we can fight easy and do the job well. But as soon as we experience or encounter an issue, the contact if you like, the actual event, the working parts of that event are different than what we've trained for. That's just nature. So no plan survives first contact. So we can train and train and train —— and I have thought about this a lot since the arena.
Obviously, after that incident, my role, if you like, or my taking on board my own role, if you like, was different than what I was initially doing.
There are many things that could be considered. Obviously the ambulances in that case were parked in a line. Do they then hand the keys in to a big board to one person that's then got the keys? Do we make sure that all the ambulance stretchers in all the ambulances are interchangeable? Because that can also be a problem that the stretchers won't fit on the ambulances. And if they are all interchangeable, the stretchers come off with the crew, the equipment comes off with the crew, that they need the bare minimum, so that when a P1 comes

that patient then is loaded on to that first available ambulance, the key is then taken off that rack of keys, or whatever it is, [redacted]. And then the patient goes in the first available ambulance because the equipment would then be interchangeable.
SIR JOHN SAUNDERS: Okay. So on the night only the people that —— they'd have to use their own ambulances as it were because they keep the keys, do they? I think that's what happened on the ambulances.
A. [redacted], some of the crews took the keys with them. And again, because we're dealing with situations that they have never faced before and they're not thinking logistically, as none of us probably —— we were trying to —— and so they have just been tipped up to the ceiling and they have done what they have always done and they have took their keys out of the ignition and put it in their pocket.
SIR JOHN SAUNDERS: I must say I'm slightly depressed at the idea what the military say, that training doesn't go past first contact. It almost says: what's the point of having training then?
A. It does, but it says no plan survives first contact, so we train hard to fight easy, but no plan survives first contact.

SIR JOHN SAUNDERS: While you're thinking about this, would you mind putting in a statement your ideas about this? That would be really helpful.
A. Yes.
MS CARTWRIGHT: Thank you. Can I ask one final question, please, relating to bleeding.
SIR JOHN SAUNDERS: Before we leave this, do you think your efforts when you came back from dealing with John Atkinson speeded up other people getting away?
A. I'd like to think they did.
SIR JOHN SAUNDERS: I'm sure you would. Do you think they did?
A. Yes.
SIR JOHN SAUNDERS: Thank you.
MS CARTWRIGHT: Can I ask you then about just bleeding because I think you've indicated that when you had your initial contact with John for 5 minutes, you didn't see evidence of an active haemorrhage. We have some evidence in the witness statement of Laura Worrall that after John had been handed over to the hospital and then Paramedic Ruffles was writing up the PRF there was a lot of blood in the ambulance and it took a while to clean it up. Do you remember observing bleeding and blood during the time you were in the ambulance with John?
A. There was none at all when I was with John.

MS CARTWRIGHT: Thank you.
Sir, that concludes my questions. I'm wondering if now is an appropriate time to take a 10-minute break before Mr Cooper commences his questions.
SIR JOHN SAUNDERS: We will do quarter of an hour because we'll never manage 10 minutes, that's for sure.
(11.23 am)
(A short break)
(11.44 am)
Questions from MR COOPER
MR COOPER: Mr Keogh, as you know, I ask questions on behalf of the family of John Atkinson.
I want to go back please to your evidence on what you termed the Lethal Triad of Death. It's sometimes called the Trauma Triad of Death, isn't it?
A. It is.
Q. And you helpfully articulated it with hypothermia, clotting problems -- also known as coagulopathy, would that be right?
A. Yes.
Q. And then the third limb to the triad is the heart beating quicker and the release of aerobic acids, known as acidosis?
A. (Overspeaking) becomes acidotic, yes.
Q. This is a triad which is well-known to medical

practitioners, isn't it?
A. I believe so, yes.
Q. It's been around some time certainly since a paper published in 1999?
A. I don't exactly know, but I would assume so.
Q. And in fact for anyone that wants to learn about it, it even has its own Wikipedia page.
A. I don't know.
SIR JOHN SAUNDERS: I'm sure you've read the original article!
MR COOPER: I have access here, sir.
So the matter that I'm trying to isolate here is that the concept of that Lethal Triad of Death should have been well-known to most paramedics, for instance?
A. I would think so. However, like I alluded to before, during my academic education at my university, it wasn't mentioned. Although one would hope that, as many of us do, we go and do further education and our CPD, our continuous professional development, they may read up on it if that's their avenue of interest in trauma management.
SIR JOHN SAUNDERS: Do you mind me asking how long ago your training was?
A. 2009/2010.
SIR JOHN SAUNDERS: Thank you.

MR COOPER: If I suggested to you that the expression "All emergency providers must have a firm understanding of the lethal triad, which is a cornerstone for all interventions provided to a bleeding trauma patient", would you agree with that observation?
A. I think so, yes.
SIR JOHN SAUNDERS: Would you mind telling me where it comes from?
MR COOPER: I can provide the article in due course which I was looking at.
SIR JOHN SAUNDERS: Not Wikipedia?
MR COOPER: No. For the avoidance of doubt, when I am seen on my phone, that's what I'm doing.
SIR JOHN SAUNDERS: No, people need to communicate, I'm well aware of that.
MR COOPER: Absolutely.
And as far as any training or update training is concerned, it would be inconceivable, wouldn't it, really if something as fundamental as that lethal triad wasn't covered somewhere in it?
A. So there has been webinars -- I do recall a webinar that one of my colleagues put on, and invited all NWAS clinicians to, and that was on hypothermia within trauma and obviously going on to the triad.
Q. Thank you.

Let me move on to blood and blood products now if I can and the provision of them. We've heard evidence already that blood supplies and blood products were not available to you and your colleagues at the scene.
A. That's correct.
Q. And that was normal procedure, for reasons we've heard?
A. That's normal, yes.
Q. In terms of other products that may have assisted John, can I ask you about a couple of them. What about fresh frozen plasma?
A. We would class that as a blood product, so again it wouldn't be available for NWAS clinicians.
Q. Why wouldn't, for instance, fresh frozen plasma be available to professionals like yourself at the scene?
A. So I'm not an expert at all in the management of blood and suchlike, but I would imagine the complexities and the clinical governance, the logistics of storing it and administering it as possibly some of the things that would prevent us from having it.
Q. What about something called methylene blue cryoprecipitate?
A. I personally haven't heard of that.
Q. All right. Have you ever had any training sessions with the haematology department of any Manchester hospital?
A. No.

Q. Is any provided, do you know?
A. Not as far as I'm aware to NWAS clinicians.
Q. Do you know, for instance, whether they have, that's the haematology department, a major incident protocol?
A. I would imagine they do have a major incident protocol and a major transfusion protocol as well, with it being haematology, but I'm not aware of these protocols.
Q. If it assists you, sir, I am not going to put the matter to this witness. It's something I came across over the weekend, {INQ025543/1}. It's a statement going back to September 2019 from John Adern and Claire Whitehead of the haematology department, which will be matters I'll be raising with you in due course. But that's the source material for this.
You'd be aware, wouldn't you, though, as a matter of general knowledge, that in major incidents developing as we know that was developing at the arena, that blood supplies would be supplied in quantity and urgently once it was known to the hospital transfusion laboratory in Manchester?
A. That's correct.
Q. And there's a protocol for that, I'm not going to ask you about it, others will deal with it, there's a protocol for that to happen, the moment a major incident is activated?

A. Yes.
Q. Is there perhaps any worth in the suggestion that, similarly, in the future, when such incidents are declared, there be mobilisation of blood and blood products, not just to the hospitals awaiting transfusion, but to people like yourself and others at the scene of major incidents? There's a protocol in place, I discover, for hospitals, which seemed to work well. Could it be extended perhaps in the future to assist you and your colleagues in the field?
A. It could be extended. The logistics of it would obviously have to be looked at. You may be interested to know there's a study going on, I believe in Birmingham, at the minute, in terms of the use of blood products in the pre-hospital environment and that might be something to consider as well.
Q. A study for what in Birmingham?
A. The use of blood products in pre-hospital for trauma patients.
MR COOPER: Obviously a matter for you, sir, but certainly --
SIR JOHN SAUNDERS: If there's a study going on, then it would be useful for us to know.
MR COOPER: In terms of training as far as you and your colleagues are concerned, did you involve yourself or

were you invited to any desktop exercises organised by Manchester University NHS trust in harmony with the haematology department?
A. I have not been advised of any.
Q. Apparently, 28 July 2015, 4 August 2015, 19 July 2016, and 22 November 2016, you weren't made aware of any of those?
A. Did they make NWAS aware?
Q. Apparently, there was liaison, as far as we can get -- we don't know who they spoke to, we may enquire further subject to the chair's interest in this particular point. I'm simply asking you, so far as that's concerned, are you aware or are you aware whether you or any of your colleagues were aware of any contingency planning desktop exercises on those dates organised by the haematology department?
A. I was not.
SIR JOHN SAUNDERS: Mr Cooper, whether I'm interested or not really depends on what the subject matter of it was and whether it relates in any way to matters that have emerged in this inquiry.
MR COOPER: Of course.
One of the communications -- because that's all we've got as well -- one of the communications we have been making to STI is for further information, if we can

get it, to see whether it is relevant.
SIR JOHN SAUNDERS: Thank you.
MR COOPER: All right.
Moving now, if I can, Mr Keogh, to the night in question. Your experience in conflict zones, in combat zones in Afghanistan, for instance, as you've told us, would assist you, would it not, in the identification of those who are severely injured and who need help, particularly in relation to catastrophic blood loss; would that be right?
A. It would be an assumption to say it conditioned me to see those injuries more than many of my colleagues had. So on seeing them, possibly recognition of them, yes.
Q. But one of the most important things, whether it be in the combat zone or indeed in the civil aspect of these catastrophes, is communication, isn't it?
A. It is.
Q. Communication between those who see John -- this is John we're dealing with -- those who see John at one time and then hand over to someone else so that there is a line of communication as to what perhaps you or your colleagues may not have seen and earlier colleagues did see?
A. That's correct.
Q. How was that working on the night so far as John was

concerned? Were you getting information from colleagues or was it perhaps not going so well as far as that aspect is concerned?
A. With regards to John, firstly when John was placed on the floor and I was asked to assist, I had no handover in terms of where John had been in relation to the explosion, to what treatment he'd had. Nothing was presented to me from anybody, but bearing in mind that they may not have been able to provide that information to me.
Once I carried out my assessment, I would have handed over my findings to the receiving paramedic, Mike.
SIR JOHN SAUNDERS: I don't think any paramedic actually had anything to do with John prior to you being the first really to look at him.
MR COOPER: Can I just clarify that, if I can, so far as Laura Worrall is concerned, if I may, on that? And that clearly is so, so far as the City Room is concerned. But at some stage, and I'm referring to her statement, {INQ006902/1}, which seems on her statement to be before you approached him -- I want to be clear about this:
"I spoke to John [she says] and tried to keep him alert. He said, 'Am I going to die?'"
She goes on to deal with that:

"I hooked him up to Lifepak to monitor his obs... multiple shrapnel injuries to his body and obviously lost a lot of blood."
I am looking -- this is {INQ006902/4} of 7. She goes on:
"He possibly had tourniquets applied to his legs. I remember his heart rate changing very quickly from fast to slow. We knew we had to get him to hospital urgently and he was put on to a stretcher by several of us using a scoop. It was hard as he was a heavy man and an armed officer helped me to get the stretcher. This sticks in my mind as I remember him dropping his gun. We moved John and I noticed a serious wound to his left scapular area. He had lost so much blood I was almost ambulated. I recall Mike was trying to get a cannula into John's arm so he could give fluid and drugs, but his BP was so low it was impossible to find a vein."
SIR JOHN SAUNDERS: Could I stop you for a moment? Can you get any clue as to whether she saw him before you did or was it after? She did say she hooked him up to something.
A. This, I would suggest, is after I have handed over to Mike.
SIR JOHN SAUNDERS: Because if he had been hooked up to something, I can't remember what she said it was, you'd

have seen that presumably?
A. I was the first person, as far as I'm aware, to have any interactions with John.
SIR JOHN SAUNDERS: We can obviously read the whole statement in due course.
MR COOPER: Can I put it into context, sir, it'll take a moment, as to why I'm asking this? This is {INQ006902/4} of 7. She goes on as to what I have just indicated:
"One of us put the defib pads on his chest in anticipation we would have to shock him."
Then at {INQ006902/5} she says:
"A couple of other people arrived, including Phil Keogh, who is an advanced paramedic, and we took turns in doing the CPR on John."
For a number of reasons, which needn't concern you as far as Ms Worrall is concerned, I need to establish with you whether she's right possibly or wrong perhaps in that sort of chronology. It seems from her statement that she's doing all that and then she says:
"A couple of other people arrived including Phil Keogh."
SIR JOHN SAUNDERS: Again, let me interrupt. You actually went back, didn't you, to help?
A. That would be my answer. This would be the second time

I then go to John I would imagine.
SIR JOHN SAUNDERS: Right. It's important we establish it because we won't have Ms Worrall's evidence.
MR COOPER: Absolutely. On that second time you went back to John, did Ms Worrall tell you what had happened in your absence? Because -- if what I have read happened in your absence, it was probably important for you to be told about it, wasn't it?
A. It would be.
Q. Were you told about that?
A. No. When I went back to John, he had not arrested at that time, so I wonder whether her chronology of recollection of the events is just slightly confused, maybe due to the timescales.
SIR JOHN SAUNDERS: I think everyone can get the timings wrong on this sort of occasion, either you or her.
I'm sorry to interrupt it, it's just we're hearing a lot of information in the statement, which I'm happy to be read at some stage, but obviously an important thing is at what stage of Mr Keogh dealing with John did she deal with him as well.
MR COOPER: Yes. The only reason I'm covering it now is I'm aware of the difficulties as far as this witness is concerned and just trying to establish it through someone else. I will move on.

Back to your statement now, Mr Keogh. I'm looking at page 3 of 9 of your statement for anyone that wants to follow it, which is {INQ006942/1}.
This is right at the beginning of your involvement and I'm looking at the last paragraph of page 3 of 9. You indicate four lines down:
"I have never seen so many emergency vehicles before."
Just to clarify, however many emergency vehicles you were seeing, none of them at that stage were ambulances?
A. There was one other response car, but the majority were all police vehicles.
Q. So when we're dealing with emergency vehicles, we're not talking about fire, we're hardly talking about ambulances, we're really talking about police vehicles?
A. Police vehicles. There was definitely no fire.
Q. At that early stage, if you look a few lines down your statement there, the same paragraph, you say:
"I was conscious I may need TXA."
Which you have now told us is a clotting agent. You were conscious then that you needed it. Did you think -- were you conscious throughout that this was an important fluid for you to have at your disposal?
A. It's an important drug for dealing with traumatic injuries, yes.

Q. Had John been given it at an earlier stage than he was, I'll ask you the blunt question, as far as you're concerned, could it have saved his life?
A. No.
Q. So as far as the family -- it's an equally important answer you give, whether it is yes or no, for the families to understand this. So although we're talking about the application of TXA at a later stage, 23.40 I think it was or whenever, the fact that he didn't have it earlier would not have affected his survival?
A. No. My belief was, when I first saw John and the presentation that he had and my experience of seeing similar individuals of a similar presentation, that without immediate damage control surgery and blood products then their outcome is extremely poor.
Q. Again finishing with the last line of this paragraph on your statement, you refer to "a gaggle of crews". What do you mean by a gaggle, referring to ambulance crews. What do you mean by a gaggle?
A. It's just a term I would use to say a collection. I think we mentioned before that there was definitely more than one crew, otherwise I would just have said a crew, meaning two people. I don't really remember there being any more than just four. It's just a term I use, a gaggle, for a collection of.

Q. And this was just as you were arriving? This is just as you first arrived at the scene that you saw --
A. As I'm making my way up the hill, yes.
Q. So as you're making your way up the hill you see approximately four ambulance people?
A. Yes.
Q. And you told us that an ambulance crew is two people?
A. Yes.
Q. Were you surprised, given what even you already knew at the time, that there were so few ambulances and so few ambulance staff at the scene?
A. I was surprised because of my run time into the incident and my location to the incident, obviously was some -- approximately 25 miles away. However, coupling that with the availability of resources, and I don't know what the availability of resources was on that night, but again it was a night like any other. So we would have had, I assume, a pause where they've tried to gather the resources available.
Also, prior to my arriving, I was under the understanding as well that they were establishing an RVP for resources to assemble at. So the lack of resources on scene, although surprising, if I took the opportunity to think about it, can be quite -- can be explained away by knowing that the allocation of resources, the

gathering of resource and the formation of them in an RVP is possibly why they weren't there when they were elsewhere.
Q. How long was your journey to the arena, did you say?
A. Well, it was approximately 25 miles away in a place called Water in Rossendale. On a normal run time, because I'm from round there, it's about 40 minutes on a normal run time into the city. Obviously I was running under response conditions, I think I probably did it in around about 25, maybe 30.
Q. Given the mileage that you had to cover and the time it took you to cover it, you must have been extremely surprised to see that, apart from approximately four other ambulance crews, you were the only professional there?
A. I had no situational awareness of who else was there in terms of forward of me. So I had no situational awareness —— Dan Smith was there, so I'd assumed that he was planning and putting people where they needed to be, and my concern wasn't who was forward of my location, if you like, it was what resources we had to deal with the situation there.
Q. And as far as that is concerned, let me focus on that, were there any patients there at the time, any victims there, apart from this gaggle of approximately four

ambulance crews?
A. In the Victoria Station?
Q. When you first arrived.
A. Yes, there were some patients. There was some —— I think I put in my statement, there were some P3 patients, which we would class as walking wounded, and then there was a collection of obviously other patients as well around the doorway.
Q. Patients who were —— obviously very sadly had wounds but not critical about them at that stage; would that be right?
A. Yes.
Q. And when you indicate they're walking wounded, that's literally what you mean, they walk in, they're conscious, they're ——
A. They're wounded.
Q. Wounded obviously, yes. Did it cross your mind, given the amount of time that it had taken for you to get there —— and that is no criticism, you came as quickly as you could —— why aren't there any P1s here? There's been an explosion or some catastrophic event, why aren't there ——
SIR JOHN SAUNDERS: Sorry, Mr Cooper, I'm just concerned we may get —— he certainly referred to there being P3s, walking wounded. He also, I think, said there were

other patients as well there. I think we'll have to have the actual figures of who is there at a particular time.
MS CARTWRIGHT: (Inaudible: no microphone) we can identify exactly when Paramedic Keogh arrived and who was down in the casualty clearing station after that time from various documents we've got and also from the ambulances on scene from any given time. So it can be done precisely.
SIR JOHN SAUNDERS: Are we able to say at the time this witness comes in, how many, if any, P1 or P2s are there?
MS CARTWRIGHT: Yes.
SIR JOHN SAUNDERS: Ms Roberts is saying something, I think.
MS CARTWRIGHT: He arrives at the scene at 23.10.22 and that is at the scene but plainly not in the station. At that time there were four patients in the casualty clearing area: one —— two —— two priority 2 or 3, priority 1 —— two priority 1s ands a priority 2. So obviously then that's as he arrived at the scene. Certainly up to his assistance then to John, 23.24, by that time John was the 17th casualty in the casualty clearing area. So as you'll remember there were six P1s, six P2s and the one categorised as (overspeaking).
SIR JOHN SAUNDERS: Some there at the time he actually arrived?

MR COOPER: Can I suggest on the back of that information that in comparison to what had probably occurred that night, did it not surprise you that there were so few patients down there?
A. I wasn't fully aware where the detonation site was at the time. There was plenty of people about there for me to assume that there was a lot of patients when I arrived. So although I arrived at scene at 23.10, as I said before, that was my auto arrive and that would have been very at the top of the junction before turning down the hill.
The logistics of moving patients as well is difficult. Would I have expected to see more? Possibly ——
SIR JOHN SAUNDERS: You didn't know how many people were actually in the City Room at this stage; is that right?
A. That's correct, yes.
SIR JOHN SAUNDERS: Forget about the logistics, that's something we can take into account. But from your own point of view, were you, as you walked into the station, surprised at the limited number of casualties or did you just have no idea whether that reflected the number of casualties there were?
A. I think it was more a reflection of not knowing exactly what we had at that situation, not having that

situational awareness.
SIR JOHN SAUNDERS: Okay.
MR COOPER: And just leaving a little hint(?) on the same point and then I will move on, were you not getting more concerned when you saw police officers bringing a patient down on a metal barrier rather than a stretcher?
A. Yes.
Q. What did that tell you, as a clearly competent and experienced paramedic, when you saw police officers and a member of the public bringing someone down on a metal barrier? Did that trigger an alarm as far as you were concerned?
A. I think my... My first concern was actually to John and not to think about how he's got to me. It was to the patient that was there in front of me and how he's managed to end up there on a metal railing with the assistance of the police officers and the civilian wasn't really a concern that I had at the time.
In retrospect and hindsight of 4 years, obviously there is concern, but at the time that was not a consideration I had at all.
Q. Please understand this, I'm not being critical of you.
A. I understand that ——
Q. I'm trying to drill down, for the family, exactly

what was happening so far as John is concerned. The fact was, had one been able, maybe, to step back, and my goodness me, you probably had little time to do so, but had one been enabled to step back, the fact that John was being brought down on a metal barrier without a paramedic in sight would have been a real cause for concern, wouldn't it?
A. Absolutely a fair assumption that you would be concerned about that.
Q. Because it would say, beyond any doubt whatsoever, that at that moment, and possibly up until that moment, John was not getting the treatment or care he deserved?
A. Yes.
Q. Thank you. Please understand, I'm not criticising. It's just trying to get the facts, that's all.
Looking at your statement at page 4 of 9, again in the middle of that page you say when dealing with another P2:
"I was conscious that we did not have the resources to treat one person and remain with them and that I would have to move on."
So you're conscious at a very early stage, it seems from your statement, that you, as NWAS, effectively did not have the resources to treat one person and remain with them. You're nodding.

A. Yes.
Q. What was it at that early stage that caused you to conclude that serious conclusion, that is that we did not have the resources to treat one person and remain with them? What was it that gave you that conclusion at that time?
A. The understanding that there'd been an activation of a bomb, the fact that I was on an RV, so I didn't have the capability to remove a patient for treatment anyway as I'm in a car and I can't transport anybody. And the lack of available resources that I saw on the approach up to the Victoria Station.
SIR JOHN SAUNDERS: If I look at that and read it, what I would think is you've got too many patients for the number of paramedics ——
A. Absolutely.
SIR JOHN SAUNDERS: —— that's why you're having to move on. That's what it gives to me.
MR COOPER: The last line of that paragraph:
"I looked at loads of casualties, assessing them, and I became aware that I was getting sucked in and I became aware that I was getting sucked in."
What do you mean by that, Mr Keogh?
A. Again that's a term I would use to suggest that it was becoming a little bit too much at that point and

I needed to take what I call a "Condor moment". That's an opportunity to step back. These situations, thankfully, do not come about —— and dealing with them as a human at the time can be emotionally consuming, so that's literally what my thought process was there. I needed a Condor moment to take an opportunity to gather myself so I could provide the most appropriate care for the people I was dealing with.
Q. Would it be right that you felt overwhelmed?
A. Absolutely.
Q. For a moment anyway?
A. Absolutely.
Q. And desperately needed more paramedics there to help you doing the job you were doing?
A. Yes.
Q. You rallied yourself, to your credit, and then got on with some more work looking for patients, didn't you?
A. Yes.
Q. You say, again further on in that statement, page 4 of 9 towards the bottom:
" Initially, there were no crews available to call in after having triaged a patient.
"People were on the floor and I was conscious that we needed to get them moved as quickly as possible as hypothermia can be the second biggest killer after blood

loss in trauma patients."

So again if I may, please, Mr Keogh, to bring that together, you say there's no crews available, a shortage effectively of paramedics to triage patients, which effectively resulted in patients who were seriously injured being left on the floor longer than they needed to be; would that be right?

A. That's how I felt at the time, yes.

Q. And that because there were no crews available to call to triage a patient, and I'm focusing on John Atkinson here, to triage a patient, he was left on the floor longer than he needed to be ——

SIR JOHN SAUNDERS: I'm sorry, I don't read it that way. My understanding of that sentence is: once you triaged a patient, you wanted to call in paramedics to get them out to hospital.

A. That's correct.

SIR JOHN SAUNDERS: And you're saying there just weren't the paramedics to call in to get them away to hospital which is what you wanted. That's how I read it (overspeaking).

MR COOPER: Sir, I'm not disputing that. The point I think I'm trying to establish through my questions is that, for whatever reason, John Atkinson was left on the floor longer than he had to be and that was a resources issue.

SIR JOHN SAUNDERS: Absolutely.

MR COOPER: That's the point.

SIR JOHN SAUNDERS: Yes. I think just the point you were making there was what you'd like to do is say: that's a P1, get him to hospital, call a crew in, get him out of there as soon as possible?

A. Ideally, sir, yes.

MR COOPER: Taking you over to page 5, please, of your statement, and I'm asking you these questions about the appearance of John Atkinson, not so much to criticise your treatment of him, but to establish in relation to other evidence we've heard how obvious it was he'd received catastrophic bleeding. Just so you understand that some of this relatively graphic material is designed —— I'm introducing it for that reason: how obviously effectively was it, is the topic, that he'd received catastrophic bleeding. You say this —— this is when you saw him at around 23.25.45:

"He was a large male, conscious and breathing, but his appearance was as waxy as hell. He was pretty much naked and had makeshift tourniquets on his lower limbs. His legs appeared to be a mess. I immediately knew that he would be a P1 patient without doing any observations as from the colour of him it was clear that he had lost a lot of blood."

So before I move on, very briefly, on that paragraph, all those matters that I read, including the fact that he was naked and that his body was exposed and his legs appeared to be a mess, that he had got makeshift tourniquets on his lower limbs, the colour of his skin, his pallor, all of this, it was obvious, I think you're saying here, that he'd lost a lot of blood?

A. Very obvious to me.

Q. It doesn't necessarily mean that he was bleeding out in front of you —— was he, for instance, bleeding out in front of you?

A. He was not actively bleeding in front of me, but from the description that I have given and obviously from what I saw, it was very clear to me that John had lost a substantial amount of blood prior to him arriving at my location.

Q. Could one of the reasons that he wasn't substantially bleeding out —— and I apologise to the families but it's essential that we establish this —— could one of the reasons that he wasn't bleeding out so profusely in front be because he'd lost so much blood, I'll be blunt, he was running out of blood?

A. It is possible, yes.

SIR JOHN SAUNDERS: Can I just identify from you, which of

the factors that you describe there is the one that most clearly says to you that he's had a massive bleed? I know there are tourniquets on there, which is a hint, but actually tourniquets may have stopped the bleeding so it may not mean it was.

Is it his colour that gives you that, "waxy as hell" as you put it?

A. It's absolutely his colour that indicated to me, even before seeing the tourniquets, because that's what I saw first, John's colour, and that indicated to me that he had lost a lot of blood. I've seen it before, not in civvy practice and it's quite —— once you see it, you don't forget what it looks like.

MR COOPER: Well (overspeaking) not at all, sir.

SIR JOHN SAUNDERS: So again, helping me, because of your experience in Afghanistan, you have seen, unfortunately, this sort of thing before and you have seen people who have lost a lot of blood looking that colour, and, as you have rightly said, fortunately it is not so —— it doesn't happen so often in civilian practice. Would paramedics know and be aware that they should look for that colour to indicate excessive bleeding?

A. I wouldn't imagine that most paramedics would look for that or see that or associate that with what I did because if they've not experienced that before, then

they're not going to have that trigger to say this is potentially what's gone on here. We would always look at a patient's colour, it's part of our examination when we see a patient, and as soon as we visualise a patient, we are examining them straightaway, even before we've even introduced ourselves, and one of the things we look at is colour, and it was very obvious that John was very, very pale and that he'd lost blood to me.

One of my colleagues may have had the same assumption ——

SIR JOHN SAUNDERS: Let's just stop for a moment: so if any paramedic always looks at colour and if they see someone who's very pale and waxy like that, what would a civilian paramedic conclude from that?

A. We'd be looking to see where they are bleeding from.

SIR JOHN SAUNDERS: So it would give an indication of blood loss?

A. Yes, so we'd be looking external or internal to associate where we could be finding a haemorrhage.

SIR JOHN SAUNDERS: Thank you.

MR COOPER: So that colour does indicate potentially a catastrophic bleed?

A. I believe, yes.

Q. And I know the chair has and I have, we won't burden anyone else with these photographs, but we've seen the

colour of John and it's graphic, isn't it?

A. Yes.

Q. But going back to the chair's question about seeing these matters in combat situations, and again I refer to the little reading I was doing this morning, that sort of colour, I suggest, can be a result of someone, for instance, being involved, sadly, in a knife attack outside a pub or outside a club and being left to bleed and a delay getting to them, or the bleed is a profuse and quick bleed? That sort of colour could equally occur with someone, sadly, the victim of a knife attack for instance outside a pub or a club or in the street?

A. That's correct.

Q. So indeed the knowledge of looking at someone's colour and recognising from their pallor and their colour that they might have been involved in a situation which caused a catastrophic bleed is essential for civil practitioners, isn't it, if I can put it this way?

A. Yes.

Q. And not only is it essential, it's highly likely, isn't it, to be fair to civil practitioners, that they knew that at the time? They don't have to be involved in war zones to know that someone who's lost a lot of blood who may have been involved in a fight or stabbing and then may have started to walk home and then collapsed in an

alleyway, sadly matters that some of us have to deal with more often than we would like to in our professional practice. But they could be found, couldn't they, in the same condition as John Atkinson having lost the same amount of blood as a result of a knifing, for instance?

A. Yes, if they'd had that sort of experience and exposure.

Q. And therefore —— this is not something that civil practitioners wouldn't be taught, is it? They would know that, wouldn't they? You're not saying, are you, that paramedics are going round the country now not knowing to look for that in knife attacks?

A. Absolutely. We understand the direct link between a patient's colour, pallor, and their potential condition and the cause of their condition. In civilian practice, though, we're lucky that we don't have, even with stabbings and shootings, we don't have the level of trauma that means that actually some of my colleagues may not have ever seen that because if they've not been exposed to that level of trauma, although they would have been taught about it, if they had not been exposed (overspeaking) they might not recognise it.

Q. So your answer to the chair relates to whether your civil practitioners, as I keep calling them, have been exposed to that situation but not the fact that they

should know about it through teaching and learning and training?

A. Yes.

Q. And again when it comes to exposure it's a sad fact, certainly in some parts of the country, that these knife attacks do happen and that people do bleed to death profusely. It's more likely than not, sadly, nowadays that civil practitioners would perhaps be exposed to this sort of presentation from a victim. Would you agree with me on that?

A. So I haven't seen any —— that would be wrong for me to agree or disagree because you would have to look at the statistics of injuries and then consider that a paramedic does a 12—hour shift and they may not always be on shift so if they're not actually dealing with that patient they're not going to see it. Yes, these tragic accidents and incidents happen in civvy practice, but if they've not had the same conditioning or exposure they may not see it.

Q. I think I have pressed that as far as I can, sir. I'll move on. One of the other aspects you interestingly referred to this morning was about feelings of impending doom. Did you know, for instance, that John Atkinson also had some training in first aid?

A. No.

Q. You're not to know. Probably it's news to you. Again, that would give, had it been known, extra impulse to listen to what he was saying because he'd be recognising, on top of everything else, what his body was doing?
A. We were definitely listening to what John was saying and it didn't go unnoticed what John was saying, not for me anyway.
Q. When you saw the condition that John was in, I'm not going to read it again, it's that awful description of his condition when you saw him, very soon after, that was about 23.25.45. At 23.26.51, according to paragraph 161 of the resumé, you appear to be gesturing towards the ambulances at 23.26.51 and you catch the attention of Daniel Smith whilst he is with John:
"A brief conversation takes place between Daniel Smith and Philip Keogh before Daniel Smith walks back into the direction of Hunts Bank."
This conversation was taking place within a minute or so of the observations that I have just reminded you of about John's colour, how he appeared, et cetera, et cetera.
During that conversation you had with Dan Smith, less than a minute after you see John in that condition, this brief conversation you had with him, can you recall

what you said or the gist of what you said?
A. I can't recall at all. If I'm being honest, until I was asked to write the second statement, I don't recall having a specific conversation at that time with Dan.
Throughout the course of the evening, Dan and I had had numerous conversations anyway, but I don't recall specifically what I said at that time.
Q. Would it be right to say, the professional that you are, the human that you are, that speaking to Daniel Smith, less than a minute after you had seen John in this condition, it's highly likely you were talking about John?
A. I would make that fair assumption that I would probably have been asking Dan if I can have a resource for John, he's a P1 patient, and we need to get him to hospital, or words to that effect.
Q. And you'd no doubt be telling Mr Smith about the condition that John was in, I hope?
A. Yes.
Q. Yes. And when you told Mr Smith all about that, the detail that I have just read, how concerned you were about him, his pallor, clear, you say —— the colour of him was clear, he'd lost a lot of blood, he is saying, "Don't let me die". After you told Daniel Smith that, what did Daniel Smith do?

SIR JOHN SAUNDERS: Okay, I'm really going to stop you. He can't remember the conversation, so I think then to say —— well, we all know the sort of questions which presume the answer to the first question and then go on to the next question. I can draw my own inferences and we can see what actually happened. Obviously, if he can't remember the conversation, I don't think that's really going to help me.
MR COOPER: Sir, then I'll move on.
SIR JOHN SAUNDERS: Thank you.
MR COOPER: You spoke at some stage, much later on, didn't you, to Dr Daley?
A. I was aware of Dr Daley. I don't recall ... You mean before?
Q. This is in the ambulance towards the end of the event now.
A. Yes. Again, the conversation —— I don't recall. It would have been very brief, if any.
Q. Did you, for instance, tell Dr Daley about the sum total of knowledge that you'd gained, significant knowledge that you'd gained, over (sic) John's condition over a period of time that you'd been seeing him?
A. Again, I don't recall having a specific conversation with Dr Daley.
Q. One of the questions I asked him —— it's one of the

matters that concerns us on behalf of those we represent —— is about the issue of communication. I asked you earlier today about communication. You've given your answers, I'm not going over that again, but again, forgive me, Mr Keogh, but perhaps you should, with hindsight at least, have given Dr Daley some of the wealth, I genuinely mean that, the wealth of knowledge that you had about John Atkinson so that Dr Daley was in a better position to at least understand John's condition?
A. I think it would be fair for me to say that had I been the lead clinician with John throughout, then I would have had that conversation. But as I'd handed over care to Mike Ruffles, my assumption would be that Mike would have had that conversation with Dr Daley and that actually, if that conversation's already happened, I don't need to input on that because the paramedic that's now taken over lead care of John has had that conversation with the doctor. That would be my assumption.
Q. Were you feeling pressured into making assumptions because of the lack of resources, all the matters we've gone into, and the pressures you were under, rather than perhaps communicating with colleagues as you would like to have done?

A. It would be fair to say yes. The situation was very, very intensive. But as clinicians, we trust each other. I've already spoken to Mike and handed over John at some point earlier on in the evening. Mike's gone away and done his assessment and his treatment. The professional courtesy there would be that Mike would then pass on those findings to Dr Daley and that it would continue.
Q. As far as your dealings with John at the ambulance are concerned, you have told us that you were told that your services were better required in and around the arena; that's right, isn't it?
A. Words to that effect, yes.
Q. Had you been in the ambulance with John, what help or service could you have provided him with?
A. It would have been possibly more of a safety aspect for Mike in terms of —— if he's continuing chest compressions whilst we're moving, which is a very dangerous thing to do, but if he's obviously fallen over I can grab him. We can assist then as well with drug delivery and the timing of drug deliveries because again it is quite consuming when you are on a cardiac arrest, especially on your own, and in an ideal world we would have more resources than just one crew dealing with an arrest.
SIR JOHN SAUNDERS: It's a matter of balancing out what is

the right thing to do and you have to make a snap decision about that?
A. And that night the decision was that it was better I stay where I was. With hindsight, then it was definitely the right decision and it's not a decision that Mike or I would have took lightly at all and it's a difficult decision. But we made those decisions in a snap moment to provide the best care we could for everybody.
SIR JOHN SAUNDERS: I think we understand. You all need to make that decision in the spur of the moment and, even looking back now, you're satisfied in your own mind you made the right decision on the circumstances at the time?
A. Absolutely, sir, yes.
MR COOPER: The question that I was leading to, on the basis of all that being accepted, that decision was forced upon you, was it not, because of the shortage of paramedics at the arena? You were needed because of the lack of resources at the arena?
A. Yes.
Q. Thank you. Just this, if I can, and then I'll conclude. You've told us, quite touchingly, if I may say so, that as you're walking back from the ambulance as John is taken off to hospital, after John's off to hospital in

the ambulance, and you re—think how you might deal, and I'll put it this way, how you might deal with the next John Atkinson that night. That's about right, isn't it?
A. Yes.
Q. And effectively, the answer you came to was that as a result of what happened with John and your experiences with John, if that all happened again 10 minutes later, for instance, to somebody else, the next John Atkinson might have survived?
A. Yes.
MR COOPER: Thank you.
MS CARTWRIGHT: Sir, could I ask Ms Roberts to ask her questions, please?

Questions from MS ROBERTS

MS ROBERTS: Sir, by way of clarity —— and I won't bounce the questions through Mr Keogh, I will do them directly through you, if I may, we heard earlier, I think in answer to my learned friend Ms Cartwright QC's questions about Mr Keogh's dealings with —— when he arrived down Trinity Way, and saw the lighting shop in front of him —— ambulance A534.
One of the paramedics to whom he referred, a Sophie Burgess, the other is Mr Rohde —— Ms Burgess provided a self—administered interview, {INQ020072/1}. Sir, within that she makes it plain that the police

officer —— a police officer approached them, carrying a child who was seriously injured, and Ms Burgess and her colleague Mr Rohde provided assistance to that child. Can I make it plain, it's not a child, who I'm obviously not going to name, in respect of whom the inquiry has heard so far. It's a completely separate patient. They suspected that that child had injuries, fractures, to legs and potentially pelvis as well.
They were also approached in relation to another individual, another patient, a male patient, and in fact they took both the child and the male patient straight to the MRI and to the children's hospital, and having done that, then went back to scene and in fact went back ——
SIR JOHN SAUNDERS: Went back to the scene, not the RVP?
MS ROBERTS: I think they went back to the RVP —— I'm just checking that now.
SIR JOHN SAUNDERS: No doubt from the RVP, they went to the scene.
MS ROBERTS: "We were then told to clear", so they dropped both those patients, who effectively they had scooped up and taken immediately to hospital after their encounter with Mr Keogh. Then they were told to clear, that's clear the hospital:
"... and head to the joint RVP at the fire station

on Thompson Street. Shortly after, we were dispatched back to scene for the second time."

They went back to scene, they went to Victoria Train Station, and then provided assistance to other colleagues dealing with P1 patients. So that, I hope, deals with that.

SIR JOHN SAUNDERS: It does. I think the context of these questions is -- and this is just looking at the overall scene. Obviously, what needs to be achieved is that the most urgently injured people need to be got to hospital first. I think the question is, for whatever reason, whether that ambulance, if you were using that priority system, would have been better taking a P1 patient. I think that's the purpose and the context of the questions.

MS ROBERTS: I think so, but where the ambulance was parked, according to what Mr Keogh said and according also to the witness statement that we've got from one of the paramedics on board that ambulance, was slightly further over the junction of Trinity Way and beyond the lighting shop with which we locals are familiar.

SIR JOHN SAUNDERS: Even I, a non-local, know where the lighting shop is.

MS ROBERTS: Even you, sir, are now familiar with said lighting shop, still there.

At that point, they weren't at the arena, they weren't on Hunts Bank: they were approached by a police officer carrying a very ill child with suspected fractures to leg and pelvis. Then dealing with a male, I think they describe him as in his 40s, and they went from that point. So whether that strictly complied with the priority and the triaging --

SIR JOHN SAUNDERS: I think it's just a matter of looking at it and examining the evidence. No one is saying they were wrong to do what they did. At the moment we just need to see how the system worked.

MS ROBERTS: Absolutely. I think a bit of context for everybody is probably helpful.

The second point of clarification, if I may, please, is with regard to questions that my learned friend Mr Cooper began with. These are in relation to the haematology evidence, the reference is {INQ025543/1}. It's a statement from a laboratory manager at the Manchester University NHS trust and the training sessions to which my learned friend referred and asked this witness, this NWAS witness, to comment upon, and whether either he or his colleagues had been invited to them, and he gave dates in 2015 and 2016.

Those were training events that the laboratory department at the Manchester University NHS trust had

organised to which the department were invited and attending and to which NWAS would neither have been invited nor attended. So a completely separate set of circumstances, if I may just put that into context.

SIR JOHN SAUNDERS: Just let me also, while we're raising the question of the blood -- I am well aware that the question of whether ambulances can carry blood or whether you can get blood to the scene is a complex question. But it does seem to me that it is one which has inevitably been raised and needs to be answered. It may be at the end of the day nothing practical can be recommended in relation to it, but I think we do need to at least have a look at it.

MS ROBERTS: Anything that could have happened and may help in the future must absolutely be looked at and on behalf of NWAS we fully support that. The logistics of that are another matter and it rather seems from what Mr Keogh told us earlier that the study that's ongoing -- I think he said in Birmingham -- presupposes that is a question that is being looked at elsewhere and perhaps might have national application, but it also presupposes that it's not an issue that's yet been resolved so we fully support that --

SIR JOHN SAUNDERS: I understand that. We're really grateful to Mr Keogh for raising it, but we actually

need to know from Birmingham or the NHS what is happening, whether people are looking at it, whether it's been written off as being impractical and just won't work. As I have said before, I'm well aware that Afghanistan is a rather different situation. I'm aware also aware that air ambulances is a different situation because of the remote locations to which they are going. It just does seem to me that it is at least something that should be looked at.

MS ROBERTS: Absolutely, and it is reassuring that it is already being looked at, but I completely agree with you, sir.

Mr Keogh, just to go back over one or two matters, if I may, please.

SIR JOHN SAUNDERS: You are going to ask him a question or two now, are you?

MS ROBERTS: Mr Keogh, a question to you, please: you told us at the beginning of your evidence this morning, in respect of catastrophic bleeding, the need to stem the bleed with the use of tourniquets or haemostatic agents or plugging it with a hand. Okay? Quite a graphic description that you gave to us. Are you able from your knowledge in the civilian context as a paramedic, or perhaps more particularly your knowledge within the field of conflict, that's a military experience which

you also bring to your evidence, what is the time frame in your opinion in which one ideally needs to stem that catastrophic bleed?
A. So we look at something referred to as the platinum 10. It's a term that's been bandied about for a very long time. The 10 minutes post any traumatic injury which has caused catastrophic haemorrhage, whether that be traumatic amputation or catastrophic haemorrhage, that first 10 minutes is the absolute pinnacle time to arrest that haemorrhage, to stop it, to get a tourniquet applied, by any means, to stop that haemorrhage.
Q. Thank you.
SIR JOHN SAUNDERS: They're really useful these sort of phrases like we've been hearing about, the golden hour and things like that. Presumably they must depend on the individual patient and the individual circumstances as to how long you can carry on and do something which will actually be life-saving?
A. So the golden hour and the platinum 10, the platinum 10 is possibly the more definitive one of getting the care there within that timescale or delivering an immediate life-saving intervention.
The golden hour is something --
SIR JOHN SAUNDERS: I was just using that as an example, you don't need to -- I was just saying these phrases in

particular may be taken too literally, they don't necessarily apply. Anyway, you said the 10 minutes is pretty important?
A. Yes.
SIR JOHN SAUNDERS: Thank you.
MS ROBERTS: And again, Mr Keogh, using your experience, both in the field of combat but also as a civilian paramedic as well, what is the key difference, do you think, in terms of how the military would respond to an injury or set of injuries such as that which John Atkinson sustained and how one might respond in a civilian situation? What's the key difference do you think?
A. If John had presented like that with the military, we would assume that he had some military training, and we use something called self-help. So a lot of the guys are taught religiously to use and apply their own tourniquets. We also have something called the buddy-buddy system, which means if you can't do it, your mate does it for you. Again, it's religiously drummed into them, it's drilled into them, the importance of arresting that haemorrhage.
With John, it would have been the same, it would have been the application of getting a tourniquet on early doors, immediately post-insult, if you like,

post-injury, post-incident.
In civilian practice -- the military have a definitive resource for that, if you like, so as a military medic, when I go out, I am just -- especially in Afghanistan -- so the military medics in Afghanistan are there and they are there with the troops when they need them, so if they hit contact, they have that medic there. They are always with them.
In civilian practice, we don't have that because when it happens in civvy street, it unfortunately happens in locations where we can't get ambulances, and also those ambulances in civvy street are not dedicated to that incident, they've still got to continue providing healthcare and well-being to the wider community, whereas in the military setting you've got a dedicated medic that's attached to that unit. So that unit has an individual whose job it is to ensure that they get immediate treatment. In civilian practice we just do not have the resources for that.
Q. One of the key differences being that in the military scenario, the resource waits for that type of incident to happen?
A. Absolutely.
Q. Whereas in the civilian set-up, it's the other way around?

A. Exactly. If they're conducting an operation in the military aspect, they will not conduct that operation unless they have the available medical resources to ensure that if anything happens on that operation, things are dealt with appropriately and timely. In civilian practice we do not have that.
SIR JOHN SAUNDERS: I think I've really got the point, so thank you.
MS ROBERTS: In terms of -- I suppose the obvious answer to that is increasing or funding to increase the number of resources to potentially reduce the time that one might have to wait. Is there anything else that could enhance a response? For example, do we need to train emergency responders, not just within the Ambulance Service, but all emergency responders to react to and to respond to what this was, in effect on this evening, which was almost like a war-like environment?
A. If every first responder, so police officer, paramedic, had training -- so I know obviously paramedics have it, but if they had training in the use of tourniquets, but furthermore held tourniquets -- so the police force don't really carry tourniquets, they have a firearms response unit that do, but a normal front line officer would not carry a tourniquet. But if they carried a tourniquet and then were dispatched to a situation as

in Manchester, that police officer then has a tourniquet that they can use to arrest the haemorrhage if they know how to use it. And it's not a difficult skill to train, it's very easy.

SIR JOHN SAUNDERS: I think the problem may be that policemen now have so much different equipment they have to carry around, whether that is practical, but obviously it is a good idea and we would either have them at the scene, so emergency responders can use them from the scene, or carry them with them. So thank you for that.

MS ROBERTS: Thank you.

Blood products. I think you've dealt adequately, if I may say so, with your evidence so far as —— I mean, just from your knowledge of using —— do you use —— are blood products presumably more available or readily available in the military context than they are in civvy street?

A. Absolutely.

Q. Right. Again that is being looked into but from your knowledge what, if any, practical difficulties are there with having blood products brought to the scene? How do you see any difficulties?

A. So blood itself is scarce, so UK blood products are scarce. The administration of blood products, it has to

be stored at a cold temperature to ensure that it doesn't —— and the storage life as well is massively reduced, but it has to be stored at one temperature. Then it has to be administered into the body at a much warmer temperature. So doing that administration in the field, if you like, outside of a hospital environment, without the equipment that can warm that blood sufficiently —— because again if we go back to the hypothermia, if we're not putting warm blood in, all we are doing again is hindering the clotting aspects of that blood that we are putting in. So the blood needs to be warmed.

Now, there is equipment out there, I know that HEMS is currently carrying blood 2 and 2 and it has a warming device, so it is possible but it has —— the strict compliance and the clinical governance of blood and the way it has to be stored, administered in such a timescale because it expires ever so quickly, and then has to be administered at the appropriate temperature.

SIR JOHN SAUNDERS: Let's just see what Birmingham comes up with.

MS ROBERTS: So far as tourniquets are concerned, we know, irrespective of the difficulty you had with the equipment bags that you were unable to locate after a short while —— we know that you had a tourniquet in

your pocket. You didn't use that tourniquet on John Atkinson. Just briefly, please, tell us why you didn't use that tourniquet on Mr Atkinson.

A. When John Atkinson arrived with me, he was not catastrophically bleeding. There was no active haemorrhage. So there was —— at my initial assessment, he'd have got the tourniquet on.

Q. May we summarise the reason why at that stage, so this is within about, I think, 50 minutes or so of the explosion taking place, why at that stage there was no catastrophic bleeding that you saw. Is it potentially one of two reasons? One, that sadly there wasn't the blood within John at that stage to bleed; is that an option?

A. That would be my —— yes, so that's a definite assumption. If the tourniquet hadn't been applied timely, immediately, depending on the actual damage to the vessels in the legs that has caused the catastrophic haemorrhage, he could have bled out very quickly. So if it wasn't applied immediately then once the tourniquets have been applied, they could be working, but because there is very limited volume in the body to actually lose anyway.

Q. Right. So is it likely that until the tourniquets, in whatever manner those tourniquets are, by which I mean

makeshift or otherwise, is it likely then that if the tourniquet is doing its job, the blood will not be seen or less likely to be seen?

A. If there is still bleeding after the application of a tourniquet, it's not doing its job, so you would apply another one. There was no bleeding.

Q. Right. And if blood is visible, irrespective of the application of a tourniquet or a makeshift tourniquet, if bleeding is still visible then it follows, I think from your evidence, that the tourniquet is not doing its job?

A. That's right, yes.

Q. Right. And I suppose the second possibility of there being no bleeding or catastrophic bleeding at the point at which you saw John at about 23.25 was that the tourniquets that were in place were doing their job at that time?

A. Absolutely.

Q. If that's right and the tourniquets that were in place were makeshift tourniquets as opposed to the combat application tourniquets, why at that stage might you or another paramedic in your shoes not replace the makeshift tourniquets with something like a catastrophic —— forgive me, a combat application tourniquet? Why wouldn't you replace the makeshift for

something that's specifically designed for that purpose?
A. A tourniquet, regardless of whether it's the CAT or a belt, is a tourniquet and it does the same thing, it'll prevent blood loss. If the makeshift tourniquet is working, I'm not going to mess about, I'm not going to take it off, I'm going to leave the makeshift tourniquet on because it's doing a valuable job and it's working. I'm not going to waste time putting a second tourniquet on. Actually, at that point, it's not indicated because he's not bleeding.
Q. Right. You were asked some questions by Mr Cooper in relation to the manner in which John had been brought downstairs and, so I understand it, you didn't see him being brought downstairs but you saw him when he was in the casualty clearing station.
A. So I heard the noise, if you like, which was above ——
Q. Yes.
A. —— the other noise and the putdown(?). But I don't —— I didn't even realise he'd been brought down on a railing.
Q. What did that indicate to you when you saw that somebody who was so critically ill was on a railing, a metal barrier? What did that indicate to you, if anything, about the place from where he had been brought?
SIR JOHN SAUNDERS: Just help me. Did you realise at the

time he was on a metal railing? I just thought you told me you didn't.
A. Sir I thought he was on a barrier, as opposed to a —— not a railing. I knew he'd been brought down on something, but I wasn't sure what it was. I knew it wasn't a stretcher ——
MS ROBERTS: Right.
A. —— because there was no scoop or anything on him.
SIR JOHN SAUNDERS: So whatever it was, what did that indicate to you from the place he was coming from ——
MS ROBERTS: Yes.
SIR JOHN SAUNDERS: —— if at all?
A. Like I said before, I wasn't —— at that point he's come to me and I'm not bothered how he's got there, I need to help him out now. On reflection and on hindsight, one could consider that —— people do what they do because they want to help people and they've tried to extract him from that location to get him to where they think he's going to get some help. So they've gathered whatever they can to facilitate ——
SIR JOHN SAUNDERS: Sorry to stop you, Mr Keogh, I think I could work all that out for myself.
I'm not sure that the witness's evidence on that is going to be ——
MS ROBERTS: Well, in a war zone, are stretchers available

at all times or not?
A. We have to improvise, so we have certain equipment that is available, but if it's not, we improvise. We'll use webbing, we'll use whatever we've got, ladders. But we improvise a lot of the time.
Q. Thank you. Just very briefly, please, in relation to the questions you've been asked about the bilateral chest decompression, which we know that Dr Daley performed, you told us about the rise and fall, you gave us the mnemonic for that, and one of the things you talked about was injury, so the I of RISE, and you said you couldn't roll him. That's not a criticism, Mr Keogh, but does that mean that therefore so far as injuries potentially on his back that were invisible to you and therefore unassessed by you ——
A. So yeah, I couldn't roll him. As far as I could practically possible —— so I couldn't roll him, I would have put my hands underneath because it's my standard practice.
Q. Yes.
A. But, again, I'm not going all the way under. The idea is you pull underneath and then pull out to see if you've got any secretion on your glove afterwards and there was none that I recall from doing that.
Q. Right. You told us, I think, that so far as the —— you

were feeling the bony aspect of his chest. You also, as part of that —— ideally, as part of the rise and fall process, ideally one would assess resonance and one would listen to the patients, and I think because of the noise and the chaos that was around you, you were unable to assess resonance or listen to him?
A. Yes.
Q. So your inability to roll him, assess resonance and listen to him, did that in any way —— or did you even think about it at the time? Did that in any way play upon your mind when you saw Dr Daley perform the bilateral chest decompression? Because it's been suggested to you that it wasn't necessary in the light of what you had seen and observed, but we know from what you told us about the mnemonic itself that there seemed to be one or two aspects of it that you simply weren't able to perform for the circumstances that you've told us about?
SIR JOHN SAUNDERS: Okay, I don't think a suggestion was made, questions were asked, I hope without a suggestion being made. The evidence so far from Dr Daley and from this witness is that it's absolutely standard procedure.
MS ROBERTS: Thank you.
SIR JOHN SAUNDERS: So I'm not sure ——
MS ROBERTS: Well ——

SIR JOHN SAUNDERS: That's what you said, isn't it, standard procedure?
A. It is, yes.
MS ROBERTS: Well, if that's the status of the evidence and that's clear, then I shall leave that point, sir, thank you.
Moving on then, so far as the ambulances themselves are concerned and the crews of the ambulances in that area, as we know that they were and dealing with the patients as we know that they were —— and we know from the timings, Mr Keogh, that the point at which you are seen assisting John and taking him to the ambulance, at that point there are, I think, 38 patients down in the CCS, I think, at that particular point.
[redacted]
A. [redacted].
Q. [redacted]
[redacted] ——
A. [redacted]
Q. Yes. Just help us with this whilst we have you here,

Mr Keogh. Again, something which the inquiry is quite properly looking at is: what do you do in that situation when in effect there's a vacuum? You've got the ambulances there, all the paramedics from the ambulances are in the CCS treating the very many patients that they have to treat and you've therefore got nobody to take those patients to hospital. Do you follow me?
A. Yes.
Q. Have you thought about, or been asked to think about, how to plug that particular gap, how to fill that vacuum?
A. I have considered briefly and my thought was, especially later on in the evening when I had the interactions with the fire ——
Q. Yes.
A. —— they could have —— I'm not too sure on fire training, but I believe most of them are blue light matrix trained so they can drive vehicles on response condition. And in the point that they in that role —— or in that incident may not have had a specific role to partake in, they could have backfilled to ensure that we had an emergency driver, ie a fire crew, and that then put in both the paramedic and technician in the back of the ambulance to deal with the patient.
Q. Right. I don't know if that's of any assistance, sir,

but that's what I wanted to ask in relation to that.
Just finally, Mr Keogh, in relation to the look, the graphic description that you have given about the look that John had when you saw him: "waxy as hell". You told us that even though paramedics are trained to look at a patient's colour and to make an assessment in relation to that, you said this, that, "Some of my colleagues may never have been exposed to it, so they've been trained what to look for, it's been described to them, they've been told about it."
But again, from your personal knowledge, is it something that, until it is seen, it's actually quite hard to describe that?
A. I think you can't really appreciate it until you've seen it, so you can't recognise it without the experience of seeing it.
MS ROBERTS: Thank you.
MR COOPER: Sir, if it assists you on one point my learned friend raised, just on the issue of barriers, if it helps you, sir. In Mr Keogh's statement {INQ006942/1}, towards the bottom of it he says:
"The police were bringing patients down on railings."
SIR JOHN SAUNDERS: Thank you very much.
Ms Cartwright.

MS CARTWRIGHT: Sir, I have no questions for Mr Keogh. Just to complete the updating information about ambulance A534, the Rohde/Burgess ambulance, it is absolutely correct that it did come back to the arena and in fact that was the ambulance that transported the first patient that was brought down into the casualty clearing station. So that patient had arrived in the CCS at 23.07 and would then depart on ambulance A534 for hospital at 02.30 on 23 May.
SIR JOHN SAUNDERS: Thank you very much.
MS CARTWRIGHT: Sir, can I thank Mr Keogh for his evidence.
SIR JOHN SAUNDERS: Yes, I'll do that too.
Thank you very much for coming. It has been very helpful evidence and very clear too, if I may say so.
Now, Ms Cartwright, it has been very helpful evidence, it has been very important evidence, but I think we're ——
MS CARTWRIGHT: We have two more witnesses.
SIR JOHN SAUNDERS: We're overrunning somewhat?
MS CARTWRIGHT: We are, I'm afraid, sir. We've got Paramedic Ruffles and then Dr Godfrey.
SIR JOHN SAUNDERS: Okay. No one is going to be stopped from asking relevant questions, but can we bear in mind that we need to get through these witnesses this afternoon because we have the experts fixed for

tomorrow.
Thank you. 2 o'clock.
(1.02 pm)
(The lunch adjournment)
(2.00 pm)
MS CARTWRIGHT: Good afternoon, sir. The gentleman in the witness box is Michael Ruffles.
MR MICHAEL RUFFLES (affirmed)
Questions from MS CARTWRIGHT
MS CARTWRIGHT: Could you please tell the inquiry your full name?
A. Michael Stephen Ruffles.
Q. You have provided a witness statement in May 2018 that gave details as to your service with NWAS, so can I check, as of the time of the incident in May of 2017, is it correct that you had been a qualified paramedic for 5 years?
A. Yes, that's correct.
Q. And you had then also been a senior paramedic for 1 year?
A. Yes.
Q. Do you still continue to work for NWAS?
A. No. Two years ago, I left North West Ambulance Service and I now work for Manchester University NHS trust as a trainee advanced clinical practitioner.

Q. Thank you. The inquiry has already had a great deal of evidence about you read from the sequence of events, but also from your witness statements, so can I briefly then deal with how you came to be at the arena. We can see that you arrived in conjunction with EMT Laura Worrall at the scene at 23.21.18.
Can you briefly tell us how it was that you came to arrive at the arena, please?
A. Yes. We were on shift that night and we just were handing a patient over at Stepping Hill Hospital and then there was a shout—out put on the open air radio to say that there has been a major incident or a suspected major incident in Manchester and they were asking for crews to become available. So once we'd finished handing over our patient, we cleared at Stepping Hill Hospital where we were deployed to the Manchester Arena.
Q. You tell us in the witness statement that the satellite navigation operating within your ambulance, which was ambulance A368, directed you to a rendezvous point at Hoyte Street outside Victoria Station?
A. Yes. I took that from kind of a recollection of events the following night when I was back on shift. I think that must just have been a typo from me because I think it would have been Hunts Bank that the RVP was.
Q. But certainly, is it correct that the RVP, the rendezvous point, that you were provided was to Hunts Bank?
A. Yes.
Q. Thank you. Can you describe how many ambulances were there when you arrived at Hunts Bank?
A. We approached from the Victoria Approach Road and I think approximately four ambulances were in front of us, but I can't recollect.
Q. Are you then describing the area in front of Victoria Station?
A. Yes.
Q. When you left your ambulance, what equipment did you take with you?
A. So Laura and I both put our high—vis jackets on and our helmets and we took the Lifepak15 defibrillator, our BLS bag, advanced life support bag and our drugs bag.
SIR JOHN SAUNDERS: [redacted]
A. [redacted]
SIR JOHN SAUNDERS: [redacted]
A. [redacted]

SIR JOHN SAUNDERS: [redacted]
A. [redacted]
MS CARTWRIGHT: Had you been given any additional information as you made your way to the arena?
A. Yes. I've got a transcript ——
SIR JOHN SAUNDERS: I'm really sorry, does the fact that Mr Suter is leaving mean that I shouldn't have asked the question that I just did?
MS CARTWRIGHT: You may have noticed that Mr Suter left the room earlier today as well.
SIR JOHN SAUNDERS: Perhaps someone should forewarn me that I shouldn't be saying these things but hopefully it will be stopped.
MS CARTWRIGHT: I think we can continue, sir.
SIR JOHN SAUNDERS: I'm sure we can, yes. Thank you. I'm sorry if I said something which would have been better not to have been said.
(Pause)
MS CARTWRIGHT: Could you give us the additional information that you've been provided with as you made your way to the arena?
A. Yes. I've got a transcript of the message that was passed from control, saying that they were aware that

there were some deceased people on scene, the police were asking for everyone. At the moment they think there's 60 walking wounded and at least 20 vehicles needed and it says here to attend Hunts Bank as the RVP and that they are sending everyone, all advanced paramedics and officers, and they'll update me if there's anything further they need to.
Q. We've already ascertained that your ambulance records you as arriving on scene at 23.21.18. In fact, you are then captured going to John Atkinson at 23.29.19. So could you just deal with the time after you arrived and what you did? You provide information that the police directed your attention to a casualty.
A. Yes. Once we'd got all our belongings out of the ambulance, a police officer approached us and asked if we would come and have a look at a young lady that was underneath the canopy on Victoria Approach. She had two other people with her, another young female and an older person, I can't remember if it was a female or a male, but they were explaining that she had some injuries to her legs, which had some dressings applied to them. There was no further active bleeding as far as I could see and she had managed to walk there. One of the bystanders that was with her was a student nurse, so we just explained that at this moment in time,

unfortunately she would be a lower category triage patient, and that we'd have to go to the actual site of the event and then, if anything were to deteriorate, they should alert someone and we could come and reassess her.
Q. Having done that, is it correct you walked down towards the MEN and Victoria Station where you Mr Smith and Derek Poland stood at the entranceway to the station?
A. That's correct.
Q. What information were you provided with at that time?
A. It's all a bit of a blur because there was quite a lot of things to take in at that moment in time, so there's a lot of visual and auditory information. So I can't actually recall what was said. I know Mr Smith did say something, but I couldn't tell you what he did say, I'm afraid.
Q. You've already referenced that you made a contemporaneous note the day after, I think, written at 19.45 on 23 May 2017.
A. Correct.
Q. Is it more likely that the account you provided in that account gave a better recollection of what had happened at the scene?
A. I don't know. There are some mistakes that I've looked at since, which I can't say would be entirely accurate,

but I think it would give a good clear kind of running order of the events and what I did.
Q. Then can I ask you just about that conversation? Within that account, created the following day at 19.45, you say this:
"We walked down towards the MEN and Victoria Station where we found Dan Smith and Derek Poland. They had organised a queue of crews ready to be allocated to specific patients. We were allocated to a patient to the right of the entrance to the Victoria Station. He was called John Atkinson."
A. Yes.
Q. So do you have a recollection of what you understood to be the system that was being operated for those paramedics who were arriving at scene?
A. No, I think it was mainly an assumption that that seemed to be the point of congregation and knowing who Dan Smith was and Derek Poland, I knew that they were senior members of staff within NWAS and that they would be taking on an operational command role of some sort and as such, they would be the ones to kind of seek out and they would be the ones to direct us to our actions.
Q. Can I then ask you, at 23.29.19, the interrogation work that's been done by the Operation Manteline team identifies that Mr Keogh, the paramedic we have heard

from this morning, is captured as calling out "Mike, come here".
A. Yes.
Q. You've had an opportunity to review the sequence of events?
A. Yes.
Q. Do you have a recollection of that?
A. No. No, I don't, sorry.
Q. But it's right, isn't it, there came a time when you went to assist John Atkinson?
A. Yes.
Q. And do you have a recollection of John?
A. Yes, I remember walking to him on the right. I remember where Phil was situated and I remember there being another patient behind Phil Keogh. I remember seeing John Atkinson lay kind of feet towards us and head away and Phil facing me. But in my memory, for some reason, I've put clothes on John. He's not stripped, even though subsequently I know that he is. So again, I do have a memory, but how accurate it is, I can't guarantee, I'm afraid.
Q. Can we then see how far your memory assists us? What was your understanding about what you were being called forward to do for John Atkinson?
A. At that point, I knew that we were going to be the

treating and transporting crew for Mr Atkinson. So I knew that he should have had an initial triage performed and hopefully categorised as a P1, 2 or 3, and that we would be transporting him to hospital.

Q. You say he should have had P1/P2 categorisation. So was it your understanding when you went to John that that had not taken place?

A. I can't remember. I can't remember if Phil told me that he was a P1. I know that he did have a label with him at that point with a P1 on it, so I can only assume that Phil did tell me that he was a P1.

Q. Because, Paramedic Ruffles, can you assist us with this? We know that a P1 label was applied at 23.29.13 by Mr Keogh, but yet it seems a further nearly 4 minutes later, at 23.33.41, the CCTV footage captures two P1 labels being placed by EMT Worrall.

A. Yes.

Q. So had that P1 label by Paramedic Keogh been observed?

A. I've been told subsequently —— and this is purely subsequently, I can't remember at the time —— that I might have put my basic life support bag on the P1 label that was initially there and then —— so I might not have seen it myself. But regardless of whether I'd seen the label or not, I knew that Mr Atkinson had been assigned as a P1 patient.

Q. So if you had not covered the —— so when you approached John Atkinson, you were in no doubt that he was a P1 patient?

A. Correct.

Q. So in terms of then the priority with treating him but also getting him to hospital, was it clear to you that John Atkinson needed to be evacuated as a priority and dispatched to hospital?

A. Yes, but with that comes also the need that we have to fully assess Mr Atkinson because, as paramedics, there are interventions that we can perform which can change the outcome of someone's journey. So if we were just to transport Mr Atkinson without treating him then it could be to his detriment. So it's getting the balance between doing a thorough but quick assessment and then transporting.

SIR JOHN SAUNDERS: So Mr Keogh's already said he's P1?

A. Yes.

SIR JOHN SAUNDERS: Would he not have done that and said, "Well, get him to hospital, but before you do that look into this, that or the other"?

A. From my recollection, it was a —— with all handovers in quick—time critical situations, we try to keep those as succinct as possible, and I remember it being a really very, clear, succinct handover from Phil, Mr Keogh.

I felt it might not have been a thorough assessment, so I was able to kind of have a listen to his chest and kind of explore the wounds on his legs a little bit more in depth.

So you had like a primary survey and then a kind a secondary survey. I felt by performing a further assessment, that also alleviated my mind that everything had been done or would be done that needed to be done.

MS CARTWRIGHT: You have mentioned a handover that was given by Paramedic Keogh.

A. Yes.

Q. So what was that handover?

A. I couldn't tell you verbatim what it was, but from knowing what Phil Keogh is like as a paramedic, it would have just been a quick CABC rundown of any issues and also what injuries Mr Atkinson had.

Q. So would that have included that John was a P1 casualty because of a catastrophic haemorrhage?

A. I can't remember if those words were used directly. I couldn't be sure for that one, I'm afraid.

Q. But in terms of then a P1 patient, if there has been a catastrophic haemorrhage and the patient triaged for that, that places a real emphasis on needing to get that patient to hospital as quickly as possible?

A. Agreed.

Q. You have set out within your witness statement and your accounts provided that you had appreciated that John Atkinson was in hypovolaemic shock?

A. Yes.

Q. So what did you observe about the bleeding that John had obviously sustained prior to that time when you came upon him?

A. There was no evidence of blood loss around Mr Atkinson at the point where I started treating him. As mentioned earlier, he had wounds to both legs. On my recollection of events, I've written that Mr Keogh told me that there was CAT tourniquets on both legs. However, I think that must have just been myself putting the two kind of ideas together in the sense that normally it follows it would be a CAT tourniquet, whereas Phil Keogh may have said it was an improvised tourniquet or that the legs were tourniqueted. But there was no further bleeding from them. There was no further bleeding through the dressings, and as such, I was confident that there was no need for further tourniquets.

Q. In the account that you provided the following day, you recorded this by way of the interaction with Mr Keogh and what was handed over:

"When we approached John, he was under the care of another SP called Phil. Phil advised us that when he

found him, he already had x2 CAT tourniquets above both knees and dressings covering severe injuries to both legs. He also had multiple puncture wounds to his abdomen, chest and back."

So pausing there, did Mr Keogh advise you that there were two CAT tourniquets applied to John?

A. No, as I mentioned earlier I think it must be my putting the two together. He may have said that there was simply two tourniquets on his legs or he may have said improvised tourniquets. But reflecting back on the incident, I don't think he would have said CAT tourniquets because they clearly weren't CAT tourniquets.

Q. Can we then look at your patient report form, which is even more contemporaneous then to the notes?

A. Yes.

Q. The patient report form, which we'll come on to in a moment, was completed by you after you'd handed over John to hospital?

A. Yes.

Q. And it was completed —— and by the time you handed that over, John had been pronounced life extinct?

A. Yes.

Q. So could I ask you, just using this patient report form, to read the history section, please?

A. Yes. I think I used this as reference for writing my reflection the next night, so this might be the source of the mistake. So for the history I have written:

"Patient found with multiple injuries to both legs, abdomen and lower back. During initial triage, combat tourniquet placed on patient bilaterally."

Q. This is a contemporaneous document completed at a time when you'd just handed over John ——

A. Yes.

Q. —— where you are describing that you had viewed combat tourniquets on the patient?

A. Yes.

Q. So Mr Ruffles, can I ask, are you trying to distance yourself now that what you had seen on John, you had assessed to be combat application tourniquets?

A. I think at the point of writing this, it's purely human error. I think at the point of writing this I was quite overwhelmed by the incident and it's just a mistake on my part to have written "combat tourniquet" or I've transplanted that memory on myself.

Q. We know that John at that time did have an item that had been applied to above his knees and the inquiry has heard some evidence from the witness that applied that. So what did you see above John knees?

A. I can't remember. Since the incident, I've been unable

to remember, which I find really bizarre, but...

Q. Mr Ruffles, using your note contemporaneously made in the patient report form, is not more likely that you had assessed what had been applied to John legs' as a combat application tourniquet?

A. I think that —— honestly, I don't know because they're bright orange, the ones that we use, and they're quite distinct, so I'm not sure.

Q. Can I ask then what examination you made of other items on John's legs when you went to him?

A. Yes. I remember he had multiple bandages placed on his legs from his knees downwards. I don't remember them being wrapped, I remember them kind of as being placed on top, and there was no evidence of any blood coming through those dressings, which suggested that there was no active bleeding.

Q. Mr Ruffles, can I ask you then to continue reading your history in the next section in the patient report form.

A. Yes. The next section:

"On examination: on arrival, patient lay supine, alert, GCS 15, pale and clammy. He is tachypnoeic [so breathing quickly] with equal air entry [that's from listening to his chest]. Multiple lacerations to chest, abdomen, back and legs, some of which puncture wounds. [And then it says] Active haemorrhage to legs."

I don't know if this part —— we sometimes use a small annotation of a circle. I don't know if I've purely skipped the circle, but I don't know why it purely says "active haemorrhage to legs". Below it, it says:

"Cannulated and tranexamic acid administered. Oxygen administered. Pulseless electrical activity cardiac arrest at 23.48. Double chest decompression. ROSC at 00.00. Blood pressure unrecordable. Pulse 42 beats per minute. Atropine administered. Pulse and blood pressure increased to 112 beats per minute and blood pressure 103/65. Blood pressure fell to 67/42 at accident and emergency and GCS 3."

Q. Mr Ruffles, you have identified that within your notes you have recorded "active haemorrhaging to legs".

A. Yes.

Q. And you have sought to introduce today about a potential that —— you should have recorded a circle. Could you describe what that would have meant if it appeared in your notes?

A. The circle is an annotation of a no. We normally just put a little circle next to something and that that means no. So you could put a circle and "chest pain" for no chest pain.

Q. Certainly what's recorded in the patient report form

suggests active haemorrhaging to legs was seen.
A. Yes. To read that, yes. But then in my statement the night after, it says "no active haemorrhage" from the examination then, so it kind of contradicts it.
Q. It's right, isn't it, that in your witness statement you described about the need or to provide TXA for John being -- if we can wait whilst I find it -- to hopefully reduce the amount of blood John was losing.
A. Yes.
Q. So can we be clear, did you observe that there was blood loss still occurring from John's legs when he was in the casualty clearing station?
A. No further blood loss, no.
Q. So how do you reconcile your patient report form that there is a reference to "active haemorrhaging to legs"?
A. As I explained earlier, I think it's simply that I didn't put the circle to annotate a no.
Q. Just to complete the questioning around bleeding, the inquiry has a witness statement from EMT Worrall that describes that at the time when you were completing the patient report form in the ambulance after John had been handed over, she spent the time cleaning up the blood that was in the ambulance. So can I ask you, first of all, did you witness blood in the ambulance?
A. No.

Q. So is it your evidence -- was there any bleeding that occurred to John on transportation in the ambulance to hospital?
A. No, I don't remember seeing any. If there was blood within the ambulance, then we have to do a specific type of cleaning where we have to get the COSHH kind of principles, where we have certain products we get from the hospital and it requires a more in-depth clean rather than just a wipe. So if there was a significant bleed, first of all it would be noticeable, and we'd also have to perform a certain cleaning process before being utilised again.
Q. So I'm just going to -- just for completeness, the statement of EMT Worrall sets out:
"I returned to the ambulance and cleaned it as there was a lot of blood and I recall it took a while. I recall that Mike did a PRF and left a copy at the hospital."
So is it your evidence that EMT Worrall is incorrect about that?
A. Yes.
Q. So can you assist with what the rationale was in providing TXA to John?
A. Because John had suffered multiple traumatic injuries. He had wounds to his legs which had required an

improvised tourniquet to be placed, but they were clearly significant if someone had actually placed a tourniquet on them. He also had multiple injuries to his torso and his abdomen, which could result in significant internal bleeding which we wouldn't be able to see. His blood pressure was unrecordable, he looked pale, he looked clammy, and it was quite clear that there had been some mechanism to cause blood loss.
Q. We know that the TXA was not commenced from your record in the PRF until 23.40. So why did it take 11 minutes before TXA was administered to John?
A. The timing on the PRF might not be entirely accurate because we don't have watches, we don't have any way of recording the time whilst we're on an incident. I don't remember seeing a clock and I wouldn't seek out a clock at the incident. So to say 23.40 would have been a best estimate at that point. However, I do remember -- well, looking at the images post-event, there's a rough idea of when the cannula was inserted, which is around 23.32/23.33, and then from that point, you have to secure it to make sure it's safe, then you have to flush it, and then it's a case of drawing up the TXA because it comes in two separate vials, and then it's a case of administering 1ml a minute over 10 minutes.
So it can't be a case of making the decision to give

tranexamic acid and then it goes in, there's a process involved. So as much as I'd love to be able to say as soon as I recognised he needed tranexamic acid I was able to give him the tranexamic acid, unfortunately there's a process you have to go through first.
Q. So is it then your evidence that the timing in your PRF as to when the medication was administered is likely to be wrong?
A. By a few minutes, yes.
Q. So can you assist us then, using your best recollection and what you viewed on the sequence of events, when you commenced delivery of tranexamic acid to John?
A. I could only say it would be some time after cannulating him. So for Mr Atkinson, I think it would be from 23.34 onwards. But I wouldn't be able to accurately give you a time I'm afraid.
Q. Would it have been that John, before going into cardiac arrest, had had the full 10-minute period that we've heard --
A. No.
Q. -- that is required for the administration?
A. No.
Q. No?
A. I remember finishing administering the tranexamic acid in the ambulance.

Q. So can you tell us then about —— you're saying you commenced it some time after cannulation?
A. Yes.
Q. But can you just then describe the process and how you know that you concluded the process in the back of the ambulance?
A. I remember because —— I remember there being a period of time where Laura —— I'm sure you'll come back to it —— had gone out to get the stretcher and I was with John by myself and I had also commenced giving him or set up, sorry, the saline —— the bag of fluid, the saline fluid, and had that kind of resting under my chin because I had nothing to support it, and I was using that to help flush the tranexamic acid rather than having to draw up the syringes of medication.

I remember giving 1ml a minute and using the timer on the Lifepak15 to indicate when a minute had passed, I was able to do so, and then there's a memory in the ambulance of —— I think, there were 3ml of the tranexamic acid left to administer when we got into the ambulance.
Q. So even in a major incident when there's plainly an importance to the delivery of a medication, how is there an ability then to record when you start a process, appreciating the pressures that you as paramedics are

under?
A. Yes. So one way —— we can use the Lifepak15, there is a way you can record events on there, so quite often we use that during cardiac arrest, during a circumstance which isn't as resource—heavy as this incident. So if there's a cardiac arrest in a house and we have four resources available, one person can use the Lifepak15 to accurately timestamp when things have happened, so we can put in that adrenaline has been administered at such—and—such a time. We can do that.

I don't think on the Lifepak15 there was a pre—entered tranexamic acid timestamp that you could put in, because you have to press event and then toggle through what you want to timestamp. But there was a generic, so theoretically I could have time stamped that. However, I had so much going on, I didn't do that.
Q. So would there have been other things recorded on the Lifepak for John Atkinson that would have provided an accurate record as to the care provided to him and the medication provided?
A. No. It would have shown the attempts at the blood pressure recordings and then it would have also shown if we had placed Mr Atkinson on the monitor to record his heart rhythm, but it wouldn't have recorded any drug

administration.
Q. You've mentioned in answering the questions about the tranexamic acid, about the sodium chloride, remembering having it under your chin.
A. Yes.
Q. Currently on the PRF we have the sodium chloride being commenced at a time when John would have been in the ambulance at 23.59. So is that recording accurate?
A. No, that wouldn't have been accurate as well, I'm afraid. It's not a very well written PRF.
Q. So can you assist us as to when you would have commenced providing the sodium chloride to John?
A. Yes, I think it would have been after the first bolus of 1ml of tranexamic acid.
Q. So at a time when he would have been in the casualty clearing station?
A. Yes.
Q. Perhaps if we complete the timings for the other medication. The provision of adrenaline at 23.58, is that likely to be an accurate time?
A. I think so. I think that was administered just before we departed scene, so yes I think so.
Q. And the timing recorded for the atropine at 00.07, is that likely to be an accurate recording?
A. No, because we arrived at hospital at 6 minutes past, so

no, that wouldn't have been accurate. The atropine would have been at some point between leaving scene and getting to the MRI.
Q. Can you give us any greater assistance as to when that would have been administered to John?
A. Well, that was a 6.5—minute window, so... I haven't put a time for when the return of spontaneous circulation was.
Q. You have, you've recorded it at midnight.
A. Have I? Okay. It would have been a few minutes after that, but I couldn't specify where in those preceding 6 minutes it would have been, I'm afraid.
Q. Before we go back into the chronology at the casualty clearing station, did you only provide one dose of adrenaline, because there's evidence that that should be given every 3 to 5 minutes?
A. Yes, once.
Q. Why was not a repeat dosage of adrenaline provided to John?
A. Because the first dose was the first opportunity we had to administer adrenaline and then we achieved a return of spontaneous circulation. At that point, adrenaline is no longer indicated.
Q. Thank you. Then going back to your initial observations that you're telling us about, you were clear that John

was a P1?
A. Okay, yes.
Q. You're less than clear that that was definitively for a catastrophic bleed?
A. Mm−hm.
Q. But it's right, isn't it, that you were unable to obtain John's blood pressure, you yourself, on the recordings of the devices available, but also manually when EMT Worrall sought to obtain a manual reading?
A. Yes.
Q. So what did the absence of being able to record a blood pressure indicate to you?
A. It reinforced what we already knew, that Mr Atkinson was critically unwell.
Q. We've already dealt with whether there was or wasn't a CAT tourniquet on what you saw at that time. But do you recall a belt being present that had been used as a tourniquet?
A. No.
Q. So can you assist? We know that John does not leave for hospital until midnight. So from a time when you go to him, 30 minutes elapses before John is transported to hospital.
A. Yes.
Q. Did you appreciate that time was of the essence for the

dispatch of John to hospital?
A. Yes, that's why after 6 minutes, I asked Laura to get the stretcher for us so we could expedite that removal and transport Mr Atkinson to hospital.
Q. Can I ask you also, having identified that there was a risk of hypovolaemic shock for John, did you also appreciate from what you saw that there was a risk that John was about to crash into cardiac arrest?
A. Yes, I knew that that was a possibility.
Q. It's clear from the work that has been done by Operation Manteline that John experienced delays by reference to the provision of a stretcher.
A. Yes.
Q. It's right, isn't it, that EMT Worrall goes to retrieve the stretcher, and because of the location of your ambulance, that takes some time to be brought to you? So time elapses in providing the stretcher, but then when the stretcher is provided, it takes a further period of time for her then to go and retrieve the spinal board?
A. Correct.
Q. So why was this issue in delays of, first of all, getting the stretcher but then when the stretcher came, it being the wrong item and the spinal board needed, which resulted in three−minute journeys there and back,

to bring the necessary items to dispatch John to hospital?
A. Well, again, I think it depends on your use of the word "delay" because ultimately, the stretcher is on an ambulance and no matter where the ambulance is located, there's always going to be a time frame in which you have to be able to remove the stretcher from the ambulance. So you have to go to the −− open the doors −− on our ambulance you have to drop the tail lift, so you can open the doors, then you have to lift the tail lift, and then you have to pull the stretcher off, then you have to drop the tail lift to get the stretcher off, shut the doors, and then you have to bring it back. So a delay of 3 minutes in transporting, I don't know if that's an accurate word to use. That's just the time frame it took, I'm afraid.
Q. Well, certainly it took, I think we can see from 23.39.33 when the stretcher has been brought back −− at that time you seem to be shouting over to Daniel Smith. So can you assist us as to what was the urgency when the stretcher had been brought for you to be shouting for the assistance of Mr Smith?
A. It was because I could see that Mr Atkinson was unfortunately deteriorating in his condition and it was to see if we could get any additional support, because

normally −− what we normally have when we have critically unwell patients, is we have multiple resources, we aren't left to the point where there's just two clinicians treating a person. Ultimately, the more people we have to assist, the better the care, so it was just to try and get some additional support.
Q. And is that because your EMT, Ms Worrall, was having to go all the way to where the ambulance was parked to get that and there was no one else to assist you at that time?
A. No. Even if Laura Worrall was with me, I'd still be asking for further support.
Q. But is it correct that there's no evidence that you had a response from Mr Smith when you were asking for assistance?
A. I don't think he heard me, to be fair, because there was so much noise and so many other people fighting for his attention that I can't remember him acknowledging me. I don't think it's a case that he ignored or he refused to assist; I think it's purely that he didn't hear me. So at that point, we saw Joanne Hedges walk past, or I did, and I asked her and then a few minutes later, Phil Keogh came.
Q. But is it right, though, you asked Joanne Hedges for help and assistance, but the answer that was given

is that there was no one available to help you at that time?
A. At that time, yes.
Q. Would you have expected, when you asked for the stretcher, for the spinal board to also have been brought back for John at the same time?
A. There's a scoop stretcher that we use because that's the one that breaks into two, it's easier to place people on it. I can't remember how long Laura had been in NWAS for in the Ambulance Service. It was my expectation, but I didn't explicitly ask for the scoop stretcher, so I think given the circumstances Laura may have —— she did what she was asked to do and, unfortunately, I hadn't asked her to get the scoop stretcher at that point in time. So I wouldn't say it was necessarily her fault, I think it was me not explicitly saying, "Bring a scoop stretcher".
Q. But if one then looks —— we can initially see Laura Worrall leave to head towards the ambulance to get the stretcher. That's timed at 23.36.20. But actually when we finally get the spinal board brought to John after the return with the stretcher and then going back for the spinal board, there has been 7 minutes elapsed because the spinal board is only brought to him at 23.43.29.

A. Correct.
Q. Can I ask you again, particularly when you have a P1 patient where time is of the essence, they need immediate life-saving treatment, a delay of 7 minutes to bring the very thing that's going to be necessary to place a patient on the ambulance is a big delay for a patient in John's position?
A. Yes, I agree. Ideally, if the scoop had come with the stretcher and that had taken a 3.5-minute time frame, then that would have been much better than the further 3.5 minutes that, unfortunately, Mr Atkinson had to wait to receive the appropriate equipment.
Q. So would your evidence be that had the scoop stretcher been brought back initially around about the time when we can see that the stretcher is first brought back, that John would have at that time immediately have been dispatched to hospital on the scoop stretcher?
A. We would have immediately transported him to the ambulance, yes. I can't say whether we would have immediately departed because, looking at the time frame of events, Mr Atkinson unfortunately went into cardiac arrest shortly after we initially got him on the stretcher. So if that journey had come along, then he would have possibly gone into cardiac arrest in the ambulance, and in that case it would have just been

Laura and I, so we would then have to do further treatment, which could have delayed us further.
Q. We know that John did not go into cardiac arrest until around 23.47, and certainly on your note in the patient report form, 23.48. But if one looks at timings, if he'd gone on the first stretcher when it was brought, it could have been he went into cardiac arrest at a time when he was in hospital with the trauma team on hand.
A. I don't know. That's speculation, so I wouldn't be able to answer that one, I'm afraid.
SIR JOHN SAUNDERS: The other thing is, you go to the end ambulance, which is the one you came in?
A. Correct.
SIR JOHN SAUNDERS: Is there any reason why you couldn't go in the first ambulance? Should that not have been the system, that the next (overspeaking) went in the first ambulance?
A. Yes, what we referred to earlier (overspeaking).
SIR JOHN SAUNDERS: You're not meant to tell me all of that!
A. There should have been available the other ambulances. However, I think there's a mixture of circumstances which prevented me from thinking that. One was because there was so much...
SIR JOHN SAUNDERS: It wouldn't have been your call, would it? There's a loading officer.

A. Yes, but at the time I wasn't aware of there being a loading officer. I don't remember being told which ambulance to use. So I think it got to the point where I reverted to kind of normal practice in a sense that we used our own ambulance. I was familiar with what was on that ambulance, where it was parked. Laura was set up for a driving position, I knew which equipment we'd taken off it, I knew which equipment would be on it which we would need.
At that time, ambulances were all configured differently inside, so if you needed something, where they are in Stockport ambulances would be different to where they are, say, in Oldham ambulances.
SIR JOHN SAUNDERS: So if the idea is that when you have a whole queue of ambulances ready to take people away that you should use the first ambulance available, if that's the theory, it sounds to me from what you said it actually doesn't work in practice for all the reasons you've just said?
A. Yes, I think it might have changed since, but I do look back on it and reflect that had I used one of the first ambulances next to where we were, would it have changed anything? I couldn't honestly answer. At the time it didn't cross my mind to use one of the first ones, but again that would be a mistake on my part.

MS CARTWRIGHT: Thank you. In terms of the observations of John, at the time before he goes into cardiac arrest, it's right, isn't it, that he was breathing?
A. Yes.
Q. He was conscious?
A. Yes.
Q. He was able to speak to you?
A. Yes.
Q. He was able to give you an indication that he thought he was dying?
A. Yes.
Q. And did that flag a concern that this was a gentleman that -- that was a telltale sign that something ominous might be about to happen for him?
A. It is a telltale sign when people say that to you. However, I was already under the impression that something ominous may happen anyway, so I don't think it added to my concerns because I was already very concerned for him.
Q. Could you indicate what a respiratory rate of 26 indicated?
A. Yes. It's fast. In a typical adult, you'd expect it to be between 12 and 18 breaths per minute.
Q. His pulse of 54?
A. It is slower than you would expect, especially given the

situation and the expectancy that -- John had lost a lot of blood and normally the heart rate would go very fast. I think when it goes slower, it tends to be a pre-terminal sign.
Q. His low blood pressure in conjunction with an inability to read oxygen saturations; what did that indicate?
A. That he was critically unwell.
Q. And your examination of his chest had not identified to you that there was a presence of pneumothorax?
A. No.
SIR JOHN SAUNDERS: For the moment I'm really not interested in looking at the pneumothorax point because it seems to me every witness so far has said this is standard routine stuff to do.
MS CARTWRIGHT: Sir, I'm not dealing with the needle decompression, it was just what the observations were at the relevant time for John.
We can see from the interrogation of the sequence of events that at 23.34 John is given oxygen. And from your notes it's recorded that that was 15 litres of oxygen.
A. Yes.
Q. And that's the maximum oxygen that can be delivered, isn't it?
A. 100%, yes.

Q. Had you identified that John was deteriorating such that there was a concern that he was about to go into cardiac arrest during the time you were with him?
A. Yes, that was around the time that I initially tried to get the attention of Dan Smith.
Q. You sought the attention of Dan Smith, which you don't recall was successful?
A. Yes.
Q. You asked Joanne Hedges for assistance, but there was no one present to help you?
A. Correct.
Q. Then it was Paramedic Keogh that came and assisted you in a period shortly before John did go into cardiac arrest?
A. Correct.
Q. It's right, isn't it, that then he was then taken and placed in the ambulance?
A. Yes.
Q. And you had the assistance of Dr Daley?
A. Yes, he joined us on our journey to the ambulance.
Q. Can you assist us as to why, once John was on the ambulance, there's yet further evidence of delay, including seeing EMT Worrall leave the ambulance and head back into the casualty clearing station?
A. Yes. So Laura had gone back to the station, and you

kindly showed me an image earlier today, and she was coming back with our drugs bag and in that drugs bag it has all the medication that we require in treating a person in cardiac arrest. And for this case, it has the adrenaline and the atropine that we administered, so it was a vital piece of equipment that we did need. Unfortunately, we'd left it on scene because whilst trying to transport Mr Atkinson on the stretcher and carry other bags, unfortunately that one we hadn't brought with us.
Then to answer the question about further delays in the ambulance, so it was around changing Mr Atkinson's airway device. So Mr Keogh, I think I've written in my notes, inserted a i-gel. We got medication already, did the decompression of his chest, and a secondary assessment, and then we prepared everything for transportation, so preparing everything in the ambulance, making it secure, making sure Mr Atkinson was secure, and that I had access to anything further that I would need.
SIR JOHN SAUNDERS: So apart from having to go back for the drugs bag, everything else was standard, the delay?
A. All the delay was because of treatment.
SIR JOHN SAUNDERS: Right. Did the having to go back for the drugs bag add to the time you were there or were you

doing other things at the time?
A. Because Mr Keogh was with me, we were able to work together and expedite our treatment, but yes, it allowed Laura to be able to go off and collect the drugs bag for us while we did the treatment that was necessary.
I can't remember 100%, I don't remember standing and waiting in the back of the ambulance and thinking, "Can you hurry up?" It didn't get to that point.
SIR JOHN SAUNDERS: Okay. It's very easy to sit back here and have a policy of perfection and all the rest of it, and inevitably things do go wrong, but the reality is from where we've already got to, there was time to go back for the scoop stretcher ——
A. Yes.
SIR JOHN SAUNDERS: —— which could have been done first time round?
A. Yes.
SIR JOHN SAUNDERS: Could theoretically have used a closer ambulance?
A. Yes.
SIR JOHN SAUNDERS: Which would have made shorter trips all the way round?
A. Yes.
SIR JOHN SAUNDERS: And then having to go back to get the bag ——

A. Yes.
SIR JOHN SAUNDERS: —— might have added something to the time? As I say, it may be we're asking for perfection, but there were actually mistakes made which did lead to delay?
A. I don't doubt that and I look back on it and... I think any good clinician can always find improvements that they can make. I've kind of racked my brains post event and thought definitely we could have trimmed a few minutes. I don't think the drugs bag was necessarily one of those which would have ——
SIR JOHN SAUNDERS: Because you were doing other things at the same time?
A. But I agree with the scoop and if we'd had access to a closer ambulance.
SIR JOHN SAUNDERS: Which is not your responsibility. That would be someone else dictating that.
A. Yes, but I guess if I had better situational awareness, if I was able to think clearer, then perhaps I would have thought that. I don't want to pass the buck in that extent ——
SIR JOHN SAUNDERS: You're not, but the point of having a loading officer is to get people away as quickly as possible when they can first go, so to an extent it is someone else's responsibility. Anyway, there was some

time that could have been shaved off.
MS CARTWRIGHT: Can I just ask about the drugs bag and the adrenaline? You confirmed with me that you do actually think the time of that being administered at 23.58 is accurate. But is it not the position that the sooner adrenaline is given for a patient that's gone into cardiac arrest the better? So John was only being given his first dose of adrenaline 10 or 11 minutes after he'd gone into cardiac arrest.
A. Now having discussed what we've discussed, and Laura bringing the drugs bag back to us, then I would assume that the first dose of adrenaline would have been a minute or two after she'd returned it, because they arrive pre—drawn up for us, so all we have to do is take them out the box and the cannula is already in place, so on reflection, I think it probably would have been shortly after Laura returned that we gave that.
SIR JOHN SAUNDERS: But suppose the bag had not been left behind, does that mean the adrenaline would have been given to him quicker?
A. By a couple of minutes, yes, but it wouldn't have been until we got into the ambulance. It wouldn't have been whilst we were transporting him to the ambulance, it'd be one we had got him into the ambulance.
MS CARTWRIGHT: Then can I ask why that wasn't

a consideration when you were working on John in the casualty clearing station, him having gone into cardiac arrest, to not use the drugs that were available there at that point to administer a dose of adrenaline?
A. Because it's not the first line treatment. The first line treatment is oxygenation and chest compressions and at that point we were on to the stretcher and we could get Mr Atkinson into the ambulance, where it's a more controlled environment. So for us, it was at that point, transporting to the ambulance. If we get to the point where we then further delay to administer another treatment, where do we draw the line to say, "No, we need to transport"?
Q. At the point Mr Keogh left the ambulance, there was still a need for chest compressions for John?
A. Yes.
Q. And so can I ask in terms of then you being the sole paramedic at that point in time that was going to transport John to hospital, did you not feel that you needed assistance to be able to give the chest compressions en route to hospital?
A. No. It was a balancing act at the time, so with Mr Atkinson, he was in a pulseless electrical activity cardiac arrest. What we needed to do treatment—wise, we already had sodium chloride, fluid running for him, we'd

given the first adrenaline, I was going to do chest compressions, and he also had an i-gel airway device in place. I felt comfortable that I could administer chest compressions and -- because when you're in an ambulance transporting someone, it's hard to do effective chest compressions no matter how many people there are with you. Invariably, as you're going round corners, you have to use one hand to hold on to the ambulance -- we have a bar kind of just above the patient -- so you can only kind of balance yourself. Having two people there doesn't help with that.

I'd already pre-drawn -- well, already prepared a second adrenaline ready to administer. And to administer the adrenaline it takes a few seconds and we typically do that while we do a rhythm check, so there is a pause in the chest compressions, so being able to kind of do the rhythm check, which is when it was discovered he had the return of spontaneous circulation, I would have been able to administer the adrenaline at that point. I have got quite a lot of experience of situations of cardiac arrest in the back of an ambulance by myself because it used to be routine practice, unfortunately, until about 5 years ago where we then kind of implemented a policy of getting a lot more resources.

Q. But it's right, isn't it, that once Paramedic Keogh left the ambulance, and in fact before and as you departed at midnight, that John had a return of spontaneous circulation?
A. Yes, which demonstrated that the chest compressions that I was administering were good enough.
SIR JOHN SAUNDERS: That and the adrenaline? Which one gets the circulation back?
A. Adrenaline kind of kick-starts the heart a little bit and can also cause a little bit of vasoconstriction, so it tightens up your body a little bit and all of your blood vessels. Which one it would have been, I don't know. Chest compressions is always the most important --
SIR JOHN SAUNDERS: But a combination of the two?
A. Yes, if you don't do chest compressions but give adrenaline, it's not going to do anything.
SIR JOHN SAUNDERS: Right, thank you.
MS CARTWRIGHT: Can I then explore with you how John was when the return of spontaneous circulation occurred at midnight? He had a weak carotid pulse of 54?
A. Yes.
Q. And is the carotid pulse -- that's in his neck?
A. Yes.
Q. You have recorded a respiratory rate of 8?

A. Yes.
Q. And you set out in your witness statement:
"I continued to support his breathing."
A. Yes.
Q. So John was breathing at that time wasn't he?
A. Yes. But 8 is quite a low amount, especially if someone's being in cardiac arrest. Typically if they breathe effectively or their respiratory drive is effective they'll breathe quicker because they have a huge build-up of carbon dioxide where they've not been breathing properly, so their body wants to offload, so normally their breathing would be quicker. Eight is quite slow. I didn't document on there whether it was effective breaths. Sometimes they can be very shallow or they can be what we call diaphragmatic, where it is just not an effective breath, so we support it with the i-gel in place, so you have a mask and a bag you can squeeze just to make sure they are effective breaths.
Q. So was that -- are you using the bag and mask all the way to hospital?
A. Not the mask. So it's the BVM, which is the bag valve mask, but it's just the bag and the valve which is attached to the i-gel, which is the airway adjunct -- and yes, it's all the way to the hospital.
Q. So John was capable of breathing all the way to

hospital?
A. Again I can't remember if they were effective breathing but he was attempting breaths.
Q. Then can you just assist us, you administered the atropine and we've had a discussion about when that would have been administered. What does that atropine do to assist his bradycardia?
A. So hopefully it reverses the bradycardia and helps increase the heart rate.
Q. You describe that John's pulse increased to 100 beats per minute?
A. Yes.
Q. Can I just be clear about what his blood pressure was because we've got two different recordings between your witness statement and the PRF. The PRF records a blood pressure of 103/65, the witness statement 103/50. So which is likely to be more accurate, the contemporaneous PRF?
A. I've put a question mark on my notes from the night after, after the 103/50.
Q. I'm looking now at your PRF that has the 103/65 recorded.
A. I assume it would be the PRF which is written after the incident.
Q. What does a blood pressure of 103/65 indicate?

A. Low but effective enough that you'd assume that all the vital organs would be getting blood flow.
Q. And you were also administering the sodium chloride into his bloodstream via the IV ——
A. Yes.
Q. —— en route to hospital? Can you describe what that requires you practically to be doing for John?
A. Nothing once it's set up. So it's connected to the IV, the cannula in his left arm, and then it's opened and it flows through by itself.
Q. Thank you. I think you then record that as you arrived at the hospital, John's blood pressure decreased, and again we've got two different recordings for what it reduced to. In your witness statement you say 67/40; in the PRF we have 67/42. Is it likely that the PRF is more accurate?
A. Yes, but I think there's no significant difference or difference that would actually affect anything between the two readings.
Q. So can you just describe the clinical position of John as you handed him over to the trauma team that were waiting to receive John from your ambulance?
A. Yes. I think as we came into the resuscitation room at the MRI, I think at that point he then went back into pulseless electrical activity cardiac arrest so we just

explained what had happened and still critically unwell.
Q. Can I be clear about that? Because in your witness statement and from the PRF, it seems to suggest that John hadn't gone back into PEA but that his recordings were so low that that's why the hospital team commenced CPR.
A. Yes. But whilst transporting Mr Atkinson on the stretcher into the hospital, it would be impossible to accurately detect a carotid pulse because there's vibrations of the ground and if someone's got a very low cardiac output I wouldn't have been able to palpate it. So once we'd placed Mr Atkinson on the hospital bed then at that point the hospital staff would have performed their checks and deemed that it was pulseless electrical activity again.
Q. So can I just explore with you, should there have been an opportunity on the route to hospital that you should have recommenced chest compressions for John?
A. No, there was only two of us. I've never timed the journey but it was literally 15 metres. Laura would have been on the feet end pulling the stretcher, I would have been at the head end, and I would have been supporting John's breathing, I wouldn't have been able to —— there would have been no one to do chest compressions.

Q. So certainly on the way to hospital there was nothing that required you to start chest compressions again for John?
A. Sorry on the journey to hospital?
Q. Yes.
A. Sorry. No, because at that point I was able to palpate the carotid pulse and I was confident that ——
Q. So it is as you arrive that he deteriorated (overspeaking) handover?
A. Yes, sorry, I assume it's the journey from the ambulance to the hospital.
MS CARTWRIGHT: Can you wait there, there will be questions from Mr Cooper first please?
SIR JOHN SAUNDERS: Are we again getting behind?
MS CARTWRIGHT: A little, but I'm confident we will achieve what we need to do.
I'm not stopping you, Mr Cooper.
Questions from MR COOPER
MR COOPER: I think we'll make up some time. I only have a few questions for you. I ask questions on behalf of the families —— I should say of Mr Atkinson's family.
When you saw Mr Atkinson, in lay terms, he was in a bad way, wasn't he?
A. Correct.
SIR JOHN SAUNDERS: I think you could say a very bad way.

MR COOPER: A very bad way. I'm using shorthand, no disrespect, but we've heard the evidence.
I'm looking at your statement, Mr Ruffles, {INQ006487/3}. You describe the state you saw him in. One of the reasons perhaps for him not bleeding, if indeed he was not bleeding, would have been perhaps that he'd fundamentally run out of blood?
A. Yes, that could be one, or internal bleeding would be another.
Q. Yes.
Communication. I've asked a lot of questions on this of Mr Keogh and I'm not going to go over all that again. Effectively, you recognise, don't you, as he does, as all clinicians do, the importance of communicating what you learn about someone to colleagues at handover so they can kick off, as it were, from a position of knowledge as far as the patient is concerned.
A. Correct.
Q. Of the observations you made of Mr Atkinson, can we just refer to page 3. There are some detailed observations as to his condition including his pallor. Did you pass that on to colleagues straightaway when you handed over?
A. Did I pass it on?
Q. Yes.

A. At what point, sorry?
Q. At that point.
SIR JOHN SAUNDERS: I don't think you handed over until the hospital, did you?
A. No.
MR COOPER: Loose language. Whenever you spoke to colleagues at the scene who were assisting with Mr Atkinson, you were sometimes assisted by colleagues at the scene, weren't you, when you were ——
A. No, only Mr Keogh and then my colleague, Laura.
Q. Those are the ones I was speaking of. Let's deal with Mr Keogh first.
A. But he ——
Q. When you spoke to him, what did you tell him of —— I'm trying to clarify to assist.
When you saw Mr Keogh what did you tell him of your observations as far as Mr Atkinson was concerned?
A. It was the opposite way round. Mr Keogh told me. So Mr Keogh told me that he's pale, clammy, and he wasn't able to get a blood pressure —— couldn't palpate a radial.
SIR JOHN SAUNDERS: We know from Mr Keogh actually there were two stages: first of all he hands over to you, he leaves you, goes away, and then he actually comes back.
A. Yes.

SIR JOHN SAUNDERS: Did you have any conversation with him then to say anything's happened in the meantime or was there really nothing to tell?
A. I would have done but I can't remember what those words were, I'm afraid. I wouldn't have gone back to the start and said that he was pale and clammy when I found him because Mr Keogh was already aware of that.
MR COOPER: Did you tell Mr Keogh at any stage that you felt that Mr Atkinson had had a catastrophic blood loss or potential catastrophic blood loss?
A. No. I assumed that Mr Keogh was aware of that.
SIR JOHN SAUNDERS: Indeed he was aware of it.
MR COOPER: Forgive me, indeed.
I just want to ask you a little more about a paragraph you were taken to but it's the only paragraph I want to refer you to in your —— I'll call it your second statement, {INQ041860/1}. You say this:
"23.39.33 [you are] with Laura Worrall, requesting the attention of Dan Smith. I believe this request was prefaced on the fact that at this time I was conscious that John Atkinson was deteriorating as he was becoming less responsive and appeared drowsy. I suspected therefore that we were going to need additional assistance."
I just want to press you a little more on getting

the attention of Dan Smith. It seems from that paragraph that, as far as you are concerned, you did not actually get his attention on that?
A. Correct.
Q. How did that come about? Were you calling him over or what?
A. I think on the information that I've got from the time stamps, which has been taken from footage and recordings, I think there's one where it says I ask Laura to get Dan's attention, but again, with Laura being new to NWAS, I don't know if she actually knew who Dan was, so I could have worded that better.
Q. Had you got Mr Smith's attention, what would you have told him?
A. That my patient was deteriorating and that I was concerned he was going to go into cardiac arrest.
Q. And that would have been at 23.39.33?
A. Must have been, yes, if that's what the time stamp is, yes.
Q. That's what your statement says. So at 23.39.33 you would have told Mr Smith of that event or potential event and it follows from that, doesn't it, Mr Ruffles, that immediate extraction to the hospital would have been required?
A. Yes, but we'd already commenced that process.

Q. In your view, did the process of extraction to hospital after 23.39.33 happen as quickly as it should have done?
A. No, I've already answered that to Mr Saunders and said it could have been a lot quicker.
Q. And given your concern of Mr Atkinson at 23.39.33, that could have been critical to his survival?
A. No, I'm not entirely convinced of that.
SIR JOHN SAUNDERS: That in a way is a matter for me, I think, having heard all the evidence. There's a lot of expert evidence to go either way, so it's difficult for you to answer unless you feel you can.
A. Well, it's all speculation on my part.
SIR JOHN SAUNDERS: Then we're not interested in speculation. Thank you.
MR COOPER: I'll move on.
SIR JOHN SAUNDERS: Sorry to stop you, but we have rules.
MR COOPER: You were in the ambulance for 6 to 7 minutes, weren't you, with Mr Atkinson?
A. Yes.
Q. And when you gave the verbal handover to the trauma lead in hospital, what did you say?
A. I can't remember my words, I'm afraid.
Q. Would you have mentioned in that handover catastrophic bleeding?
A. I don't know if those words would have come out of my

mouth exactly. I'm not sure.
SIR JOHN SAUNDERS: Try and look at that. So let's assume you did what you ought to do.
A. Yes.
SIR JOHN SAUNDERS: What information should you have conveyed at that handover?
A. So we normally use an ATMIST process where it's age, time, mechanism, the injuries sustained, and under injuries I would typically have said the multiple puncture wounds to torso and abdomen and the wounds to the legs. I don't know if I would have used the term catastrophic haemorrhage at that time. I might have said "a significantly large bleed". I don't know. I can't remember I'm afraid.
MR COOPER: Thank you, sir.
SIR JOHN SAUNDERS: Thank you, Mr Cooper.
MS CARTWRIGHT: Ms Roberts.
Questions from MS ROBERTS
MS ROBERTS: I only have one and it's this really. Could you help us understand, and others who are watching this, how it is that somebody who, on your evidence following questions from Mr Cooper, may have bled so much prior to you seeing him that he had very little blood left within him how it was that somebody who is in that terrible condition is still able to be conscious

and talking?
A. Yes. So a lot of the patients that we typically come across in the Ambulance Service are more elderly and they don't have the same reserves as younger people. However, with Mr Atkinson, I believe he was in his late 20s, he has a physiological reserve and his body is able to compensate for the blood loss. So when he's got significant bleeding from his legs, his circulation will have pulled within his central organs, so it will be going to his brain, his heart, his lungs, and that will, to a certain degree, allow Mr Atkinson to still be aware of what's going on and to still be able to function.
However, you are only able to hold on to that reserve for so long before, unfortunately, your body is unable to tolerate it any further.
MS ROBERTS: Thank you very much.
SIR JOHN SAUNDERS: Thank you.
Did you hear Mr Keogh's evidence?
A. Yes.
SIR JOHN SAUNDERS: We've heard that he had served in Afghanistan.
A. Yes.
SIR JOHN SAUNDERS: So he had considerably more experience than most paramedics would of blast injuries?
A. Yes.

SIR JOHN SAUNDERS: Were there things that you didn't know that he did know which it would have been better for you if you had known beforehand? That's really badly phrased. Do you understand?
A. I've seen my way through the question.
SIR JOHN SAUNDERS: I'm sorry about that. I criticise the questions, not you!
A. From Mr Keogh, what I got from him was that he was very calm and he was able to —— you could see he was comfortable —— comfortable might be the wrong word, but he was able to function fully in that setting. Whereas —— I was lucky in the sense that I could purely focus on Mr Atkinson, I didn't have to change to different patients and do different roles, I could purely put my blinkers on and just focus on Mr Atkinson.
In terms of recognition and treatment, I don't think so, because I had been in the Ambulance Service at that point for 7 years and I'd worked on the rapid—response car and with that you get a lot of exposure to traumatic injuries. I'd been to quite a few young people that had sustained life —threatening injuries, never to this extent. So I was aware of what needed to be done, so I don't think so. I think Phil Keogh may have understood the whole process better.
SIR JOHN SAUNDERS: So nothing in your training could

actually prepare you for this, but as far as you could be prepared, do you think you had been by your training?
A. Yes, I think so, yes. For me personally, yes.
SIR JOHN SAUNDERS: Okay, thank you.
Right, I think that's it. Thank you very much for your evidence. I'm grateful to you for coming.
MS CARTWRIGHT: Thank you.
We're ready then to commence the next witness.
SIR JOHN SAUNDERS: I have obviously done you an injustice.
(Pause)
(3.17 pm)
(A short break)
(3.30 pm)
MS CARTWRIGHT: Please could Dr Godfrey be sworn.
DR JOSEPH GODFREY (affirmed)
Questions from MS CARTWRIGHT
SIR JOHN SAUNDERS: Just before we ask you to give evidence, Dr Godfrey, I gather you've been on duty for quite a long time.
A. Yes.
SIR JOHN SAUNDERS: How long? You don't have to tell us.
A. I've been on call all weekend, 48 hours ——
SIR JOHN SAUNDERS: And I think we may have kept you waiting all day here.
A. (Overspeaking) it's an important process.

SIR JOHN SAUNDERS: That's true, but I'm very sorry that that's happened and you've been waiting around quite so long. Please have a seat. Thank you very much for staying.
MS CARTWRIGHT: Please could you tell the inquiry your full name?
A. Joseph Godfrey.
Q. And it's right, isn't it, Dr Godfrey, that you are an emergency consultant for the Manchester University Foundation Trust, a role you'd had since November 2014?
A. Yes.
Q. It's right, isn't it, that on 22 May 2017, you were at home?
A. Yes.
Q. And you received a WhatsApp message, timed at 22.55, from Dr Alistair Rennie, informing you that a major incident had been declared ——
A. Correct.
Q. —— "This is not a drill", and "Please respond"?
A. Yes.
Q. It's right, isn't it, that you responded 1 minute later, advising that you'd make your way from your home address to the hospital and you arrived at the Manchester Royal Infirmary between 23.20 to 23.30?
A. Yes, that's correct.

Q. Could I ask you just to describe the trauma teams that were assembled at the MRI ready to receive casualties and patients?
A. Yes. Our resus at that time was a six—bedded resus and we had several trauma teams, one assembled at each bay of the resuscitation area, maybe up to five beds had trauma team assembled.
Q. Can you just give some indication of the composition of each of those trauma teams assembled around the beds?
A. Yes. So a standard trauma team would have an anaesthetist, an anaesthetist's assistant, an A&E doctor as a lead role, A&E doctor, maybe a junior doctor who would do the assessing, an orthopaedic doctor and a general surgical doctor. We also —— I know my team also had cardiothoracic doctors. So within the skill mix of all the resuscitation teams, they weren't all just standard trauma teams, there was a little bit of variation between them.
Q. Thank you. It's right, isn't it, that you undertook the role of a trauma team leader over one of those teams that had been assembled?
A. Yes.
Q. In fact it was your team that ended up providing the assistance to John Atkinson on arrival at hospital?
A. Yes.

Q. The inquiry has heard already that John arrived at hospital shortly after 00.06 on 23 May 2017.
A. That's correct.
Q. Perhaps just to give some context, the inquiry has already heard that at 23.57 the EMT on the ambulance had issued a red pre—alert message to the hospital, indicating:
"We've got a gentleman who is in PEA. He's got multiple wounds to his legs and he's got multiple wounds to his chest and back. We'll be in —— ETA about 10 minutes."
So when the hospital receives a red pre—alert, how does that translate to the trauma teams on the ground?
A. Yes, on this particular day we had a runner, so that phone call would have gone through to an area where the nurses' desk effectively is, and then there would be a runner that took that information and conveyed it to the trauma team waiting in resus.
Q. Thank you. You tell us that upon arrival at your hospital, prior to any of the patients arriving, you prepped as a team, you all put on your lanyards to establish who was undertaking which role. Can you just explain a little bit more what that means and why that's important to take place?
A. Yes. So particularly in the context of a major

incident, ideally in most trauma situations, identification of the personnel within your team and the skill mix of each of those individuals is important. You might not recognise the faces of that team on that night and so we have lanyards that will identify the roles of the persons, saying anaesthetist, orthopaedic doctor, et cetera.
SIR JOHN SAUNDERS: Would you do me a favour and slow down slightly?
A. Yes.
SIR JOHN SAUNDERS: I think the person who is transcribing this might have a slight difficulty and if you could also keep your voice up a bit. Thank you.
MS CARTWRIGHT: So is it then your trauma team that then speaks to one other to understand the skill composition, but also who'll be performing which role when the patients start to arrive?
A. Yes, exactly, yes. So we would assign roles to each of the individuals within the team before the patients arrived.
Q. You also highlight that there would be a discussion about blood products. Could you tell us what discussion takes place around that?
A. So prior to receiving any calls or pre—alerts, we had a discussion about how much blood we had physically

within the resuscitation area to administer. So as standard we might have 4 units of blood within our blood fridge to give to a single casualty and I guess what I wanted to know is how much blood products we had physically in the department and how much we were able to access should the need arise.

That was probably 10 or 20 minutes before we had any phone calls about any casualties.

Q. Then in terms of ensuring that there was the available blood that was necessary that could be available and brought to the department, is that something that was quite straightforward to achieve in the hospital?

A. Yes, I don't recollect there being any problems with blood products being made available at the time.

Q. Thank you. Could you then please just explain in a way that maybe assists the family most of all what then happened when John arrived in the department?

A. Yes. I am going mostly by the statement that I made which was after the time and some of my own recollections.

Q. Thank you.

A. John was brought in and, by the time he'd come into the department, was in cardiac arrest. He was handed over by the paramedic team, who described him having multiple injuries to the torso and to the limbs. He was

transferred on to our resuscitation trolley. At that time, they described he had an i-gel in his mouth which was helping him ventilate. That was substituted for an endotracheal tube, which is a more secure airway device.

It was confirmed that he was in asystolic arrest at the time from my notes. I understand when he was handed over he was in PEA arrest and I can talk about that if you want me to.

SIR JOHN SAUNDERS: You can tell us what asystolic arrest means.

A. So asystolic arrest would be the flatline cardiac arrest that you might see on -- recognise from TV and films, whereas PA arrest acknowledges that there's some activity, some electrical activity. I have written down that he was in asystole arrest and he certainly ended up in asystolic arrest. There might have been a transient period where there was some electrical activity, but what there wasn't was coordinated electrical activity that would imply that his heart could still be beating. We had also performed an ultrasound scan in the early stages to confirm that his heart was not beating.

MS CARTWRIGHT: You tell us that John had no end tidal CO2, so can you just explain the relevance and significance of that?

A. Yes. So end tidal CO2 -- carbon dioxide is a by-product

of metabolic respiration and so the fact that we weren't able to ventilate any CO2 implied that there was no cardiac output and fits in with the fact that he was asystolic, and the fact that when we ventilated him there wasn't any end tidal CO2 was a poor prognostic sign.

Q. You tell us that intravenous and intraosseous access were gained. Could you describe and explain that, please?

A. Yes. So intravenous access is a cannula going into a vein and intraosseous access is a needle that goes into a bone that allows us to give fluids, products, drugs, medications.

Q. You describe that adrenaline was administered to John every 3 to 5 minutes. Why is it important to give adrenaline every 3 to 5 minutes?

A. So that would be -- a standard part of a cardiac arrest algorithm would be to administer regular doses of adrenaline.

Q. Thank you. You set out in your witness statement that John was also given O negative blood. You've already told us that you conducted an ultrasound that showed John's heart was not beating. Is it correct that that was repeated?

A. Yes.

Q. What did that second ultrasound identify?

A. There had been no change, his heart was not beating still.

Q. You tell us that a bilateral thoracostomy was carried out and you describe that as standard procedure for a traumatic cardiac arrest.

A. Yes.

Q. Could you just explain that procedure to us, please, and why that's done?

A. Sure, yes. So one of the potential irreversible causes in a traumatic arrest is that there is pressure building up within the chest cavity, and that can be from air or it can be from blood. So one of the procedures to make sure we relieve that pressure would be to make an incision into the chest wall; that extends into the thoracic cavity and allows that pressure to be released. "Bilaterally" just means that was done on both sides.

Q. You indicate that if a patient's lungs are collapsed, this puts pressure on to the heart. So was it identified before the thoracostomies were performed whether or not John's lungs had collapsed or one of them had collapsed?

A. No. That would be very difficult to truly identify definitively and it would just be part of our standard management anyway, so that was done as a preventative

course.
Q. Is it just the act of performing the thoracostomy that would then allow the lungs to reinflate or would anything else manually have to be done?
A. So that, with the endotracheal tube and positive pressure ventilation, should allow the lungs to reinflate.
Q. Thank you. Having carried out all of those procedures as part of the trauma team, what was your assessment of John's condition?
A. He hadn't responded to any of the interventions that we'd made and he'd been in persistent asystolic arrest and his heart was not responding, his heart was not beating, despite the interventions that we'd made.
Q. Can I ask you, in the notes that you made at the time relating to your involvement in the care of John, you have recorded "traumatic cardiac arrest (likely)". So can I ask you, had you identified that John had had a significant bleed that could be the potential cause of that traumatic cardiac arrest?
A. Had I identified he had a significant bleed? At that point, we were treating him as a traumatic cardiac arrest. I can't recall that there was any obvious external evidence of bleeding that we were being drawn -- that our attention was being drawn to. I say

"likely", maybe "overwhelmingly likely" would be a more accurate thing to say. There's always a chance that he had some superficial wounds that had triggered a myocardial infarction or something else that could have caused -- a secondary cause. From my perspective, with the minimal information I had at the time, yes, we certainly were all in on the traumatic cardiac arrest algorithm at that point.
SIR JOHN SAUNDERS: So that's what you had to deal with, the cardiac arrest, and until that had ended one way or the other, there was nothing really you could do about the causes?
A. Yes.
MS CARTWRIGHT: Thank you. You also record a downtime of approximately 45 minutes, but reference a short period of return of spontaneous circulation. Would that return of spontaneous circulation -- and we've heard some evidence that was for about 6 minutes -- have made any difference to the treatment that was taking place in the resuscitation area?
A. No, not really. His heart was not beating at all, really, so all the things we were doing were a standardised approach to try to get the heart to beat again.
Q. And is it correct that despite all of the resuscitative

efforts carried out by your trauma team under your leadership, John's heart remained in the asystolic state, such that there was a discussion within the team and it was agreed to stop resuscitation attempts and John's life was pronounced extinct at 00.24?
A. Yes, that's correct.
MS CARTWRIGHT: Would you wait there, Dr Godfrey? There will be some questions.
Can I ask Mr Cooper to ask his questions, please?
Questions from MR COOPER
MR COOPER: Is it Doctor or Mr Godfrey?
A. Doctor Godfrey.
Q. I always get that wrong. I'm asking questions on behalf of John Atkinson's family, Dr Godfrey, and just a few of them, please.
Just to get this into context, approximately how many casualties did you deal with that night as a result of this atrocity?
A. Me personally?
Q. Yes.
A. Just two casualties, I think.
Q. And the hospital generally, do you know? You may not know.
A. I couldn't give accurate figures.
Q. I want to ask you about blood and blood products as far

as John was concerned once he was in your care. Generally, is there a time, or does there come a time, when transfusing blood into a casualty or a blood product into a casualty, it simply is too late to do so?
A. Yes.
Q. And after how long, approximately, in relation to John for instance, would that be?
A. It's almost impossible to answer at which point he passed the point of no return if that's -- is that --
Q. That's really what I'm getting to, yes.
A. Almost impossible to answer, I'd say. I'd struggle to say that --
Q. All right.
A. -- that there would be a time from injury that the ship had sailed and it wouldn't matter how much blood would be poured in, it wouldn't make much difference.
Q. And that would depend perhaps on individual features, the age of the casualty, how they'd been treated up until the time they were in hospital?
A. Multiple factors, yes.
Q. Multiple factors.
A. Their age, their own comorbidities, the distribution of the injuries that they'd had, yes.
Q. And also the time it took to get them to hospital?
A. Many, many factors, I'm sure, yes.

SIR JOHN SAUNDERS: Once there's a cardiac arrest, would you do a blood transfusion until you got the heart back?
A. We would certainly transfuse blood in nearly all cardiac arrests, but not necessarily to the end point of getting the heart back because often —— most times maybe but certainly often —— we wouldn't get the heart to be beating again in true traumatic cardiac arrests. Now, I could go a bit further into detail into ——
SIR JOHN SAUNDERS: No, but you didn't do any blood transfusion in this case?
A. Oh, we did, yes.
SIR JOHN SAUNDERS: That's my fault for ——
MR COOPER: We'll come on to that straightaway. I'm looking at your notes and there's a mention of it in your statement as well about "OV blood".
A. O negative blood, yes.
Q. Negative blood, sorry, and the additional information we have in your note is —— it looks like "first bag".
A. So that will be —— I don't think that was my notes, that was another doctor.
Q. Yes. Do you have it in front of you?
A. "O negative blood, first bag", yes.
Q. What would that first bag be? Is that "first bag of blood"?
A. Of blood, yes.

Q. And how much would that be, what would be the quantity of a first bag of blood?
A. So one unit of blood would be 200, 300ml of blood.
Q. And what would have been the purposes for that bag of O negative blood being put into John? What would have been the purpose for that?
A. To try and restore some circulating volume.
Q. And it didn't, obviously.
A. No.
Q. Was that obvious straightaway or was that only obvious when John sadly died?
A. So the transfusion of blood within a traumatic cardiac arrest would be given as standard and it wouldn't be something that we'd be looking to monitor the effect of. We'd just be doing that as part of the standard algorithmic approach to traumatic cardiac arrest in general.
Q. Were you ever told on the handover that John had suffered catastrophic bleeding or may have suffered catastrophic bleeding?
A. I can't recall much about the handover from —— to be totally honest and I can't recall any specific words being ——
Q. Would, as a matter of practice, knowledge that a patient had suffered catastrophic bleeding have impacted upon

the amount of blood that would be put into him?
A. I think there would be lots of features that I'd take into account when it comes to the resuscitation aspect of a patient who comes in in asystolic traumatic cardiac arrest. Again, the approach is fairly standardised because the goals are the same, you're giving them the same drugs, you're performing chest compressions in this case, and giving blood and blood products would be a standardised approach to that.
Q. I'll press, if I may, just a little on that. If you had known that this man had potentially suffered catastrophic bleeding, could that have impacted upon the amount of blood that was immediately transfused into him?
A. So there would be many things that would be featuring into the discussion about how much blood we can get into —— for example, Mr Atkinson had intraosseous access, so how many IV accesses you have, where those IV accesses are situated, what kind of devices you use to put blood into a patient, all would determine the rate of blood which you can get into —— the volume you can get into in a short period of time. So that means that I wouldn't resuscitate or continue resuscitating for an hour if it had taken a long period of time to gets lots of blood into that ——

Q. None of that, though, was attempted as far as Mr Atkinson was concerned, I presume?
A. None of what, sorry?
Q. Trying to get blood into his body.
A. Yes, yes, so he was transfused with O negative blood ——
Q. Yes.
A. —— but, again, there would be restrictions, like what access we're using to get the blood into him whilst we're doing other things like a thoracostomy as well, so we're doing other things like intubations.
Q. I understand, but the question I'm asking simply drives this: if you'd known that he had potentially suffered a catastrophic loss of blood, would that have affected the priority of putting blood into him?
A. I guess those interventions happen fairly simultaneously, really.
Q. Those what, sorry?
A. They happen fairly simultaneously. So we have blood transfusing at the same time as doing all the other interventions.
Q. Let me put it simply. Would you have put more blood into him, had you thought he might have had a catastrophic loss of blood?
A. I think we put as much blood into him as we would —— our resuscitation period lasted about 20—plus minutes.

Q. Yes.
A. And during that time he was receiving blood through the access that was available to him. The limitations to that blood wouldn't be determined by knowing whether he had a catastrophic bleed or not.
Q. So when did the infusion or transfusion of blood stop? What time? How soon before he died?
A. I couldn't tell you what time the transfusion stopped. It would have stopped with the other resuscitative efforts.
Q. So it would have stopped with the -- again, I'll be blunt and the families will forgive me because they want me to drill down on this. Would it have stopped when he died or would it have stopped before he died?
A. So that would be dependent on when we decided that he died, really. He lost his output before he got to hospital. We --
SIR JOHN SAUNDERS: Okay. Did it stop before you declared that he was dead?
A. He would have had blood -- I couldn't tell you what time the blood that was being transfused finished, and it wouldn't be the case that we would continue resuscitation until all the blood that we had connected was empty and -- the bags were empty and the blood was inside the patient because that's one of the factors

that we look into about the decision about when we stop the resuscitation.
SIR JOHN SAUNDERS: I think the question is -- and I'll put it no better than you're putting it -- would your treatment of Mr Atkinson have differed in any way if you'd been aware that he had suffered a catastrophic --
A. No. The things we were doing would be a very standard approach to traumatic cardiac arrest.
MR COOPER: I'll put it equally -- I'll try and get as close as I can, sir -- succinctly. If you'd known this man had lost a lot of blood, would you have tried to put a lot of blood back into him as quickly as possible?
A. That was one of the things that we were doing.
Q. And would you say, looking back on this now, knowing what you do, more blood could have been put into him?
A. I couldn't tell how much blood actually ended up in the patient.
Q. I think I'm going round in circles here. It seems to be a simple question I'm asking you as to whether he could have been given more blood which might have saved his life.
A. So are you saying that -- more blood once he'd gone into the emergency department?
Q. Once he was in your hands, I mean the royal "you", I don't mean you personally, but your team's hands,

could more blood have been put into him to save his life if you'd known he had catastrophically bled?
A. So he was given blood, I couldn't tell you how many units of blood he had in the end, and I don't think that having more blood in him would have been a thing that brought him back to life if that's what you're trying to say.
Q. I don't think I can take it any further.
SIR JOHN SAUNDERS: No, well, we've got expert evidence coming tomorrow so we can obviously explore that.
MR COOPER: In terms of blood products -- there's a nuance, not blood -- did you have that available to you when you were treating him?
A. It was available, but it wasn't started during resuscitation.
Q. I'll just ask this question, which is certainly on our minds, that is those of us that represent Mr Atkinson's family. I know the chair is interested in it as well. That's simply the protocols of providing blood and blood product to the scene. We're going to hear from experts on it. But as far as you're concerned, you're an experienced doctor, would it help, for instance, if blood or blood product could be provided to the scene of a catastrophic event, such as Manchester or a rail accident or anything like that -- are there ways we can

perhaps come out with some positives of this tragedy to try and improve the provision of blood or blood product to the scene?
A. I'd hope so, yes.
Q. Is there any help you can give us as to your ideas as to how that might be achieved?
A. I don't really work in the pre-hospital setting so I wouldn't be best placed to answer.
SIR JOHN SAUNDERS: I think from your point of view, we'll look at the practicalities with the people who deal with practicalities. In a case like Mr Atkinson's, who had a catastrophic bleed, if it had been possible to get blood products to him as soon as the first ambulance or car turned up, might that have saved his life?
A. Possibly.
MR COOPER: Thank you, sir.
SIR JOHN SAUNDERS: Thank you.
MS CARTWRIGHT: Sir, that would conclude Dr Godfrey's evidence unless you have anything further.
SIR JOHN SAUNDERS: No.
I'm very grateful and I'm very sorry for keeping you waiting yet again. You're free to go now. Thank you very much.
MS CARTWRIGHT: Sir, for good reasons, we're going to ask Dr Godfrey to stay there, please. That's just to

confirm that that would conclude the factual evidence to be heard in chapter 12 for John Atkinson. As you're aware, we will be hearing the expert evidence tomorrow for 20 of the deceased but also for John Atkinson.

SIR JOHN SAUNDERS: Thank you.

Mr Cooper, I have said something in relation to each of the deceased that we have heard the evidence of and I wish to do so with John Atkinson as well. It occurs to me that now is the most appropriate time rather than the expert evidence, unless there's any problem with that.

MR COOPER: Not at all, sir, thank you.

SIR JOHN SAUNDERS: Thank you very much.

For the last 3 days of this hearing, we have heard a lot of very distressing evidence about John Atkinson's final hours and it seems to me appropriate to say something now to return to him as he was in life.

He was 28 at the time of his death and he had devoted his working life to helping others. He worked with young adults who were struggling with autism or with behavioural problems. Not maybe the easiest of jobs to do, but I am told that he loved doing it and he did a great deal of good while carrying out those jobs.

He has been described as having an addictive personality and that, to me, means that he threw himself

into everything he did 100% and did so with enormous energy. He was not only kind, he was also generous and, importantly, he made people laugh, and there is less laughter in the world as a result of his sad death, and I know that his family and friends miss him hugely and will continue to do so.

(3.57 pm)

(The inquiry adjourned until 9.30 am on Tuesday, 12 October 2021)

I N D E X