The Sheku Bayoh Public Inquiry

Witness Statement

Dr Rachel Anderson

Taken by [redacted] by MS Teams
on Wednesday 5 January 2022

Witness Details

1. My full name is Rachel Anderson. My date of birth is in 1978. My contact details are known to the Inquiry.

2. I qualified with a MBChB at University. In 2017 I was granted a Fellowship to the Royal College of Emergency Medicine, or FRCEM. I got a Diploma of Tropical Medicine and Hygiene from Liverpool School of Tropical Medicine in 2009; and Diploma of Mountain Medicine from Leicester University in 2012 or 2013.

3. I'm now a Consultant in Emergency Medicine and Clinical Director at a hospital [redacted]. I've been a consultant for five years as of February 2022. I've been Clinical Director just for a few months now, since September 2021.

4. I spend about 60% of my time clinical. That time is managing the shop floor, working alongside other consultants, seeing patients myself but mostly reviewing other juniors' patients and managing the flow of patients through the department.

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5. The other 40% is more managerial now. That is going to all the higher-level management meetings in the hospital, of which there are a number, and managing staff personnel more.

6. I do a bit of work for the Royal College of Emergency Medicine as well, a small amount.

3 May 2015

7. On 3 May 2015 I was an ST5. This is the year before the final year of training. ST6 is the final year. I was specialised in accident and emergency by then. My speciality was emergency medicine.

8. All I can remember is somebody was running around with a knife, the police were involved, there had been some altercation with the police and then he got brought in in cardiac arrest. I think he was black.

9. I am relying on my previous statement to remember what happened on 3 May 2015 because I don't recall it in any more detail. I have read the statement I gave to the police (PIRC-00257) and the A&E records (PIRC-01069).

10. From reading my previous statement and the medical records I can remember more about that morning.

Arrival at hospital

11. He must've arrived between 7am and 8am. I wasn't there for that part. My shift is 8am to 8pm. I was the Reg on that morning. I arrived, got changed, walked back into the department and came across this resus.

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12. We usually have a handover at 8am. I would've been expecting a handover but obviously this resus was ongoing.

13. My colleague Dr Pickering was on the night shift. When I approached the resus room I was thinking I will be taking over and wanted the person on the night shift to go home. I looked to see what was going on.

14. She was obviously in the middle of it and wouldn't automatically handover because she might want to finish the case herself. That is normal at handover time. If you are in the middle of a sick patient often you would stay late for that. I joined and helped her rather than took over.

Resus management

15. I was involved in treating the patient. Normally, the ideal scenario is to have one person standing back and watching over the resus. That's how we aim to do it now. Often at handover time there isn't enough people to do that and somebody needs to do the jobs and the tasks. It would tend to be a Consultant who would stand back, and I was a Reg at the time.

16. I only remember what tasks I was doing from reading my statement.

17. Dr Surinder Panpher was the Consultant who was leading it. Dr Gillian Pickering, Dr Sophie Rollings and Dr Martin Clark were there too.

18. The patient was in cardiac arrest. The patient had already been intubated when I arrived.

Ventilation

19. The patient will have come in with a bag valve mask, BVM, which is standard practice. Paramedics carry this. It's a more solid plastic round piece of kit that

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the paramedics use to squeeze to bag the patient, meaning squeeze air into their lungs.

20. I've read the medical records at page 10: "*Intubated by anaesthetics -> 8.0 ETT -> & bougie*". Intubating the patient means to put a tube in the patient's trachea, the windpipe, to assist with breathing. 8.0 is the size of the endotracheal tube.

21. In A&E we tend to switch patients from BVM over to what's called a C Circuit, which is a slightly more sophisticated piece of equipment. The patient was ventilated with a C Circuit.

22. A C Circuit is green piece of equipment used by anaesthetists. There's a longer tube that attaches to oxygen at the wall. It has a CPAP valve so you can change the pressure at which you ventilate.

23. The C Circuit is attached to the intubation tube, but if the patient is not intubated you can do it with just a mask over the face. However if the patient has a beard or a big face, you sometimes don't get a good seal and air can leak. Also the tube has a cuff on it to seal the trachea and prevent the patient from vomiting, which can cause pneumonia.

24. It provides positive pressure ventilation. Normally when you breathe you open up your lungs and air comes in. You open up the chest wall and there's less pressure in your lungs, so air just goes in through your mouth. When you're ventilating somebody, you positive pressure ventilate them, you put the tube down, you attach the bag and you squeeze air in through the tube into the lungs.

25. Basically, when somebody breathes, at the end of expiration, breathing out, you want them to have a little bit of positive pressure to keep the alveoli open in the lungs. The little CPAP valve allows us to give a bit of what we call

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Positive End-Expiratory Pressure – PEEP – which in expirations hopefully keeps some of the alveoli open in the lungs and allows better ventilation. It is still in use today.

26. The ventilation procedures I've described do not change when dealing with a cardiac arrest or a respiratory arrest.

Respiratory arrest and cardiac arrest

27. Respiratory arrest is where the patient's stopped breathing, but the heart is still beating. If the patient continues in respiratory arrest they will go into cardiac arrest.

28. In cardiac arrest, most of the time you expect the patient's not breathing. If someone's been in cardiac arrest for 30 seconds they might still be breathing, but if they've been in cardiac arrest for 30 minutes they won't be breathing anymore. It depends how acute the arrest was.

29. Patients can take the odd breath, we call it "agonal breaths", which can happen when there's no pulse. But on the whole, people who are in cardiac arrest either just stop breathing or they might have the odd breath, or they don't breathe adequately. That's why we do the breathing for them.

Causes of respiratory arrest and cardiac arrest

30. Some causes of respiratory arrest and cardiac arrest would be similar, but there would probably some different ones as well. Some things just cause a cardiac arrest and the patient stops breathing all at the same time, for example a big heart attack, or a big arrhythmia in the heart, it would all happen at once.

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31. A respiratory arrest might be what leads to a cardiac arrest, so somebody could stop breathing for various reasons. Drugs is probably one of the most common that would cause a respiratory arrest. IV drug users with heroin, they have a respiratory arrest before they go onto cardiac arrest, because the heart's fine, it's just that the drug stops them breathing. Then, eventually, if you didn't treat that, they would go on to have a cardiac arrest.

32. Any morphine-based opiate-based drug could cause respiratory arrest. Codeine, if you took enough of it, morphine, diamorphine, pethidine, any of them. You could probably have a respiratory arrest with a combination overdose as well. Some drugs reduce your respiratory drive a bit, but in of themselves on their own probably wouldn't completely put you into respiratory arrest. Like diazepam can, if you take enough of it, make you very drowsy, and your respiratory rate will go down a bit, but probably not enough to put you in respiratory arrest. It's the opiate group that will actually stop you breathing.

33. I checked the patient to see if he's got any track lines, he didn't have any track lines, so it doesn't like he's an IV drug user. Track lines are evidence of needles going into his body.

34. In the A&E records at page 7, Gillian has written "*Cardiac output. No respiratory effort.*" so I think the patient was in respiratory arrest when he first arrived.

35. There was no external head injury on the patient. If we had a big head injury or a bleed into his brain that would cause cardiac arrest eventually.

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Blood tests

36. I placed an arterial line in his groin and took a couple of blood gas samples. This is in my previous statement at page 2. I don't remember if I was asked to do this by a colleague or if I did it automatically without being told to.

37. We don't always need an arterial line in the groin, but it's a good way of getting bloods. Sometimes when someone is in cardiac arrest it's hard to get blood when going in the arms. You've got an arterial line in and you get the blood, so you're killing two birds with one stone.

38. The first blood test is called a blood gas. That can be done immediately on taking bloods. The normal blood tests are not done immediately. They're sent to the lab, and they might take an hour to come back. But we get this blood gas, and we've done a few of them, because they give you what's called the lactate and the pH acidity, and it tells you how bad things are.

39. Blood wouldn't be taken continuously but we would repeat the tests.

40. In the paperwork at page 5 of the A&E records you can see the blood gas reports. The test results showed a severe deterioration inconsistent with life.

41. At 7:53am the lactate's 18 and then at 8:20am the lactate's over 20, so it's got worse.

42. One other thing we look at on the blood gas test is the potassium, which can sometimes be a cause of cardiac arrest. High or low potassium can cause cardiac arrest. But I would've written that in to the medical records and my previous statement if it was high or low, because I would've known then that was the cause of it. I don't think we found the cause of death.

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Ultrasound

43. Dr Martin Clark did an ultrasound. The ultrasound machine was placed upon the patient's chest to view the heart. If somebody's in cardiac arrest for a long time in a non-shockable rhythm we ultrasound the heart to see if there's any sort of movement. If there isn't, then it's finished.

44. Dr Panpher saw some left ventricular wall movement on the ultrasound, but it wasn't strong enough to be felt as a pulse. When you're looking at the heart, you've got the right and the left side of it, and the left side's much bigger because it supplies the body more. That part was moving a little, but not strong enough to be felt as a pulse.

45. This increased with adrenaline, which is standard because adrenaline that we give in cardiac arrest makes the heart beat. If somebody is very adrenaline dependent – meaning they only get a little bit of heart movement immediately after the adrenaline and it just tails off again – there's no point continuing after a period of time. You're not getting anywhere. That is what happened in this case.

46. Later in the resus we continued with another ultrasound and there was no spontaneous movement of the heart at that point.

47. In my statement on page 2 the police have written "*I performed a brief first scan…*", it should be a "fast scan", that was to see if I could see any blood in the abdomen.

CPR

48. When I arrived the patient had no pulse. That means it's a cardiac arrest. Also CPR was ongoing in resus which means they'd confirmed cardiac arrest.

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49. CPR is chest compressions. This is to beat the heart. In cardiac arrest the heart's not beating, there's no pulse. We have a Thumper machine for this. There are two different brands, both called a Thumper. One is a LUCAS machine and I can't remember the other. The Thumper machine is a mechanical way of making the heart do what it should be doing. It's trying to pump blood to the brain and the body, but mainly the brain and the heart.

50. When you manually press as a human, you're pushing down, so you're forcing blood out of the heart. The idea of the Thumper, the machine, is that when you've got the machine on it also causes this negative pressure in the chest, so it allows more blood to fill into the heart. In theory, the Thumper is slightly better than a human doing the same job, but it's not better if it's not in the correct position.

Thumper

51. We tried to use the Thumper, as we call it. It does the chest compressions mechanically. Chest compressions are part of cardiopulmonary resuscitation (CPR). It's a machine rather than a human doing it, which is a bit more effective. I remember he was quite a big guy. In bigger patients it's hard to get the Thumper in the right place.

52. The Thumper should be right in the centre of the chest. If it's not, it can move down a bit and be pumping the stomach, which will just cause vomit to come up and give you more trouble. If you can't get it right, you're best just going on with human hands.

53. You should be doing CPR continuously. Once the patient's intubated, you should be doing the CPR continuously. Every time you're adjusting the Thumper, you're off the chest. In theory, you want that to be absolutely minimal. If you're faffing around with it, you're best just going with human hands and doing it constantly, but taking it in turns because it's quite tiring.

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54. It takes a few of you to change it. I was probably helping with the Thumper. It's quite hard to move a body that's dead, essentially, especially a heavy one. You've got to get the Thumper under the back and it's got to be moved up the chest wall. You've got to get the arms out the way. You could roll the patient but usually you sit them up a bit. It will be a team effort.

55. If your patient's in cardiac arrest you've either got to do manual CPR with the hands or you use the thumper. Otherwise, the heart's not doing anything and there's no blood going to the brain. Every second counts in that scenario.

56. We tried to change the position of the Thumper a few times, and then we just ended up doing it with manpower, because we couldn't quite get the right position, which is not uncommon. I don't remember switching it on, I don't know who switched it on.

57. You know it's in an incorrect position when you put it on and start the Thumper and see it's not quite hitting the right place.

58. We tried two or three times to position it initially then we just carried on with manual CPR. We had another go with the Thumper machine later on, probably because we were busy doing other things. In my statement at page 2 I state:

> *"At some point, we tried to use the thumper, but it wasn't possible to get the right position. So, we changed to manual CPR. It's often difficult to get the right position and we did try two or three times."*
>
> *"We stopped and continued CPR, which is manual. We knew that the manual CPR was good as we were getting a trace on the arterial line, which does mean it's good CPR."*

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59. At this stage in the resus he some more adrenaline, some more CPR, some more of another drug that we give and then we tried to get the Thumper working again. We got it in a better position.

60. Adrenaline and the Thumper together is like a kickstart to try and get the heart pumping blood. You want a return of spontaneous circulation. This is when the heart is working itself again.

61. When you've got an arterial line in, which is the bit that I put in the groin, you can see a rhythm with each of the compressions, and I could see a rhythm there. But that was to do with the Thumper working, not his own heart working.

62. We thought there was a very small movement of the arterial line trace in between the Thumper, in between the CPR, which is consistent with a very small cardiac output, but minimal.

Fractured ribs

63. The Thumper can also sometimes be slightly off to one side of the chest, you want it right in the centre. If it slips you can sometimes break ribs. You break ribs sometimes doing CPR anyway manually. If there was a fractured rib it could've been caused at any point. It's standard after CPR that there's fractured ribs with anybody.

64. You get it more in older people because they've got more osteoporotic bone and they can be skinny. It takes a bit of force to fracture a bigger, younger person's ribs. But it would still be possible and definitely possible with a Thumper and with human hands as well. You always expect after CPR to have one or two broker ribs, it's pretty common. Not in every case but it's very common. Sometimes you feel them crack when you do it.

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65. You probably wouldn't see the higher up ribs crack. Probably maybe 6, 7, 8, 9, 10. Any of those. The ones higher up probably wouldn't be affected, but when you're in the middle there, you're probably between 5 and 10. Number 1 is the top and you count down. The first rib is the very top rib. I would say that would be quite rare for that first rib to break in CPR.

66. I can't say with 100% certainty but it would be very unusual for the Thumper to slide up because it kind of comes in round the chest. To slide it wouldn't work because you'd be right in the patient's armpits. It would be unusual for it to be with rib 1 that it would break. It wouldn't make sense really.

Reversible causes of cardiac arrest

67. I'm looking for a cause of the cardiac arrest. Hypovolaemia is one of the causes. If you've bled onto the floor or into your abdomen, you become hypovolaemic, and you go into hypovolaemic arrest, which is low-blood arrest. Not having enough blood can cause cardiac arrest. I was looking to see if there was any blood in his belly, which would give us an explanation as to why he had a cardiac arrest.

68. You do the four Hs and the four Ts, which are the reversible causes of cardiac arrest, and you rule each one out as the cause. We just looked for all the eight things that we can treat in cardiac arrest.

69. We would have been doing that throughout the whole thing, and that's just one example of what I was looking for.

70. You also think about pneumothorax – a collapsed lung – but we think he didn't have a collapsed lung because we listened to both sides.

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Medical records

71. On the medical records at page 11 I wrote that page and signed it. Gillian has written most of the notes. I've just written a bit at the end. I've written the notes on a blank bit of paper, which makes me think that Gillian had used the A&E card up, so then I've written on the back. She probably had written hers first and I'd written that at the end.

72. I wrote the following in the medical records at page 11:-

"ST5 A&E
All agreed to stop, no cardiac output
No movement on echo of the heart
No movement on A line trace
1 hr 14 mins CPR.

Time of death 9.04 3/5/15
No heart sound 1 minute
No breath sound 1 minute
Pupils fixed and dilated

Still unknown individual

R Anderson"

Previous statement

73. I don't remember very much at all now, to be honest. My previous statement will be the most accurate account I can give because it was done nearer the time. My memory was better when I gave my previous statement. When I gave my statement to PIRC I told them the truth. I read over and signed my statement at the time.

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74. I don't remember if PIRC showed me the A&E records or not. I think that my previous statement was purely from memory because I would've said in my statement that the lactate was 18 then over 20 if I'd seen that in the records.

75. I believe the facts stated in this witness statement are true. I understand that this statement may form part of the evidence before the Inquiry and be published on the Inquiry's website.

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