Tuesday, 5 November 2024

(10.00 am)

LORD HUGHES: Yes, Mr O'Connor.

MR O'CONNOR: Sir, this morning's witness is Professor Rutty. May he be sworn, please?

LORD HUGHES: Please.

PROFESSOR GUY NATHAN RUTTY (sworn)

Thank you, Professor Rutty. We have them sitting here, please, because that's where the microphone phones are.

A. Thank you.

Questioned by MR O'CONNOR

MR O'CONNOR: Can you give us your full name, please?

A. Yes, sir. My name is Guy Nathan Rutty.

Q. Professor, thank you for coming to give evidence this morning. Allow me to explain at the outset that although those of us here in the hearing room can see you sitting in the witness box, those following in the media annex will not be able to see you, nor will those watching the video on the Inquiry website. That is a consequence of a restriction order that you, sir, made earlier this year and it is recorded in the ruling you gave on 10 July of this year at paragraph 25, with I, as I think I have said before, is

a ruling that is available on the Inquiry website?

LORD HUGHES: It's available, isn't it? Yes.

MR O'CONNOR: Professor, I will spend the next couple of hours asking you questions about your role as the forensic pathologist in the case of Dawn Sturgess, in particular it is right, is it not, that you conducted an autopsy examination on 17 July 2018?

A. I did, sir.

Q. You have provided a number of reports since that date which we will go through together.

A. I have, sir.

Q. In fact, you have provided six reports and witness statements which we have available to us and I want to ask you very briefly about each one first before we go into some of the detail.

Going through them in chronological order, if we could have on screen, please, INQ005003, this is a short witness statement that you prepared, dated 19 July 2018, so two days after the autopsy; is that right?

A. Yes, sir.

Q. We see your name and we see the date at the top there. If we could go to page 3 of that document, please, we can see, if we look a little way down the page, that you indicate, of course, that the autopsy had been conducted but then you say that:

"Due to the ongoing laboratory examinations and consideration of the medical documentation a formal cause of death is still pending."

Just to expand on that, the physical examination had happened, but there was still more work to do before you could reach your conclusions.

A. That's correct, sir.

Q. Just dropping down a few lines, we see that you indicated that although you would endeavour to provide a report as soon as possible, there might be a significant delay.

A. That's correct, sir.

LORD HUGHES: This enables the body to be released, does it?

A. Yes, that's correct, sir.

MR O'CONNOR: Yes. I was just going to go back -- if we look on the first page of this statement, this statement is entitled "Body release statement". Is this a routine statement that -- where there is going to be a delayed report which allows the Coroner to make a decision to release the body for burial?

A. In every case that was done from the unit -- and it's a requirement of the Home Office -- we would produce a body release statement as soon as physically possible, usually same day or as soon as possible, as in

this case. The purpose of it is to allow the Coroner to progress their statutory duties and at the same time to release the body to the family, and it's done in every single case in compliance with our own standard operating procedures and also with that of the Home Office, sir.

Q. In this regard, nothing special about this statement?

A. This is absolutely normal process, sir.

Q. Thank you. Noting the date, then, of July, we move forward to 29 November 2018 where on that date you prepared two reports. If we could have the first one on screen, please, it's INQ005526. That is a summary report, we see from the heading, and let's just have the other document as well briefly, if we could just now briefly look at 5227, please. There we see the title "Full report". We will come to look at them both in a moment, but can you just explain, Professor Rutty, they are both dated the same day, 29 November 2018, why produce two reports?

A. Yes. I will hesitate just to think when I need to. I was instructed by the Coroner to produce two reports. The first is the summary report which he was permitted to read and the second report, which was sealed, I understood that he did not have sufficient

clearance to read, sir.
Q. The full report contained material which was sensitive and so this was a device to allow the Coroner to have a document that he could look at without having all the sensitive detail?
A. Correct, sir.
Q. May we take it then that in this respect that is an unusual thing for you to do, for you to prepare two reports on the same day in an individual case?
A. Yes, this was an unusual procedure, sir.
Q. May we also take it though that in terms of their conclusions and the reasoning within them, they are identical save for that one that has more detail than the other?
A. They are identical, except one is shorter than the other, sir.
Q. Well, we're in the position of being able to look at the full report, albeit with one or two redactions within it, so let's stick with that document and if we could go, please, to page 39 within the document. We can see first of all at the very bottom of the page it is signed, albeit the signature is concealed, and dated 29 November 2018, as I have mentioned. In fact, every page is signed and dated, isn't it?

A. That's correct, sir.
Q. But the page we have come to contains the expert's declaration and, just looking at it briefly, we see, at paragraph 1, there is an indication that you understand your duty to help the court to:
"... achieve the overriding objective by giving independent assistance by way of objective, unbiased opinion on matters within [your] expertise ..."
Is that a duty that you understood?
A. Yes, all of this section is a standard wording placed within any of our medico-legal documents that I understand to be a requirement of the criminal justice system, sir.
Q. It's a standard form, but something that you understand and that you are thoughtful about before you sign?
A. Yes, sir.
LORD HUGHES: It's a standard requirement in the rules of court for both civil and criminal procedure, isn't it?
A. That's correct, sir.
MR O'CONNOR: Just casting our eye down to one other paragraph of this, paragraph 3, there is an assertion by you that you know of no conflict of interest of any kind, other than any which you have

disclosed in your report. Was there, in fact, any conflict of interest in this case?
A. Not from recollection in this particular case, sir.
Q. No. I'm not going to take you to any more passages within this declaration, but if we could just look at the next page, we will see that what is, as we have discussed, a standard form of words goes on over to the end, in fact, of the next page, does it not?
A. Yes, so absolutely. This will be inserted as our duty in our reports, sir.
Q. Just going back, please, to the first page of the report, if we just scroll down a little, your name appears. We see two lines below that the name of the coroner and I think you have already indicated it was him who instructed you to prepare this -- to conduct the autopsy and to prepare the report; is that right?
A. That's correct, sir.
Q. We see immediately underneath his name a reference to Thames Valley Police. Help us, this was a case obviously in which the police were involved; is that a normal feature of a forensic autopsy?
A. Yes, is the answer. There will be an interested and -- police force who will advise the Coroner that they want to have a forensic pathologist

involved, sir. That would be absolutely normal practice.
Q. Where there is a potential criminal investigation into the death?
A. Where the death is unexplained, suspicious, then it -- then the services of the forensic pathologists are engaged, sir.
Q. Again, in that sense, nothing unusual about this case, the involvement of the Police?
A. There's nothing unusual at all, sir, no.
Q. There is a reference between your name and that of the pathologist -- sorry, that of the coroner to a review pathologist, Dr Hollingbury. What is the role of the review pathologist?
A. The Home Office a long time ago -- in fact we were doing it before they introduced it -- they have introduced compulsory so-called critical checking, so every report that certainly goes to a criminal court -- and it's the policy of our unit at the time that every report, and in fact many documents, are always read and checked by a second independent pathologist within the unit, so somebody not involved in the case.
The actual purpose is to check that the conclusions and contents are reasonable, so they don't have to be right and it's not a spell or grammar check, it just has

to be that the individual checks that it's reasonable and there's a set process which we go through and we are -- it's recommended that the name of that pathologist is listed on the document. Not every group practice does that, but it has always been our policy to do that.

Q. To be clear, Professor, this review pathologist, does he or she take an active role in the autopsy or do they simply review the report when it is written?

A. No, they take no role at all in the autopsy. They have access to documentation, slides, photographs, anything they wish, although the Home Office recommendation and requirement is only the report and they review it and their role is to second check that we haven't said anything unreasonable or anything that we -- that they themselves would challenge and then, once we have been through that process, it then goes out with their name on it.

Q. If we could look, please, at page 43 within this document, if we could zoom in on that paragraph at the top, this would appear to be a record that the review pathologist, Dr Hollingbury, has conducted their review and has indicated that on the information available to them the examination described and the

conclusion reached in this report are reasonable.

A. Yes, and Dr Hollingbury has reviewed all of the documents produced in this case as a single person so that they in essence -- because we wanted to make sure that we kept it within a small number of people, that they have looked at it and on all occasions have considered that the document produced was reasonable.

Q. Now, that's the report then and you have explained that in most cases, perhaps almost all cases, there would simply be one single report rather than a full report and a summary report.

A. Yes. It's not unusual to have a supplementary report if further questions arise, but there wouldn't be a main report and a summary report. I would struggle to remember another case like it, but that's not to say it hasn't happened, I just can't think of one, sir.

Q. All right. Well, I was going to come onto the reports you prepared after that date and you have just indicated that it's not unusual to be asked to address further matters after the time that you have prepared your full -- your report and there were such matters in this case, weren't there?

A. That's correct, sir.

Q. If we could go please to INQ004495. This -- Professor Rutty, we can see the date at the top there,

11 November 2019, so a year or so after your report and if we just look in the main text, so the bottom three lines of this page, we see that this was a statement that you were asked to prepare not by the Coroner, but by the police; is that right?

A. That's correct, sir.

Q. Again, is that unusual in the context of an ongoing criminal investigation?

A. No, it could be asked by -- because at the end of the day -- and I think you have already said it -- I'm neutral to any process in any form of court and therefore we can be asked to address questions -- I'm going to use the phrase "Any interested party", although it normally comes either from the Coroner, the CPS, the criminal justice system and the police, sir.

Q. Thank you. If we could very briefly, because we will come back to this statement, but if we could scroll down to the second page, we can see in the very two top lines there's an indication that the subject matter of this report or further statement is to provide a supplementary statement addressing the use of atropine in cardiac arrest and then immediately below the word "Comments" you provide a little more detail, you say you have been:

"... asked to consider whether Dawn Sturgess

would/could have survived had she been given atropine during CPR."

You then provide three or four paragraphs giving your answer to that question.

A. I do, sir.

Q. As I say, we will come back to that and in fact it's right, isn't it, that within a few days of preparing that statement you were asked to provide another one on a similar subject?

A. I did, yes, sir.

Q. That, if we could have on screen, please, is INQ004496 and we see 21 November 2019, so ten days later, and if -- again because we will come back to the substance -- we could look briefly at page 2, that paragraph with the redaction in it, we see again you are recording that at the request of a particular police officer who has been ciphered as VN106, that was the same police officer who had requested the earlier statement, was it not?

A. I will take your word.

Q. You can take it from me.

A. I can't remember, to be honest, but yes, I was asked to produce another report for the police, yes, sir.

Q. We can see, just at the end of that paragraph,

that the subject matter of this statement is to be a further explanation with regards to atropine and its use in nerve agent poisoning, so developing from the earlier statement.

A. Yes, sir.

Q. Thank you. Then finally, if we can go, please, to INQ005818. This is a statement that we can see from the top is dated July 2024, so much more recent.

A. Correct, sir.

Q. In fact, it was signed by you, if we could go to page 20, please, on 9 July 2024; is that right?

A. That's correct, sir.

Q. Sorry, we can now go back to the first page. This statement was requested from you not by the Coroner, nor by the police, but in fact by this Inquiry.

A. That's correct, sir.

Q. If we can just briefly look at the structure of this report, the title in the middle of that first page -- the first section of this report, is this right, provides an update on your career and professional background?

A. That's correct, sir.

Q. Then if we can go over to page 2, is it right that the second section -- and we see again about

halfway down the page the number 2 and the heading "Previous witness statements" -- does this section of the report, which goes from page 2 -- and if we could scroll on to page 3 and then on to page 4 -- does this section of the report record the fact that you had reviewed all of those earlier statements that we have just looked at and within this section provided certain points of correction, amendment, updating and so on?

A. Yes, sir.

Q. Then if we could go on to page 5, we see there at the top the heading "Additional evidence". Is it right that that's the final section of this report which goes on for some pages where you address certain further questions that you had been asked to address by the Inquiry?

A. Yes, sir.

Q. We will come back to several of those questions in due course. That completes the statements that you provided, Professor Rutty; is that right?

A. Yes, sir.

Q. Noting -- I won't go through them -- but noting the various corrections and amendments that you have recorded in section 2 of that final statement, are all six of those statements true to the best of your knowledge and belief?

A. There's one amendment in the very last statement which I have identified last week, which I have alerted this hearing to which -- and it's an amendment to it, yes, sir.

Q. Does that relate to the sort of review you had undertaken of those earlier two statements dealing with atropine?

A. Yes, it does.

Q. We will come back to that, if we may.

A. Yes.

Q. But noting that, Professor Rutty, thank you for reminding me of it, with that exception, can we take it that you are content with the run of statements that we have gone through?

A. I am, sir.

Q. Sir, I would ask if we can formally adduce all of those statements into evidence.

LORD HUGHES: Yes, please.

MR O'CONNOR: Professor Rutty, it is worth adding for the record that those of us who have read your reports will know that they are extremely detailed and contain some very useful analysis. We won't go through all of that material in court today, or during the hearing, and so we absolutely will be able to use the detail in your reports in writing, but what we will do

today is attempt to identify some of the more important aspects of your work and I will ask you some questions about that.

Before I get into the detail though, may I start by asking you a few questions about your career and professional qualifications. We can probably do that most easily by looking at that last statement because that is where you brought that issue up-to-date. If we can go back to 5818, please, and it starts on the first page.

If we can look just underneath the title "Updated professional background" and "Forensic pathology", you start, Professor, by indicating that you hold basic medical qualifications, bachelor of medicine, bachelor of surgery and a medical doctorate. Is it right -- let me ask you in a different way: are you now or have you previously been a practising registered medical doctor?

A. I am still a practising, licensed, registered medical doctor, sir.

Q. We will come -- I will ask you about this in just a moment, but is that, at least now, in the field of pre-hospital medicine?

A. That's correct, sir.

Q. Before we get to that, just following down this paragraph, you give various details of your career

in pathology. I'm not going to read it out, but we can all see that you have had a long and very eminent career as a forensic pathologist, amongst many awards and appointments you were or are a fellow of the Royal College of Pathologists; is that right?

A. I'm a retired fellow of the Royal College of Pathologists; yes, sir.

Q. You indicate that you hold the Royal College Diploma in Forensic Pathology?

A. Correct, sir.

Q. You also held the foundation chair in forensic pathology at the University of Leicester?

A. Correct, sir.

Q. You retired earlier this year?

A. Correct, sir.

Q. You were also a Home Office registered forensic pathologist for 28 years or so from 1996?

A. Correct, sir.

Q. Is that also a post from which you retired this year?

A. Yes, sir.

Q. Is it, in fact, the case, Professor, that you have, if I can put it this way, generally retired from your active role as a pathologist during the course of this year?

A. I am absolutely nothing to do now with forensic pathology. I have left the practice and field, sir.

Q. Thank you. As I mentioned -- in fact, we can see at the very bottom of this page there is also something we need to ask you about; pre-hospital medicine. If we can go over the page, you give us some detail there about your voluntary work as a response doctor for the East Midlands Ambulance Service. First of all, I think you already indicated, but is this an area of your practice that you -- that is still current?

A. That's correct, sir.

Q. Can you just expand a little on what it is you do and the scope of your expertise?

A. Yes. It is unusual to have a forensic pathologist working in the pre-hospital environment. Probably -- as far as I know, I'm the only one in the UK, although I'm not the only Home Office pathologist that assisted an Ambulance Service. I'm not going to name the organisation, please, that I work for but, yes, I started assisting the Ambulance Service in 2009 as a volunteer, so-called community first responder, and I upgraded and I did appropriate lengthy training and I'm now a response doctor, so I am sent out

at the request of the Ambulance Service to assist with any critical medical event, which tends to be cardiac arrest or pre-cardiac arrest in adults and children, and any life-threatening trauma where they need advanced medical skills. I'm an assistant for pre-hospital anaesthetics, advanced drug therapies and I have full training in all of these fields and I literally do it on a -- well, I'm on call virtually every day, but I will go out several times a week to assist those who require that level of requirement.

Q. Thank you. We have already touched on the fact that those two short statements you prepared in 2019 were focused on the question of the appropriate use of atropine in a pre-hospital context. Did you bring the expertise you have just described to those two statements?

A. Yes. So I'm a trained trainer to the level of Medical Director for advanced life support in adults and I train those who require that training in hospital, so I train hospital staff, doctors, to give advanced life support, so I believe that I have appropriate qualifications to talk about that subject, sir.

Q. Thank you. I would like to move on then to ask you some questions first of all about the autopsy itself. While discussing your career we have referred

to your role as a Home Office registered forensic pathologist. As is apparent from that title, the Home Office holds, does it not, a list or a register of forensic pathologists?

A. Yes, it's actually -- there's a shortened version. I believe it's the Home Secretary's personal list of forensic pathology. I think that's the -- its wording for that, but yes, they hold that list of people, sir.

Q. What is -- can you help us to explain -- the function that people on that list perform?

A. We are -- by being a member of that list -- and it's a very small list -- you are in essence accredited to assist the Police Forces of England and Wales for the investigation of suspicious or homicide deaths, and you have to reach certain training and accreditation to get onto that list and to remain upon that list and I was a member of it, sir.

Q. You were a member of it, as we have established, for a long time, 28 years?

A. Yes, sir.

Q. It must follow that you in that period conducted many, many autopsies in circumstances of criminal deaths, or deaths associated with a criminal investigation?

A. I have, sir, yes.

Q. I have already asked you a few questions about this, but turning to this particular case, there were, were there not, some points of similarity with many or all of the other cases that you had undertaken, for example you were instructed by a coroner?

A. Yes, sir.

Q. You worked with the police?

A. I did, sir.

Q. We see that the police were involved at the autopsy and we have noted that they asked you to prepare further reports thereafter.

A. That's correct, sir.

Q. The context, is this fair, was one of an anticipated prosecution, criminal prosecution to follow?

A. That may be for the police, but I approach a death as basically being a death. I treat all deaths the same. I keep an open mind as to whether it's natural or unnatural because to go in thinking it's a potential prosecution would open you to the allegation of being biased, which I wouldn't do, and therefore from my point of view it -- and I don't wish to upset the relatives, but in essence it's a death that I have been asked to assist the Coroner to look at independently and come to a conclusion, to suggest a cause of death, to

assist on this occasion an Inquiry, but it could be a criminal case or it could be a coroner.

Q. That's very fair and, as you emphasised, yours is an entirely independent role and you wouldn't be influenced by anything else in reaching your views about the cause of death.

A. No, I mean, you're undoubtedly told things and you undoubtedly have access to things, but I would hope -- and I think I'm right in saying -- that the profession, the Home Office pathologists, approach these in a completely neutral manner. You obviously have to take things into account, but at the end of the day you pull everything together and then you suggest a cause of death.

Q. The point I was driving at, Professor, was a rather more practical one. Is this fair, that the possibility of a future prosecution means that you do the autopsy in a different way to how a standard post mortem might be conducted in the absence of any question of criminal involvement?

A. Okay. The answer to that is yes and no, and I will explain why. The yes bit is that yes, there are more people there and yes, there will be things removed and taken from the body for examinations that won't be undertaken in every case and that's in essence the

criminal -- the police side of it. The no answer is that I -- again, I approach a body -- it doesn't matter to me whether this is a member of the public who has had a heart attack and I happen to be doing an autopsy, or it happens to be a criminal investigation. I still approach them in the same examination and the same way. You can tweak it, I think in fairness, but I always approach it the same. Yes.

Q. Yes, thank you. Sticking with the "yes" part of your answer -- and I think you have made it very clear that we should confine ourselves to practical matters because you're -- the way in were which you go about your work and you think about the case is unaffected -- but sticking with the practical matters, if we could go back to your full report, please, INQ005227, and if we could go, please, to page 7, there's a -- we see a list there of people present during the examination. It starts with you, appropriately enough, but then immediately underneath is another forensic pathologist, Dr Philip Lumb. What was his role in the autopsy?

A. His role was -- he is another Home Office pathologist and his role was to act -- in essence to do a so-called second autopsy at the same time, so he is there as an independent Home Office pathologist. He is

there to observe everything and to write an independent report.

Q. We mustn't confuse his role with that of Dr Hollingbury. We have already established that Dr Hollingbury was not there at the inquest -- sorry, at the autopsy. His role was to review your report, peer review it, if you like.

A. Yes, so in essence there has been three Home Office pathologists who have -- all three of us look at it with different roles, but we are all independent to each other.

Q. But just sticking for a moment with Dr Lumb's role, we see at the very bottom of the page you are describing the inquest -- sorry, the autopsy on 17 July. You say that you were undertaking an independent -- sorry, independent autopsy. Very bottom, last line of the page. Then if we can go over to the top of the next page, you refer to the fact that accompanying you during the examination was Dr Philip Lumb. You say:

"He was instructed ... to be present throughout the autopsy examination and to provide a second independent report concerning the autopsy findings and death of Dawn Sturgess."

What's the purpose of him providing a second report, Professor?

A. So he provides a second report which I've never seen. It will be -- so if it was me doing it, I would write a report, I would give my own opinion and views and I would seal it and I would provide it. It's likely that that was provided to the Coroner but would not be opened by the Coroner, it would remain sealed and therefore if there was ever a criminal prosecution, then those defending the individual or whoever would be able to open that and have an independent pathologist from the time who saw everything, who was present, and came to their own conclusions and wrote their own report.

Q. Thank you. It's fair to say, from what you have said, is it, that Dr Lumb's role in this case was connected to the possibility of a future prosecution in Dawn Sturgess' case?

A. Correct, sir.

Q. In that regard, is it fair to say it was a routine procedure, it wasn't special to her case, it's the sort of thing that happens where there is a possible -- possibility of a future prosecution?

A. It was routine at that time to have a second autopsy examination. It was unusual to have them done at the same time, but it has occurred during my career. It just depends on the circumstances.

Q. Thank you. Let me move on just to ask you

about some other features of the autopsy and for these purposes can we go back to page 7. About a third of the way down we see the examination date we have already established was 17 July, Professor, but then immediately below that we see it started at 20 past 1 in the afternoon, but didn't finish until after midnight, so very nearly 11 hours. Is that usual or unusual?

A. Home Office cases can take a long time. That particular time period was unusual. It was a long day, sir.

Q. Was it way off the scale, or just a long autopsy?

A. I'm going to just keep saying that it was a long day, sir.

Q. All right. Moving on, if we could look at the bottom of page 11, please, and the very bottom of the page you see the subtitle "Autopsy examination", Professor?

A. Yes, sir.

Q. Then there is a description by you of the process and you say:

"Due to the suggestion that the deceased had been exposed to Novichok the examination was undertaken as a so-called 'chemical, biological, radiological and nuclear' (CBRN) examination using appropriate personal

protective equipment ..."

Now, I don't want the fine detail, Professor, but in general terms, can you describe the difference that that made to the process?

A. Yes, sir. As stated there, we wore appropriate personal equipment and the process and procedure caused it to be a long day, sir.

Q. One can imagine that it made everything a bit more difficult and a bit more time-consuming at least?

A. I'm just thinking of the best way to answer that question. I think -- I think we were mindful that we just had to be more cautious, sir, and in taking the precautions that were required, it just slowed everything down.

Q. Thank you. Moving on but still with particular features of the autopsy, if we may, could we go back to page 7 of this document and back to that list of people who were present at the autopsy. We have looked at your name and Dr Lumb's name and then two further down we see someone called QM73 from the Organisation for the Prohibition of Chemical Weapons. What role, Professor, did that individual play in the autopsy?

A. They observed the entire procedure, sir. They were present in the room and observed everything that

was done by everyone, sir.

Q. Can we take it this was an unusual aspect of an autopsy?

A. Yes. I mean, you can have an observer. It's allowed in coronial practice and I have done autopsies before where I have had independent solicitors or doctors present or observers, for all sorts of reasons. This just happened to be this individual and I had never met him before and their role was to observe us and that's exactly what happened.

Q. Can I ask you to look at a different page, in fact it's one of the annexes to this report. If we could go to page 67, please. You are aware, Professor, that the OPCW subsequently published a short report dealing with their work in this country, including the involvement in the autopsy?

A. I am, sir.

Q. That's what I'm taking you to. If we look at the first paragraph, they refer, do they not, to dispatching a team to the United Kingdom in 2018, called a TAV, and then at paragraph 2 there's a reference to the TAV team deploying from 15 July to 18 July to collect biomedical samples and then they refer to a subsequent visit on 13 August and then if we look down at paragraph 5, there's a reference to the team

attending and observing the post mortem or autopsy of Ms Sturgess and it is stated that:

"The team was able to collect a number of biomedical samples (mainly tissue samples) for transport to the OPCW laboratory ..."

And subsequent analysis by their designated laboratories.

Is it accurate, Professor, that that individual who was cited, the OPCW representative at the autopsy, in fact collected some samples during the course of the autopsy?

A. There were at least one observer outside the mortuary environment who observed everything. There was the person on the inside who observed everything. I took the samples, which we may get to, from a pre-defined list that had been agreed and then some of those samples I assume were distributed to this organisation. I didn't, from recollection, personally give them to them. I would have given them to the police in the room and the police would have then distributed them to them.

Q. I see. That's helpful. The actual taking of the samples was solely done by you?

A. I was the only person -- with the exception of one procedure, I was the only person who did any actual

practical handling of the deceased.

Q. But you recognise what is said in that statement about them ultimately taking samples away with them in order to test them?

A. Yes, sir.

Q. Just going back to something you said, you described people being within the -- I think you said autopsy environment and other people observing from outside that environment. Was there a room where the autopsy took place and another room that was separated by a window or a glass screen which allowed people outside the room itself to see what was going on?

A. Yes, is the ultimate answer to that question, so many mortuaries have observation rooms, either within the complex or separated by glass windows, and the mortuary did have a glass window and there was observers in the room behind that glass window, yes, sir.

Q. Thank you. Just finally on this subject, I wonder if we could go to your -- briefly to your first statement, so the body release statement, so-called, so it's INQ005003 and if we can look at the second page of that document, towards the bottom of the second page.

Professor, can you see it's -- and the lines are helpfully numbered -- line 36. In that very early statement, you said:

"The autopsy examination was observed throughout by a team of independent international scientific observers from the Netherlands."

Just to clear this up, is that the OPCW team we have just been discussing or is that a different set of international observers?

A. No, that is the team. I was told that they were from the Netherlands. They were just there on the day and so that's how I referred to them on the first -- in that first statement, sir.

Q. Yes, thank you. Then just finally on the list I have been going through of notable features about the autopsy, could we go, please, to your July witness statement, so INQ005818, the statement from earlier this year and within that statement, if we could go to page 13, you see the heading there "Histology", Professor?

A. Yes, sir.

Q. If we just go to the very bottom of the page, you say:

"Due to the unique nature of this autopsy examination 36 different parts of Dawn Sturgess' body were sampled including skin, muscle and representative pieces of all the major organs. The purpose of undertaking such an extensive sampling was to see

whether there was anything that could be seen under a microscope to any of the tissues sampled that had not been identified through naked eye examination."

Now, we will come back to some of the findings in due course, but just at a high level you are suggesting here that this was another -- that the number of samples taken was a factor about this autopsy that marked it out from others?

A. Yes, sir.

Q. You use the word "unique", is that accurate? Was it in this sense an extremely large number of samples to take?

A. It's more -- it is a large number of samples and I think it's -- so I think I will just explain that.

The first decision was whether to do an autopsy in the first place because of the potential risk and we decided to do that and then , with the knowledge that we potentially are exposing ourselves to an agent that can kill us, we decided to ensure that we only did this once and that we sampled her to the maximum amount to get the maximum amount of information to draw the conclusions that we did, and that's why we took so many samples on this occasion, sir.

Q. Yes, thank you. I'm going to move on now, Professor, to talk about particular features of your

examination and also your findings and start to talk about your conclusions. It's right to say at the outset, isn't it, that you were provided with a full clinical history in Dawn Sturgess' case?

A. Yes, sir.

Q. That would be completely normal?

A. Absolutely normal.

Q. We can see it recorded in your report -- I'm not going to take you to it, but when one looks at it, one can see, unsurprisingly perhaps, that it covers very much the same ground that we have heard in evidence about Dawn's collapse, her days in hospital, the tests that were done on her during that time and so on.

A. Yes, sir.

Q. Would it be fair to say, just by way of summary, that the key elements of her medical history were, or at least included, first of all her collapse on 30 June, the cardiac failure, the return of spontaneous circulation and her subsequent bradycardia? Was that an important factor for you?

A. Yes, sir.

Q. Then, subsequently, the evidence about the tests that had been conducted during her time in hospital, including those showing profound inhibition of acetylcholinesterase and Novichok poisoning?

A. Yes, sir.

Q. Then thirdly, the CT scans that were undertaken during the time in hospital showing a developing brain injury.

A. Yes, sir.

Q. Would you agree that the cardiac failure at the start of that sequence appeared to be of critical importance and something that you needed to understand ?

A. Yes, it -- I suppose it's actually -- in fairness, it's the failure of breathing, the respiratory failure which is parceled with the subsequent cardiac arrest, the stopping of the heart. It's that sequence and causation which underpins the outcome in this case, sir.

Q. Let me start with the cardiac issues and in cases where there has been a cardiac arrest, pathologists are often able to conclude, are they not, once they undertake an autopsy, that a cardiac arrest may have been caused by something to do with the physical condition of the heart itself?

A. Yes, sir.

Q. To generalise, perhaps some form of heart disease or perhaps a narrowing of arteries which interrupted the flow of blood to and from the heart?

A. Yes, it's the commonest cause of -- I mean,

not being rude, but everyone in this room dying naturally, most people will die of a cardiac event, often narrowing of blood vessels, sometimes an actual blood clot in there, but it's the commonest cause of death around the world, sir.

Q. Knowing that there was an issue around cardiac failure in this case, did you consider that type of possibility here?

A. Yes, so the heart was physically looked at in the same manner that is appropriate with that in mind and then I sought expert opinion from the late Professor Suvarna in a who is a recognised cardiac expert within the United Kingdom and he provided a report for me, sir.

Q. Thank you. If we can go, please, to your full report, so it's INQ005227, and within it to page 26. Thank you. We can see the heading "Cardiac pathology". You refer there, Professor, to selected tissue from the heart being retained and, as you have just indicated, Professor Suvarna being asked to provide a report on it?

A. Correct, sir.

Q. The report is, part of this report, it's one of the appendices, but you have included within the body of your report his conclusions.

A. I did, sir.

Q. Those being that:

"The majority of tissues are considered within normal limits for this individual

"... minimal chronic fibrotic changes, likely not relevant to the cause of death ...

"... some ultrastructural mitochondrial changes, which are likely to reflect aspects of the cardio-respiratory arrest, rather than the Novichok agent. However ... recognised that there is no database on the morphological effects of this toxin on normal human myocardial parenchyma ..."

If I pronounced it right.

In summary, as far as the cardiac pathology was concerned, was there anything that was found which appeared to you to be relevant to the cause of death?

A. No, sir.

LORD HUGHES: So basically no pre-existing heart problem; is that it?

A. In fairness, sir, she did have some pre-existing heart pathology, in as much as that she had a little bit of very minor chronic fibrosis, or -- I will use the word "scar" but it's not strictly scar tissue, it's not a scar like you get in a heart attack. I would suggest that that will be lifestyle, but there's nothing there that was either macroscopically with your

naked eye or microscopically or ultrastructurally of any importance to suggest that the cause of her collapse and death was a primary heart problem.

LORD HUGHES: Thank you.

MR O'CONNOR: That's the heart itself. If we can go, please, to pages 15 and on to 16 of your report, we can see, starting at the bottom of that page, the heading "Internal examination". This is the part of your report which records your examination of the -- as we can see -- cardiovascular system and if we can just pass down there and onto the next page, there are references to the various different parts of the heart.

If we look, for example, there's a reference just above the aorta and principal branches of the coronary arteries, and you record that:

"The right coronary artery was dominant. All three coronary artery vessels were small calibre vessels. There was no apparent overt calcification and no significant atheroma was identified."

Are those technical terms to do with the narrowing of the arteries?

A. Yes, so there was no life threatening or life changing disease process within the coronary arteries that could explain a sudden collapse or death, sir.

Q. Just following on down the page, with the

aorta, you do record:

"Moderate, non-ulcerated atheroma of the entire length ..."

Of the aorta; is that something that is relevant to the cause of death?

A. No, you will see that in, I suspect, many people these days. It's a reflection of western diet, smoking particularly and, if I recall, she was 44 years old, so at that age it's not an unexpected finding. We're simply listing every observation that -- I use the word "we" because it sounds like that I'm not the person -- I often talk like that -- that I'm writing, listing the findings that I'm just observing.

Q. I wasn't proposing to ask you many more questions about this issue of the heart. It's obviously important given the history of cardiac arrest. We have looked at the question of heart disease and the report from the specialist, we have looked at your internal examination of the heart itself, the arteries and so on. Was there -- tell us if there's any other part of your findings that we need to look at, but overall was there anything to do with your examination that suggested a physical cause related to the heart?

A. Not to the heart, sir, no.

Q. Thank you. Let me move on, then, to the

question of toxicology and were you aware that at an early stage of Dawn's hospitalisation it had been thought that her symptoms might have been caused by a drug overdose?

A. I was, yes, sir.

Q. Did you consider for yourself the possibility that the cardiac arrest, or respiratory failure which led to the cardiac arrest, could have been triggered by Dawn herself consuming drugs of abuse, or medications, or any other drugs?

A. Yes, I did consider that, sir.

Q. If we could go within your full report, please, so that's 5227, to page 10, and again we have the numbered lines, Professor, so picking it up at line 218, this is within the clinical history section, you are recording what you were told and what you can understand from documents you are provided with. You record there:

"A toxicology result was also entered ..."

This is onto Dawn's hospital records:

"... which showed the presence of ..."

I'm not going to read them out, but a number of different drugs ending with nicotine and its metabolite, so there you're just recording what you had seen in the hospital notes?

A. Yes, I'm just recording the list of drugs I had found when reading the notes, sir, yes.

Q. Then if we go forward, please, to page 34 of your report -- and so this is within the conclusion section -- there are a series of numbered paragraphs containing your conclusions and it's paragraph 12 that's relevant here. Yes, thank you, so it's about halfway down. It says:

"In life the deceased had a toxicological examination undertaken. This identified a number of therapeutic and non-therapeutic drugs to be present. Although I have not been provided with the levels of the drugs identified, I am not aware that there is any indication to suggest that the deceased's collapse was a direct result of the action of either a therapeutic or illicit drug."

A. That's correct, sir.

Q. Just picking up a couple of points then. First of all, you have made the point -- and we will come back to it -- that what you could see on the hospital records were tests which indicated the presence of certain drugs, the ones we have just looked at, but not how much of them were present?

A. That's correct, sir.

Q. You have noted that, but noting that the

conclusion you have drawn is the one we see, that you're not aware of there being any connection between the intake of those drugs and Dawn's death?

A. Correct, sir.

Q. This is something, is this right, that you came back to in your July statement from this year and examined in a little more detail?

A. I did, sir.

Q. I would like to take you then to that statement, please, which is INQ005818. We will go through two or three pages of this report, Professor, where you set out some further thinking on this issue and if we can start by going to page 10 and do you see, Professor, the heading towards the bottom of that page:

"Consideration of the drugs identified in the toxicology examination"?

A. Yes, sir.

Q. You refer back to -- in fact, that's the passage, the first passage of your first report that we have gone to, the toxicology results. We have heard quite a lot of evidence in the last few days about samples being sent to Birmingham, no further detail, and then reports coming back from Birmingham, but you have provided the details of where in Birmingham these tests were sent and the results that came back. You have

recorded at the bottom of that paragraph accurately, because we have heard other evidence about this, that the results of the tests came back to Salisbury on the evening of 2 July 2018.

You then go on to say, from reviewing the original report, that there were, in fact, two urine samples; is that right?

A. That's as I understand it, yes.

Q. Your understanding from the documents?

A. Yes.

Q. One having been collected on 30 June and one the next day, on 1 July.

A. Yes, sir.

Q. You focused on the earlier of those two, the 30 June test.

A. I wanted to see the ones as near to the collapse as possible, sir.

Q. Then you have listed -- and it is I think the same list, or very -- it should be the same list, should it not -- the drugs that were found in that urine sample? It's the same list as the one we looked at in the full report?

A. I think in fairness, sir, there's -- I haven't got both side by side. It could be that it is slightly different, but those are what I have identified at that

stage.

Q. Yes, I was hesitant as well. It looks longer, doesn't it? But I think in that -- we don't need to go back to it, but I think in that full report you may have summarised and said "and its metabolites" and they might be set out in detail here.

A. Yes.

Q. In any event, this is the authoritative list, is it not, where you have recorded what is recorded on that sample?

A. It is the list, as I understand it, yes, sir.

Q. We mentioned a moment ago that the test that came back from Birmingham did not provide detail about the amount of drugs found, simply identifying presence ?

A. That's correct, sir.

Q. But there is a little more to say, is there not, which you have recorded in the next part of your report? First of all, the report that came back from Birmingham referred to the fact that the benzo -- sorry, you're going to have to help me with that word.

A. It's the metabolite of cocaine.

LORD HUGHES: How do you pronounce it?

A. Oh, gosh --

LORD HUGHES: I'm sorry.

A. If I may, I'm not going to -- well, it will be

benzo -- I can't pronounce it myself, to be honest with you.

LORD HUGHES: No, I'm not surprised. Anyway, it's the metabolite of cocaine?

A. Yes.

MR O'CONNOR: We have all failed at that particular fence, but we can agree that it is indeed the metabolite of cocaine --

A. Yes.

Q. -- and that exceptionally the report does indicate a level for that drug and it has been -- the advice, the opinion is expressed within the report that came back from Birmingham that that level did not suggest recent use, yes?

A. That's correct, sir.

Q. That's one exception to the quantification point. Then, secondly, you have recorded that the report from Birmingham also stated that the mirtazapine , chlopidogrel and zopiclone show large peaks suggesting recent use or high dose, acute or chronic. To that extent there's a start of quantifying them, but there is no scientific quantification provided there either.

A. Yes, it's just making an observation of what they're seeing on their read out when they're doing it and they're just noting that they are as it -- that

there's a high peak there, but unfortunately it doesn't provide any further information.

Q. What we then see, going further in this report, is that you have taken that initial long list of drugs and tried to think about why certain of those drugs might have been present in Dawn's system and whether some can be excluded as having been potentially linked to causing the cardiac arrest. Is this right, that there is a first category that you identify towards the bottom of this page that you can see elsewhere in Dawn's hospital notes, which are drugs she actually received in hospital?

A. Yes, so I'm separating out those drugs that I can identify that were given -- that basically she may have been taking whilst alive in her home. There's then the drugs that she was likely given during resuscitation and then there are drugs which she was likely given when she entered the hospital or beyond and they can be -- and what I really want to know is exclude those latter two groups and just try and focus on the drugs that she might have been taking at the time whilst alive so that I can see whether they have been taken in excess and could have caused or contributed to her death.

Q. Yes, so we see at the bottom of page 11 you have identified a list of five drugs which Dawn received

in hospital as part of her treatment and so for reasons you have explained, you exclude those.

A. Yes.

Q. I'm just looking at the penultimate line on the page, 361, you then say having excluded those "The following drugs remain on the list". First of all cocaine and its unpronounceable metabolite and then if we can follow down, the list of other drugs. Then at the bottom you refer to the fact that of that list the only two, the zopiclone and the mirtazapine, were amongst those that had been mentioned as being present in a large quantity?

A. Yes, sir.

Q. You also record that they are both used in the treatment of depression.

A. Yes, sir.

Q. You say that:

"The other drugs are either drugs we see commonly on toxicology reports (quinine, nicotine, cotinine) ..."

A. Yes, we see cotinine, it's the metabolite of nicotine. It got to the stage that you just see them all the time on post mortem toxicology reports.

Q. So did it -- does that process of exclusion lead you to a position where really in your analysis of trying to consider whether any of these drugs that came

up on the toxicology reports could have been linked, or a causative factor to the initial cardiac arrest, that really just left you with zopiclone and mirtazapine?

A. Correct, sir.

Q. Just taking a step to one side for a moment, Professor, and we will come back to this page, page 12 in a moment, but if we could go please to document INQ004988, and page 50, while we get that document up , is it fair to say, Professor, that these two drugs, zopiclone and mirtazapine, are commonly prescribed drugs in the treatment of -- in the treatment of depression?

A. Yes, sir.

Q. What we're looking at is a page of Dawn's medical notes. I know you haven't looked at this before now, but if we could zoom in, please, on the entry for 26 June, so only a few days before, in fact, her collapse -- yes, so towards the bottom of that -- so there are two entries. The 14 :59 entry, do we see there her being prescribed both of those two drugs: mirtazapine and zopiclone?

A. Yes, sir.

Q. Presumably you would not be surprised to see that in the sense that they are commonly prescribed drugs?

A. Yes, they'll be commonly prescribed and

they're drugs, sir.

Q. With that in mind, if we could go back to your report, so INQ005818, page 12, and towards the bottom of that page, Professor, you discuss both of those two drugs one after the other, zopiclone and mirtazapine. In summary, and noting the fact that you were necessarily unaware of exactly the quantification of those drugs in Dawn's system, what was your view about the likelihood that either or both of those drugs could have explained Dawn's collapse?

A. Well, despite the fact I haven't got any quantifications, the clinical presentation from my experience doesn't fit correctly for a collapse in relation to those two drugs, so I felt that they weren't the cause of her collapse, although I do preface that in the fact that I don't have the full information here and, as I often say in those circumstances, should that change at any point, then I will reflect upon that comment.

Q. Yes, and that's a point you made in this report and attempts have been made to obtain further information about the quantity -- the quantification of those drugs as opposed to the presence of them, but it seems that's simply not possible at this late stage, so the evidence we have is the evidence we have. I won't

take you back to it, but that passage we looked at in your conclusion of the full report, the way you put it was that you weren't aware of any indication to suggest that Dawn's collapse was a direct result of the action of either a therapeutic or illicit drug.

A. Yes, and particularly that because I would expect them to -- not just to have suddenly collapsed in the manner that I understand that she did, but rather that it would be a more prolonged lapse of -- into unconsciousness, so it's a completely different clinical presentation and that's why I'm -- despite the limitations of what I have access to, I have no reason to suggest that these are the cause of her collapse.

Q. Thank you. Sir, I'm about to move on to another topic so I wonder if that might be a convenient moment to take a break?

LORD HUGHES: Yes, of course it would, Mr O'Connor. We're going to break, Professor Rutty, for quarter of an hour --

MR O'CONNOR: I am sorry to interrupt, I'm asked to ask you if, on this occasion, the break could be for 20 minutes rather than 15.

LORD HUGHES: Yes, of course, Mr O'Connor.

You're in the middle of it, Professor Rutty, you know the form well enough.

A. I do, sir.

LORD HUGHES: Thank you very much.

(11.15 am)

(Short Break)

(11.36 am)

LORD HUGHES: Yes, Mr O'Connor.

MR O'CONNOR: Professor, before the break we discussed your investigations and considerations relating to Dawn Sturgess' heart and whether there could have been any physical causation there and then we also looked at the toxicology results. I want to move on now and ask you about your own consideration of the acetylcholinesterase levels within Dawn's body and also Novichok.

We have heard evidence that during her time in hospital tests were undertaken which showed, first of all, severely depressed levels of acetylcholinesterase and also subsequently the presence of Novichok, and you were told that as part of her clinical history, were you not?

A. Yes. I gained access to that -- so I gained access to the acetylcholinesterase results through the hospital notes and I would have been informed also of those results and the presence of Novichok, so it came through two different routes, sir.

Q. I will take them separately. We will talk first of all about the acetylcholinesterase and before we get into it, is it right that you conducted your own tests attempting to establish that the acetylcholinesterase levels in Dawn's body as part of the autopsy process?

A. Not strictly the levels, sir. I tried to look and see of its presence and whether it was functional or not, so that's -- that's slightly different.

Q. Let's go to the relevant paragraph of your conclusions, if we may, so it's in the full report, INQ005227, page 35, please. I think it's paragraph 16 that we need to be looking at for these purposes; is that right, Professor?

A. That's correct, sir.

Q. Let's take it in stages. You state at the outset of that paragraph that:

"The immunohistochemistry examination for acetylcholinesterase undertaken at the EMFPU ..."

Is that the Birmingham establishment we talked about?

A. No, no, that's the shorthand version of the unit that I ran, so that's the East Midlands Forensic Pathology Unit, but just EMFPU we just abbreviate it to, sir.

Q. That's helpful and I will finish the sentence, but so:

"... undertaken at the EMFPU demonstrated the presence of [acetylcholinesterase] in the samples examined."

It's clear from your explanation of what that acronym stands for that we are not now talking about tests taken during Dawn's life, but tests taken as part of the autopsy process?

A. Yes, so these were tests done on two different sets of samples, so the first were appropriate tissue taken from Dawn herself and then we also had to have control samples and we very grate fully consented some relatives through another deceased individual to donate some tissue to us to assist with the investigation.

Q. I see. You refer to the control sample later on in the paragraph, I was going to ask you about that, but that's helpful. Thank you.

In summary, then, what did these tests that you undertook tell you about Dawn's acetylcholinesterase levels?

A. Yes, so we were trying to -- so we looked at two different elements. We looked at the acetylcholinesterase and assuming that -- and I do put that in very carefully -- the interpretation is correct

because we -- you know, this is not a test that we would normally undertake, we established that it was present and then through a second test that it did not appear to be functional, and that's completely different. That would be the pattern that you would expect with this particular agent. Then we also looked at the acetylcholine, which is what the acetylcholinesterase acts on, and we established that that was also present and that appeared, compared to the control samples, to be present at a greater amount than the control. Again that was a pattern that would be expected and those were the tests that we did and the results that we acquired.

Q. Thank you. We have heard other evidence about Novichok and other organophosphate poisons and their mechanism in the body and, as you say, the evidence that we have heard is first of all that the poison binds to the acetylcholinesterase enzyme and, as it were, disables it in the body. I think what you have just said is that you found that it was present but not functional?

A. That's correct, sir.

Q. That would be consistent with Novichok poisoning?

A. Correct, sir.

Q. Then, secondly, what we have heard is that in

consequence of the suppression or disabling of the acetylcholinesterase, then the acetylcholine levels rise which causes what we have described as the cholinergic toxidrome, the symptoms, but I think you have just said that your own tests demonstrated raised levels of acetylcholine in the body.

A. It supported -- so we're comparing on post mortem samples a control against Dawn and there appeared to be an increase in staining, so I'm very careful in the way that I phrase it here and in the report, but that pattern supports what we would expect under these circumstances.

Q. Just looking at -- is it the last sentence, the last three or four lines of this paragraph that we should be looking at for the acetylcholine testing? You said you had chosen your words very carefully.

A. That's correct. I premise the caution above and then explain the acetylcholine below.

Q. The words you use are that:

"... the immunohistochemical test undertaken to assess the presence of [acetylcholine] showed subjectively more positive staining for the test material than the control. It is hypothesised that this is the expected result as Novichok should cause a build-up of [acetylcholine] ..."

A. That's correct. We undertook no quantitative assessment, it's purely a looking down a microscope and doing a -- in essence comparing a deceased tissue against deceased tissue and seeing a difference.

Q. Just to be clear then -- we will come on to talk about tests for Novichok itself -- these tests that we have been discussing and which you describe in paragraph 16 have nothing to do with Novichok, they are simply looking at acetylcholinesterase and acetylcholine?

A. That's correct.

Q. Can you help us, would you say that these tests proved Novichok poisoning or were consistent with Novichok poisoning, or something else?

A. They are -- so they don't -- they don't prove Novichok poisoning because in essence those -- you would get the same pattern with, in essence, any organophosphate poisoning. It just shows a pattern that is expected by this particular agent's mechanism, so I can't say by looking at that that that was caused by Novichok, but it builds up a picture and forensic pathology is all about putting lots and lots of different pieces of a puzzle together and then coming to a conclusion at the end of it.

Q. Would you agree that the tests you undertook

were at least consistent with Novichok poisoning?

A. Yes, they're consistent and supportive, absolutely, but they don't tell you that it can -- that it is, if you see -- I think there's a -- that's what why I have just got to be -- if I just got those results just like that, I couldn't turn around and say to you "Oh, that's Novichok" without knowing that it was Novichok.

Q. There also of course --

LORD HUGHES: Is this right, Professor Rutty -- I'm a simple soul -- it supports inhibition of the acetylcholinesterase --

A. It supports --

LORD HUGHES: -- by something?

A. Yes, it supports the inhibition of acetylcholinesterase and the excess amount of acetylcholine.

LORD HUGHES: And consequently too much acetylcholine?

A. Yes.

LORD HUGHES: Thank you.

MR O'CONNOR: For what it's worth, it also -- those tests that you conducted are also consistent with the tests that were conducted during Dawn's life on her acetylcholinesterase levels.

A. Yes, so in fairness independently, because that's -- we independently assessed it and we came to the same conclusion in essence.

Q. That's acetylcholinesterase and you have just described the tests that you yourself conducted in that regard.

Turning then to Novichok, before we get into the detail, just a binary question: did you actually conduct yourself tests for Novichok in the same way as you had for acetylcholinesterase, or not?

A. No, we didn't and that's nothing unexpected because that's in essence a toxicological examination and, as with any toxicological examination, we would send appropriate samples to an appropriate laboratory that could undertake that work.

Q. As you say then in the -- as one would have expected, you received information from others about the levels of Novichok in Dawn's body.

A. I did, sir.

Q. If we could look, then, at page 34 of the full report, so the same document we're looking at, first of all if we could look at paragraph 14, so towards the bottom of that page, you say:

"The DSTL report concerning the ante and post mortem sample analysis informs me that Dawn Sturgess was

poisoned with a Novichok nerve agent and that free intact Novichok was still present within her brain at autopsy."

A. Yes, sir.

Q. The report itself is appended to your report, but is this one of the sources of information you received about the presence of Novichok in Dawn's system?

A. Yes, sir.

Q. Then looking down at the paragraph beneath that, paragraph 15, we referred -- or we discussed, did we not, earlier the presence of the independent observers from the Netherlands who you subsequently discovered were from the OPCW at the autopsy?

A. Yes, sir.

Q. At paragraph 15, you say that you are:

"... aware through the open source document produced by the OPCW that they have independently confirmed the presence of a near pure 'toxic chemical'. Although, to date, [you say you] have not been provided with a document which names this toxic chemical or provides [you] with any further information in relation to the samples [that you] provided to the OPCW at autopsy ..."

That's the samples we discussed earlier.

You go on:

"... although this document does not name the 'toxic chemical' it does state ... that the chemical is the same as that identified by the United Kingdom. Thus, on this basis [you] have assumed that they too have identified the presence of Novichok ..."

A. That's correct, sir.

Q. Let's look at that OPCW report, if we may. We looked at it briefly earlier. It's one of the appendices to your report, so if we could go within this document to page 67, please. This is the page we looked at before the break, Professor. We can notice about four or five lines down from the top the date, 4 September 2018.

A. Yes, sir.

Q. We looked earlier at the paragraphs on this page indicating that the team had come to the United Kingdom and attended the autopsy.

If we could go over the page, please, we then see the results of the analysis -- separate analysis conducted by the OPCW. If we look at paragraph 7, it indicates that:

"The team was briefed on the identity of the toxic chemical identified by the United Kingdom ..."

That is, as we have seen, DSTL identifying

Novichok, yes?

A. Correct, sir.

Q. They go on, the team, their team:

"... was able to review analytical results and data from the chemical analysis of biomedical samples collected from the affected individuals by the British authorities."

And that includes the samples from Dawn's autopsy ?

A. Yes, sir.

Q. Then they say -- they indicate the results at paragraph 8:

"The results of the analysis of biomedical samples conducted by OPCW designated laboratories demonstrate that Mr Charles Rowley and Ms Dawn Sturgess were exposed to and intoxicated by this toxic chemical."

A. Correct, sir.

Q. Is that the passage that you had in mind when you wrote that part of the report we were just looking at?

A. Yes, sir.

Q. We see, do we not, that the OPCW, having taken the sample away from the autopsy, conducted their own independent analysis of it?

A. That's as I understand it, yes, sir.

Q. That's certainly what they say?

A. Yes.

Q. They have their public conclusion which they have expressed in this document, as you indicate in the report, doesn't name Novichok but it does say that they agree with what the British Government has said about the poisoning.

A. Yes, sir.

Q. Thank you. Just going back, if we may, to page 34 of this document, so back to your conclusions, we've got to the point of the analysis where you are recording the fact that both DSTL and the OPCW, albeit in a slightly opaque way, have indicated the presence of Novichok and is it fair to say that you then must consider whether Novichok is something that could explain the signs and symptoms shown by Dawn and ultimately could have been causative of her death?

A. Yes, sir.

Q. Is that an issue that you address at paragraph 13 of your report?

A. I do, sir.

Q. Now, we can see that there are some redactions to that paragraph. Let's just read through what's there. You say:

"I am informed within the clinical notes and from Thames Valley Police as well as DSTL that the deceased

has been exposed to Novichok ..."

Picking it up after those next few words, you say:

"This, as I understand it, is thought to have been through a dermal exposure route following the application of the agent via a dispensing device."

The Inquiry has heard evidence about the different means of exposure to Novichok. We have heard about the dermal route, access through the skin, the fact that that takes some time. We also, in fact, heard some evidence that it is entirely possible that Dawn was exposed to the Novichok not only through her skin but also through inhalation. Is that something that you had given any thought to?

A. Yes, I think that's highly likely, considering the mode of dispensal, how it was likely applied and then what she might have done which -- because I don't think it's unreasonable to suggest that if you were applying something like a perfume or something like that, you might smell it. There would also potentially be just some atmospheric liberation of it and therefore I have reflected on this quite a lot in preparation and I think it's probably highly likely that it was also in essence breathed in nasally or orally, yes. I think -- although I do emphasise dermal, but I think, yes, that's probably highly likely.

Q. Just taking that hypothesis on, assuming factually you're right that there was some inhalation as well as dermal exposure, what consequence would that have had physically?

A. Without straying outside my field of expertise, all I would suggest is that it's just an additional route into the body, so some drugs are -- because in essence it's a drug, or an agent. Some are absorbed rapidly through the nasal membranes into the blood supply, or into the lungs, so -- but I think overall it means that she had more than one potential route of exposure.

Q. Thank you. Reading on in the paragraph, you say:

"Based on the known LD50 of VX ..."

Now, just pausing there, LD50 is a way of describing a lethal dose, is it not?

A. Yes, so 50 per cent of -- it's a lethal dose that will kill 50 per cent of the subject, be it animal or human.

Q. It's a benchmark?

A. It's a benchmark used commonly by my understanding when describing drug toxicity.

Q. Then you have referenced VX and we can see that you reference it further in that paragraph. Why

are you referring to VX here as well as Novichok?

A. As a benchmark, so VX is another organophosphate chemical weapon, if you like to say like that, and there is more freely available information about it, both in the books that we held within the unit and within the accessible documents, whereas at the time that I wrote this, which is what I state in the report, I could only find two reference sources to help me considering Novichok. So I used it as a baseline, as another form of organophosphate poison.

Q. Just reading on, you say that:

"... if this was VX not Novichok ... then a single dispensing action could potentially deposit ..."

The words that come next have been concealed, but I can -- do you agree with me that one way of gisting them would be to say -- to add the words "many times"?

A. Yes.

Q. Would that be fair? To read it, it would read that:

"... a single dispensing action could potentially deposit [many times] the amount of material required to kill 50 per cent of adults via a dermal route."

A. Yes, sir.

Q. Going back to where I started, once you had the evidence that Novichok was in Dawn's body you

necessarily needed to consider what causative relevance, if any, that had. Is it a fair summary of this paragraph to say that -- for the reasons you explain and the comparison with VX, that you consider that the Novichok poisoning is a sufficient explanation for the signs and symptoms that Dawn developed?

A. Yes, sir.

Q. Thank you. I would like to go on to a different but related subject which is the cause of the brain injury that Dawn sustained and in fact we can stick with this document but go back to page 33 , please, so I think it's the page before the one we were just looking at. I would just like to look at -- it's paragraph 10, Professor, where you express some views about this issue, is it not? Do you see that?

A. I do see that, yes, sir.

Q. You say this:

"Due to period of time that the deceased has survived post ROSC ..."

We have heard that means the return of spontaneous circulation:

"... in hospital and the time between death and the autopsy examination the brain's consistency had deteriorated, making it difficult to examine at autopsy."

Can you just expand on that briefly?

A. Yes, and I don't know if there are any relatives here and I'm sorry for describing it, but basically -- yes, so she had suffered a global lack of oxygen resulting in, in essence, the death of -- in simplicity the death of her brain and therefore it would start to -- well, it's died and therefore its consistency will become softened and swollen within the head. Then after she has died, you have normal post mortem decomposition starting and I -- because of that, the time period which is expressed in this report between her -- not only between the incident, but between the death and when we had a chance to finally examine it, it had, shall we say, softened to the point where the -- it's removal and examination -- the removal is difficult and its examination meant that it was not a normal consistency.

Q. As you go on to say, is this right, that given what you have described, a better means of considering the brain -- the condition of the brain and the development of the symptoms, rather than trying to examine it post mortem, was to look at the CT scans that had been undertaken during Dawn's life?

A. Yes, so there's very good clinical evidence there, so there's very, very good notes, CT scanning of

both -- in life of the hypoxic injury and the subsequent development was very good and obtainable and it was time stamped, it wasn't a single event that we had sequential scans. But I think it was the right thing to have done because you could say "Well, why did we remove it?" Well, the answer was we still had to prove that those were correct and, in fact, we also had to sample and the samples were important.

Q. Just reading on, you say:

"Despite this ..."

This is the point you have just made:

"... there are good clinical records in the form of the CT scans that demonstrate that [Dawn's] collapse was not as a result of an intracranial or intracerebral bleed."

An important point in terms of cause and effect?

A. Yes.

Q. No doubt there are many cases broadly similar to this where someone has collapsed and one is able to draw the conclusion that in fact something going on in their brain had caused the collapse?

A. Correct.

Q. Is it right that what you're saying here is that that is not the position with Dawn Sturgess?

A. That's correct, yes.

Q. Why not?

A. Well, because -- so because of her age there are really two big problems she could have had. First would be a stroke, in layman's terms, and the second was an intracranial bleed which was raised at the time of her admission, they thought about that. The admission CT scans show that that didn't happen and that the consequent -- or subsequent, sorry, development of the changes in hospital which are, like I say, timed show that this is all attributable to basically her cardiac arrest and the subsequent problems developing afterwards.

Q. Yes, so at a very high level, rather than anything going wrong with the brain having caused the cardiac arrest, it's the other way round. Your view is it was the cardiac arrest and everything that went with it that caused the brain injury to develop in the days afterwards.

A. Yes, because one of her first presenting symptoms that I'm informed of is a headache and a headache can be an indication of an intracranial bleed or possibly a problem with the brain itself, so again I just wanted to consider that and look at natural explanations that could explain that and in fact ultimately dismissed those.

Q. The conclusion you express then -- if we could look at the end of this, three lines at the end of this paragraph, you say:

"Thus [you are] of the opinion that the deceased has developed a post-cardiac arrest intracerebral bleed on the background of hypoxic brain injury which has extended to involve the vital cardiorespiratory centres of her brain and led to her death."

A. Correct, sir.

Q. You explain a bit more about that in your July statement from this year which I'm going to take you to and we will look at several passages from that report, but before I do so, is it fair to say that although we will look at the further detail of your reasoning, that essential conclusion -- or can you tell me has that essential conclusion changed or not?

A. No, sir.

Q. With that in mind, let's go to the July statement, please. That's INQ005818 and within that statement page 8, please. Encouragingly, Professor, there is a subtitle which says "Layman's explanation".

A. Yes, and I produced a diagram as well which I think actually explains it -- I can work from and explain also, should that be required.

Q. Is that -- just let's try, is that -- let's go

to page 5 of the report. Is that the diagram you had in mind?

A. That's correct, sir.

Q. Well, if it helps for you to use that diagram, can you explain the further reasoning in this report using that diagram?

A. Yes. You may wish to blow it up slightly because then I can --

Q. I'm sure we can expand the middle section.

A. Yes. In layman's terms, the sequence of events, as I understand it, is that Dawn Sturgess had a respiratory arrest, so she stopped breathing, so that will deprive her body of oxygen and you can only sustain that for a short period of time before your heart stops, if it hadn't already stopped. She is now in cardiorespiratory arrest and she had a period of time between that happening and the first emergency services arriving, and that will have deprived her brain of any oxygen and how long that is required, but many people -- you will hear stories of four minutes, or a little bit longer. You don't need very long before your brain suffers a catastrophic injury.

She then had a very prolonged period of resuscitation, combined with a post -- I will use the term ROSC treatment, so that would further reduce her --

potentially the amount of oxygen going to her brain during resuscitation and then post, as she was, had a slow heart beat, so that reduces -- so her brain is suffering --

Q. Just pause there, just to be clear, you have talked about the brain being starved of oxygen while the body was in cardiac arrest for obvious reasons?

A. Yes.

Q. I think you're saying that even once circulation returned we heard the reference to bradycardia, so slow heart rate during that period?

A. Yes.

Q. Would that have, as it were, continued the deprivation of oxygen to the brain?

A. Yes. My understanding is she had a slow heartbeat and she had a low blood pressure, both of which will cause a reduction in oxygen, not only to her brain but to her whole body, but she will be continuing to have a reduced oxygenation.

She is going to suffer from a so-called hypoxic brain injury, an injury caused by lack of oxygen, and this was confirmed, as I understand it, in hospital several days after her admission when her brain function was showing minimal activity and the CT scan at that point showed a global image of hypoxic brain injury.

There then comes a -- her next CT scan shows a bleed within the left-hand side of her brain. Now, I enclose the CT scans in my whole report and for those if you're looking at them, the bleed is in the area on this diagram on the left-hand image, which is a slice through the -- looking from the top-downwards. When you read a CT scan you look from the feet upwards, so that explains why I have circled it on the opposite side to the CT scan, but both are showing the left-hand area of the brain that is affected.

Q. Yes.

A. She had a delayed bleed into that area, which then expanded and the diagram on your right-hand side shows the direction of the expansion of the blood towards the area of the brain that connects to the spinal cord, which is known as the brain stem, and in that area is where our principal areas which regulate breathing and your heart are -- the cardiovascular centres, and this, coupled with the reaction which will be going on because the brain will react to injury by swelling within a confined space, which unfortunately it only has a limited amount of expansion before it will try to expand outside the skull. This will compromise these areas and ultimately she will have another cardiorespiratory arrest. So that is in essence the

sequence: so it's the starvation of oxygen, the heart stops, the continued starvation of oxygen, despite efforts to reverse that, a global injury which unfortunately proved irreversible with a subsequent complication of a bleed that expanded into those areas.

Q. Yes. Thank you, Professor. I think the only other passage I need to ask you about, given that explanation, if we can go on to page 9 of the report, please. This is the final part of your summary of this section. It's the last paragraph here starting at line 283. You say:

"For this haemorrhage to have occurred under the circumstances that it did her brain had to have suffered hypoxic ischaemic injury, ie an injury due to a lack of oxygen."

That's what you have just described to us, I think.

A. Yes.

Q. You say:

"I am of the opinion that the cause of this insult was Novichok toxicity, first through respiratory depression ..."

Just to be clear, we have heard about the cholinergic toxidrome, the different symptoms, the paralysis of the diaphragm, the action on the heart itself, are those the sort of signs you are talking

about there?

A. Yes, so it's affecting your breathing, there's too much fluid in your lungs, the paralysis of various muscles, yes.

Q. You say that the respiratory depression caused by the Novichok toxicity would itself result in cerebral hypoxia, leading to cardiorespiratory arrest, as you have just explained:

"... then through the hypoxia expected during prolonged CPR and finally hypoxia which may be associated with post-cardiac arrest bradycardia."

I think you have explained to us in the last few minutes all of those stages:

"Thus the cerebral hypoxic ischaemic injury need not be caused by the direct action of organophosphate on the brain but rather the action of hypoxia caused by the effect of organophosphates on cardiorespiratory function ie this pattern of cerebral haemorrhage is related to hypoxia related cerebral injury and hence has been reported post-cardiac arrest unrelated to organophosphate toxicity."

A. Yes, so what I'm trying to say there is I don't -- from my reading I'm not saying that the Novichok caused the direct action on the brain itself, or cerebral haemorrhage is a consequence of Novichok.

That I have no published accessible documents to prove either way, but actually Novichok is having an adverse effect on your breathing and your heart and therefore it stops those from functioning and that's the point where it then triggers this sequence: the hypoxia, the cardiac arrest, et cetera. It is responsible for that, but I'm not -- I'm being careful of what part of the sequence I'm attributing to it rather than saying that the action to my understanding is a direction on the cardiorespiratory function -- it does have an effect on the brain but not that.

Q. Maybe that's what you're referring to because we stopped reading before the very last sentence of this paragraph. You go on to say:

"As the basal ganglia are reported to be susceptible to organophosphate associated ischaemic injury and the bleed originated within the basal ganglia then I am of the opinion that this bleed, although not specific to Novichok, can be attributed as a late complication of Novichok toxicity."

A. Yes.

Q. Can you explain that for us?

A. I was really interested about why it was the basal -- that area which I have circled on the diagram, why that -- why that area and not another area of the

brain. There was both radiological and pathological reports in the literature that say for generically organophosphates, for which there are many poisonings across the world every year, that those are the -- that is the area of the brain that can be affected specifically under these circumstances. Therefore, to have a bleed at that point then becomes not -- it becomes explainable. I was going to say not so surprising, but I think better to say that it becomes more explainable why that particular part of the brain is where, with this particular case, it bled.

It's not specific for Novichok because it could just be another pesticide.

Q. I see.

A. But I can attribute it to being the late effect of the overall consequences of Novichok toxicity.

Q. Thank you. Professor, that's all I wanted to ask you about on this specific -- your reasoning and your analysis related to the brain injury and I have taken you now through a number of the different areas of particular relevance in terms of your findings and causation and so on, and I would just now like to go back to your full report, so that's INQ005227, and simply take you through your conclusions, relatively speedily, but just to ask you the extent to which they

still stand.

If we go within that document to page 32, please, so we see the page there and at the top there's a heading "Comments" and are these, in fact, your numbered conclusions --

A. They are, sir.

Q. -- which lead to your final conclusion as to the cause of death?

A. Yes, sir.

Q. We can see -- and I'm not going to go through them in any detail -- the first three paragraphs, the numbered paragraphs 1, 2 and 3, are really a summary of the clinical history that you were told about and that you read from the documents.

A. Yes, they're just standard summaries of other parts of the document, sir.

Q. Paragraph 4 is a summary of the factual circumstances of the autopsy.

A. Yes, sir.

Q. Paragraphs 5 -- and if we can scroll down to the next page -- 6 and 7 are a summary of your findings in relation to the external examination of Dawn's body.

A. Yes.

Q. Of course the detail is contained in the body of the report. We have looked at some of the

paragraphs.

Paragraph 8 is a summary of your findings in relation to the internal examination of Dawn's body.

A. Yes, sir.

Q. Then paragraph 9, let's look at that, records, does it not, your conclusions about those different inspections/investigations?

A. Yes, sir.

Q. You say:

"No natural disease was identified at the autopsy examination or the subsequent histological or cardiac examinations to account for the presenting signs and symptoms or to be considered as her cause of death."

A. Correct, sir.

Q. Does that remain your conclusion?

A. Yes, sir.

Q. Paragraph 10 relates to your analysis relating to the brain injury and in particular I have -- we have looked at this only a few minutes ago and I took you to the last sentence where you express the opinion relating to a post-cardiac arrest, intracerebral bleed. Does that sentence remain as your conclusion, albeit with the added benefit of the explanation in your July report?

A. Yes, sir.

Q. If we could go over the page. Paragraph 11 is

a subject we haven't touched on so far. It relates to, as we can see, fluid accumulations within Dawn's pericardial sack, other cavities. Can you briefly explain what this paragraph is about, please?

A. Yes, so in essence I say that there was fluid within three cavities, which I, in essence, summarise as being non-specific, although I am aware that fluid accumulation, particularly in the lung, is reported in general in relation to organophosphate toxicity. As you commonly see, these findings under other circumstances at autopsy, I don't attribute them to specifically being related to Novichok, although I can't exclude that, and therefore I say that ultimately I consider them as being non-specific.

Q. They are findings in the sense you have seen things which are not normal, but you do not regard them as being significant in terms of explaining Dawn's death?

A. They're not the cause of her death, they're observations and I'm just giving an opinion as to why they're there.

Q. Thank you. Moving on, paragraph 12 relates to the toxicology results taken during Dawn's life. We have talked about that and I think you have already agreed that that final sentence of that paragraph:

"I am not aware that there is any indication to suggest that the deceased's collapse was a direct result of the action of either a therapeutic or illicit drug."

With the added explanation you have given today and in your later report, does that remain your conclusion?

A. Yes, sir.

Q. Paragraphs 13, 14 and 15 we have looked at, they relate to the evidence of Novichok in Dawn's body and your conclusions about that and I asked you earlier whether you had concluded that what you understood to be the evidence of Novichok in Dawn's body was a sufficient cause to explain the signs and symptoms that she had experienced and I think you said that you agreed that they were?

A. I do, sir.

Q. Moving on to the next page, paragraph 16 is one we have been looking at very recently about your own tests for acetylcholinesterase and acetylcholine and I think the way you put it was that those tests were consistent with Novichok poisoning, although not probative of it.

A. Yes, sir.

Q. Then the final paragraph, paragraph 17, you say:

"Thus, I am of the opinion that the clinical

presentation in terms of the signs and symptoms, as well as the in life laboratory tests ... and reports received following the autopsy examination all support that Dawn Sturgess did not collapse or die from a natural medical event, an assault or the result of a therapeutic or illicit drug overdose but rather due to the complications resulting from a cardiac arrest caused by Novichok toxicity. Having been exposed to the nerve agent Novichok, which appears from the information I have been provided to have occurred through a dermal exposure route, and with the knowledge of the expected action of organophosphate nerve agents I would have expected Dawn Sturgess to have deteriorated relatively quickly. It is documented that she first went into respiratory arrest and then asystolic cardiac arrest. Although CPR was successful and resulted in a ROSC, she continued to exhibit organophosphate toxicity post ROSC. Although her cardiac function did begin to show some improvement, she had sustained severe hypoxic brain injury which developed into an intracerebral haemorrhage. The intracerebral haemorrhage then extended into the vital cardiorespiratory areas of her brain. This was the final pathological process that, in my opinion, led to her death."

Then you give immediately below that in it bold

"Cause of death" and this, you will agree, is a summary of that paragraph I have just read:

"1(a) post-cardiac arrest hypoxic brain injury and intracerebral haemorrhage.

"1(b) Novichok toxicity."

A. Yes, sir.

Q. Do those remain your conclusions, Professor?

A. Yes, sir.

Q. May I ask how confident you are of those conclusions?

A. Oh, gosh ... so -- well, as confident as I can be. I suppose at the end of the day the cause of death is always a suggestion because it's the totality of the evidence that is heard by the Coroner, or the person undertaking that role who may have access to other material, but from a pathological point of view I have identified no other reason to explain her death.

Q. Thank you. Professor, those are all the questions I wanted to ask you, as it were, with your pathologist hat on about the cause of Dawn's death, but there is, as you will recall we mentioned right at the outset, just the question of those two short statements that you provided to the police which take you on to a slightly different piste about the use of atropine in pre-hospital treatment and I want to ask you finally

just for a few minutes some questions about that.

If we can, for those purposes, first of all go to the first of those two statements, so it's the 11 November 2019, INQ004495. We have looked at this statement briefly already. If we can go over to the second page, please. We looked, Professor, at the very top. We noted that you had been requested to provide a supplementary statement addressing the use of atropine in cardiac arrest and then we also looked at the line underneath the word "Comments" which gave a bit more detail about the question you had been asked, that is:

"... whether Dawn Sturgess would/could have survived had she been given atropine during CPR."

The paragraphs below set out your opinion on that matter. The first paragraph provides important, no doubt, detail about the guidelines and so on that were in play.

Then the substance of your opinion on this matter is contained in the subsequent paragraphs which I will read. You say that this -- I'm looking at paragraph 2 now:

"The Resuscitation Council guidance does support the use of atropine in the pre-arrest situation when the patient is bradycardic ie has a slow pulse rate and is experiencing adverse features. These features are

shock, syncope, myocardial ischaemia or heart failure."

Then you say:

"Thus, had medical assistance arrived prior to Dawn Sturgess going into cardiac arrest and found her to be bradycardic with adverse features then the use of atropine would have been appropriate."

A. Yes.

Q. You then move on in the next paragraph to the situation following cardiac arrest and following successful CPR. You say:

"Once a patient has had a return of spontaneous circulation (ROSC) following CPR it is not unusual for them to be initially bradycardic. However, although atropine can be used at this stage it is used with caution. Thus, we do not routinely give atropine with a ROSC but rather use adrenaline in measured doses to increase blood pressure."

You give some more detail about that and at paragraph 4, your conclusion, then is that:

"Having stated that post ROSC atropine could then have been used at this stage, as she [that is Dawn] remained bradycardic, her principal problem resulting in her death was related to post hypoxic brain injury following prolonged cardiac arrest."

Of course you have explained that in some detail

this morning:

"This problem would not, to my knowledge, be improved by the use of atropine as the critical damage to her brain caused by oxygen starvation during prolonged cardiac arrest was already established."

Just taking a step back, in fact in those paragraphs you were addressing two questions: first, about the appropriateness of administering atropine at various stages of presentation before and after cardiac arrest and we have seen what you have to say about that, and then in that final paragraph you turn to the question which you particularly have been asked about, about chances of survival, and in summary what was your view about whether the administration of atropine or not would have affected her chances of survival?

A. Well, I don't -- I don't -- so I'm just thinking about -- particularly about paragraph 4 because what I have said today is that obviously part of the hypoxic brain injury is actually in part could certainly be constituted by the bradycardia, so I suppose you could argue, sitting here thinking about it, that giving atropine to relieve a bradycardia would therefore increase oxygen delivery to the brain, but a prolonged bradycardia, which is what I understood she had, the atropine is actually not doing anything, so giving the

atropine certainly during cardiac arrest is neither part of the normal algorithm and wouldn't by much have assisted and, correct me if I'm wrong, I think she was -- well, whether she was given atropine or not post ROSC, which I -- if she was, it didn't actually help because she remained in prolonged bradycardia so --

Q. We have heard evidence, but I don't think in fact there is any evidence that she was given atropine following ROSC.

A. Okay. But that's, like I say -- as I have said higher up, it's not part of the normal algorithm or part of the normal treatment because you have to weigh the consequences of doing that and the more standard treatment would be actually to give her adrenaline or other blood pressure increasing drugs.

Q. Yes.

A. By not giving it actually -- and you would have to give it in such huge volumes because of the problem that she has experienced because of the toxicity of Novichok that actually I think the damage was already done and that's because of the prolonged period of time between cardiorespiratory arrest and getting the ROSC.

Q. We will hear other evidence on those matters, Professor, so I'm not going to explore that any further with you, but I'm going to ask that we look now at that

second short statement that you prepared a few days later, so that is INQ004496. We will see it was 21 November. If we go straight to page 2 -- and you will remember we looked at this at the very start of your evidence -- there you were requested to provide further explanation -- obviously your first statement hadn't answered the questions that the police had and, Professor, it's right, isn't it, that in this statement you focus on the use of the pens, the auto-injectors. We have heard in this case about the DuoDote pens which inject both atropine and also pralidoxime and you are commenting on the appropriateness of using them at particular times during a presentation such as Dawn's.

A. Mm-hm.

Q. If we can go down to the bottom of page 2, please, there's a paragraph at the very bottom of that page, you say:

"As I understand it, an auto-injector should be used after an individual is exposed to nerve agents or organophosphate poisoning where they are experiencing symptoms. The number of pens to be used depends on the degree of symptoms ... experienced. The auto-injector should be used as soon as possible especially if severe, life threatening symptoms are present."

Then this sentence:

"Reviewing the information sheets related to three types of auto-injectors (referenced below) ..."

If we could just drop down, we see just underneath "References" you have referred, is this right, to -- they are all links to websites, but to three of these auto-injectors. The first one appears to be the DuoDote pen that we have heard some more evidence about.

A. Yes.

Q. But just going back up to that sentence, so you have reviewed those information sheets and then you go on to say:

"... none indicate that an auto-injector should be used when a patient has gone into cardiac arrest."

A. That's correct, sir.

Q. That is an absence in any of those information sheets suggesting that it is appropriate to use that device when someone is in cardiac arrest?

A. Yes, and prior to coming here I spent a lot of time preparing for this over the last three weeks and I have revisited these auto-injector and I still can find no site suggesting their use during cardiac arrest, sir.

Q. Just then applying that to the facts of Dawn's case, if we look at the paragraph below, you say:

"Thus, from my understanding of the use of

auto-injectors, had the emergency services arrived whilst Dawn Sturgess was alive (conscious or unconscious) and exhibiting the effects of nerve agent exposure but had not gone into cardiorespiratory arrest, and they had realised that she had been exposed to a nerve agent, then the use of an auto-injector would be appropriate to attempt to block the effects of the nerve agent and assist with her clinical management."

A. Yes, sir.

Q. Pausing there, first of all we have heard evidence that that is exactly what happened with Charlie Rowley later that day: paramedics did arrive while he was, in fact, still conscious, they diagnosed nerve agent poisoning and used a DuoDote injector pen on him.

Of course the position was different with Dawn because she was already in cardiac arrest when the paramedics arrived, so that does not apply to the facts of her case, does it?

A. No, sir.

Q. Reading on, you say:

"However, if [paramedics] arrived when she was already in cardiorespiratory arrest ..."

Which on the facts we know was the case:

"... and were unaware of her exposure to a nerve agent then, as stated in my previous statement, I would

have expected them to have followed normal adult advanced life support procedures which does not have atropine as a drug to be used at that stage."

Then taking it on a stage:

"Once a return of spontaneous circulation was achieved and the realisation that she had persistent bradycardia and may have also been exhibiting other symptoms of nerve agent exposure ... at that point the use of atropine, as I understand it, would be appropriate."

A. Yes, sir.

Q. The last statement we need to go to on this -- and this takes us back right to the beginning of your evidence when you said there was one issue that you wanted to correct and I did promise we would come back to it -- is the July statement please, INQ005818, page 16. If we can go to the bottom third of that page, starting at line 525, the paragraph starting "In my second supplementary report". That's the report we have just been looking at, isn't it, Professor?

A. Yes. There's actually another paragraph which you may have -- there's two paragraphs, there's one here and I think there's one earlier on, where I basically just got word blinded to reading all these reports.

Q. Double negatives are difficult things.

A. I was under the impression that I had previously suggested that actually in cardiac arrest you should use one of these pens because I missed the word "none" after the brackets and therefore I wrote this paragraph and one earlier basically saying that I had previously said that, I have re-read all the documentation, I can't find where the reference to that was and therefore I changed my mind that you shouldn't use -- there's no indication that you should use these pens, whereas in fact actually I remain of that opinion and it's simply a misreading of a single word in one of my earlier reports.

LORD HUGHES: Actually you never had said that in the first place?

A. Absolutely, sir, and I apologise.

LORD HUGHES: Quite. That's how I read it. Thank you.

MR O'CONNOR: On the glass half full analysis, Professor, you have in effect done some more research to confirm the earlier view that you expressed?

A. Yes. I double-checked what I said, re-read everything and I stand by my original statements that I can find no protocol or suggestion that these should be used during a person who is in cardiac arrest as being exposed to -- I will just use the generic term

organophosphate.

Q. Just very finally on this and just -- people may be recalling some evidence we heard a couple of weeks ago now about the protocol that was in force in 2018 for the DuoDote pen that was in fact used. If we can go to INQ000623, please. As I say, we looked at this during the hearings in Salisbury, but this is the medicines protocol for the DuoDote pen issued in January 2017, so -- but then effective for two years after that, so covering June 2018. I won't go all the way through it, Professor, but if we can go over to the second page, first of all, I don't know if you have had a chance to look at this?

A. I have read it, yes.

Q. It's right then -- and you will agree with me -- that, exactly as you say in your statement, there is nothing in here which positively encourages the use of the pen whilst someone is in cardiac arrest?

A. So there's nothing here. There is nothing currently either on the National Ambulance -- which is the JRCALC guidelines to which all Ambulance Services work to and I have re-read those as well and I have not found anything to suggest that.

Q. No. What there is, which rather -- at least puts a gloss on it perhaps indicating certainly caution

about the use of these pens where there are cardiac issues in play, so if we just look at the second bullet point of the sort of large, lower box of this table where we see on the left-hand side "Cautions", so one of the circumstances in which caution should be exercised is:

"When symptoms of poisoning are not severe, DuoDote should be used with extreme caution in people with heart disease, arrhythmias, recent myocardial infarctions ..."

And so on. This is slightly to one side, it's not telling you positively to use it or definitely not to use it, but it is indicating that where there are cardiac issues certainly caution should be applied.

A. Yes, exactly. It's -- you know, the use of any drug is not without hazard and they are expressing that the diseases which you've got to be really wary about when the person is still alive.

MR O'CONNOR: Thank you very much, Professor. Those are all the questions I wanted to ask you on that slightly separate issue about atropine and indeed that's the end of my questions. There may or may not be some further questions for you, Professor.

LORD HUGHES: No? Any others? No, you seem to have covered the ground, Professor Rutty.

A. Thank you, sir.

LORD HUGHES: On this last point that you have been asked about the possible or theoretical possibility of using atropine or any of these other -- DuoDote or whatever, at different times, I understand what you have said, you have been very thorough, but in any event had any of those things been used, would it have had any impact on the process which you think is the mechanism of death, that is to say cardiac arrest leading to hypoxic brain injury, leading to brain intracranial bleeding?

A. I think if -- through my understanding of this particular death, the agent involved and its administration, I think that there is -- I think had a pen been used I -- I think there are two problems -- I think -- I don't think -- by my reading I don't think that it would have had any material effect.

LORD HUGHES: No, I see.

A. I will explain that for two reasons. First of all, the atropine side I think would have been -- although it would have been at the right dose, it would have been over -- its effect would have just been overwhelmed by the build-up of acetylcholine and in terms of the pralidoxime, which I have explained within one of the other reports, I think the agent would have -- there's this term which you may or may not have

covered, or be covered, which is this term aging where it changes rapidly and I don't think it necessarily would have had any effect. I think the use of a single pen would have made no -- by my understanding no material difference.

LORD HUGHES: I see. All right. Well, thank you very much. We can let you go, I think, Professor Rutty.

A. Thank you.

LORD HUGHES: Thank you for your help and that, I dare say, Mr O'Connor, is a convenient point to break, is it?

MR O'CONNOR: It is, sir, yes.

LORD HUGHES: How much of this afternoon are we likely to need? Most of it?

MR O'CONNOR: Yes.

LORD HUGHES: In that case, we will make a start as soon as we can, 1.45, please, and we can resume, can we, with our various devices, if we wish?

MR O'CONNOR: Yes, we will be in level 1 at that stage.

LORD HUGHES: Level 1.

Right, thank you very much indeed for coming, Professor.

(12.43 pm)

(The lunch break)

(1.44 pm)

LORD HUGHES: Yes, Ms Whitelaw.

MS WHITELAW: Good afternoon, sir.

Mr Faulkner, my name is Francesca Whitelaw and, as you know, I ask questions on behalf of the Inquiry.

MR JOHN CHARLES MARK FAULKNER (sworn)

LORD HUGHES: Thank you. Would you like to sit down, Mr Faulkner, because that's where the microphones are?

Questioned by MS WHITELAW

MS WHITELAW: Could you give us your full name, please?

A. I'm John Charles Mark Faulkner.

Q. You're known as Mark Faulkner; is that correct?

A. That's correct.

Q. Thank you very much for attending today to give evidence. You should have in front of you a copy of a report that you have made for this Inquiry which runs to 89 pages. I'm just going to ask for the front page to be brought up on the screen, please. The reference is INQ005942. Do we see there that it is dated 10 August 2024?

A. Yes.

Q. If we could turn to page 82 of that document,

do we see there first of all a statement of truth which reads:

"I confirm that I have made clear which facts and matters referred to in this report are within my own knowledge and which are not."

A. Yes.

Q. "Those that are within my own knowledge I confirm to be true."

A. Yes.

Q. "The opinions I have expressed represent my true and complete professional opinions on the matters to which they refer."

A. Yes.

Q. Just to confirm, you made that declaration?

A. Yes.

Q. And you confirm it now?

A. Yes.

Q. We see below that an expert's declaration and I won't read that one out, but if you could just have a look at that now and, sir, as you described it this morning, this is a standard form of words which is within the rules of court for both civil and criminal procedures.

If we could turn over the page , when you have had a chance -- have you had a chance to look at that

declaration --

A. Yes.

Q. -- thank you, to page 83? Did you make that declaration and sign the report where we see the redaction for personal data?

A. Yes.

Q. Sir, with your permission, the whole report will be adduced and published on the Inquiry's website in the usual way.

LORD HUGHES: Yes.

MS WHITELAW: Mr Faulkner, if we could start then, please, with your professional qualifications and experience which you set out at page 4 of your report. First of all, your qualifications. Do you hold a degree in Paramedic Science from the University of Hertfordshire?

A. I do.

Q. And a Masters degree in Resuscitation and Emergency Medicine from Queen Mary's University of London?

A. I do.

Q. Do you also hold post-graduate masters level qualifications in advanced paramedic practice?

A. Yes.

Q. As well as a post-graduate certificate in

point of care ultrasound?

A. Yes.

Q. Are you also qualified as a paramedic?

A. I am, yes.

Q. Secondly, your roles then. Firstly could you tell us your current role?

A. I'm currently Associate Clinical Director and Consultant Paramedic within the London Ambulance Service.

Q. Thank you. If you could slow down a little bit for the transcriber. Thank you.

Is that one of the lead clinical paramedic roles within the trust?

A. It is, yes.

Q. Your report indicates that you are a senior clinical manager within the clinical directorate and that you sit on the trust's executive leadership committee; is that correct?

A. That's also correct.

Q. Are you also an advanced paramedic practitioner critical care?

A. I am, yes.

Q. Does that mean you're a practising clinician?

A. Yes, I practise about 12 hours every week in clinical practice.

Q. Sorry, did you say every week?

A. Yes, every week.

Q. Is that as a critical care responder on ambulances or response cars or --

A. It's normally as a critical care responder on ambulances, but it's also on response cars, but I also work in ambulances, more routine response cars within our control room or -- it's all part of that.

Q. So within the operations centre as well?

A. Yes.

Q. Your report indicates that you have an additional specific portfolio of work, including major trauma, resuscitation, cardiac and stroke, medico-legal practice and governance. Could you just explain to us what that looks like in practice?

A. So I look after what we describe as acute and specialist care within the London Ambulance Service, so I'm the clinical lead for resuscitation, major trauma, stroke, as well as heart attacks and I am involved in the oversight of that area of work, the review of cases in that area and clearly that impacts on giving evidence in legal proceedings around those areas.

Q. Thirdly, in terms of your qualifications and experience, your experience, please. You say in your report that you regularly review emergency calls and

calls to NHS 111. Is that a quality assurance sort of process?

A. Yes, it's normally on addition to a routine quality assurance process, so senior review of 999 calls.

Q. In the five years prior to you making your report, approximately how many patients have you attended in cardiac arrest?

A. Around 250.

Q. You indicate that you were previously the clinical advisor to the Medical Director of the London Ambulance Service and when was that, please?

A. Between 2010 and 2015 approximately.

Q. Also that you were the Clinical Practice Development Manager for Critical Care. When was that?

A. 2018 to about 2020/21.

Q. Are you also one of the authors of the National Clinical Guidelines for UK Ambulance Services in respect of resuscitation?

A. I am, yes, I sit on the Resuscitation Committee of the joint Royal Colleges Ambulance Liaison Committee, National Clinical Guidelines.

Q. Have you also published various papers in major trauma, including patient assessment and including the management of cardiac arrest?

A. Yes.

Q. You say you have a clinical and academic interest into the efficacy of resuscitation and survival from cardiac arrest?

A. I do, yes.

Q. Fourthly, in terms of your experience, could you just tell us the extent to which you are were involved in the education and training of paramedics, please?

A. So I teach paramedics of all levels from teaching really basic first aid, in fact I teach some first aid to the scout leaders, right up to teaching medical staff advanced life support resuscitation.

Q. Your report indicates that you are not a specialist in chemical, biological, radiological, nuclear and explosive emergencies, but that you have frontline experience, including attending a range of emergencies that include terrorist incidents. Are you able to give us some examples?

A. Yes, so I was a paramedic at 7/7 in the earlier part of my career. More recently I was one of the senior responders to the Streatham incident. I was involved in the Ambulance Service response to both London Bridge and Westminster Bridge. I have been involved -- so in terms of terrorist incidents those are

probably some of the key ones.

Q. Thank you. Moving to the report itself then. For the purposes of preparing the report, could you confirm that you were supplied with a large number of documents, including, first of all, witness statements?

A. Yes.

Q. Secondly, contemporaneous ambulance logs, call logs and medical records?

A. Yes.

Q. Thirdly, policies and procedures?

A. Yes.

Q. And, fourthly, post mortem reports?

A. Yes.

Q. I'm looking at page 10 now of your report and paragraph 1.11 for you to follow. Could you tell us what the purpose of your report was, please?

A. I was asked a number of questions by the Inquiry team, but with an overarching review of the Ambulance Service care to Dawn Sturgess, but also to consider the care to Mr and Ms Skripal and to Mr Charlie Rowley.

Q. I think -- am I right that the purpose was to examine the management of Dawn Sturgess following her collapse and cardiac arrest on 30 June --

A. Yes.

Q. -- primarily. However, in order to comment on that treatment, was it necessary to touch on both the responses to the collapse of the Skripals and also Charlie Rowley?

A. Yes.

Q. You do that in your reports, is that right, in terms of --

A. That's correct.

Q. Now, we have addressed your own qualifications and experience and as a preliminary matter I would just like to ask you briefly about paramedics because although lay people refer to all ambulance personnel as paramedics, that's not strictly correct, is it?

A. That is -- yes, what you describe is correct, that most people will describe anyone who works on an ambulance as a paramedic. A paramedic is a protected title, like being a -- registered nurses, and there are certain entry requirements to be on the register as a paramedic, so you register with the Health and Care Professions Council. Not all ambulance clinicians are paramedics. There are a number of what more generally today are referred to as Associate Ambulance Practitioners and their job titles do vary round the country: emergency medical technicians, emergency care support workers, emergency care assistants, are all

a number of the job titles used nationally, and associate ambulance practitioner. They are not registered with the Health and Care Professions Council, so they are not paramedics and in the main their level of training is not as inclusive as paramedics, but for completeness you will find emergency medical technicians who work with other emergency medical technicians as well as with paramedics.

Q. Both are generalist clinicians; is that correct?

A. That's correct.

Q. But paramedics are registered and trained to a higher standard generally?

A. Generally, yes.

Q. I think since 2018 paramedics have to complete an approved Bachelor of Science with honours level degree programme; is that correct?

A. That's correct.

Q. In an ambulance, will the paramedic normally be the lead clinician?

A. Yes.

Q. We have heard the Air Ambulance variously referred to in this Inquiry, I think, as HEMS, ASB and Critical Care Paramedics. Are those terms interchangeable?

A. The Air Ambulances go under a number of different titles in the UK. Some get referred to as Helicopter Emergency Medical Services, some are referred to as Air Ambulances. The qualification of the staff who work on UK Air Ambulance is very variable. Some Air Ambulances employ paramedics with limited additional training, if any. Some Air Ambulances will employ paramedics who have got advanced practice qualifications and there will be a number who employ paramedics, or second paramedics who have got specialist practice qualifications, so there is a real mixture across the UK. Again, there is no consistency in job title. Some are referred to as critical care paramedics, others are referred to as advanced paramedics, some are just referred to as flight paramedics.

Q. I asked Ian Parsons, the paramedic who attended Yulia Skripal, why he requested the air support ambulance. I won't bring it up, but the transcript reference, sir, is Day 8, 30 October, page 26, line 23. He responded:

> **"Answer:** Because they carry critical care paramedics and they can -- they have enhanced knowledge, enhanced training and carry more drugs than we do."

Is that a fair summary of why a paramedic might call for air support?

A. I think it's a fair summary of what an air ambulance may offer. Why a paramedic may call for them is because they may require some assistance, or they believe there is some additional care that that asset may be able to offer the patient with them.

LORD HUGHES: Do we gather, Mr Faulkner, that it may vary? The organisation and the staffing, as it were, of different units may vary from one service to another a little?

A. Yes, sir, equally it also varies within the service. You will often find ambulance services who have two or three air ambulances and they are not consistent.

LORD HUGHES: Right.

MS WHITELAW: Would you expect the local paramedics to know their sort of local Air Ambulance Service and what they can offer?

A. Absolutely.

Q. In terms of guidance, do all paramedics operate according to national clinical guidance?

A. There is a national set of clinical guidance which is a kind of cornerstone of paramedic practice. That is normally enhanced in trusts by some internal guidance and depending on the ambulance trust, it depends how much additional guidance there is.

Q. We have heard the JRCALC guidelines, do es that stand for the Joint Royal Colleges Ambulance Committee in conjunction with the Association of Ambulance Chief Executives?

A. JRCALC is the Joint Royal Colleges Ambulance Liaison Committee and their national clinical guidelines are published in collaboration with the Association Ambulance Chief Executives.

LORD HUGHES: Would you mind very much if I asked you to do it just a little more slowly because people, including me, need to keep up.

A. Thank you.

MS WHITELAW: In 2018, was the most recent version of the guidance published 2016?

A. Yes.

Q. I think we saw that. Did you watch the evidence of Professor Rutty this morning?

A. Yes.

Q. I think we saw there was an excerpt from one of his statements which referred to those guidelines.

With reference to paragraph 6.5, which is at page 75 of your report, if you need it, can I ask you just at this stage what training or guidance you think paramedics should have received regarding the signs of and treatment for nerve agent before the Skripal

poisonings?

A. Paramedics would have had an awareness of organophosphate poisoning. They -- that would have included nerve agents, but it would have been quite limited.

Q. In your report you refer to holding the view that specific education on nerve agent exposure being covered at no more than the most superficial level at that stage; is that what you would expect?

A. Yes, I would -- yes.

Q. Did you have the opportunity to read or see the evidence of Wayne Darch in Salisbury?

A. I did. I have read it.

Q. Could you confirm -- you refer to in your report that you have seen the DuoDote medicines protocol which indeed was brought up today --

A. Yes.

Q. -- of 7 January 2017 and the clinical notice regarding the implementation of DuoDote injectors.

A. Yes.

Q. Would you expect all ambulance clinicians to have been aware of those documents prior to March 2018 ?

A. Those are internal documents for South Western Ambulance Service, so I would have expected their clinicians to be aware of them. They are not national

documents, those specific documents.

Q. Thank you. So you would have expected the SWASFT clinicians to have been aware of those, firstly in March 2018?

A. Yes.

Q. And secondly, by June 2018?

A. Yes.

Q. We will come back to the post Skripal period a little bit later, if we may.

If I could ask you then some questions about medications. We have heard about various medications being administered in emergency response in these cases and if I could confirm briefly the nature of each with you, so starting please with naloxone. What's the purpose of that?

A. Naloxone is an antagonist to opioids which is the group of drugs that morphine belongs in, heroin , that's diamorphine, belongs in, fentanyl belongs in and it is a drug that competitively blocks the opioid receptor at a cellular level and in essence acts as an antidote to opioids. So it blocks the effect of opioids.

Q. We have heard it described as reversing it ; is that similar?

A. Yes, I think that's fair.

Q. How is it administered?

A. So there are various routes of administration of naloxone. It can be given into a vein, so you can put a cannula or a drip into the vein. You can put a needle into the bone marrow, so you insert a needle into the bone marrow and administer it what is described as intraosseously, or IO. You can give it as an intramuscular injection, so an injection into the muscle, and more recently, in the UK at least, it has been given intranasally as a spray up the nose.

Q. How safe is it to use in the pre-hospital environment?

A. No drug is safe and every drug has side-effects, but I would describe it as one of the safer drugs used in pre-hospital care and often the challenge with naloxone administration is not the naloxone, it's the fact you reverse somebody's opioid effect and they are unhappy and then suffering withdrawal symptoms that actually means it's the patient that's then the risk, not the drug.

Q. We have heard that Sergei Skripal received naloxone intranasally from paramedic Lisa Wood. What were your -- what was your opinion of that decision. I'm referring to page 31, paragraph 3.42, if you need to refer to it.

A. I think it's a reasonable decision and I would have no criticism of that decision.

Q. Why was that?

A. Mr Skripal was found in a collapsed state, he had constricted or pinpoint pupils, or miosis. There was a level of respiratory distress and of the things that would be common in those circumstances, and by far probably the most common, would be to think about an opioid toxicity and therefore administration of naloxone, a drug that has relatively few side-effects.

Q. As I say, the paramedic's rationale being that she was considering opioid overdose and you would consider that an appropriate treatment.

A. Absolutely.

Q. How common is opiate overdose in a pre-hospital environment?

A. Extremely common.

Q. We have heard evidence that Narcan is a brand name for naloxone, is that --

A. That's correct, yes.

Q. In terms of treatment I think Yulia Skripal received naloxone as well?

A. That's my understanding.

Q. We're going to come to the treatment of Dawn Sturgess and Charlie Rowley, but staying with

medications for a moment, diazepam; what is that, please?

A. Diazepam is a muscle relaxant. In an ambulance setting it is normally used as an antiseizure medication, so it's a muscle relaxant and antiseizure medication and it's used for the termination of status or continual seizures.

Q. In your report -- I'm at paragraph 3.18 -- you say it:

"... is used to treat anxious disorders or alcohol withdrawal ... Diazepam is sometimes used to treat muscle spasms and stiffness or seizures."

Can I just ask you why you qualify that with "sometimes"; what does that mean?

A. There are other drugs that are sometimes used to treat seizures and there are ambulance services now in the UK who use medazepam rather than diazepam for seizure management.

Q. You said that it's a muscle relaxant and antiseizure medication. Does it enhance the activity of certain neurotransmitters in the brain?

A. Yes.

Q. How is that administered by paramedics?

A. The reason I'm pausing is this isn't straightforward. Diazepam at the time was administered

rectally as a stesolid, so a tube that was placed per rectum, up the patient's bottom, squeezed and the medicine was absorbed via the rectal route of administration. As one route. The alternative was a drug called diazamuls, which is an emulsion of diazepam which can be given intravenously.

Q. I think that's the -- we certainly heard evidence in this Inquiry about diazamuls, so that's the dissolved preparation?

A. It is an emulsion, so a lipid soluble.

Q. Again, I think Sergei Skripal and Yulia Skripal received that drug, not Dawn Sturgess , again we will come to her, but Charlie Rowley did as well; is that your understanding?

A. That's my understanding.

Q. Next then I will touch on atropine. We are going to come back to it in the treatment of Dawn Sturgess, but generally speaking, what is it?

A. Atropine is a drug that blocks the parasympathetic nervous system. It effectively blocks your relaxing and digesting and has the effect of increasing heart rate, which is why the majority of it's used in the Ambulance Service. It's normally used for patients who have a slow heart rate.

Q. We have heard of it being described as an

anticholinergic; is that correct?

A. That's correct.

Q. That blocks the action of acetylcholine neurotransmitter at synapses in the central and peripheral nervous system; is that an accurate description?

A. That's an accurate description.

Q. As well as assisting with slow heart rate generally, is it used to treat certain types of nerve agent and pesticide poisonings?

A. It is, yes.

Q. Does it also decrease saliva production during surgery?

A. Yes, but that's not an indication for its use pre-hospitally.

Q. Thank you. That was my next question.

I think we will hear -- we will deal with in a moment that Sergei Skripal was given that in error, but I think not Yulia Skripal or Dawn Sturgess in the pre-hospital environment, but Charlie Rowley was.

A. Yes.

Q. In your report you explain, at paragraph 3.18, that:

"... medications are mainly administered in line with two specific schedules of the Human Medicines

Regulations, (... schedules 17 and 19)."

Could you tell us the difference between the two schedules?

A. These are schedules of the Human Medicines Regulation. Schedule 17 is a variety of lists of medications that certain healthcare professionals who are registered can give in certain circumstances. Included in that list is a list of medications specifically for paramedics, but there are also lists in that for mid-wives, podiatrists, and it is a very specific list of medications.

Schedule 19 is a list of medications that anyone can administer in an emergency, so anyone sat in the courtroom, irrespective medical qualification, would be entitled to administer that medicine. For an example, sir, an adrenaline auto-injector in someone having allergic reaction or an anaphylactic reaction.

Q. Which schedule is diazepam in?

A. Diazepam is a schedule 17 drug.

Q. Paramedics?

A. Paramedics.

Q. Atropine?

A. Is a schedule 19 drug.

Q. That's anyone in an emergency --

A. Emergency.

Q. -- situation. You don't say in your report, but is naloxone in one of those schedules?

A. It is, it's a schedule 19 drug.

Q. Again, that's anybody in an emergency situation?

A. Yes.

Q. Now, in terms of treatments next, we have heard that Yulia Skripal needed assistance with her airway and that, first of all, an oropharyngeal airway was inserted and then, secondly, it was changed to an i-gel. You have provided some pictures in your report, so if perhaps we could have a look at those, INQ005942, page 25. Could you just explain these different devices?

A. The figure 1 device is an oropharyngeal airway or an OP airway, and it is a small plastic tube, 3 to 4 inches long in an adult, that's curved and the idea of it is it aids ventilation, particularly by stopping the soft pallet or the base of the tongue and supporting it. So when somebody is unconscious their muscles relax and what can occur is the soft pallet can fall backwards and posteriorly, so the oropharyngeal airway shown in the photo provides some support to that.

Q. Thank you. We heard evidence that an ICU doctor, Helen Ord, who was one of the passersby and

attended Yulia Skripal, described a Gadel airway and Ian Parsons indicated -- the paramedic, indicated it was the same as this airway. Do you agree with that?

A. Yes. Gadel airway is simply an old trade name for it.

Q. Then we see the i-gel. Can you just explain the difference?

A. An i-gel is a more invasive airway. In order to use it without the aid of drugs or muscle relaxant the patient has to be more deeply unconscious than you would for a OP airway, or an oropharyngeal airway, and this is a malleable plastic cuff that sits right at the back of the throat above the vocal cords and directs air or aims to direct air and ventilation through the vocal chords, into the tracheal wind pipe and the lungs. It's a much longer device, as you will see in the picture.

Q. Although the first one is hard plastic and the second one is more malleable --

A. Yes.

Q. -- it's the second one that's more invasive, if you like?

A. Yes.

Q. Is that also -- I think i-gel is the brand name?

A. They are described as supraglottic airway

devices, so devices that sit above the glottis. I-gel is the most common one. The other one, for completeness, is a called a laryngeal mask airway and rather than having a soft kind of plasticine-type cuff, it actually has an inflatable cuff.

Q. Thank you. We can take that down. I would like to move on to the signs and symptoms of opiate overdose on the one hand and organophosphate poisoning on the other, so if we could go back to your report, INQ005942, but page 29, please.

First of all, do you set out there, at paragraph 3.38, that opiates are narcotic analgesics.

A. Yes.

Q. Then you list some examples of medications included in the opiate group. We have codeine and then we need to go over the page, then Tramadol, morphine sulfate, diamorphine, heroin, fentanyl and carfentanyl.

In that list then is fentanyl and we heard from Dr Helen Ord, who I just mentioned, the ICU doctor passing who assisted with the Skripals, that she was familiar with fentanyl in a clinical setting used in anaesthetics and we heard from Ian Parsons, the paramedic who treated Yulia Skripal, that street fentanyl is not prepared in a vial and taken intravenously like a -- in a clinical setting, but is

prepared in a patch and used transdermally. To what extent are either or both of those within your knowledge and experience?

A. Fentanyl can be administered transdermally and it is used in pain management, in end of life care as a patch. Fentanyl as a recreational drug can be injected and you do see reports occasionally of heroin being cut with fentanyl and you see particularly potent heroin available as a street drug because it has been mixed with fentanyl.

Q. That was the next question I was going to ask you about because you mention that in your report, that fentanyl can be mixed or cut with street heroin, diamorphine, resulting in a more potent drug which is what you just said. You also add:

"It is not recorded reliably how often that occurs."

Is that something of which you would expect paramedics to be aware when dealing with potential opiate overdose?

A. I would expect paramedics to be aware of varying strengths of heroin, heroin cut with other substances or mixed with other substances, particularly potent heroin, and I would expect many paramedics to have an awareness of cases where heroin has been mixed

with something. The reason it's not reliably recorded is there's no such thing as a reliable drug dealer.

Q. In 2018, would you have expected paramedics to be aware of fentanyl?

A. Yes.

Q. Also in your list is carfentanyl and we heard from Dr Cockcroft, a consultant who treated the Skripals, that carfentanyl has a potency hundreds of thousands of times greater than fentanyl. He said that fentanyl itself is an extremely potent opiate, but carfentanyl is "off the scale". Do you agree?

A. Absolutely.

Q. Dr Haslam, another treating hospital clinician, explained that fentanyl is a drug of abuse and carfentanyl is not and Dr Cockcroft said it would definitely be an assassination attempt if one deployed carfentanyl. It could only have one purpose and that's to kill. Again, do you agree?

A. Yes.

Q. Continuing with this document, and if we could look at paragraph 3.39, do you set out there the JRCALC guidelines' description of the signs and symptoms of opiate overdose?

A. I do, yes.

Q. Does your footnote 11 there indicate that

these are the current guidelines dated 2021?

A. They are, yes.

Q. So we see there:

"Drowsiness, nausea, vomiting, small pupils, respiratory depression, cyanosis ..."

Is that the bluish, purplish coloured skin?

A. Yes, bluish purplish discoloration of the skin indicating a low-level of oxygen.

Q. "... decreased level of consciousness, convulsions, non-cardiac pulmonary oedema."

Is that fluid on the lungs?

A. It's fluid on the lungs and it's often seen as patients coughing up fluid or having sputum, or bubbly fluid coming out their lungs.

Q. The non-cardiac meaning not heart --

A. Not caused by the heart, yes.

Q. Are you able to help us with whether the guidelines in 2018 indicated those same symptoms?

A. They are, I checked the old guidelines.

Q. Then at paragraph 3.40 we can see you say there:

"Mr Skripal was presenting with miosis (pinpoint pupils), reduced level of consciousness and vomiting. In addition, it was known to ambulance clinicians that in that area of Salisbury, there was known opiate drug

abuse."

There the symptoms being within the guidelines for opiate overdose?

A. Yes.

Q. You say:

"I am therefore by no means critical of LW [Lisa Wood]'s immediate impression of a potential opiate overdose."

You explained already you thought it was reasonable to administer naloxone?

A. Yes.

Q. Then we see at paragraph 3.41 you set out the JRCALC guidelines list of clinical features of organophosphate nerve agent poisoning. It says there the characteristic features of nerve agent poisoning: miosis, excess secretions, for example lachrymation and bronchorrhoea, is that the watery sputum from the lungs?

A. It's watery sputum from the lungs, yes.

Q. Respiratory difficulty, for example bronchospasm or respiratory depression, altered consciousness, convulsions, together with a history of possible exposure. Again, is this from the 2021 guidelines?

A. It is, but it is also unchanged from the earlier guidelines.

Q. Am I right, the only change is not as to these presentations, but now we have heard FT49, a witness, refer to as an algorithm called CRESS, a toxidrome flowchart has been added; is that correct?

A. Yes, toxidrome kind of spreadsheet, if you will.

Q. But I think that wasn't in place at the time of Amesbury; is that correct?

A. That's my understanding.

Q. But these symptoms were the same?

A. Yes.

Q. Now, to what extent do the symptoms listed there, in your paragraph 3.41, appear in other presentations?

A. There is considerable crossover of the symptoms. There is no single symptom that would indicate that something is an organophosphate or a nerve agent. You will see there is considerable crossover between the symptoms of opiates and opiate overdose and those of nerve agent. You see constricted pupils, or miosis, you see secretions from the lungs -- albeit subtly different but at the side of a road you would be close to impossible to work out which was which. You see a level of respiratory difficulty. So there is considerable crossover.

You also see crossover with other medical conditions. You see pinpoint pupils in brain stem haemorrhage and brain stem stroke --

Q. Can you slow down a little bit, thank you. This is very helpful.

A. Sorry.

Q. First of all, crossover between organophosphate poisoning symptoms and opiate overdose, but also now you are moving on to mention there are some of these symptoms that present in other medical conditions altogether and you mentioned pinpoint pupils occurring in brain --

A. You see pinpoint pupils in some brain stem haemorrhage and some brain stem strokes. You also will, in patients who have significant brain injuries, see a neurogenic pulmonary oedema, so increasing in secretions from the lungs with significant brain injury.

LORD HUGHES: Sorry, just slow down a minute. Secretions in the lungs. In what --

A. In significant brain injury or brain bleeds. Sorry, sir.

LORD HUGHES: Thank you. That's all right.

MS WHITELAW: These are examples, are they, rather than an exhaustive list?

A. Absolutely. There is considerable crossover.

I think it would be fair to say there is no silver bullet that identifies a single toxic substance in what we're talking about. There's nothing that you would say "You've got that, therefore it's that".

Q. You do say in your report that you are of the view that hypersalivation would be the most sensitive sign of organophosphate poisoning. Is that something you stand by now?

A. I think it is, but you have also -- I'm kind of reminded of what I said slightly earlier, which is that hypersalivation and excess secretions are not just seen and if you imagine a patient at the side of a road it's really difficult to determine is that hypersalivation from the oropharynx or from the mouth, or is it fluid coming up from the lungs as pulmonary oedema. That's not an easy determination to make when you're kneeling on the pavement or at the side of a shopping centre, or in somebody's living room.

Q. I think as well as having some symptoms that have been demonstrated in these cases that you are indicating could be -- also present in other causes, also is it right that not all of the patients in these scenarios exhibited all of the symptoms of organophosphate poisoning and I'm thinking particularly of Sergei Skripal not demonstrating the convulsions or

respiratory difficulty that is in the list?

A. That's correct.

Q. If we could just go to the bottom of the page there, I'm going to read this section here. You continue to say:

"There is a considerable crossover between the symptoms of opiate and organophosphate overdose. I should emphasise that opiate overdose is overall a relatively common presentation in the pre-hospital environment. However, organophosphate poisoning, whether accidental or deliberate due to nerve agent use is extremely rare within the Ambulance Service. I would be of the view that the vast majority of ambulance clinicians would never see an organophosphate overdose in their careers. In addition, I would be of the view that most ambulance clinicians would expect a nerve agent release to be a large-scale event with multiple patients presenting with similar symptoms following a significant exposure. To put this in context, I have worked in pre-hospital care for 25 years in an extremely busy service and having worked internationally. I have seen one patient who presented with an organophosphate overdose. This patient was in their garden shed, lying next to a packet of organophosphate (insecticide)."

Pausing there, the implication being that it was

very easy there to hypothesise what had made them collapse, is that --

A. I think it was probably one of the most obvious causes of collapse in my 25 year career.

Q. You go on:

"On the last shift I worked ..."

Are you referring there to the shift you did immediately before preparing --

A. I think that was a Friday night as I was drafting the report on Saturday morning.

Q. Right, so:

"On the last shift I worked, I saw a patient with an opioid overdose and would be unable to precisely count how many hundreds of opioid overdoses I had seen. I would consider it unusual for me to have seen one organophosphate. Many colleagues cite that they have never seen a single case."

Now, when preparing your report you were asked how common or rare it was for a paramedic to attend a patient who suffered nerve agent poisoning and to include relevant statistical evidence of which you were aware. If we could go to INQ004691 and page 4, if we could make that a bit larger, please, these are from a set of DSTL slides that we have seen before in the Inquiry. Does that list all the nerve agent poisoning

of which you are aware, or are you aware of others?

A. I think those are the ones that I'm aware of.

Q. We see the March and June 2018 poisonings. Are those the only ones you are aware of having occurred in the UK since that time period since 1988?

A. That's my understanding. I think there is something that's probably worth pointing out at this point and I'm -- I'm probably a bit of an ambulance geek and I had in my head a mental model of what a nerve agent release would look like prior to Salisbury. I had thought about this. You kind of take the learning from Tokyo and bits like that. These were all releases as an inhalation, not a dermal exposure and I think our learning at that point, prior to Salisbury, was around that atmospheric release as opposed to that dermal exposure, and there is a subtlety of difference in symptoms that one might expect given those two absorption routes.

Q. Thank you. Now, we can take that down.

With a reference to your report, paragraph 6.2 on page 72 for your reference, how did you quantify how common or rare it is for paramedics to see organophosphate poisoning?

A. Give me one second, please.

Q. Of course, please do find it. It's

paragraph 6.2 on page 72. I have mentioned the slides and it's the part after that that I would like to ask you about, the statistics that you mention anecdotally.

A. I looked at some published literature which particularly focused on the developed world and that was specifically around organophosphates and then I asked a number of colleagues what their length of service was in the Ambulance Service -- these were all senior colleagues in advance practice roles -- and asked whether I had seen -- whether they had seen an organophosphate overdose.

Q. First of all, just taking your first point about the literature focusing on the developing world, do we understand -- and we have heard some reference to this -- that organophosphates aren't used now in pesticides, so you don't really see in this country organophosphate poisoning, whereas in other developing countries there are more cases.

A. Yes.

Q. Then you moved on to say you asked some colleagues. Could you tell us what those figures were, please?

A. Do you have my reference , so I can just --

Q. Yes, 6.2 of page 72, and it's about halfway down the paragraph there and you state:

"As stated above in a 25-year career ..."

That's the starting paragraph that I'm looking at. Do take time to look at it.

A. I asked 20 colleagues, who just happened to be locked in a room with me at a critical care meeting, what their length of experience was and whether they had seen an organophosphate overdose. The total length of experience in the group was 254 years and none of those who I asked had seen an organophosphate case.

Q. Were they colleagues in London?

A. They were London colleagues. I was then aware probably of the bias of doing that in an urban setting where there is not a lot of rural, so I asked five clinicians who work in a similar role in more rural areas of the country who had 52 years of experience and none of them had either seen a case.

Q. Did that accord with your expectation?

A. That was absolutely my expectation.

Q. A final point to make here. We heard from Dr Haslam, the consultant responsible for the care of the Skripals in March 2018, and I will quote from his evidence -- the reference for the transcript is Day 8, 30 October 2024, page 190, line 21 to page 191, line 6. He said:

"Answer: Paramedics aren't required to diagnose

patients. They are there to keep them alive and support their physiology until they get to definitive care in a hospital, and then that's our job to -- in the emergency department the doctors are there and doctors from other specialties, including my own, it's our job to help get to a definitive diagnosis and that takes time. And I wouldn't expect paramedics to necessarily -- they should have an open mind and treat potential options, but I wouldn't expect them to get to a definitive diagnosis."

Do you, as an expert in pre-hospital care, agree with that?

A. I agree with the sentiment of it , but not the detail of it. There will be times that paramedics do reach a definitive diagnosis and will hand over a patient with a definitive diagnosis. That is not uncommon, but the principle that often -- that you are unable to get to a definitive diagnosis and you will form a list of impressions, sometimes that list is quite short, sometimes that list is very long, but you will not be able to narrow it down, I agree with and that's completely -- in my view completely correct.

Q. The priority being saving life as far as possible?

A. Yes.

Q. Finally on signs and symptoms, can I just ask you something about pinpoint pupils. If you go to your report at page 21, paragraph 3.17, this part quotes from the witness statement of Richard Miller, a critical care paramedic who attended Sergei Skripal, and he says at the bottom of the paragraph:

"The male paramedic [from who he was taking over] said that he had pinpoint pupils. I know that this could be a sign of an opiate overdose ..." *(as read)*

So keeping that in mind, if you could then look further on in your report at page 26, paragraph 3.27, you quote there from the witness statement of Louise Cox, the other critical care paramedic who is describing Yulia Skripal in the back of the ambulance, and she said:

"She had pinpoint pupils not reacting to any light and her gaze was fixed to the right. This was strange as this would not fit in with a reaction to opiates."

Could you just explain that to us?

A. The pinpoint pupils, or the miosis would fit with an opioid overdose. The fixed gaze to one particular side where the pupils are moved off from the centre away does not fit with an opioid overdose in the main.

Q. While we're on the subject of pinpoint pupils,

can I also refer you to page 47 of your report, paragraph 4.27, where you make further comment about pinpoint pupils and if you could explain that to us.

A. Where a patient has a profound lack of oxygen you will often see the pupils dilate and become bigger. Where a patient has taken opioids, you will see the effect of the opioids being the pinpoint pupils and the miosis. Where the patient then becomes profoundly hypoxic or lack of oxygen and goes into cardiac arrest, often that dilation of the pupils due to lack of oxygen takes over and you will see dilated pupils, despite the patient having had an IPO, cardiac arrest.

This is quite nuanced and this is not something I would expect every paramedic to be able to work out, but we do see patients who have opioid cardiac arrest who have got dilated pupils.

Q. Thank you. With those introductory points on signs and symptoms and medications and treatments, we're going to move to the clinical interactions with the Skripals, but we have already heard detailed evidence in this Inquiry from Ian Parsons and Lisa Wood, the two paramedics who dealt with Yulia and Sergei Skripal , and we have also heard evidence from Alison McCourt and Helen Ord, the passersby who came to their aid . I don't propose to take you through the section of your report

that deals with the pre-hospital clinical interactions in sequence, if you like.

LORD HUGHES: If I remember, Ms Whitelaw, it was actually -- I'm not complaining -- it's actually Dr Ord and Ms McCourt first, isn't it?

MS WHITELAW: Yes, in terms of sequence.

LORD HUGHES: The paramedics next.

MS WHITELAW: Yes. Sorry, I was just covering the medical and he passersby who also happened to be medical --

LORD HUGHES: It's helpful, I just wanted to be sure my recollection was right.

MS WHITELAW: Yes, sir, but the point being I won't go through all the detail of that that we have heard, but, rather, if I could take you, Mr Faulkner, briefly to parts of your opinion because of course it becomes relevant when we look at the response and treatment to Ms Sturgess.

You set this out at pages 28 onwards and starting with the 999 calls, we're broadly familiar with 999 calls, but you explain at page 11 of your report the way in which they are triaged. Can I take that shortly: are they triaged by trained emergency medical dispatchers ?

A. Yes.

Q. Who are not clinicians, but trained

individuals to deal with calls?

A. Yes.

Q. Does SWASFT use MDPS, which is a commercially produced software suite?

A. MPDS, yes.

Q. MPDS, thank you. Using a series of reductive questions to triage the call?

A. Yes.

Q. If we could go to your report, INQ005942, page 12 and the table, please. We heard evidence from Ian Parsons, the paramedic I have mentioned and first on scene to the Skripals, that this was an immediate call and we also heard from Mark Marriott, the paramedic first on scene to Ms Sturgess, that he was assigned as a category 1, so that's the category we're interested in at the moment.

Could you explain then, looking at that table, the columns headed "Average response target" and "90th percentile response target"?

A. These are the commissioning targets for an ambulance service, so what the ambulance services are commissioned to deliver. It is worth noting that these are not targets for individual calls, they are a total target for an ambulance service across their entire calls of that triage category. The 7-minute, or the

mean response time, so you're expected -- the ambulance service is expected to achieve a mean response to all of their category 1 calls of 7 minutes.

LORD HUGHES: You mean an average?

A. An average, yes -- I'm trying to be careful of the difference between mean and median -- and a 90th percentile, so nine out of ten calls within 15 minutes.

MS WHITELAW: How is the call time calculated for category 1 calls?

A. So there is a set consistent measure of when the clock starts and actually when the clock finishes and for a category 1 call the clock starts at one of three time points and it's whichever one of those is the earliest: the time the call is clinically triaged and coded, the time of the first resource being dispatched or assigned, or 30 seconds within the call connect if neither of the others have happened at that point. There is a set definition of when the call starts and the clock starts for an Ambulance Service and the clock stops when the responding unit is within 200 metres of the call.

Q. If we can put that into practical action, if we may. Going firstly to the attendance on the Skripals, the first 999 call -- INQ000646 -- we have heard this was made at 16:19. I will just wait for the

document to come up. If we could make that larger, please. Do we see there call 11637439, the number of the call?

A. Yes.

Q. We will see a dispatch code 12D02. You explain that in your report. Can you confirm what that means?

A. This is the disposition code from the triage system. The initial two numbers is the -- and it's an old term, or the card set or the condition that the triage is conducted down, so when the caller says "Somebody's fitting" historically you would have opened a set of cards to a fitting card and you would have then asked the questions on the fitting card. Clearly in the 21st Century it's on computers.

Then the next is a priority code and then the final 2, or the 02, is a sub-code within the triage, so it is the disposition of the triage.

Q. The first bit -- the card 12, that means a seizure or fitting?

A. Yes.

Q. The next bit, "D", is that the severity and did that mean high severity?

A. That's a high severity.

Q. The sub-category 2, did that relate to

continuous multiple fitting?

A. It does, yes.

Q. Did you consider that dispatch code appropriate in the circumstances?

A. Yes.

Q. Then we will see there that we have reported casualties 2, priority 1, the call back -- I think that's a phone number redacted, is it, for data protection?

A. I would assume so.

Q. "Problem", "Patient fitting", does that mean PT patient?

A. Yes, patient fitting.

Q. "Chief complaint", "Convulsions/fitting", location Superdrug stores, 27 The Maltings and at the top right-hand corner do we have the call time 4 March 2018, 16:19:54?

A. Yes.

Q. The first call at 16:19. Now, although there were two subsequent calls, can you explain why the first is usually the primary call?

A. It is the earlier call and ambulance services triage onto the earlier call unless a latter call is of a higher priority, but this was a category 1 so this would have always been triaged to the earlier call.

Q. It's in your report. There were two subsequent 999 calls at 16:21 and 16:22 but the 16:19 is the one for the purposes of timing, isn't it?

A. Yes.

Q. Did you have any criticism to make about the triaging of the three calls?

A. No.

Q. We know that two rapid response vehicles, those of Ian Parsons and Lisa Wood from whom we have heard, were assigned. If we could go to INQ000646, page 2, we will need to make this a little bit bigger, thank you, we heard that Lisa Wood's call sign was 671, so we're looking there for her being assigned to the call at 16:27:51. I think it's at the bottom, actually, of the page. Yes, the very bottom. If we could make that a bit bigger. On the far left-hand side, do you see there "671"?

A. Yes.

Q. "Allocated", is that the same as assigned?

A. Yes, it is.

Q. We've got 16:27:51 at the bottom left-hand corner of that document, if we could highlight that, thank you. Arrived on scene 16:31:28.

A. Yes.

Q. If we could go over to page 3 of this document

and make the top bigger, we should see the same thing. I think Ian Parsons' call sign was 608.

A. Yes.

Q. Do we see there assigned at 16:28?

A. Yes.

Q. Arrived on scene 16:32.

A. That might be my eyesight, 16:31 or 16:32.

Q. I think it's 32. You're right, it's not entirely clear, but I think ... in your report you say it was a 8-minute response time, so is that calculated from the time of the first 999 call to the first resource being assigned?

A. It's the -- it is the call start time on the first 999 call to the first resource arriving within 200 metres.

Q. Right. So I think your conclusion was it falls just outside the average 7-minute response time but well within the 90th centile?

A. Yes.

Q. What was your conclusion about the response time?

A. I'm not critical of the response time at all.

Q. Even if targets are not specifically met, would you have criticism necessarily then?

A. No. By the nature of them being targets,

there is an average target which means calls will fall outside of it and there is a 90th centile target which again means that even an Ambulance Service that is achieving its response time targets will have individual calls that fall outside of those.

Q. Dealing with the clinical interactions -- your opinion of the clinical interactions with the Skripals, and Sergei Skripal first of all -- we heard evidence that Lisa Wood, on attending Sergei Skripal, asked for P1, that's priority 1 back up. Is that an action that you thought was appropriate?

A. Yes.

Q. Why was that?

A. You have a patient who is in extremis and one would quite easily describe as peri-arrest or about to have a cardiac arrest and it is a way of saying you need back up and assistance immediately.

Q. You have already explained you have no criticism of Lisa Woods' assessment that it might be an opiate overdose and no criticism again you have dealt with of the decision to administer naloxone in those circumstances.

Now, we now know that Karl Bulpitt administered atropine sulfate in error in instead of a dose of naloxone in the ambulance and you deal with this at

paragraph 3.44 and 3.45 of your report. If we could go to those, please, it's INQ005942, page 32. If we could just enlarge 3.45. Could you just take us -- explain that paragraph to us.

A. The paragraph, atropine is primarily used in the treatment of symptomatic bradycardia, slow heart rate, that's presenting the symptoms. It's available in a variety of preparations, but -- and a variety of strength ampoules, so I don't know from the evidence I have reviewed what strength was carried in their drug bag, so I don't know how much atropine was administered.

A standard dose in the Ambulance Service that I work for would be an ampoule of 600 micrograms. But this is also the drug that is indicated in organophosphate poisoning, either accidentally or as a nerve agent, and therefore there is a chance, although this drug was administered in error and as a mistake, that it would have not harmed and may have actually provided some clinical benefit, which could have been life saving.

Q. Now, we heard evidence from Lisa Wood that she asked the nurse on scene to check that the drug she was about to administer was naloxone before she gave the first dose and I asked whether that was the usual procedure and she said:

> **"Answer:** For any drugs that we administer there is a two-step check, so you check it yourself and then you check -- you get somebody -- normally it's a colleague, but obviously I didn't have a colleague there ..."

So she said:

> **"Answer:** ... I got the ICU nurse who should be well versed in checking drugs to check the drug before I gave it, just to make sure it's the one I want to give."

Sir, just for your reference the transcript reference is Day 8, 30 October, page 97, line 7.

Mr Faulkner, would you expect paramedics always -- or paramedics or ambulance clinicians always to seek to perform that two-step check before administering drugs?

A. The expectation is yes, it should always be done and it really doesn't matter who you do it with because what you do is you hand them the ampoule and say "Read to me what it says on the ampoule". So you don't say "That's naloxone" or "That's atropine" you say "What does that say it is?" and you get them to read the ampoule out. So it doesn't actually matter whether they know what it is or not. It also means that you don't bias what they say and they say "Oh, yeah, it's morphine" and actually it's not. There will be times as an ambulance clinician where there is no one available to check a drug. That wasn't the case in Salisbury and

therefore I would be critical that a drug check wasn't done.

Q. We have heard here, of course, that the accidental administration in this particular instance was not only unlikely to have harmed Mr Skripal, but as you say it may well have improved his condition and in your report you indicate that it could well have been a life saving intervention, albeit in error?

A. Yes.

Q. Moving to paragraph 3.46 of your report, you do make some criticism of the decision by the critical care paramedics to administer diazepam emulsion, the diazamuls that you have spoken of, to Sergei Skripal. Could you just tell us about that?

A. The indication for ambulance clinicians in routine frontline practice is diazepam has a number of indications, one being continual status seizures, the other being symptomatic cocaine toxicity. My understanding was the reason it was administered was the ambulance clinicians were of the view on their assessment that Mr Skripal had trismus or a locked jaw and it was to aid with ventilation. That's not standard practice, but these were paramedics working in a specialist role.

Benzodiazepines are used and the group of drugs

that diazepam belongs to or belongs within are used when patients have trismus or a locked jaw. I think my view is that is quite a large dose of diazamuls for a patient with a locked jaw. I can understand why it was given. If there were specific SOPs or policies to allow that, I would be supportive of it, but it does seem quite a large dose, but I can also understand a very experienced ambulance clinician making a clinical judgment with a patient in extremis.

Q. Is it fair to summarise that then that it's not -- your view wouldn't have been to use it, but there may be circumstances, in particular the experience of the ambulance personnel, that meant that that was something they felt they ought to do?

A. Yes, and I think it would be fair I wouldn't be using it at the doses that it was used at.

Q. What's the risk of that?

A. It is a respiratory depressant and a muscle relaxant, so it can actually worsen the airway by muscle relaxation, albeit that's what you're trying to do, and also it can depress respiration and level of consciousness.

Q. That's dealt with the -- your opinions, I think, as regards the response to Sergei Skripal. In terms of Yulia Skripal, we have heard evidence from

multiple witnesses that her condition was much more serious than Sergei's at the bench. As you recognised in your report, she was completely unresponsive and had significant bronchorrhoea. If we could just go to your conclusion as regards Yulia, that's INQ005942, page 33 and paragraph 3.50. You say there:

"On consideration, I have no criticism overall in the care of Ms Skripal, and my opinion on the medications used to manage her condition is the same as that of Mr Skripal. It should be noted that Ms Skripal was given a high dose of naloxone and this had no effect on her. This may have highlighted to the ambulance clinicians that the presentation may not have been opiate overdose, however on the whole I am not critical of any failure to consider organophosphate poisoning."

Is that a conclusion you stand by now or is there anything you would like to add to that?

A. No, not at all. I think there is a -- when you look at this with the benefit of hindsight you would say "Oh, perhaps they should have been responding to the naloxone", but when you think -- and when you look at it with the patient in front of you and you look at it there, probably what the likely explanation was is this will be really potent opioid, I may just need to continue to give high doses of naloxone to get

a response.

Q. In terms of the opportunity to consider alternatives to opiate overdose, in the concluding section of your report regarding the incident in March 2019 -- and I'm looking at your page 34 now, paragraph 3.57, you say you carefully considered the presentation of Mr and Ms Skripal and whether there was any reasonable opportunity to consider any alternative cause for their presentation. I would like to ask you to explain your conclusions in this regard.

Firstly, can you comment on the relevance or otherwise of their appearance, age, dress in making a clinical assessment?

A. I think we have to be very careful as ambulance clinicians that you do not bias your clinical assessment by what a patient looks like. I have been to opioid overdoses who are in a poor state, or unkempt in appearance. I have been to opioid overdoses in some incredibly well dressed patients in incredibly well dressed settings. You've got to be really careful that you're not biasing an assessment based on somebody's appearance and you're making an assessment based on the symptoms they are presenting with and the signs that they are showing.

Q. Next, how relevant is it that there were two

patients at the same time?

A. It highlights the concern, but it's not unusual to see, in opioid overdoses, two patients who may have procured -- bought drugs from the same source to have bought a particularly strong batch of drugs. There are other substances -- albeit that don't normally present with pinpoint pupils -- that you see group exposure to, one of which is spice. It doesn't really add a lot that there are two people. It's not unusual. I have been plenty of drug overdoses where two people have taken the same batch of heroin and you turn up to find two patients not breathing.

LORD HUGHES: Can the taking of drugs, like the taking of lots of other intoxicants, be a social event?

A. Yes.

LORD HUGHES: Right.

MS WHITELAW: Finally, in terms of the Skripals, we have looked at the signs and symptoms of opiate overdose as compared to organophosphates. Could I ask you which elements fit with the drug overdose hypothesis and which did not? You address this at paragraph 3.58, page 35.

A. The decreasing level of consciousness, the miosis, all fit, along with a level of respiratory abnormity, with the kind of toxidrome one would expect from opioids. There are elements that fit less well:

airway secretions, albeit you can see airway secretions as we have discussed in opioids, sweating and low heart rate probably fit less well, but again in somebody who has got profound levels -- lack of oxygen and profound central hypoxia, you will see patients with a low heart rate. There are things that are very classic of opioids, there are things that are less classic, but are also explainable with an opioid overdose.

Q. An extract was put to Dr Cockcroft of the expert reports of Dr Soar and Nolan, from whom we will hear tomorrow, which describes organophosphate poisoning as a wet opioid toxidrome because of the aspects of secretions and sweating. Is that a description that makes sense to you in light of what you have just said?

A. Yes, but I would just clarify that I have seen some pretty wet opioid overdoses too.

Q. If we could go to your report, INQ005942, page 35, and paragraph 3.58 just to conclude this section of your evidence. As at March 2018, your conclusion was -- as regards, I should say:

"... for a paramedic working in general pre-hospital care to form an impression of a cholinergic toxidrome in such a circumstance was not reasonable, and I would have expected nearly every paramedic I have worked with, including myself, to have formed an initial

impression of an opioid toxidrome."

In short, is it your expert opinion that there could be no criticism of the paramedics in March 2018 not to recognise organophosphate poisoning, let alone nerve agent poisoning?

A. That's completely correct.

Q. Sir, that concludes that tranche of the evidence. I wonder if it's time for a break.

LORD HUGHES: Which is a convenient point to break, isn't it?

MS WHITELAW: Thank you.

LORD HUGHES: Mr Faulkner, I'm going to ask you to wait, please -- not there -- but come back at quarter past 3. You are in the middle of your evidence. Keep your counsel in the meantime, please. 3.15, please.

(3.02 pm)

(Short Break)

(3.15 pm)

MS WHITELAW: Mr Faulkner, I said I would come back to the period in the post Skripal period of the training and guidance issued. We have heard that the DuoDote SWASFT guidance was recirculated post the Skripal poisonings.

Would you have expected SWASFT paramedics to have received internal training on the signs and symptoms of

nerve agent poisoning after the Skripal incident?

A. So not specifically.

Q. What about -- we have heard -- and I will come to look at this again in more detail again with you -- about the overlap or crossover not only between the symptoms of nerve agent poisoning on the one hand and organophosphate poisoning on the other, but also opiate overdose and other presentations? In your opinion, after the Skripal poisoning, ought paramedics to have received specific training about that?

A. I don't think so specifically, noting that it is really difficult to differentiate the two in the real world clinical practice.

Q. Would it apply in other circumstances of different presentations that there would be overlap between different conditions?

A. Absolutely.

Q. Is what you're saying that that training that the paramedics get generally about how to make clinical assessments would be sufficient?

A. I think so, yes.

Q. Now, we heard from Mr Darch that a number of documents were also circulated in this post-Skripal period. If we could go to one of those, INQ000659; is that one you recognise, a Public Health England

document?

A. I recognise it from preparation for this. I don't believe I saw it at the time in my own clinical practice.

Q. This is "Diagnosis and early management in organophosphate chemical incidents". PHE advice, as we understand it, for emergency departments and we have seen similar documents aimed at GPs and NHS pathway documents for call handlers. Do you think there ought to have been specific guidance documents for paramedics beyond the national JRCALC guidelines and the local DuoDote guidelines we have seen circulated?

A. No, and my rationale for that is actually when you look at these documents much of the contents of them is already within JRCALC.

LORD HUGHES: Can you just remind me what the date of this one was, Ms Whitelaw? It's in the gap, is it, between Salisbury and Amesbury?

MS WHITELAW: In terms of when it was circulated?

LORD HUGHES: Yes.

MS WHITELAW: I believe so and I will double check on the date for you because I don't have it to hand.

LORD HUGHES: I'm sure we can find it.

MS WHITELAW: Thank you, yes, certainly. Sorry, so you were saying that the -- your

rationale was that the content is largely within the JRCALC guidelines?

A. Yes.

Q. Is there advantage to having central national guidelines which set out the signs and symptoms, rather than lots of different documents?

A. Absolutely. Very rarely in my management of ambulance clinicians have I ever solved a problem by providing them with another sheet of paper. Actually it's about having consistent guidelines that clinicians know where to look when beside a patient and actually often you just increase confusion when you have lots of additional bits of paper.

Q. We have heard there is the CRESS algorithm, the flowchart now, within the national guidance?

A. Yes.

Q. That deals with documents. What about training? Do you think there ought to have been any training provided, so in person perhaps or by other means?

A. I thought really hard about this and about how you would train and what you would deliver and it is the theoretical "This is what the toxidrome looks like, this is a refresher on what DuoDote does and how it's administered", but beyond that I'm really unsure how you

would deliver meaningful training to very significant numbers of clinicians in an Ambulance Service with any hope that that's retained and applied consistently and actually I think some of the time there is a -- that refresh of what's in JRCALC might be as good as you manage in a classroom face-to-face session.

Q. What about shared experiences of those who were actually involved, those paramedics? Is that something that you would have expected?

A. I think how you do that meaningfully across a huge ambulance service with a massive geographical region -- you can consider local training, but what's local? Is it just in Salisbury? Is it Salisbury and the surrounding areas? Is it anywhere that individuals may have passed through with agents? It's really challenging to do and to make personal experiences work really well, you've got to have people tell that personal experience and be able to answer questions about it.

Q. Thank you. If we could come now to the response to Dawn Sturgess' collapse, you set out at page 37 the timings in case you want to have those to hand. We heard evidence from the paramedics in Salisbury that the 999 call was at 10.14.25, the transcript reference for your note, sir, is Day 4,

17 October, pages 128 to 134 and it's also within the call logs that are set out very clearly in the report at page 37, those timings and references. Did you take your timings from the ambulance call logs?

A. Yes.

Q. Sir, you will recall reference to the Kerry Lawes' sudden death report yesterday recording it as 10.11, but we have 10.14 as the time of the 999 call.

LORD HUGHES: It is 10.14, yes.

MS WHITELAW: That's the time, Mr Faulkner, you record in your report. We have heard the call received an initial coding of category 1, which is consistent with the evidence we have heard from the attending paramedics. What was the clock start time for this response? To help you, your report at page 38, paragraph 4.10 should have the timings.

A. 10.16.

Q. Mark Marriott, the attending paramedic's vehicle call sign 303, was allocated as 10.16.04 and he was recorded as being on scene 199 metres away at 10.23.35. That's a 7-minute time. Is that the clock start and finish --

A. Stop time, yes.

Q. What was your conclusion as to the response time to the 999 call?

A. I have no criticism of the response time.
Q. Did it fall both within the average response target and the 90th centile response target?
A. Yes.
Q. The call was initially given as fitting and code 12D02. That's the same code as for the Skripals; is that correct?
A. Yes.
Q. To remind ourselves, did that mean seizure, high severity and continuous or multiple fitting?
A. Yes.
Q. What was your view of the appropriateness of the initial coding?
A. I think that was appropriate, from the information provided.
Q. But in the case of Dawn Sturgess , did the code change to 09D01?
A. Yes.
Q. What did that reflect?
A. That reflects the triage system has detected a change to cardiac arrest and the call is being reclassified as a cardiac arrest, 9 being cardiac arrest, D being high priority and 01 being the subset for cardiac arrest.
Q. Now, according to your timings , which you set

out on page 37, the recoding was at 10.23.
A. Yes.
Q. Do you -- we know that 10.29, the cardiac arrest was confirmed by the attending paramedics.
A. Yes.
Q. Do we know how it came about that that first recoding occurred?
A. It will be from information provided within the 999 call which will either be that the caller reports an absence of breathing, or an absence of normal breathing, so it will either be that the caller has said the patient stopped breathing, or they will have said something that means that their breathing is now significantly abnormal and MPDS, the triage system, uses a breathing detector where you ask the caller to tell you every time the patient takes a breath and if it's below a certain rate, that would trigger a cardiac arrest recode.
Q. From the timings it looks as if the call was 10.14, so Dawn Sturgess has collapsed at that point.
A. Yes.
Q. By 10.23, cardiac arrest is certainly suspected?
A. Yes.
Q. And at 10.29 that's confirmed?

A. Yes.
Q. It's possible, therefore, that the cardiac arrest could have occurred some 6 minutes before the paramedic confirmed it?
A. Yes. It's also, from my experience, highly likely that the cardiac arrest occurs before the caller recognises it because the natural human reaction, unless you're looking -- used to looking at people who have stopped breathing, is that there's a natural "Mm-hm?" pause before actually somebody reports and recognises it, so it could well be that the cardiac arrest was in the minutes prior to 10.23.
Q. Did you --
LORD HUGHES: Or even, I suppose, before the 10.14 call. Do we know? Do we know?
A. We know that the caller, who was Charlie Rowley, reported fitting.
LORD HUGHES: I see.
A. Fitting can be a symptom of a cerebral anoxia and you do see cardiac arrest calls where the patient presents as a seizure, but equally you can have seizures that then go on to cardiac arrest, so it may well have been, but equally it may not have been, sir.
LORD HUGHES: Thank you.
MS WHITELAW: Did you consider the change of coding

appropriate?
A. Yes.
Q. Why was that?
A. Once you have information around a patient who either has absent breathing or absence of normal breathing, it's really key that that information is updated, so that helps the ambulance clinicians understand what they're going to when they're being dispatched and it means that the call is being triaged. It doesn't change the category, but it means it's being triaged as accurately as it can.
Q. Thank you. That was going to be my next question.
You note -- and we have heard from Mark Marriott -- that he did have some difficulty finding the address due to the estate being a new build development. Is that a problem with which you're familiar?
A. It's a problem that occurs probably three times a shift when I'm at work with my map reading ability and new developments.
Q. He did indicate that although that was a SWASFT system issue at the time, now they will often get information from what3words and Google Maps as well, but obviously more difficult when you're single crewed to be able to --

A. Yes, yes.
Q. -- access other information?
A. Simply put, it is close to impossible for any emergency service to keep up with new developments and mapping.
Q. In any event the problem wasn't sufficient for you to criticise the response time in this case?
A. No.
Q. Now, we heard from Mark Marriott and from Keith Coomber, the lead paramedic in the ambulance which arrived after Dawn Sturgess had suffered cardiac arrest that was confirmed by Mark Marriott, so I don't -- similarly to the Skripals, I don't propose to go through all of the sequence of events with you, but I'm going to ask you, first of all, to explain the four cardiac rhythms which may be seen in cardiac arrest, so for that could we go to INQ005942 -- thank you -- page 41 and the diagram there.
First of all, does the defibrillator tell you which cardiac rhythm is present?
A. It displays the cardiac rhythm and then you interpret the cardiac rhythm from the display, or you can have it in an automatic mode where it also will just advise you what it wants to do.
Q. I understand some of them talk -- have

a talking function?
A. Yes.
Q. Is that all of them or some?
A. If you got a defibrillator off the wall here, it would have a talking function because it's an automatic defibrillator. The ones in the Ambulance Service normally have an automatic and a manual mode and it's a choice of clinician or the Ambulance Service about which mode it's in.
Q. Does it also tell clinicians when the rhythm is a shockable rhythm?
A. Yes, when it's in automatic mode.
Q. Do you just want to take us through each of those briefly to explain them.
A. The step before that is a cardiac arrest is a loss of detectable cardiac output, so in essence you can no longer feel a pulse which for most people is indicated by an absence of normal breathing.
When your heart is no longer beating to create a pulse or blood flow, there are four potential rhythms. The first is that the heart goes into an abnormal quivering rhythm electrically and often mechanically and if you look at the heart it will sit there and quiver, rather than beating it actually just sits there and quivers. That's called fibrillation or ventricular

fibrillation.
You can get a very rapid heartbeat coming from the chambers at the bottom of the heart which are your ventricles and you have a very rapid heartbeat. That heartbeat is often so rapid that it doesn't allow the heart time to fill with blood and therefore the heart can't create flow because it isn't filling. That is called ventricular tachycardia. Both ventricular fibrillation and ventricular tachycardia are potentially amenable to a defibrillator shock, so you apply electric shock across the chest from a defibrillator.
Commonly everybody describes defibrillators as restarting the heart. In fact what they do is stop the aberrant or abnormal rhythm and allow the heart's normal pace maker to take over.
You then have the concept of pulseless electrical activity where you have an organised cardiac electrical activity but that does not correspond with the cardiac output or a pulse, and the easy way to describe this is if somebody bleeds to death they have no blood volume, but their heart is electrically conducting but they have no pulse because there's nothing for the heart to squeeze out when it beats. You can see pulseless electrical activity from many conditions, but loss of blood is an easy one to explain to people, where you

have organised electrical activity but no corresponding cardiac output.
Then finally you have asystole, which is the absence of any detectable cardiac electrical activity, so in essence a flat line trace on the monitor. Asystole is the terminal rhythm of all cardiac arrests that are untreated and unresuscitated. Everyone will end up in asystole. So even if you present in ventricular fibrillation, nothing occurs, that rhythm will deteriorate to asystole. If you start in PA, it will deteriorate, but you do see cardiac arrests where the patient presents in de novo asystole as a presenting rhythm for their cardiac arrest.
Asystole and pulseless electrical activity are not amenable to a defibrillator shock.
Q. Thank you. We have heard that Dawn Sturgess' cardiac rhythm was initially described by Mark Marriott as asystole, so that's the top right-hand corner of the diagram.
A. Yes.
Q. With reference to page 79 and paragraph 6.8 of your report, are you able to assist with the survival rates for out of hospital asystole?
A. Yes. The service that I work in has a register of all cardiac arrests and we follow those

patients up where we can at 30 days and the 30 day survival of asystole, so this is patients who present in asystole, so their first detectable rhythm by an ambulance clinician is asystole, has a survival to discharge rate of 1.3 per cent and a slightly higher but not much higher survival to 30 day rate.

Q. You issue the caveat in that paragraph that that figure is simply based on discharge from hospital, so is not an indication of neurologically intact survivors?

A. Sadly not. In fact, when you look at neurologically intact, it is lower still. It's also probably worth saying that figure is a population figure, so it is across the entire population. In adults the asystole survival is worse than in children, we believe, so actually in adults the asystole figure is even worse than 1.3 per cent.

Q. There came a point, we understand it to have been 10.51 from the records, that when the defibrillator indicated that Dawn Sturgess' heart was shockable and a shock was delivered and a return of spontaneous circulation achieved. You indicate in your report by reference to the Easytask report that this was due to Dawn Sturgess being in ventricular fibrillation. Is that the disorganised electrical signal from multiple

areas of the ventricles which restricts normal cardiac contraction?

A. Yes.

Q. If we could go to the Easytask report, INQ000607, page 1, is this an Air Ambulance report?

A. Yes.

Q. We see the names Fred Thompson and Keith Mills at the top.

A. Yes.

Q. Yes, on the left of the vehicle model. Then page 2 of this report, do we see the notes there which include "Initial asystole, full als ..."

A. Advanced life support.

Q. "... went into VF", that's the ventricular?

A. Fibrillation.

Q. And that's the ROSC, the return of spontaneous?

A. Circulation.

Q. Yes, we see the timings are marked there at 10.55, but I think you have indicated in your report there were a few discrepancies, this having been completed later.

A. Yes. That's not uncommon in ambulance reports and it's fairly common to see timings out by a few minutes.

Q. In terms of how the Air Ambulance crew would know that she had been in VF as supposed to VT, was that because it was shown on the defibrillator?

A. It's likely by that stage that they would have had the monitor in the manual mode and were looking and observing the rhythms themselves. Just for completeness, patients in cardiac arrest fairly regularly change rhythm. It's the aim of resuscitation of somebody in asystole to get them out of asystole. They will often go into another rhythm and you fairly frequently see patients who have had large doses of adrenaline in cardiac arrest then go into a ventricular fibrillation and then be shocked. That's different from what they're presenting rhythm is, or their de novo rhythm.

Q. I was going to ask you that. Is it the case that the resuscitation effort caused the ventricular fibrillation?

A. I'm absolutely certain of that.

Q. Thank you. If we could now move to medications and treatment given or not given to Dawn Sturgess and beginning with adrenaline , which you deal with at page 44, paragraph 4.22, during cardiac arrest Dawn Sturgess was given, I think, three doses of adrenaline.

A. Yes.

Q. What was the purpose of that?

A. The purpose of adrenaline is in order to gain a return of spontaneous circulation. It increases peripheral resistance, therefore aims to increase cardiac filling. It also increases cardiac electrical activity and aims to stimulate the heart into gaining ROSC.

Q. Is it part of normal life support?

A. Yes, for a patient in a non-shockable rhythm adrenaline is administered every 3 to 5 minutes from the moment vascular access is achieved.

Q. Can it also be given after ROSC to maintain cardiac rhythm?

A. Yes, but at a lower dose.

Q. To what extent did you consider it reasonable to administer adrenaline, both initially and after -- post ROSC?

A. Adrenaline is a core tenet, currently, of advance life support and was completely appropriate and exactly what would have been expected. I would have been highly critical if it wasn't administered and in a post-ROSC patient who has hypotension, so low blood pressure, therefore indicating a low cardiac output, it's absolutely appropriate to administer small boluses

of adrenaline to support that cardiac output, and I would expect in many, many of the cardiac arrests I attend who gain ROSC, I have to support their cardiac output routinely with small boluses of adrenaline.

Q. Is that the adrenaline stimulating both the blood pressure and the heart rate?

A. Yes. It also increases cardiac blood flow by increasing constriction of blood vessels.

Q. To what extent is and was at the time the use of adrenaline in cardiac arrest and post ROSC covered by the JRCALC guidelines?

A. Adrenaline in cardiac arrest was routine, both in the National Advance Life Support guidelines and in the JRCALC guidelines. Adrenaline post ROSC was not in JRCALC, but many services had processes for doing that and today it is in JRCALC, but prior to that it was standard practice and certainly it's been standard practice in the service I have worked in for over 10 years.

Q. That's adrenaline. Moving now to atropine. Was and is atropine recommended for use in cardiac arrest?

A. No.

Q. Was it once?

A. Yes.

Q. But not in 2018?

A. Certainly not in 2018.

Q. Is that because although atropine can be used to increase heart rate, the main stay treatment for cardiac arrest is adrenaline?

A. Yes.

Q. Naloxone. Was Dawn Sturgess given naloxone?

A. I believe so.

Q. I think that's right and if we deal -- you deal with it, I think, at page 46, paragraph 4.26.

A. Yes.

Q. So:

"Similar to Mr and Ms Skripal, I note that Ms Sturgess was administered naloxone due to consideration of potential for opiate overdose."

In simple terms, the same -- the drug overdose suspected in the same way as the Skripals --

A. Yes.

Q. -- and so that administration. We have seen in the notes the brand name Narcan used, which we also heard from paramedics attending the Skripals. Can you explain the extent to which you consider this reasonable and why, and if you need to refer to your report it's page 52, paragraph 4.44.

A. I'm not critical of the decision to administer

naloxone. The management of cardiac arrest is in essence twofold: one of which is supporting the cardiac output; the second is looking for a reversible cause of that cardiac arrest. CPR is around in the main temporisation and then you're looking for something you can potentially reverse.

As we spoke about earlier, naloxone is a relatively safe drug. If you've got signs and symptoms that might potentially be opioid, opioid is not an uncommon presentation, and it would be completely reasonable to administer naloxone.

The evidence for naloxone in cardiac arrest is actually quite limited, but I would not be critical of actually anyone administering it.

Q. I think you refer to there having been reference to the pinpoint pupils, miosis.

A. Yes.

Q. Although there are -- you have indicated in your evidence that that can be a sign in a number of presentations, would it also be most common in pre-hospital care for opiate overdose?

A. I think it would be probably the one that most paramedics were most familiar with by some way.

Q. Would that be a trigger to consider and administer naloxone?

A. Yes, yes.

Q. Just to recap, you touched upon this earlier, but the difference between miosis, the pinpoint pupils seen in cardiac arrest and seen in organophosphate poisoning is that I think you said earlier that miosis will generally wear off as the arrest progresses?

A. Yes, so as the patient becomes more and more profoundly lacking in oxygen, you will often see the pupils dilate. You don't see the same in cardiac arrest from organophosphates or nerve agents.

Q. But is that a subtle --

A. Very subtle and again I wouldn't expect many paramedics to be aware of that.

Q. This morning Professor Rutty indicated that, both at the hospital and as part of the post mortem, the possibility was considered of a stroke or an intracranial bleed being the cause of the collapse. We know that Charlie Rowley said that Dawn Sturgess had complained of a headache before she collapsed. Are you familiar with a headache being the first sign of a brain stem stroke or intracranial bleeding?

A. Yes.

Q. Is that something you would expect paramedics might consider?

A. Yes, I think it would be up there with a list

of differential diagnoses.

Q. Can miosis be seen where a brain injury is the cause of cardiac arrest?

A. Yes.

Q. How common is that, compared to miosis being seen in drug overdose or organophosphate poisoning?

A. Most paramedics I would expect will have seen patients with an opioid overdose and pinpoint pupils. I suspect many paramedics will occasionally encounter somebody with a significant intracranial haemorrhage that causes pinpoint pupils, but it's much rarer and probably less commonly known.

Q. Thank you. We're just pausing to take a note.

By the time the Air Ambulance, Fred Thompson and Keith Mills, attended at about 11.05 , Dawn Sturgess was being treated with an i-gel and bag valve mask and we will recall the picture of the i-gel that we saw earlier. In your opinion ought mechanical ventilation to have been considered or used?

A. Mechanical ventilation was occurring, in essence that she was receiving artificial ventilation by a bag and mask, supported with an i-gel. That is mechanical ventilation. It's just the mechanics of it are a human squeezing a bag rather than a machine ventilating.

Q. A machine would have made no --

A. Would have made no difference.

Q. I think that's the same as the management for Yulia Skripal; is that correct?

A. Yes.

Q. But the difference being that Yulia Skripal didn't enter cardiac arrest?

A. That's correct.

Q. The defibrillator and the adrenaline weren't needed in her case, but they were in Dawn Sturgess'?

A. That's correct.

Q. Now, the i-gel was swapped in the ambulance for an endotracheal tube and you indicate in your report -- and I'm looking at page 48, paragraph 4.32 -- that this is somewhat controversial but you would not be overly critical of it. Could you just explain that?

A. Intubation is where a tube is placed through the vocal chords into the top of the wind pipe or trachea to allow artificial ventilation and in most adults is secured in the wind pipe with an inflatable cuff. It's done under instrumentation of the airway.

Outside of cardiac arrest , patients will normally be given drugs to facilitate that, but there is a group of patients who are so obtunded they do not need drugs and they are so unconscious. There is some controversy

around intubation of the post-ROSC patient without drugs, so a patient who has just had a cardiac arrest who has no airway tone. It is controversial. It is done fairly frequently by paramedics, particularly paramedics working in critical care. I have done it in my own practice. It is a balance of risk. That risk is made increased by if there was significant pulmonary secretions or oedema that might tip one towards doing it, but there will be people who will be critical of it. Normally the people who are critical of it are those who have an enhanced scope of practice who have the ability to give drugs. My view is for paramedics it is often in those first minutes following cardiac arrest appropriate and I would not be overly critical of it and it is practise that I have undertaken myself.

Q. Indeed, I think at this stage it happened in the ambulance?

A. Yes.

Q. Not in the immediate period --

A. Yes.

Q. -- after ROSC.

Could I just ask you about hyoscine hydrobromide. What is that? Is it a pre-hospital treatment for nerve agent poisoning?

A. It's not a pre-hospital treatment for nerve

agent poisoning and it's not routinely carried by many ambulance services as a frontline paramedic drug.

Q. What is it?

A. It's an anti-secretion medication.

Q. You wouldn't have expected it to have been either carried or administered in this case?

A. No. Some critical care teams carry it normally for management of patients at end of life care and patients who are actively dying, but no, it's not -- it's far from routine and it would be a drug I would expect many paramedics not to be familiar with.

Q. Finally, diazepam. The indications you set out in your report for the use of diazepam, which we have touched upon, are fits lasting longer than five minutes and still fitting, repeated fits, not secondary to an uncorrected hypoxia or hypoglycaemic episode, status epilepticus?

A. Continual fits. It's another way of describing continual fits.

Q. Eclamptic fits?

A. Fits during pregnancy.

Q. Was Ms Sturgess presenting with any of those clinical features?

A. No.

Q. Am I right in deducing from that that diazepam

wouldn't have been indicated in your opinion?

A. The other indication in the Ambulance Service guidelines is symptomatic cocaine toxicity, which again she wasn't presenting with. That's someone who has taken cocaine who has chest pain, tachycardia or hypotension -- hypertension, so high blood pressure.

Q. Does that cover the medications that were either appropriate to deliver or weren't appropriate in --

A. For completeness, she was also administered oxygen which was completely appropriate and as part of her resuscitation.

Q. Thank you. Moving then to your opinion regarding the clinical encounter with Dawn Sturgess -- and I'm at page 51, paragraph 4.40. What did you conclude about whether Dawn Sturgess was in cardiac arrest when the first paramedic arrived?

A. She was in asystole -- it is reported she was in asystole on the monitor. That is unequivocally associated with cardiac arrest. She was in cardiac arrest on arrival of the first paramedic.

Q. By reference to paragraph 50 -- sorry, page 50, paragraph 4.41, if you need to, what were your conclusions regarding the appropriateness of treatment given to Dawn Sturgess on attendance at the cardiac

arrest?

A. Dawn Sturgess had an advanced life support resuscitation which I view was completely appropriate. Drugs were administered in line with guidance and her ROSC was managed and on my review was managed appropriately.

Q. Just to take you back to the first part of that, the advanced life support. I think when the first paramedic arrived that was basic life support in the first instance because he was solo; is that right?

A. Absolutely, and I would be highly critical if a paramedic on their own arrived and started doing advanced life support before doing the basic life support.

Q. Start with the basic, which is CPR, and getting defibrillation ready?

A. Yes, so basic life support is chest compressions, artificial ventilations, which initially will be with a bag and mask, so just a mask that goes on the face, attachment to a defibrillator which is often now described as intermediate life support and then moving on to more advanced airways and drugs in cardiac arrest or advanced life support.

Q. Then the advanced life support. Could we go to INQ005942. This is your appendix 1 of your report

and if we could enlarge that. Could you just take us through that and confirm whether or not this was the advanced life support process that was followed in Dawn Sturgess' case?

A. This is the 2021 version, but there was no changes in the preceding versions which in essence is the management and it is effectively, once you get into advanced life, support two-minute cycles and analyse the cardiac rhythm, assess whether a shock is indicated and then on every other cycle on a non-shockable to administer adrenaline.

Q. You said the '20 or '21 version, that's of the JRCALC?

A. This is actually the UK Resuscitation Council guidance. Then you will see at the bottom of it the consideration of reversible causes which we discussed earlier.

Q. Yes. Can you just -- so that's the second column, if we can make that a bit bigger at the bottom. You said we discussed earlier, just to confirm what you mean by that.

A. As well as trying to restart the heart and providing the temporisation, you're then thinking about what has caused the patient to go into cardiac arrest and is that potentially reversible and the UK

Resuscitation Council and the international guidelines produces a list of four Hs and four Ts and they are common things that are reversible in a cardiac arrest: low oxygen, hypoxia; low circulating fluid volume, hypovolemia; high or low abnormal metabolic; thrombus, so blood clots either in the coronary blood vessels or the pulmonary blood vessels; tension pneumothorax, which is a collapsed lung which is under pressure; cardiac tamponade, so fluid around the heart restricting the heart; and toxins.

Q. Which of those are relevant in this case to Dawn's presentation?

A. The one that's specifically relevant is toxins and you saw the ambulance clinicians attempting to address that with the administration of naloxone.

Q. That's what I was going to ask. Then, if we can take that down now, I'm going to move to ask you about whether they should have considered nerve agent poisoning. Now, we have looked at the signs and symptoms of opiate overdose, organophosphate poisoning and the overlap and I think you have already indicated in your evidence that there's considerable crossover.

A. Yes.

Q. Now, one of the features that we saw was hypersalivation or secretions --

A. Yes.

Q. -- in potential organophosphate poisoning. Dawn Sturgess did present with that symptom on ROSC ; is that correct?

A. Yes.

Q. But can hypersalivation result from cardiac arrest in circumstances other than organophosphate poisoning?

A. Absolutely, and is relatively common.

Q. Could you explain the types of circumstances ?

A. You will see airway secretions fairly regularly in cardiac arrest, but you will also see patients who have pulmonary oedema, so fluid coming up from the lungs. That's not possible to differentiate and you will see pulmonary oedema in cardiac arrest generally, you will see pulmonary oedema specifically in cardiac arrest from heroin. You will see pulmonary oedema in cardiac arrests and there are neurogenic causes, so from people who have had brain bleeds. So there are lots of things that will give you respiratory secretions.

Q. If the paramedics had arrived before Dawn Sturgess had gone into cardiac arrest and seen hypersalivation, is it more possible that they would have -- it might have alerted them to --

A. I think it's more possible. Once the patient enters cardiac arrest, your ability to gain that additional history and those additional signs and symptoms are considerably reduced because you're now looking at a patient who is not breathing, doesn't have a pulse, so all of those other classic signs and symptoms are starting to reduce, so it's even more challenging to detect it once the patient is in cardiac arrest, and there is no single thing that gives you that clue.

Q. Is that the overriding difference between the presentations of the Skripals and Charlie Rowley, who we will come to, and Dawn Sturgess?

A. Yes, that they did not -- the Skripals or Charlie Rowley did not present in cardiac arrest, so the ambulance clinicians would have had more information available to them.

Q. Sir, we have looked at miosis and excessive secretions.

Was there any other reason -- I'm at page 77 now of your report -- was there any other reason you could see from the evidence for a paramedic to suspect nerve agent poisoning on attendance at Dawn Sturgess? I'm on the third paragraph down of your page 77.

A. The signs that Dawn Sturgess presented with

might not be classical opioid overdose, but I make no criticism of the ambulance clinicians in terms of their view that this was opioid. I think it is incredibly challenging to get to the point of organophosphate or nerve agent at that point and I'm not critical that they treated her as an opioid cardiac arrest, and much of the management in cardiac arrest is focusing on gaining that ROSC, as well as considering the rest, of course, but much of actually what you're doing is just trying to get the heart restarted through consistent measures.

Q. In coming to that view -- and you say at your page 77:

"I cannot in any way criticise any ambulance clinician either in the management of Ms Sturgess or any other patient involved in these incidents for not suspecting nerve agent poisoning."

To what extent did you take into account that, although it's incredibly rare, there had of course been a nerve agent poisoning in Salisbury, not too far away, only a few months previously?

A. I took it into account, I considered it, but yes, it wasn't too far away, but it was distant from Salisbury, by a number of miles. It was local but distant. It was a very different circumstance, so I'm not overtly critical and I did consider that when

forming my conclusion.

Q. Similarly, in forming your conclusion, to what extent did you take into account the fact that guidance had been distributed to paramedics between Salisbury and Amesbury such that it might be said they ought to have increased awareness of the presentation of nerve agent poisoning?

A. Again, I considered that and considered the guidance I had seen and I don't think that changes my view. I would not be that critical -- or I would not be critical.

Q. Moving then to the treatment if nerve agent had been suspected, if the ambulance clinicians had suspected nerve agent poisoning and Dawn Sturgess had not been in cardiac arrest, what treatment would you expect?

A. I would have expected safety precautions to be considered, donning of personal protective equipment, I would have expected oxygen administration and I would have expected -- if they suspected nerve agent -- DuoDote to have been administered.

Q. Now, we know she was in cardiac arrest. You heard, I believe, the evidence of Professor Rutty this morning about there being no indication that DuoDote should be used in cardiac arrest. Do you agree with

that?
A. Yes.
Q. Do all ambulances and RRVs carry DuoDote?
A. All ambulances and RRVs should carry it. I wouldn't want to say that they do all carry it.
Q. So reasonable not to consider DuoDote prior to -- when she was in cardiac arrest, even had they seen signs of organophosphate poisoning or suspected it. What about when she was in ROSC?
A. You could have administered it in ROSC. I'm not sure how much it would have got into her circulation. Clearly when somebody is in cardiac arrest their blood flow to their muscles is reduced, thereby giving an intra-muscular injection in cardiac arrest probably has limited efficacy. In somebody who is profoundly shocked with low cardiac input in ROSC, you would imagine limited absorption. That said, I'm not critical, even in ROSC, that they didn't suspect organophosphate or nerve agent, therefore I'm not critical that it wasn't administered in ROSC.
Q. Just sticking with the ROSC position at the moment, I think what you're indicating is there's a possibility that even had it been used, it might not have been absorbed and worked because of the muscles; is that correct?

A. Yes, or the muscle perfusion.
Q. I think in your report you agree with Professor Rutty's opinion expressed in one of his statements, the 4496, which is 21 November 2019 -- you address this at page 79 of your report -- that there may have been some benefit if they had identified nerve agent and if it had been administered in ROSC --
A. Yes.
Q. -- but you're also saying that there may not have been benefit because of the potential lack of absorption?
A. And there would certainly have been reduced benefit.
Q. We heard Professor Rutty say about whether he -- I can't remember the exact phrase, but in terms of it potentially making no material difference?
A. Yes.
Q. Do you agree with that?
A. Yes, as far as my expertise allows me.
Q. Because I think -- and the phrase was used -- the damage was potentially already done --
A. Yes.
Q. -- because of the period of cardiac arrest and we have heard the sequence of events --
A. Yes.

Q. -- leading to hypoxic brain injury.
A. I think when you look at the time of ROSC, the period of what one would describe as no flow, so a period where there was no cardiac output or limited cardiac output, and then a period of low flow, so even with chest compressions your cardiac output is much diminished, I'm of the view that there was very significant cerebral damage at that point.
Q. Bearing that in mind, but just dealing with, for completeness, the consideration of the use of atropine by itself, Fred Thompson's witness statement indicates that he considered it during the ROSC period for bradycardia and you refer to that in your report. What about that administration then?
A. I'm not critical of that. I would virtually always expect a paramedic to reach for adrenaline as their first line treatment because fairly frequently you will see the bradycardic blood pressure or hypotensive patient post ROSC and the adrenaline is treating both the heart rate and the hypotension and is the main stay of clinical management pre-hospital in the UK for the post-ROSC patient.
Q. Are there risks or problems with paramedics administering atropine?
A. I actually think those risks are very similar

to administering adrenaline in the fact you can -- in a patient who has a fragile heart -- put him back into cardiac arrest and give him an abnormal rhythm. You can do that with both atropine and adrenaline. There are risks associated with both, but adrenaline tends to be the drug because it treats both the heart rate and the cardiac output.
Q. I think we heard from Professor Rutty that it would have needed to have been given in volume to have any effect?
A. Yes. Yes.
Q. Thank you. If I could take you just now to the conclusions of your report on the treatment of Dawn Sturgess, which is INQ005942, page 56, and starting at paragraph 53 -- sorry, 4.53. I'm just going to read through these and then just ask you if you would like to comment upon or change any of those in the light of anything you have heard or read in the Inquiry. So:
"At the time of the incident, Ms Sturgess presented to the Ambulance Service via a 999 call. The first indication was that she was fitting, then this proceeded to a cardiac arrest.
"The first 999 call was received at 10.14 and was categorised as a category 1. I have no criticism of the triage or dispatch to the call.

"The first resource arrived on scene at 10.23, seven minutes after the call clock start time. This is at the mean target and within the 90th centile.

"I am not critical in any way of the management of the cardiac arrest of Ms Sturgess. This seems to have followed RCUK ALS guidelines and resulted in a ROSC.

"I am further not specifically critical of the management of Ms Sturgess following her ROSC. Whilst I do hold the view that there may have been some clinical clues that Ms Sturgess was exposed to a nerve agent, given this was far from clear and a very uncommon presentation, I am not critical that the ambulance clinicians, on this occasion, did not consider nerve agent overdose. Having said this, I would equally not be critical if nerve agent was considered and treatment was instigated.

"I have considered whether Ms Sturgess would have benefited from a DuoDote injector or atropine. I do agree with Professor Rutty that during her cardiac arrest period, neither medications were appropriate. I have considered FT [that's Fred Thompson]'s rationale for withholding atropine post-cardiac arrest in favour of adrenaline, and I am not overly critical of this.

"I am not critical of any other part of Ms Sturgess' clinical care."

Mr Faulkner, is there anything you would like to add or change?

A. No, not at all.

Q. Thank you. Finally, I would like to take you to your opinion in respect of the response to Charlie Rowley. We can deal with this fairly shortly, as you do for the Skripals and Dawn Sturgess, you have very helpfully set out a timeline of SWASFT's encounter with Charlie Rowley at pages 58 to 59 of your report and you summarise the events at pages 60 to 65 and , as the whole report is going to be adduced, I won't take you through those.

Firstly, then, in respect of your conclusions, we have heard about the step 1, 2, 3 plus training in the Inquiry and you set it out in your report, so could we go to INQ005942, page 67 and paragraph 5.25. Could you just briefly take us through that?

A. I would describe step 1, 2, 3 as an aid to clinical risk assessment, so it's a tool which helps ambulance clinicians and responders of any agency assess risk, or was used to assess risk.

It talks about step 1, one person being incapacitated with no obvious reason and a need to approach using standard protocols. Two persons -- or two people incapacitated with no obvious reason,

approach with caution using standard protocols.

Q. Can I pause you there for a moment. Just a question has arisen whether, when counting the number of patients, the second or subsequent patient has to be present at the same time. What's your view of that?

A. My view is the second or subsequent patient doesn't need to be present at the same time and I consider it completely appropriate and commendable that an ambulance clinician thought "Oh, there was a patient here earlier, I'm going to be really cautious".

Q. That's in respect of the response to Charlie Rowley?

A. Yes.

Q. We can see there the recommendations if three or more present.

A. Yes:

"Three or more people in close proximity, incapacitated with no obvious reason."

Q. Can we just scroll down to make sure we can see the rest of that, we've seen evacuate, communicate and advise, disrobe, decontaminate.

Thank you, we can take that down.

Your conclusions then with respect to Charlie Rowley and the response and I'm looking at page 66 of

your report. Could you summarise your findings and conclusions regarding the handling of the 999 call?

A. I believe the 999 call was handled appropriately, triaged appropriately and I'm not critical of either the dispatch or response times.

Q. This call was upgraded, wasn't it, from category 3 to category 2?

A. Yes.

Q. Why was that?

A. My understanding and my review it appears that a clinician in the control room reviewed the call and made what appears to be a very sensible decision to upgrade the call based on the information on it.

Q. Was that -- the information on it, was that about the fact there had been a previous patient?

A. I think it's a combination of probably the signs and symptoms and then the previous patient.

Q. Just taking you through what you say there, you have said no criticism of the call and no criticism of the grading, the categorisation. The ambulance call sign 7710 arrived on scene at 18:47, 15 minutes after the call was upgraded and inside both the mean and 90th centile response times for a call of this nature; is that right?

A. Yes.

Q. You weren't critical, therefore, as you have said, of the response.

Secondly -- and I'm going over the page now, in fact, to page 68 and 5.26 -- what were your thoughts regarding the decision of Ben Channon and Lee Martin, the paramedics, to don PPE on attending Charlie Rowley?

A. I think it was a highly sensible decision based on the information they had got about the previous call and I think it shows a level of commendable clinical practice and foresight in thinking about that on the way to the call.

Q. Given what we know now, are you able to say what may have been the likely or practical effect of those actions?

A. This is slightly difficult because back at the time of this, ambulance clinicians wearing personal protective equipment was unusual and probably would have impinged certainly their movements, it's uncomfortable. Most of us practised throughout the COVID pandemic wearing PPE, so we're a lot more comfortable doing it and we've got a lot more adept at putting it on and taking it off, so I suspect the effect today would be less, but it does have a marked effect on your ability to assess, treat, wearing what is in essence a coverall suit and a mask.

Q. What about in terms of potential contamination? Would that have assisted in removing that risk?

A. It certainly helps minimise the risk. It doesn't remove the risk of contamination, it just minimises it and helps protect the responder.

Q. Because we know now that they were going into Charlie Rowley's property where subsequently Novichok was found?

A. Yes.

Q. Thirdly, in terms of your conclusions, what was your assessment of the clinical care given by the paramedics to Charlie Rowley overall?

A. I have no criticism. I, in fact, think their assessment was commendable. I think they assessed and treated both for opioid overdose and using the information and the signs and symptoms came to the impression of potential nerve agent and organophosphate and managed that appropriately and I think that is really commendable clinical practice.

Q. You emphasise three specific areas upon which you comment. Could you just summarise those areas? It is page 68, paragraph 5.28 of your report.

A. They administered naloxone and they were administering that to manage a potential opioid cause of

Mr Rowley's collapse. They did also consider alternatives. They administered DuoDote. They placed intraosseous access and then administered atropine and managed the seizure presentation with diazepam.

Q. There's three specific areas, being firstly the administration of naloxone --

A. Yes.

Q. -- to counter potential for opiate overdose?

A. Yes.

Q. The second area the use of an intraosseous device -- what was your opinion regarding that?

A. Use of intraosseous devices on patients outside of cardiac arrest is unusual. They're normally used in cardiac arrest and I think it just shows the high degree of concern they had about Mr Rowley's presentation and the need to get drugs into him.

Q. The third element was the use of the DuoDote pen?

A. Yes.

Q. Which you say, at paragraph 5.30, page 69, the use of DuoDote and then atropine may have been one of the key aspects of care in terms of his survival?

A. Yes, as far as my expertise allows me.

Q. Can I summarise by saying you have praise indeed for the clinicians who attended Charlie Rowley?

A. I think this is a level of clinical insight that should be commended, yes.

Q. The final topic, then, the command of the incident. Could we go to appendix 2 of your report, INQ005942, page 85. We see there and we have had substantial reference to the JESIP principles or, as you describe them in your report, the JESIP doctrine.

What was your view in terms of whether the ambulance personnel applied these principles when attending Charlie Rowley?

A. My view is the ambulance clinicians attempted to apply these principles, particularly around communication and particularly about trying to share a joint understanding of risk.

Q. We have now heard evidence from Ben Channon and Ian Parsons, Ian Parsons having attended the Skripals, regarding their convictions that this was a second nerve agent poisoning and we have heard from acting Police Sergeant McKerlie and inspector Beresford-Smith, the police officers, who decided to treat the incident as drug related notwithstanding the paramedic concerns. Is it fair to say that in your report you question the professional respect accorded to the ambulance personnel by the police, but you caveat by saying that you defer to an expert in policing with

regard to the action of the Police services?

A. Yes. I'm clearly not an expert in policing and I wouldn't ever want that, but I do feel as an operational paramedic when you're expressing a concern that "I'm really worried about this because this is what I'm seeing clinically", as a clinically trained, educated individual to have those dismissed is probably sub-standard.

LORD HUGHES: I quite understand that you can't set yourself up as an expert in what the policemen ought to have done, or ought not to have done, though I may have to consider it -- well, shall have to consider it. What you can tell me, I think, is your view of the reaction of the paramedics when they were confronted with that disagreement.

A. I think it would have been all too easy for those paramedics to revert to what the police were telling them, lose confidence in their clinical convictions and gestalt and go "Well, this is probably just an opioid overdose, the police have got intelligence on this".

These are clinicians who I cannot commend highly enough, so despite having counter views put to them continued with a course of treatment that ultimately was correct, based on what their clinical indication from

their clinical background and knowledge was.

LORD HUGHES: Okay, thank you.

MS WHITELAW: If I could just pick up that topic. Under JESIP, from a paramedic perspective, first, ought the paramedics to take account of information or intelligence provided by the police generally?

A. Yes, it's a joint understanding of risk which flows both ways, or flows between emergency services.

Q. Secondly, and relatedly, would information regarding the information of drugs or the finding of drugs paraphernalia at a location ordinarily be relevant to paramedics seeking to determine how a collapsed patient might have fallen ill and what treatment is required?

A. It all forms part of the clinical picture, but you always have to be minded that you don't bias that.

Q. Thirdly, if there's a disagreement of the sort that happened in this case, whose decision on how to treat the patient should take priority?

A. The ambulance clinicians as a clinical team.

Q. Whose decision on how to manage the scene should take priority?

A. I think that is a shared decision between all three emergency services, but specifically around scene safety, preservation sits with the Fire Brigade and

the Police.

Q. Can I just ask you what the key differences were in the presentation between Charlie Rowley and Dawn Sturgess that perhaps may have made it slightly easier for the paramedics to identify nerve agent poisoning with Charlie than with Dawn?

A. Charlie Rowley, albeit had a reduced level of consciousness but was not unconscious, he was not in cardiac arrest. My understanding was he was still standing when the ambulance clinicians arrived. They describe a level of, I think, what might be paraphrased as muscular rigidity. Those are all unusual in somebody who has taken an opioid overdose. I think you have heard evidence that they described him as mooing, or making mooing noises. That again is unusual. All of that points you away from an opioid cause and those clues weren't there when the earlier ambulance clinicians attended Dawn Sturgess.

Q. Was a relevant factor also that he was the second patient to present?

A. Absolutely.

Q. You indicate in your report, page 70, paragraph 5.34, that you're not critical of the time taken at the scene as that was spent usefully providing Mr Rowley with life saving interventions; is that

correct?

A. Yes.

Q. You also say:

"I am not critical of the decision of the police officers who had been within the cordon to drive the ambulance to the hospital."

As I said earlier, we now know that the house was one in which Novichok was found. Was there not, in your opinion, a risk of contamination by driving the ambulance rather than fire officers in PPE?

A. I think there was a risk. I think that would have been minimised by fire officers in PPE, but equally, probably on balancing that risk, the other alternative was one of the ambulance clinicians would have got out of the ambulance, doffed their PPE and then had to get into it, which probably further increases the risk of contamination.

Q. Lastly, if we could go to your final summary in your report, which is at INQ005942, page 81 -- again I'm just going to read this through to you and then ask you if there's anything you would like to say or change in respect of that. You say in final summary in your report:

"I have considered with a great deal of care the evidence that has been provided to me and submitted

before the Dawn Sturgess Inquiry.

"The events of 2018 in the Salisbury area were completely unprecedented within UK pre-hospital care. The exposure of not just one, but four people to a neurotoxic nerve agent such as Novichok led to widespread and long-term effects not just on those involved as patients but on responders, bystanders and the wider community, as well as nationally and internationally.

"Where I have been critical, albeit this is really limited, this criticism must be taken against this incredibly unique and unprecedented backdrop.

"The language in this report is necessarily clinically stark in places, and I do apologise to anyone reading for any upset that this may have caused.

"To Mr and Ms Skripal and Mr Rowley, I wish them a continued recovery and my best wishes for the future.

"To the family and friends of Dawn Sturgess, I would like to offer my fullest and most sincere condolences. Whilst I am aware that nothing within this report can begin to make up for their tragic loss, it is my hope that this report may provide some answers to many questions that they will have."

Is there anything you would like to add to that?

A. No, thank you.

MS WHITELAW: Thank you very much. Those are my questions for you.

Sir, I don't know if there are any further questions.

LORD HUGHES: Yes, thank you very much, Ms Whitelaw. Now then, are there any questions?

MR NICHOLLS: Sir, yes, I think I can ask them in two minutes, if I may.

LORD HUGHES: All right.

Questioned by MR NICHOLLS

MR NICHOLLS: Mr Faulkner, my name is Jesse Nicholls and I ask questions on behalf of Dawn's family.

A. Good evening.

Q. I'm conscious of the time so I'm going to ask you a couple of topics very briefly. The first relates to paramedic diagnosis. Now, it might seem a little time ago, but you touched on this with Ms Whitelaw earlier and you said in your evidence:

"There will be times that paramedics reach a definitive diagnosis, that is not uncommon".

I understood you to be saying that is an appropriate thing to happen?

A. Yes.

Q. You also said there will be other circumstances, and you used these words:

"Often you are unable to get to a definitive diagnosis and you will form a list of impressions".

A. Yes.

Q. That is also appropriate in certain circumstances.

A. Yes.

Q. Is there also a third category between the two where a paramedic reaches a working diagnosis based on their assessment, but they can't reach a definitive diagnosis and that is also appropriate?

A. Yes, I think that's reasonable.

Q. Second and final topic please. In the answers you gave a moment ago to Ms Whitelaw you explained that if the situation arises that arose in respect of Mr Rowley's treatment on the evening of 30 June, if there is a disagreement of the kind that took place, the Ambulance Service decision on treatment should take priority.

A. Yes.

Q. If the Ambulance Service assessment of the patient, that is to say in relation to treatment, impacts on scene safety, for example because they are identifying the risk of a chemical poisoning, does that at least need to be taken into account by the police and the Fire Service?

A. So I am not a police or fire expert and I caveat my answer, but yes, I would expect them to take it into account, but I clarify that absolutely that I'm not a police or fire expert.

Q. I understand. Final question please. Given the disagreement that occurred and the dismissal or lack of professional respect that you have described in your report, are there any points of improvement or learning that you can identify from this incident, the evening of 30 June 2018, that would help to prevent that situation arising were it to happen today?

A. I believe the JESIP principles are very easy to stand in a setting like this and bash and beat up, but they are really solid, well thought through principles. I think this is all about sharing learning, professional respect and really embedding those into practice in emergency services. I think they are solid principles. I don't think they're fundamentally wrong and I think it's about how individuals choose to interpret that at the time.

Q. So if there were inadequacies, that of course being a matter for the Chair, in this case you see that as a failure -- you may use another word -- to apply those JESIP principles?

A. I think I'm -- I say this again --

LORD HUGHES: That isn't for him really, Mr Nicholls. I understand exactly why you ask it and you're going to make the comment in due course and it's there to be made, but it isn't actually a question for his expertise.

MR NICHOLLS: Then I will leave it there, sir.

LORD HUGHES: Thank you.

MR NICHOLLS: Thank you very much, Mr Faulkner.

LORD HUGHES: Were there any other --

MS WHITELAW: No, sir.

LORD HUGHES: Right. Ms Whitelaw, anything else?

MS WHITELAW: No, that is the evidence for today. Thank you, sir.

LORD HUGHES: Well, that's very tidily done from the point of view of time as well as other things.

Mr Faulkner, thank you very much indeed. Those are all the questions we have for you. There's no need to stay in future unless you want to come back and listen, which of course you're entitled to do, but I will rise now. 10 o'clock tomorrow morning. Level 1, I think?

MS WHITELAW: It is level 1.

LORD HUGHES: Level 1. Very well, thank you very much indeed. 10 o'clock tomorrow morning.

(4.28 pm)

(The Inquiry adjourned until 10.00 am on Wednesday,

6 November 2024)

INDEX

	PAGE
PROFESSOR GUY NATHAN RUTTY (sworn)	1
Questioned by MR O'CONNOR	1
MR JOHN CHARLES MARK FAULKNER (sworn)	96
Questioned by MS WHITELAW	96
Questioned by MR NICHOLLS	202

LORD HUGHES: [62] 1/3 1/6 2/2 3/13 6/18 15/18 36/17 37/4 43/22 43/24 44/3 49/17 49/23 50/2 50/6 56/10 56/14 56/18 56/21 91/13 91/16 93/23 94/1 94/17 95/6 95/9 95/13 95/16 95/21 96/2 96/7 98/10 107/6 107/14 108/9 125/18 125/22 135/3 135/7 135/11 137/4 149/13 149/16 151/9 151/12 153/16 153/20 153/23 156/9 159/14 159/18 159/24 197/9 198/2 202/5 202/9 205/1 205/7 205/9 205/11 205/14 205/22

MR NICHOLLS: [4] 202/7 202/11 205/6 205/8

MR O'CONNOR: [16] 1/4 1/13 2/3 3/16 6/22 15/19 37/5 44/6 49/20 50/7 56/22 91/18 93/18 95/12 95/15 95/19

MS WHITELAW: [23] 96/3 96/11 98/11 107/15 108/13 125/23 135/6 135/8 135/13 137/8 149/17 151/11 151/19 153/19 153/21 153/24 156/10 159/25 198/3 202/1 205/10 205/12 205/21

'

'20 [1] 179/12
'21 [1] 179/12
'chemical [1] 26/24
's [2] 123/7 189/21
'toxic [2] 58/19 59/3

.

... [16] 6/6 11/25 39/21 52/3 59/2 60/4 64/12 64/20 65/22 67/12 74/9 83/12 88/12 89/24 122/9 166/14
... achieve [1] 6/6
... although [1] 59/2
... and [1] 89/24
... asked [1] 11/25
... decreased [1] 122/9
... if [1] 64/12
... in [1] 65/22
... none [1] 88/12
... then [1] 74/9
... there [1] 67/12
... undertaken [1] 52/3
... was [1] 60/4
... went [1] 166/14
... whether [1] 83/12
... which [1] 39/21

0

01 [1] 157/23
02 [1] 138/17
09D01 [1] 157/17

1

1 July [1] 42/12
1.11 [1] 103/15
1.3 per cent [2] 165/5 165/17
1.44 pm [1] 96/1
1.45 [1] 95/17
10 [5] 39/13 41/13 65/14 78/17 103/14
10 August 2024 [1] 96/23
10 July [1] 1/24
10 o'clock [2] 205/20 205/23
10 years [1] 169/19
10.00 [2] 1/2 205/25
10.11 [1] 156/8
10.14 [5] 156/8 156/9 158/20 159/14 188/23
10.14.25 [1] 155/24
10.16 [1] 156/17
10.16.04 [1] 156/19
10.23 [4] 158/1 158/22 159/12 189/1
10.23.35 [1] 156/21
10.29 [2] 158/3 158/25
10.51 [1] 165/19
10.55 [1] 166/20
11 [5] 26/16 45/24 78/25 121/25 135/21
11 hours [1] 26/7
11 November 2019 [2] 11/1 83/4
11.05 [1] 173/15
11.15 [1] 50/3
11.36 [1] 50/5
111 [1] 101/1
11637439 [1] 138/2
12 [6] 40/6 47/6 48/3 79/22 136/10 138/19
12 hours [1] 99/24
12.43 pm [1] 95/24
128 [1] 156/1
12D02 [2] 138/5 157/6
13 [3] 31/16 61/19 80/7
13 August [1] 28/24
134 [1] 156/1
14 [2] 57/22 80/7
14:59 [1] 47/18
15 [5] 37/6 49/22 58/11 58/16 80/7
15 July [1] 28/22
15 minutes [2] 137/7 192/21
16 [5] 37/6 51/12 55/8 80/16 90/17
16:19 [3] 137/25 139/19 140/2
16:19:54 [1] 139/17
16:21 [1] 140/2
16:22 [1] 140/2
16:27:51 [2] 140/14 140/21
16:28 [1] 141/4
16:31 [1] 141/7
16:31:28 [1] 140/23
16:32 [2] 141/6 141/7
17 [4] 80/23 116/1 116/5 116/19
17 July [2] 24/14 26/4
17 July 2018 [1] 2/7
17 October [1] 156/1
18 July [1] 28/22
18:47 [1] 192/21
19 [4] 116/1 116/12 116/23 117/3
19 July 2018 [1] 2/18
190 [1] 131/23
191 [1] 131/23
1988 [1] 129/5
199 metres [1] 156/20
1996 [1] 17/17

2

2 July 2018 [1] 42/4
20 [3] 13/12 26/5 131/4
20 minutes [1] 49/22
200 metres [2] 137/20 141/15
2009 [1] 18/23
2010 [1] 101/13
2015 [1] 101/13
2016 [1] 108/14
2017 [2] 92/9 109/18
2018 [27] 2/7 2/18 4/11 4/19 5/23 28/20 42/4 59/14 92/5 92/10 101/16 105/15 108/13 109/22 110/4 110/6 121/3 122/18 129/3 131/21 139/17 150/19 151/3 170/1 170/2 201/2 204/10
2019 [6] 11/1 12/12 19/13 83/4 148/5 186/4
2020/21 [1] 101/16
2021 [3] 122/1 123/22 179/5
2024 [6] 1/1 13/8 13/12 96/23 131/23 206/1
21 [3] 101/16 131/23 133/3
21 November [1] 87/3
21 November 2019 [2] 12/12 186/4
218 [1] 39/15
21st Century [1] 138/15
23 [1] 106/19
25 [2] 1/25 117/13
25 year [1] 128/4
25 years [1] 127/20
250 [1] 101/9
254 years [1] 131/8
26 [3] 35/16 106/19 133/11
26 June [1] 47/16
27 [1] 139/15
28 [1] 135/19
28 years [2] 17/17 20/20
283 [1] 73/11
29 [1] 119/10
29 November 2018 [3] 4/11 4/19 5/23

3

3.02 pm [1] 151/16
3.15 [1] 151/15

3

3.15 pm [1] 151/18
3.17 [1] 133/3
3.18 [2] 113/8 115/22
3.27 [1] 133/11
3.38 [1] 119/12
3.39 [1] 121/21
3.40 [1] 122/20
3.41 [2] 123/12 124/13
3.42 [1] 111/24
3.44 [1] 143/1
3.45 [2] 143/1 143/3
3.46 [1] 145/10
3.50 [1] 147/6
3.57 [1] 148/6
3.58 [2] 149/21 150/18
30 [1] 137/16
30 day [2] 165/1 165/6
30 days [1] 165/1
30 June [5] 33/18 42/11 42/15 103/24 203/15
30 June 2018 [1] 204/10
30 October [2] 106/19 144/10
30 October 2024 [1] 131/23
303 [1] 156/19
31 [1] 111/24
32 [3] 77/2 141/8 143/2
33 [2] 65/11 147/5
34 [4] 40/3 57/20 61/9 148/5
35 [3] 51/12 149/21 150/18
36 [2] 30/24 31/22
361 [1] 46/5
37 [3] 155/22 156/3 158/1
38 [1] 156/15
39 [1] 5/20

4

4 inches [1] 117/17
4 March 2018 [1] 139/17
4 September 2018 [1] 59/14
4.10 [1] 156/16
4.22 [1] 167/23
4.26 [1] 170/10
4.27 [1] 134/2
4.28 pm [1] 205/24
4.32 [1] 174/14
4.40 [1] 177/15
4.41 [1] 177/23
4.44 [1] 170/24
4.53 [1] 188/15
41 [1] 161/17
43 [1] 9/20
44 [1] 167/23
44 years [1] 38/8
4496 [1] 186/4
46 [1] 170/10
47 [1] 134/1
48 [1] 174/14

5

5 minutes [1] 168/11
5 November 2024 [1] 1/1
5.25 [1] 190/16
5.26 [1] 193/4
5.28 [1] 194/23
5.30 [1] 195/20
5.34 [1] 199/23
50 [3] 47/8 177/22 177/23
50 per cent [3] 63/18 63/19 64/22
51 [1] 177/15
52 [1] 170/24
52 years [1] 131/15
5227 [2] 4/16 39/13
525 [1] 90/18
53 [1] 188/15
56 [1] 188/14
58 [1] 190/9
5818 [1] 16/9
59 [1] 190/9

6

6 November 2024 [1] 206/1
6.2 [3] 129/20 130/1 130/24
6.5 [1] 108/21
6.8 [1] 164/21
60 [1] 190/10
600 [1] 143/13
608 [1] 141/2
65 [1] 190/10
66 [1] 191/25
67 [3] 28/13 59/11 190/16
671 [2] 140/12 140/17
68 [2] 193/4 194/23
69 [1] 195/20

7

7 January 2017 [1] 109/18
7-minute [2] 136/25 141/17
7/7 [1] 102/20
70 [1] 199/22
72 [3] 129/21 130/1 130/24
75 [1] 108/22
77 [3] 182/20 182/24 183/12
7710 [1] 192/21
79 [2] 164/21 186/5

8

81 [1] 200/19
82 [1] 96/25
83 [1] 98/3
85 [1] 196/5
89 pages [1] 96/20

9

9 July 2024 [1] 13/12
90th [7] 136/18 137/6 141/18 142/2 157/3 189/3 192/22
97 [1] 144/10
999 [15] 101/4 135/20 135/20 137/24 140/2 141/11 141/14 155/24 156/8 156/25 158/9 188/20 188/23 192/2 192/3

A

abbreviate [1] 51/24
aberrant [1] 163/14
ability [4] 160/20 175/11 182/2 193/23
able [17] 1/20 5/17 15/24 25/8 29/3 34/17 60/4 67/19 102/19 107/5 122/17 132/21 134/14 155/18 160/25 164/22 193/12
abnormal [5] 158/14 162/21 163/14 180/5 188/3
abnormity [1] 149/24
about [140] 2/4 2/14 4/7 6/15 8/8 13/25 16/3 16/5 16/20 18/6 18/8 19/22 19/24 21/2 22/5 23/13 23/13 26/1 26/2 30/3 31/12 32/7 32/25 33/2 33/12 33/22 38/15 40/7 41/21 42/2 43/13 45/5 48/8 48/22 49/14 50/12 51/2 51/21 52/7 52/17 52/20 53/13 55/6 55/22 57/17 58/7 59/12 61/5 62/6 62/7 64/5 65/15 68/6 69/10 71/6 73/7 73/22 74/1 75/23 76/18 77/13 78/6 79/4 79/24 80/9 80/17 82/20 82/24 83/1 83/11 83/16 84/18 85/8 85/10 85/12 85/13 85/14 85/17 85/17 85/21 87/10 88/7 92/4 93/1 93/17 93/20 94/2 99/24 101/16 104/11 110/10 110/11 112/8 114/8 120/12 126/3 129/11 130/3 130/13 130/24 133/2 134/2 140/5 141/20 142/15 143/23 145/14 152/3 152/5 152/10 152/19 154/10 154/17 154/21 154/21 155/7 155/19 158/6 162/9 171/7 173/15 175/22 177/16 179/23 180/18 184/24 185/9 186/14 187/14 190/14 190/22 192/15 193/8 193/10 194/1 195/15 196/13 197/5 204/15 204/19
above [5] 37/14 54/17 118/13 119/1 131/1
absence [7] 22/19 88/15 158/10 158/10 160/5 162/18 164/4
absent [1] 160/5
absolutely [21] 4/9 7/10 8/1 15/24 18/1 33/7 56/3 91/15 107/18 112/14 121/12 125/25 131/18 152/17 154/7 167/19 168/25 178/11 181/9 199/21 204/3
absorbed [3] 63/9 114/3 185/24
absorption [3] 129/18 185/17 186/11
abuse [3] 39/9 121/14 123/1
academic [1] 102/2
access [10] 9/12 22/8 49/12 50/21 50/22 62/8 82/15 161/2 168/12 195/3

A

accessible [2] 64/6 75/1
accidental [2] 127/11 145/4
accidentally [1] 143/15
accompanying [1] 24/18
accord [1] 131/17
accorded [1] 196/23
according [2] 107/20 157/25
account [8] 22/12 78/12 183/17 183/21 184/3 198/5 203/24 204/3
accreditation [1] 20/17
accredited [1] 20/14
accumulation [1] 79/8
accumulations [1] 79/2
accurate [4] 29/8 32/10 115/5 115/7
accurately [2] 42/1 160/11
acetylcholine [13] 53/7 54/2 54/6 54/15 54/18 54/21 54/25 55/10 56/17 56/19 80/18 94/22 115/3
acetylcholinesterase [20] 33/25 50/13 50/17 50/22 51/2 51/5 51/19 52/4 52/20 52/24 53/7 53/17 54/2 55/9 56/12 56/16 56/25 57/4 57/10 80/18
achieve [2] 6/6 137/2
achieved [3] 90/6 165/22 168/12
achieving [1] 142/4
acquired [1] 53/12
acronym [1] 52/7
across [6] 76/4 106/11 136/24 155/10 163/11 165/14
act [1] 23/23
acting [1] 196/19
action [15] 40/15 49/4 64/13 64/20 73/24 74/15 74/16 74/24 75/8 80/3 81/12 115/3 137/22 142/10 197/1
actions [1] 193/14
active [2] 9/8 17/24
actively [1] 176/9
activity [9] 71/24 113/20 163/17 163/18 163/24 164/1 164/4 164/14 168/7
acts [2] 53/8 110/20
actual [4] 8/23 29/22 29/25 35/3
actually [40] 20/5 34/9 45/11 57/8 69/23 75/2 85/19 85/25 86/5 86/14 86/17 86/20 90/21 91/2 91/10 91/13 111/19 119/5 135/4 135/4 137/11 140/14 143/18 144/20 144/23 146/19 153/13 154/9 154/11 155/4 155/8 159/10 162/24 165/16 171/13 171/14 179/14 183/9 187/25 205/4
acute [2] 44/20 100/16
add [6] 64/16 120/15 147/17 149/9 190/2 201/24
added [3] 78/23 80/4 124/4
adding [1] 15/19
addition [3] 101/3 122/24 127/15
additional [9] 14/11 63/7 100/12 106/6 107/4 107/25 154/13 182/3 182/3
address [9] 10/19 11/12 14/13 14/14 61/18 149/21 160/15 180/15 186/5
addressed [1] 104/9
addressing [3] 11/21 83/8 85/7
adduce [1] 15/16
adduced [2] 98/8 190/11
adept [1] 193/21
adjourned [1] 205/25
administer [14] 111/6 116/13 116/15 123/10 142/21 143/23 144/1 145/12 168/17 168/25 170/25 171/11 171/25 179/11
administered [24] 110/12 111/1 113/23 113/25 115/24 120/4 142/23 143/11 143/17 145/19 154/25 168/11 168/22 170/14 176/6 177/10 178/4 184/21 185/10 185/20 186/7 194/24 195/2 195/3
administering [6] 85/8 144/13 171/14 187/24 188/1 194/25
administration [12] 85/14 94/13 111/2 111/16 112/9 114/4 145/4 170/19 180/15 184/19 187/14 195/6
admission [3] 68/6 68/6 71/23
adrenaline [26] 84/16 86/14 116/16 167/12 167/22 167/25 168/3 168/11 168/17 168/19 169/1 169/4 169/5 169/10 169/12 169/14 169/20 170/5 174/9 179/11 187/16 187/19 188/1 188/4 188/5 189/23
adult [2] 90/1 117/17
adults [6] 19/3 19/18 64/22 165/15 165/16 174/20
advance [3] 130/9 168/20 169/13
advanced [19] 19/4 19/6 19/18 19/20 90/2 98/23 99/20 102/13 106/8 106/14 166/13 178/2 178/8 178/13 178/22 178/23 178/24 179/3 179/8
advantage [1] 154/4
adverse [3] 75/2 83/25 84/5
advice [2] 44/12 153/6
advise [3] 7/24 161/24 191/22
advisor [1] 101/11
affected [4] 60/6 72/10 76/5 85/15
affecting [1] 74/2
after [23] 2/19 10/18 10/20 11/1 26/6 48/5 62/2 66/9 71/23 85/9 87/19 91/4 92/10 100/16 130/2 152/1 152/9 161/11 168/13 168/17 175/21 189/2 192/21
afternoon [3] 26/6 95/13 96/3
afterwards [2] 68/12 68/18
again [26] 8/8 11/7 12/13 12/15 13/25 23/2 39/13 53/10 68/22 106/12 114/11 114/12 117/4 121/18 123/22 142/3 142/20 150/3 152/4 152/4 172/12 177/3 184/8 199/15 200/19 204/25
against [3] 54/8 55/4 201/11
age [3] 38/9 68/2 148/12
agency [1] 190/20
agent [52] 13/3 32/18 36/9 53/6 58/1 62/5 63/8 81/9 89/3 89/6 89/8 89/14 89/25 90/8 94/12 94/24 108/25 109/7 115/10 123/14 123/15 124/18 124/20 127/11 127/17 128/20 128/25 129/10 143/16 151/5 152/1 152/6 175/24 176/1 180/18 182/22 183/5 183/16 183/19 184/6 184/12 184/14 184/20 185/19 186/7 189/11 189/14 189/15 194/18 196/18 199/5 201/5
agent's [1] 55/19
agents [5] 81/12 87/19 109/4 155/15 172/10
aging [1] 95/1

A

ago [6] 8/15 43/12 78/19 92/4 202/17 203/13
agree [17] 34/6 44/7 55/25 61/5 64/15 82/1 92/15 118/3 121/11 121/18 132/11 132/13 132/21 184/25 186/2 186/18 189/19
agreed [3] 29/16 79/25 80/13
aid [6] 102/11 102/12 118/9 134/24 145/22 190/18
aids [1] 117/18
aim [1] 167/8
aimed [1] 153/8
aims [3] 118/14 168/5 168/7
air [16] 105/22 106/1 106/4 106/5 106/5 106/7 106/17 106/25 107/1 107/12 107/16 118/13 118/14 166/5 167/1 173/14
airway [19] 117/9 117/9 117/15 117/16 117/22 118/1 118/3 118/4 118/8 118/11 118/11 118/25 119/3 146/19 150/1 150/1 174/21 175/3 181/11
airways [1] 178/22
albeit [11] 5/18 5/22 61/11 78/22 124/21 145/8 146/20 149/6 150/1 199/7 201/10
alcohol [1] 113/10
alerted [2] 15/3 181/25
algorithm [4] 86/2 86/11 124/3 154/14
Alison [1] 134/23
alive [5] 45/15 45/21 89/2 93/17 132/1
all [98] 5/5 5/21 6/10 8/10 9/11 10/2 10/6 10/9 10/17 14/6 14/24 15/16 15/23 17/2 18/10 19/7 19/24 21/5 21/17 24/9 24/10 26/15 28/7 31/24 33/17 37/16 40/19 43/18 44/6 46/6 46/22 50/17 51/2 53/16 55/22 57/22 63/6 68/10 74/13 76/17 81/3 82/18 83/2 88/5 89/10 90/24 91/6 92/10 92/12 92/21 93/19 94/19 95/6 97/1 98/14 100/8 102/10 103/5 104/12 104/20 104/25 107/19 109/21 117/9 119/11 125/7 125/22 126/22 126/23 128/25 129/12 130/8 130/12 135/14 137/3 141/22 142/8 147/18 149/23 161/14 161/15 161/19 162/3 164/6 164/25 182/6 185/3 185/4 185/5 190/3 197/16 198/15 198/23 199/12 199/15 202/9 204/15 205/17
allegation [1] 21/20
allergic [1] 116/17
allocated [2] 140/19 156/19
allow [7] 1/17 4/1 5/3 146/5 163/5 163/14 174/19
allowed [2] 28/5 30/11
allows [3] 3/20 186/19 195/23
almost [1] 10/9
alone [1] 151/4
along [1] 149/23
already [20] 7/15 11/10 18/10 19/11 21/2 24/4 26/3 70/15 79/24 83/5 85/5 86/20 89/16 89/22 123/9 134/20 142/18 153/15 180/21 186/21
als [2] 166/12 189/6
also [84] 4/5 5/11 17/11 17/16 17/19 18/5 33/1 39/19 44/18 46/14 50/10 50/13 50/18 50/23 52/12 53/6 53/8 56/9 56/22 56/23 62/9 62/12 62/19 62/22 67/7 69/24 83/9 87/11 90/7 98/22 99/3 99/19 99/20 100/6 100/6 101/14 101/17 101/23 103/19 104/3 107/10 115/12 116/9 118/23 120/15 121/6 123/24 125/1 125/9 125/14 126/9 126/21 126/22 134/1 134/23 135/9 136/13 143/14 144/21 146/7 146/21 150/8 152/7 152/23 156/1 159/5 161/23 162/10 165/12 168/6 168/13 169/7 170/20 171/20 177/10 181/12 186/9 195/1 199/19 200/3 202/24 203/4 203/7 203/10
altered [1] 123/20
alternative [3] 114/4 148/8 200/14
alternatives [2] 148/3 195/2
although [27] 1/18 3/9 9/13 11/13 18/19 40/12 48/15 58/20 59/2 62/24 69/13 75/18 79/7 79/12 80/20 81/16 81/18 84/13 94/20 104/12 118/17 139/19 143/16 160/21 170/3 171/18 183/18
altogether [1] 125/11
always [10] 8/20 9/5 23/7 82/13 139/25 144/11 144/12 144/14 187/16 198/16
am [34] 1/2 15/15 16/18 18/1 18/25 28/17 40/13 49/20 50/3 50/5 61/24 73/19 75/18 79/7 80/1 80/25 99/4 99/22 100/19 101/20 103/22 123/6 124/1 147/14 176/25 189/4 189/7 189/12 189/23 189/24 200/4 201/20 204/1 205/25
ambulance [100] 18/9 18/20 18/22 19/1 92/20 92/21 99/8 100/17 101/12 101/18 101/21 102/23 103/7 103/19 104/12 104/16 104/20 104/22 105/2 105/19 105/22 106/5 106/18 107/2 107/11 107/16 107/24 108/2 108/3 108/5 108/8 109/21 109/24 113/4 113/16 114/23 122/24 127/12 127/13 127/16 129/8 130/8 133/14 136/21 136/21 136/24 137/2 137/19 139/22 142/3 142/25 143/12 144/12 144/24 145/15 145/20 146/8 146/13 147/12 148/15 154/8 155/2 155/11 156/4 160/7 161/10 162/7 162/9 165/4 166/5 166/23 167/1 173/14 174/12 175/17 176/2 177/2 180/14 182/16 183/2 183/13 184/13 188/20 189/12 190/20 191/9 192/20 193/16 196/9 196/11 196/24 198/20 199/10 199/17 200/6 200/10 200/14 200/15 203/17 203/20
ambulance service [23] 18/9 18/20 18/22 19/1 102/23 103/19 114/23 127/12 130/8 136/21 136/24 137/2 137/19 142/3 143/12 155/2 155/11 162/7 162/9 177/2

A

ambulance service... [3] 188/20 203/17 203/20
Ambulance Services [1] 92/21
ambulances [10] 100/4 100/6 100/7 106/1 106/4 106/6 106/7 107/12 185/3 185/4
amenable [2] 163/10 164/15
amendment [3] 14/8 15/1 15/4
amendments [1] 14/22
Amesbury [3] 124/8 153/18 184/5
amongst [2] 17/3 46/11
amount [8] 32/20 32/21 43/14 53/10 56/16 64/21 71/1 72/22
ampoule [4] 143/13 144/16 144/17 144/20
ampoules [1] 143/9
anaesthetics [2] 19/6 119/22
analgesics [1] 119/12
analyse [1] 179/8
analysis [13] 15/22 29/6 46/24 57/25 59/20 59/20 60/5 60/12 60/23 61/10 76/19 78/17 91/18
analytical [1] 60/4
anaphylactic [1] 116/17
anecdotally [1] 130/3
animal [1] 63/19
annex [1] 1/20
annexes [1] 28/12
another [21] 10/15 12/9 12/23 23/20 23/22 30/10 32/6 49/15 52/14 64/2 64/10 72/24 75/25 76/13 90/21 107/9 121/13 154/9 167/10 176/18 204/23
anoxia [1] 159/19
answer [10] 7/23 12/4 22/21 23/1 23/10 27/10 30/13 67/6 155/18 204/2
answered [1] 87/7
answers [2] 201/22 203/12
antagonist [1] 110/16
ante [1] 57/24
ante and [1] 57/24
anti [1] 176/4
anti-secretion [1] 176/4
anticholinergic [1] 115/1
anticipated [1] 21/15
antidote [1] 110/21
antiseizure [3] 113/4 113/5 113/20
anxious [1] 113/10
any [73] 6/11 6/25 6/25 7/1 7/5 11/11 11/11 11/13 19/2 19/4 22/19 29/25 32/2 37/1 38/20 39/10 40/13 41/2 43/8 45/2 46/25 48/11 48/18 49/3 50/10 55/17 57/13 58/22 62/13 65/2 66/2 70/18 77/11 80/1 86/8 86/24 88/15 93/15 93/23 94/3 94/5 94/6 94/6 94/16 95/3 106/7 133/16 140/5 144/1 147/15 148/8 148/8 154/18 155/2 161/3 161/6 164/4 176/22 182/20 182/21 183/13 183/13 183/14 188/10 188/17 189/4 189/24 190/20 201/15 202/3 202/6 204/8 205/9
anybody [1] 117/4
anyone [6] 104/15 116/12 116/13 116/24 171/14 201/14
anything [16] 9/13 9/16 9/16 22/5 32/1 36/14 38/22 68/14 85/25 92/23 147/17 188/18 190/1 200/21 201/24 205/11
Anyway [1] 44/3
anywhere [1] 155/14
aorta [3] 37/14 38/1 38/4
apologise [2] 91/15 201/14
apparent [2] 20/2 37/18
appear [3] 9/22 53/3 124/13
appearance [3] 148/12 148/18 148/22
appeared [4] 34/7 36/15 53/9 54/8
appears [5] 7/14 81/9 88/6 192/10 192/12
appended [1] 58/5
appendices [2] 35/23 59/10
appendix [2] 178/25 196/4
appendix 1 [1] 178/25
appendix 2 [1] 196/4
application [1] 62/5
applied [4] 62/15 93/13 155/3 196/9
apply [5] 89/17 152/14 163/10 196/12 204/23
applying [2] 62/18 88/23
appointments [1] 17/4
approach [7] 21/16 22/10 23/2 23/6 23/8 190/24 191/1
appropriate [30] 18/24 19/13 19/21 26/25 27/6 35/10 52/11 57/14 57/14 84/6 88/16 89/7 90/10 112/13 139/4 142/11 157/14 160/1 168/20 168/25 175/13 177/8 177/8 177/11 178/3 189/20 191/8 202/22 203/4 203/10
appropriately [5] 23/19 178/6 192/4 192/4 194/19
appropriateness [4] 85/8 87/12 157/12 177/24
approved [1] 105/16
approximately [2] 101/7 101/13
are [217]
area [15] 18/11 72/4 72/9 72/12 72/15 72/17 75/24 75/25 75/25 76/5 100/20 100/21 122/25 195/10 201/2
areas [12] 72/17 72/24 73/5 76/20 81/22 100/22 131/15 155/14 166/1 194/21 194/22 195/5
aren't [2] 130/15 131/25
argue [1] 85/21
arise [1] 10/13
arisen [1] 191/3
arises [1] 203/14
arising [1] 204/11
arose [1] 203/14
around [13] 35/5 35/6 56/6 100/22 101/9 129/14 130/6 160/4 171/4 175/1 180/9 196/12 198/24
arrest [123] 11/22 19/3 19/3 34/12 34/16 34/18 36/8 38/16 39/7 39/8 45/8 47/2 68/11 68/15 68/16 69/5 70/12 70/16 71/7 72/25 74/7 74/11 74/20 75/6 78/21 81/7 81/15 81/15 82/3 83/9 83/23 84/4 84/9 84/24 85/5 85/10 86/1 86/22 88/13 88/17 88/21 89/4 89/16 89/22 91/2 91/24 92/18 94/8 101/8 101/25 102/4 103/24 134/9 134/12 134/15 142/15 142/16 157/21 157/22 157/23 157/24 158/4 158/18 158/22 159/3 159/6 159/11 159/20 159/22 161/11 161/16 162/15 164/13 167/7 167/12 167/23 169/10 169/12 169/22 170/5 171/1 171/4 171/12 172/4 172/6 172/9 173/3 174/7 174/22 175/2 175/13 177/17 177/20 177/21 178/1 178/23 179/24 180/3 181/7 181/12

A

arrest... [23] 181/15 181/17 181/23 182/2 182/9 182/15 183/6 183/7 184/15 184/22 184/25 185/7 185/12 185/14 186/23 188/3 188/22 189/5 189/20 189/22 195/13 195/14 199/9
arrests [5] 164/6 164/11 164/25 169/2 181/18
arrhythmias [1] 93/9
arrival [1] 177/21
arrive [1] 89/12
arrived [14] 84/3 89/1 89/17 89/21 140/23 141/6 161/11 177/17 178/9 178/12 181/22 189/1 192/21 199/10
arriving [2] 70/18 141/14
arteries [5] 34/23 37/15 37/21 37/23 38/19
artery [2] 37/16 37/17
artificial [3] 173/21 174/19 178/18
as [261]
ASB [1] 105/23
ask [46] 2/14 15/16 16/2 16/16 16/20 18/6 19/24 25/25 28/11 38/14 49/21 50/12 52/17 73/7 76/18 76/25 82/9 82/19 82/25 86/25 93/19 96/5 96/20 104/11 108/22 110/10 113/13 120/11 130/2 133/1 148/9 149/19 151/12 158/15 161/15 167/16 175/22 180/16 180/17 188/16 199/2 200/20 202/7 202/12 202/14 205/2
asked [31] 10/19 11/4 11/9 11/12 11/25 12/8 12/23 14/14 21/2 21/11 21/24 35/20 49/20 80/9 83/11 85/12 94/2 103/17 106/16 108/9 128/18 130/6 130/9 130/20 131/4 131/9 131/13 138/14 142/9 143/22 143/24
asking [2] 2/4 16/5
aspect [1] 28/2
aspects [4] 16/2 36/7 150/12 195/22
assassination [1] 121/16
assault [1] 81/5
assertion [1] 6/24
assess [5] 54/21 179/9 190/20 190/21 193/24
assessed [2] 57/2 194/15
assessment [13] 55/2 101/24 142/19 145/21 148/13 148/16 148/21 148/22 190/19 194/12 194/15 203/9 203/20
assessments [1] 152/20
asset [1] 107/4
assigned [7] 136/14 137/16 140/10 140/13 140/19 141/4 141/12
assist [8] 19/1 19/9 20/14 21/24 22/1 52/15 89/8 164/22
assistance [5] 6/7 84/3 107/3 117/8 142/17
assistant [1] 19/5
assistants [1] 104/25
assisted [4] 18/20 86/3 119/20 194/2
assisting [2] 18/22 115/8
associate [3] 99/7 104/22 105/2
associated [5] 20/24 74/11 75/16 177/20 188/5
Association [2] 108/3 108/7
assume [2] 29/17 139/10
assumed [1] 59/5
assuming [2] 52/24 63/1
assurance [2] 101/1 101/4
asystole [18] 164/3 164/6 164/8 164/10 164/12 164/14 164/18 164/23 165/2 165/3 165/4 165/15 165/16 166/12 167/9 167/9 177/18 177/19
asystolic [1] 81/15
atheroma [2] 37/19 38/2
atmospheric [2] 62/20 129/15
atropine [44] 11/21 12/1 13/2 15/7 19/14 82/24 83/8 83/13 83/23 84/6 84/14 84/15 84/20 85/3 85/8 85/14 85/22 85/25 86/1 86/4 86/8 87/11 90/3 90/9 93/20 94/3 94/19 114/16 114/19 116/22 142/24 143/5 143/11 144/18 169/20 169/21 170/3 187/11 187/24 188/4 189/18 189/22 195/3 195/21
attachment [1] 178/20
attack [2] 23/4 36/23
attacks [1] 100/19
attempt [3] 16/1 89/7 121/16
attempted [1] 196/11
attempting [2] 51/4 180/14
attempts [1] 48/21
attend [2] 128/19 169/3
attendance [3] 137/23 177/25 182/23
attended [9] 59/18 101/8 106/17 118/1 133/5 173/15 195/25 196/16 199/18
attending [10] 29/1 96/17 102/17 142/9 156/13 156/18 158/4 170/21 193/6 196/10
attributable [1] 68/10
attribute [2] 76/15 79/11
attributed [1] 75/19
attributing [1] 75/8
August [2] 28/24 96/23
authoritative [1] 43/8
authorities [1] 60/7
authors [1] 101/17
auto [10] 87/9 87/18 87/22 88/2 88/6 88/12 88/20 89/1 89/6 116/16
auto-injector [6] 87/18 87/22 88/12 88/20 89/6 116/16
auto-injectors [4] 87/9 88/2 88/6 89/1
automatic [4] 161/23 162/6 162/7 162/12
autopsies [2] 20/23 28/5
autopsy [52] 2/7 2/19 2/24 7/17 7/22 9/9 9/11 19/24 21/11 22/18 23/4 23/21 23/24 24/6 24/14 24/16 24/21 24/22 25/22 26/1 26/12 26/17 27/16 27/18 27/23 28/3 28/16 29/1 29/9 29/11 30/8 30/10 31/1 31/13 31/21 32/7 32/15 34/18 51/6 52/9 58/3 58/14 58/24 59/18 60/8 60/22 65/23 65/25 77/18 78/10 79/11 81/3
available [9] 2/1 2/2 2/13 9/25 64/4 120/9 143/7 144/24 182/17
average [6] 136/18 137/4 137/5 141/17 142/1 157/2
awards [1] 17/3
aware [22] 28/13 39/1 40/13 41/2 49/3 58/17 79/7 80/1 109/22 109/25 110/3 120/19 120/21 121/4 128/22 129/1 129/1 129/2 129/4 131/11 172/13 201/20
awareness [3] 109/2 120/25 184/6
away [7] 30/3 60/22 133/23 156/20 183/19 183/22 199/16

B

back [51] 3/16 7/12 11/17 12/6 12/13 13/14 14/17 15/9 16/9 23/15 26/2 27/17 27/17 30/6 32/4 40/20 41/6 41/18 41/23 41/25 42/3 43/4 43/13 43/18 44/13 47/6 48/2 49/1 61/8 61/9 64/24 65/11 76/23 85/6 88/9 90/13 90/15 110/8 114/17 118/13 119/9 133/14 139/7 142/10 142/17 151/13 151/19 178/7 188/2 193/15 205/18

backdrop [1] 201/12

background [4] 13/22 16/12 69/6 198/1

backwards [1] 117/21

bag [5] 143/11 173/16 173/22 173/24 178/19

balance [1] 175/6

balancing [1] 200/13

basal [3] 75/15 75/17 75/24

base [1] 117/19

based [8] 63/15 148/21 148/22 165/8 192/13 193/8 197/25 203/8

baseline [1] 64/9

bash [1] 204/13

basic [6] 16/13 102/11 178/9 178/13 178/15 178/17

basically [7] 21/17 36/17 45/14 66/4 68/10 90/23 91/5

basis [1] 59/5

batch [2] 149/5 149/11

be [222]

Bearing [1] 187/9

beat [2] 71/3 204/13

beating [2] 162/19 162/24

beats [1] 163/23

because [65] 1/9 10/4 11/9 11/16 12/13 16/7 21/19 23/12 32/16 38/11 42/2 49/6 53/1 55/16 57/1 57/12 62/16 63/8 66/10 67/5 68/2 68/2 68/19 70/8 72/20 75/12 76/12 82/13 85/17 86/6 86/12 86/18 86/19 86/21 89/16 91/3 96/8 104/11 106/21 107/3 108/10 120/9 120/12 135/16 144/16 150/12 153/22 159/7 162/5 163/7 163/22 167/3 170/3 178/10 182/4 185/24 186/10 186/20 186/23 187/17 188/6 193/15 194/7 197/5 203/22

become [2] 66/8 134/5

becomes [6] 76/7 76/8 76/9 134/8 135/16 172/7

been [115] 2/25 9/5 9/18 11/24 12/1 12/17 14/14 16/17 21/23 24/8 26/22 29/16 31/5 31/12 32/3 33/23 34/16 34/19 39/2 39/3 39/8 40/12 42/11 44/11 45/6 45/7 45/15 45/21 45/22 46/11 47/1 48/21 50/10 50/23 55/7 58/20 61/16 62/1 62/3 64/14 66/23 74/19 80/17 81/8 81/10 83/7 83/11 83/13 84/6 84/21 85/12 89/5 90/7 90/20 94/1 94/5 94/6 94/14 94/19 94/20 94/21 94/21 102/24 109/4 109/22 110/3 111/10 120/9 120/25 124/4 126/20 139/25 143/19 145/7 146/11 147/13 147/20 148/16 148/18 149/10 153/10 154/18 159/23 159/23 165/19 166/21 167/2 168/21 168/22 169/17 171/15 173/19 176/5 177/1 183/18 184/4 184/13 184/15 184/21 185/23 185/24 186/6 186/7 186/10 186/12 188/9 189/9 192/15 193/13 195/21 197/16 200/5 200/12 200/25 201/10

before [37] 1/25 2/15 3/5 6/15 8/16 16/4 16/24 28/6 28/9 47/14 47/16 50/7 51/2 57/7 59/12 65/12 69/13 70/14 70/21 72/22 75/13 85/9 108/25 128/8 128/24 143/23 144/7 144/13 159/3 159/6 159/10 159/14 162/15 172/19 178/13 181/22 201/1

begin [2] 81/18 201/21

beginning [2] 90/13 167/22

behalf [2] 96/5 202/12

behind [1] 30/17

being [57] 5/17 20/12 21/17 21/21 30/7 35/1 35/19 35/20 36/1 41/2 41/22 46/11 47/19 71/6 75/7 76/15 79/7 79/11 79/13 79/17 91/25 104/17 109/7 110/12 112/11 114/25 120/8 123/2 127/25 132/23 134/7 135/13 137/15 140/13 141/12 141/25 145/17 145/18 156/20 157/21 157/22 157/23 157/23 160/8 160/9 160/10 160/16 165/24 172/17 172/20 173/5 173/16 174/6 184/24 190/22 195/5 204/22

belief [1] 14/25

believe [10] 19/21 20/6 107/4 153/3 153/21 165/16 170/8 184/23 192/3 204/12

belongs [5] 110/17 110/18 110/18 146/1 146/1

below [10] 7/14 11/22 26/5 54/18 81/25 83/14 88/2 88/24 97/18 158/17

Ben [2] 193/5 196/15

bench [1] 147/2

benchmark [3] 63/21 63/22 64/2

beneath [1] 58/10

benefit [6] 78/23 143/19 147/19 186/6 186/10 186/13

benefited [1] 189/18

benzo [2] 43/19 44/1

Benzodiazepines [1] 145/25

Beresford [1] 196/20

Beresford-Smith [1] 196/20

beside [1] 154/11

best [3] 14/24 27/10 201/17

better [2] 66/19 76/9

between [24] 8/11 41/2 65/22 66/12 66/12 66/13 70/17 86/22 101/13 116/2 124/19 125/7 127/6 137/6 152/5 152/16 153/18 172/3 182/11 184/4 198/8 198/23 199/3 203/7

beyond [3] 45/18 153/11 154/25

bias [4] 131/12 144/22 148/15 198/16

biased [1] 21/21

biasing [1] 148/21

big [1] 68/3

bigger [5] 134/5 140/11 140/16 141/1 179/19

binary [1] 57/8

binds [1] 53/16

biological [2] 26/24 102/15

biomedical [4] 28/23 29/4 60/5 60/12

Birmingham [8] 41/22 41/23 41/24 43/13 43/19 44/13 44/18

B

Birmingham... [1] 51/20
bit [17] 22/22 27/8 27/9 36/21 69/10 70/20 83/10 99/11 110/9 125/4 128/23 129/8 138/19 138/22 140/11 140/16 179/19
bits [2] 129/12 154/13
bled [1] 76/11
bleed [13] 67/15 68/5 68/21 69/5 72/2 72/4 72/12 73/5 75/17 75/18 76/7 78/21 172/17
bleeding [2] 94/10 172/21
bleeds [3] 125/20 163/20 181/19
blinded [1] 90/24
block [1] 89/7
blocks [5] 110/19 110/21 114/19 114/20 115/3
blood [22] 34/24 35/3 35/4 63/10 71/16 72/14 84/17 86/15 162/20 163/6 163/20 163/25 168/23 169/6 169/7 169/8 177/6 180/6 180/6 180/7 185/13 187/18
blow [1] 70/7
bluish [2] 122/6 122/7
body [26] 3/13 3/18 3/21 3/24 4/3 22/24 23/2 30/20 31/22 35/23 50/13 51/5 53/15 53/18 54/6 57/18 63/7 64/25 70/13 71/7 71/18 77/22 77/24 78/3 80/8 80/11
bold [1] 81/25
boluses [2] 168/25 169/4
bone [2] 111/5 111/6
books [1] 64/5
both [33] 4/17 4/19 6/19 42/24 46/14 47/19 48/4 48/9 61/11 64/5 67/1 71/16 72/9 76/1 87/11 97/22 102/23 104/2 105/9 120/2 157/2 163/8 168/17 169/5 169/12 172/15 187/19 188/4 188/5 188/6 192/22 194/16 198/8
bottom [30] 5/21 11/2 18/5 24/13 24/16 26/16 26/16 30/22 31/19 37/7 41/14 42/1 45/10 45/24 46/9 47/17 48/3 57/23 87/15 87/16 90/17 114/2 127/3 133/6 140/14 140/15 140/21 163/3 179/15 179/19
bought [2] 149/4 149/5
box [2] 1/19 93/3
brackets [1] 91/4
bradycardia [10] 33/19 71/11 74/11 85/20 85/22 85/24 86/6 90/7 143/6 187/13
bradycardic [5] 83/24 84/5 84/13 84/22 187/18
brain [59] 34/4 58/2 65/10 66/6 66/20 66/20 67/21 68/14 68/17 68/22 69/6 69/8 70/18 70/21 71/1 71/3 71/6 71/14 71/18 71/21 71/23 71/25 72/2 72/10 72/15 72/16 72/20 73/13 74/16 74/24 75/11 76/1 76/5 76/10 76/19 78/18 81/19 81/23 82/3 84/23 85/4 85/19 85/23 94/9 94/9 113/21 125/2 125/3 125/12 125/13 125/14 125/15 125/17 125/20 125/20 172/20 173/2 181/19 187/1
brain's [1] 65/23
branches [1] 37/14
brand [3] 112/18 118/23 170/20
break [11] 49/16 49/18 49/21 50/4 50/7 59/12 95/10 95/25 151/8 151/9 151/17
breath [1] 158/16
breathed [1] 62/23
breathing [16] 34/10 70/12 72/18 74/2 75/3 149/12 158/10 158/11 158/12 158/13 158/15 159/9 160/5 160/6 162/18 182/5
Bridge [2] 102/24 102/24
briefed [1] 59/23
briefly [18] 2/14 4/15 4/16 6/3 11/16 12/14 13/18 30/19 59/9 66/1 79/3 83/5 104/11 110/13 135/15 162/14 190/17 202/15
Brigade [1] 198/25
bring [2] 19/14 106/18
British [2] 60/6 61/5
broadly [2] 67/18 135/20
bronchorrhoea [2] 123/17 147/4
bronchospasm [1] 123/20
brought [3] 16/8 96/21 109/16
bubbly [1] 122/13
build [3] 54/25 94/22 160/16
build-up [1] 94/22
builds [1] 55/21
bullet [2] 93/2 126/2
Bulpitt [1] 142/23
burial [1] 3/21
busy [1] 127/21
bystanders [1] 201/7

C

calcification [1] 37/18
calculated [2] 137/8 141/10
calibre [1] 37/17
call [58] 19/8 103/7 106/25 107/2 136/7 136/12 137/8 137/12 137/14 137/16 137/18 137/21 137/24 138/2 138/3 139/7 139/16 139/19 139/21 139/22 139/23 139/23 139/25 140/12 140/14 141/2 141/11 141/13 141/14 153/9 155/24 156/2 156/4 156/8 156/11 156/19 156/25 157/5 157/21 158/9 158/19 159/15 160/9 188/20 188/23 188/25 189/2 192/2 192/3 192/6 192/11 192/13 192/19 192/20 192/22 192/23 193/9 193/11
called [13] 8/17 18/23 23/24 26/24 27/20 28/20 30/20 71/20 114/5 119/3 124/3 162/25 163/8
caller [6] 138/11 158/9 158/11 158/15 159/6 159/16
calls [17] 100/25 101/1 101/5 135/20 135/21 136/1 136/23 136/25 137/3 137/7 137/9 139/20 140/2 140/6 142/1 142/5 159/20
came [14] 25/10 41/6 41/25 42/3 43/13 43/18 44/13 46/25 50/24 57/2 134/24 158/6 165/18 194/17
can [163] 1/13 1/19 2/23 4/18 5/21 10/25 11/12 11/18 12/21 12/25 13/6 13/7 13/14 13/18 13/24 15/12 15/16 16/6 16/9 16/11 17/1 17/23 18/4 18/7 18/14 20/10 23/7 24/17 26/2 26/8 27/3 27/8 28/2 28/4 28/11 30/21 30/23 32/18 33/8 33/10 35/15 35/17 37/5 37/7 37/10 37/10 39/16 41/13 44/7 45/7 45/10 45/14 45/18 45/22

C

can... [109] 46/8 55/12 56/3 59/12 61/21 63/24 64/15 65/10 66/1 68/21 69/15 69/23 70/5 70/8 70/9 70/13 73/8 75/19 75/22 76/5 76/15 77/10 77/20 79/2 79/3 82/11 83/2 83/5 84/14 87/15 88/20 90/17 91/23 92/6 92/11 95/7 95/17 95/17 95/17 106/22 107/17 108/22 111/3 111/3 111/4 111/7 113/13 114/6 116/7 116/13 117/21 117/21 118/6 119/6 120/4 120/6 120/13 122/20 125/4 129/19 130/23 133/1 134/1 135/22 137/22 138/6 139/20 146/4 146/7 146/19 146/21 148/11 149/13 150/1 153/16 153/23 155/12 159/19 159/21 160/11 161/23 162/17 163/2 163/23 165/1 168/13 170/3 170/21 171/6 171/19 173/2 179/18 179/19 180/17 181/6 188/1 188/3 190/6 191/2 191/15 191/20 191/20 191/23 195/24 197/13 199/2 201/21 202/7 204/9

can't [10] 10/16 12/22 44/1 55/20 79/12 91/7 163/7 186/15 197/9 203/9

cannot [2] 183/13 197/22

cannula [1] 111/4

card [4] 138/10 138/13 138/14 138/19

cardiac [157] 11/22 19/2 19/3 33/18 34/6 34/11 34/15 34/16 34/18 35/2 35/6 35/12 35/17 36/13 38/16 39/7 39/8 45/8 47/2 68/10 68/15 68/16 69/5 71/7 74/11 74/20 75/5 78/11 78/21 81/7 81/15 81/18 82/3 83/9 84/4 84/9 84/24 85/5 85/9 86/1 88/13 88/17 88/21 89/16 91/2 91/24 92/18 93/1 93/13 94/8 100/13 101/8 101/25 102/4 103/24 122/10 122/15 134/9 134/12 134/15 142/16 157/21 157/22 157/22 157/24 158/3 158/17 158/22 159/2 159/6 159/11 159/20 159/22 161/11 161/15 161/16 161/20 161/21 161/22 162/15 162/16 163/17 163/18 164/2 164/4 164/6 164/11 164/13 164/17 164/25 166/1 167/7 167/12 167/23 168/6 168/6 168/14 168/24 169/1 169/2 169/3 169/7 169/10 169/12 169/21 170/5 171/1 171/2 171/4 171/12 172/4 172/9 173/3 174/7 174/22 175/2 175/13 177/16 177/20 177/20 177/25 178/22 179/9 179/24 180/3 180/8 181/6 181/12 181/15 181/17 181/18 181/23 182/2 182/8 182/15 183/6 183/7 184/15 184/22 184/25 185/7 185/12 185/14 185/16 186/23 187/4 187/5 187/6 188/3 188/7 188/22 189/5 189/19 189/22 195/13 195/14 199/9

cardio [1] 36/8

cardio-respiratory [1] 36/8

cardiorespiratory [10] 69/7 70/16 72/25 74/7 74/17 75/10 81/22 86/22 89/4 89/22

cardiovascular [2] 37/10 72/18

cards [1] 138/13

care [37] 99/1 99/21 100/3 100/5 100/17 101/15 103/19 103/20 104/19 104/24 104/25 105/3 105/24 106/13 106/21 107/4 111/15 120/5 127/20 131/5 131/20 132/2 132/11 133/4 133/13 145/12 147/8 150/22 171/21 175/5 176/7 176/8 189/25 194/12 195/22 200/24 201/3

career [9] 13/21 16/5 16/25 17/2 19/25 25/23 102/21 128/4 131/1

careers [1] 127/15

careful [5] 54/9 75/7 137/5 148/14 148/20

carefully [3] 52/25 54/16 148/6

carfentanyl [6] 119/17 121/6 121/8 121/11 121/15 121/17

carried [3] 143/10 176/1 176/6

carry [6] 106/21 106/23 176/7 185/3 185/4 185/5

cars [3] 100/4 100/6 100/7

case [44] 2/5 3/22 4/1 4/4 5/9 7/2 7/3 7/21 8/9 8/22 10/3 10/15 10/22 17/22 21/3 22/2 22/25 23/13 25/13 25/15 25/18 33/4 34/13 35/7 76/11 87/10 88/24 89/18 89/23 95/16 128/17 131/9 131/16 144/25 155/22 157/16 161/7 167/16 174/10 176/6 179/4 180/11 198/18 204/22

cases [11] 10/9 10/9 21/5 26/8 34/16 67/18 100/20 110/12 120/25 126/20 130/18

casting [1] 6/22

casualties [1] 139/7

catastrophic [1] 70/22

categorisation [1] 192/20

categorised [1] 188/24

category [15] 45/9 136/15 136/15 136/25 137/3 137/9 137/12 138/25 139/24 156/12 160/10 188/24 192/7 192/7 203/7

category 1 [3] 137/3 137/9 156/12

category 2 [1] 192/7

category 3 [1] 192/7

causation [3] 34/13 50/10 76/22

causative [3] 47/2 61/16 65/1

cause [31] 3/3 21/25 22/6 22/13 34/25 35/4 36/5 36/15 37/2 38/5 38/23 48/15 49/13 54/24 65/9 67/16 71/17 73/19 77/8 78/13 79/19 80/12 82/1 82/12 82/20 148/9 171/3 172/17 173/3 194/25 199/16

caused [19] 27/7 34/19 39/3 45/23 55/20 67/21 68/14 68/17 71/21 74/5 74/15 74/16 74/24 81/7 85/4 122/16 167/17 179/24 201/15

causes [6] 54/3 126/21 128/4 173/11 179/16 181/19

causing [1] 45/8

caution [7] 54/17 84/15 92/25 93/5

C

caution... [3] 93/8 93/13 191/1
Cautions [1] 93/4
cautious [2] 27/12 191/11
caveat [3] 165/7 196/24 204/2
cavities [2] 79/3 79/6
CBRN [1] 26/25
cellular [1] 110/20
cent [5] 63/18 63/19 64/22 165/5 165/17
centile [5] 141/18 142/2 157/3 189/3 192/23
central [3] 115/4 150/5 154/4
centre [3] 100/9 126/18 133/23
centres [2] 69/7 72/19
Century [1] 138/15
cerebral [7] 74/6 74/14 74/18 74/19 74/25 159/19 187/8
certain [13] 14/7 14/13 20/16 40/22 45/5 104/18 113/21 115/9 116/6 116/7 158/17 167/19 203/4
certainly [14] 8/18 60/25 85/19 86/1 92/25 93/13 114/7 153/24 158/22 169/17 170/2 186/12 193/18 194/4
certificate [1] 98/25
cetera [1] 75/6
chair [2] 17/11 204/22
challenge [2] 9/17 111/16
challenging [3] 155/16 182/8 183/4
chambers [1] 163/3
chance [5] 66/13 92/13 97/25 97/25 143/16
chances [2] 85/13 85/15
change [10] 48/18 124/1 157/17 157/21 159/25 160/10 167/8 188/17 190/2 200/21
changed [3] 69/16 91/8 117/10
changes [6] 36/4 36/6 68/9 95/2 179/6 184/9
changing [1] 37/23
Channon [2] 193/5 196/15
characteristic [1] 123/15
Charles [4] 60/14 96/6 96/13 207/5
Charlie [22] 89/11 103/20 104/4 112/25 114/13 115/20 159/16 172/18 182/12 182/15 190/5 190/9 191/12 191/24 193/6 194/8 194/13 195/25 196/10 199/3 199/6 199/7
check [12] 8/23 8/25 9/15 143/22 144/2 144/2 144/3 144/7 144/13 144/25 145/1 153/21
checked [3] 8/21 91/21 122/19
checking [2] 8/17 144/7
checks [1] 9/1
chemical [10] 27/21 58/21 59/3 59/24 60/5 60/15 64/3 102/15 153/6 203/23
chemical' [2] 58/19 59/3
chest [4] 163/11 177/5 178/17 187/6
Chief [3] 108/3 108/8 139/14
Chief Executives [1] 108/8
children [2] 19/3 165/15
chlopidogrel [1] 44/19
choice [1] 162/8
cholinergic [3] 54/3 73/23 150/22
choose [1] 204/19
chords [2] 118/15 174/18
chosen [1] 54/16
chronic [3] 36/4 36/21 44/20
chronological [1] 2/16
ciphered [1] 12/17
circled [2] 72/8 75/24
circulated [3] 152/23 153/12 153/19
circulating [1] 180/4
circulation [9] 33/19 65/21 71/10 84/12 90/5 165/22 166/18 168/4 185/12
circumstance [2] 150/23 183/24
circumstances [19] 20/23 25/24 48/17 54/12 73/13 76/6 77/18 79/10 93/5 112/7 116/7 139/4 142/22 146/12 152/14 181/7 181/10 202/25 203/5
cite [1] 128/16
cited [1] 29/9
civil [2] 6/19 97/22
clarify [2] 150/15 204/3
classic [3] 150/6 150/7 182/6
classical [1] 183/1
classroom [1] 155/6
clear [10] 9/7 23/11 31/4 52/6 55/5 71/5 73/22 97/3 141/9 189/11
clearance [1] 5/1
clearly [5] 100/21 138/14 156/2 185/12 197/2
clinical [55] 33/4 39/15 48/12 49/10 50/19 61/24 66/24 67/12 77/13 80/25 89/8 99/7 99/12 99/16 99/16 99/25 100/18 101/11 101/14 101/18 101/22 102/2 107/20 107/21 108/6 109/18 119/21 119/25 123/13 134/19 135/1 142/6 142/7 143/19 146/8 148/13 148/15 152/13 152/19 153/3 176/23 177/14 187/21 189/10 189/25 190/19 193/10 194/12 194/20 196/1 197/18 197/25 198/1 198/15 198/20
clinically [4] 137/14 197/6 197/6 201/14
clinician [10] 99/23 105/20 121/14 144/24 146/8 162/8 165/4 183/14 191/9 192/11
clinicians [34] 104/20 105/9 109/21 109/25 110/3 122/24 127/14 127/16 131/14 135/25 144/12 145/15 145/20 147/13 148/15 154/8 154/10 155/2 160/7 162/10 180/14 182/16 183/2 184/13 189/13 190/20 193/16 195/25 196/11 197/22 198/20 199/10 199/18 200/14
clock [8] 137/11 137/11 137/12 137/19 137/19 156/14 156/21 189/2
close [3] 124/23 161/3 191/18
clot [1] 35/4
clots [1] 180/6
clue [1] 182/10
clues [2] 189/10 199/17
cocaine [7] 43/21 44/4 44/8 46/7 145/18 177/3 177/5
Cockcroft [3] 121/7 121/15 150/9
code [8] 138/5 138/8 138/16 138/17 139/3 157/6 157/6 157/16
coded [1] 137/15
codeine [1] 119/15
coding [3] 156/12 157/13 159/25
collaboration [1] 108/7
collapse [23] 33/12 33/17 37/2 37/24 40/14 42/17 47/17 48/10 48/13 48/15 49/4 49/13 67/13 67/21 80/2 81/4 103/24 104/3 128/2 128/4 155/21 172/17 195/1
collapsed [7] 49/7 67/19 112/4 158/20

C

collapsed... [3] 172/19 180/8 198/12
colleague [2] 144/3 144/4
colleagues [7] 128/16 130/7 130/9 130/21 131/4 131/10 131/11
collect [2] 28/23 29/3
collected [3] 29/10 42/11 60/6
College [3] 17/5 17/6 17/8
Colleges [3] 101/21 108/2 108/5
coloured [1] 122/6
column [1] 179/19
columns [1] 136/18
combination [1] 192/16
combined [1] 70/24
come [28] 4/17 6/2 10/17 11/17 12/6 12/13 14/17 15/9 16/20 21/25 32/4 40/20 47/6 55/5 59/17 64/14 90/15 110/8 112/24 114/13 114/17 138/1 151/13 151/19 152/3 155/20 182/13 205/18
comes [2] 11/14 72/1
comfortable [1] 193/20
coming [10] 1/16 41/23 55/23 88/18 95/22 122/14 126/15 163/2 181/13 183/11
command [1] 196/3
commend [1] 197/22
commendable [4] 191/8 193/9 194/15 194/20
commended [1] 196/2
comment [7] 48/19 104/1 134/2 148/11 188/17 194/22 205/3
commenting [1] 87/12
Comments [3] 11/23 77/4 83/10
commercially [1] 136/3
commissioned [1] 136/22
commissioning [1] 136/20
committee [5] 99/18 101/21 101/22 108/2 108/6
common [13] 112/7 112/8 112/15 112/17 119/2 127/9 128/19 129/22 166/24 171/20 173/5 180/3 181/9
commonest [2] 34/25 35/4
commonly [8] 46/18 47/10 47/23 47/25 63/22 79/10 163/12 173/12
communicate [1] 191/21
communication [1] 196/13
community [2] 18/23 201/8
compared [3] 53/9 149/19 173/5
comparing [2] 54/7 55/3
comparison [1] 65/4
competitively [1] 110/19
complained [1] 172/19
complaining [1] 135/4
complaint [1] 139/14
complete [2] 97/11 105/15
completed [1] 166/22
completely [14] 22/11 33/6 49/10 53/4 132/22 132/22 147/3 151/6 168/20 171/10 177/11 178/3 191/8 201/3
completeness [5] 105/6 119/3 167/7 177/10 187/10
completes [1] 14/18
complex [1] 30/15
compliance [1] 4/4
complication [2] 73/5 75/20
complications [1] 81/7
compressions [2] 178/18 187/6
compromise [1] 72/23
compulsory [1] 8/17
computers [1] 138/15
concealed [2] 5/23 64/14
concept [1] 163/16
concern [3] 149/2 195/15 197/4
concerned [1] 36/14
concerning [2] 24/22 57/24
concerns [1] 196/22
conclude [3] 34/17 150/18 177/16
concluded [1] 80/10
concludes [1] 151/7
concluding [1] 148/3
conclusion [25] 10/1 21/25 40/4 41/1 49/2 55/24 57/3 61/2 67/20 69/1 69/15 69/16 77/7 78/15 78/22 80/5 84/19 141/16 141/20 147/5 147/16 150/20 156/24 184/1 184/2
conclusions [23] 3/6 5/12 8/23 25/11 32/21 33/2 35/24 40/6 51/11 61/9 76/24 77/5 78/6 80/9 82/7 82/10 148/10 177/24 188/13 190/13 191/24 192/2 194/11
condition [6] 34/20 66/20 138/10 145/6 147/1 147/9
conditions [4] 125/2 125/11 152/16 163/24
condolences [1] 201/20
conduct [2] 7/16 57/8
conducted [14] 2/6 2/25 9/23 20/23 22/19 33/23 51/3 56/23 56/24 57/5 59/21 60/13 60/22 138/11
conducting [1] 163/21
confidence [1] 197/18
confident [2] 82/9 82/11
confine [1] 23/11
confined [1] 72/21
confirm [11] 91/20 97/3 97/8 97/14 97/16 103/4 109/14 110/13 138/6 179/2 179/20
confirmed [6] 58/19 71/22 158/4 158/25 159/4 161/12
conflict [2] 6/24 7/2
confronted [1] 197/14
confuse [1] 24/3
confusion [1] 154/12
conjunction [1] 108/3
connect [1] 137/16
connected [1] 25/14
connection [1] 41/2
connects [1] 72/15
conscious [3] 89/2 89/13 202/14
consciousness [6] 122/9 122/23 123/21 146/22 149/22 199/8
consented [1] 52/13
consequence [4] 1/22 54/1 63/3 74/25
consequences [2] 76/16 86/13
consequent [1] 68/8
consequently [1] 56/18
consider [30] 11/25 35/7 39/6 39/11 46/25 61/14 65/1 65/4 68/23 79/13 103/20 112/13 128/15 139/3 147/15 148/2 148/8 155/12 159/25 168/16 170/22 171/24 172/24 183/25 185/6 189/13 191/8 195/1 197/12 197/12
considerable [6] 124/15 124/18 124/25 125/25 127/6 180/22
considerably [1] 182/4
consideration [7] 3/2 41/15 50/12 147/7 170/14 179/16 187/10
considerations [1] 50/8
considered [16] 10/7 36/2 78/13 148/6 172/16 173/19 180/18 183/21 184/8 184/8 184/18 187/12 189/15 189/17 189/21 200/24
considering [5] 62/14 64/9 66/19 112/12 183/8
consistency [4] 65/23 66/8 66/17 106/12
consistent [11] 53/22 55/13 56/1

C

consistent... [8] 56/2 56/23 80/20 107/13 137/10 154/10 156/12 183/10
consistently [1] 155/3
constituted [1] 85/20
constricted [2] 112/5 124/20
constriction [1] 169/8
consultant [3] 99/8 121/7 131/20
consuming [2] 27/9 39/9
contain [1] 15/22
contained [3] 5/2 77/24 83/19
containing [1] 40/6
contains [1] 6/2
contaminatio n [4] 194/2 194/5 200/9 200/17
contemporan eous [1] 103/7
content [2] 15/13 154/1
contents [2] 8/24 153/14
context [4] 11/7 19/14 21/14 127/19
continual [4] 113/7 145/17 176/18 176/19
continue [2] 127/5 147/25
continued [5] 71/13 73/2 81/17 197/24 201/17
continuing [2] 71/18 121/20
continuous [2] 139/1 157/10
contraction [1] 166/2
contributed [1] 45/23
control [8] 52/13 52/16 53/9 53/10 54/8 54/23 100/8 192/11
controversial [2] 174/15 175/3
controversy [1] 174/25
convenient [3] 49/15 95/10 151/9
convictions [2] 196/17 197/19
convulsions [4] 122/10 123/21 126/25 139/14
Convulsions/f itting [1] 139/14
Coomber [1] 161/10
copy [1] 96/18
cord [1] 72/16
cordon [1] 200/5
cords [1] 118/13
core [1] 168/19
corner [3] 139/16 140/22 164/18
cornerstone [1] 107/22
coronary [5] 37/14 37/16 37/17 37/23 180/6
coroner [16] 3/20 4/1 4/22 5/3 7/15 7/25 8/12 11/4 11/14 13/16 21/6 21/24 22/2 25/5 25/6 82/14
coronial [1] 28/5
correct [74] 3/7 3/12 3/15 5/6 6/1 6/21 7/18 10/23 11/6 13/10 13/13 13/17 13/23 16/23 17/10 17/13 17/15 17/18 18/13 21/13 25/16 35/21 40/17 40/24 41/4 43/15 44/15 47/4 51/15 52/25 53/21 53/24 54/17 55/1 55/11 59/7 60/2 60/16 67/7 67/22 67/25 69/9 70/3 78/14 86/3 88/14 90/15 96/15 96/16 99/18 99/19 104/8 104/13 104/14 105/10 105/11 105/17 105/18 112/20 115/1 115/2 124/4 124/8 127/2 132/22 151/6 157/7 174/4 174/8 174/11 181/4 185/25 197/25 200/1
correction [1] 14/8
corrections [1] 14/22
correctly [1] 48/13
correspond [1] 163/18
correspondin g [1] 164/1
cotinine [2] 46/19 46/20
coughing [1] 122/13
could [135] 2/17 2/22 3/6 4/12 4/15 5/4 5/20 7/6 9/20 9/21 10/24 11/9 11/16 11/17 12/1 12/11 12/14 13/11 14/3 14/10 22/1 22/2 23/15 23/16 26/15 27/16 28/13 30/19 31/13 31/15 32/1 37/24 39/8 39/12 40/20 42/24 45/23 47/1 47/7 47/15 48/2 48/9 49/21 50/9 57/15 57/20 57/22 59/10 59/19 61/14 61/16 64/8 64/13 64/20 67/5 68/3 68/24 69/1 76/12 78/25 83/12 84/20 85/19 85/21 88/3 96/11 96/25 97/19 97/24 98/11 99/5 99/10 100/14 102/6 103/3 103/15 109/14 110/10 110/13 116/2 117/12 117/13 119/9 121/17 121/20 126/21 127/3 128/22 128/23 130/21 133/9 133/10 133/19 134/3 135/15 136/9 136/17 138/1 140/10 140/15 140/22 140/25 143/1 143/2 143/3 143/19 145/7 145/14 147/4 149/19 150/17 151/3 152/24 155/20 159/3 159/11 161/17 166/4 167/20 174/16 175/22 178/24 179/1 179/1 181/10 182/21 185/10 188/12 190/15 190/16 192/1 194/22 196/4 198/3 200/18
couldn't [1] 56/6
Council [5] 83/22 104/20 105/3 179/14 180/1
counsel [1] 151/15
count [1] 128/14
counter [2] 195/8 197/23
counting [1] 191/3
countries [1] 130/18
country [4] 28/15 104/24 130/16 131/15
couple [4] 2/4 40/18 92/3 202/15
coupled [1] 72/19
course [20] 2/24 14/18 17/24 29/10 32/5 49/17 49/23 56/9 77/24 84/25 89/15 129/25 135/16 145/3 183/8 183/18 197/24 204/21 205/3 205/19
court [6] 6/5 6/19 8/18 11/11 15/23 97/22
courtroom [1] 116/14
cover [1] 177/7
coverall [1] 193/24
covered [5] 93/24 95/1 95/1 109/8 169/10
covering [2] 92/10 135/8
covering June 2018 [1] 92/10
covers [1] 33/10
COVID [1] 193/19
Cox [1] 133/13
CPR [8] 12/2 74/10 81/16 83/13 84/10 84/12 171/4 178/15
CPS [1] 11/14
create [2] 162/19 163/7
CRESS [2] 124/3 154/14
crew [1] 167/1
crewed [1] 160/24
criminal [15] 6/12 6/19 8/3 8/18 11/8 11/15 20/24 20/24 21/15 22/2 22/20 23/1 23/5 25/7 97/22
critical [47] 8/17 19/2 34/7 85/3 99/21 100/3 100/5 101/15 105/24 106/13 106/21 123/6 131/5 133/4 133/13 141/22 145/1 145/11 147/14 168/22 170/25 171/13 174/16 175/5 175/9 175/10 175/14 176/7 178/11 183/5 183/25 184/10 184/11 185/18 185/20

C

critical... [12] 187/15 189/4 189/7 189/12 189/15 189/23 189/24 192/5 193/1 199/23 200/4 201/10
criticise [2] 161/7 183/13
criticism [15] 112/2 140/5 141/24 142/19 142/20 145/11 147/7 151/3 157/1 183/2 188/24 192/19 192/19 194/14 201/11
crossover [9] 124/15 124/18 124/25 125/1 125/7 125/25 127/6 152/5 180/22
CT [10] 34/2 66/22 66/25 67/13 68/7 71/24 72/1 72/3 72/7 72/9
cuff [4] 118/12 119/4 119/5 174/21
current [3] 18/12 99/6 122/1
currently [3] 92/20 99/7 168/19
curved [1] 117/17
cut [3] 120/8 120/13 120/22
cyanosis [1] 122/5
cycle [1] 179/10
cycles [1] 179/8

D

damage [4] 85/3 86/20 186/21 187/8
Darch [2] 109/12 152/22
dare [1] 95/10
data [3] 60/4 98/5 139/8
database [1] 36/9
date [12] 2/10 2/21 4/10 4/11 10/18 10/25 16/8 26/3 58/20 59/13 153/16 153/22
dated [7] 2/18 4/19 5/23 5/24 13/8 96/23 122/1
dated July 2024 [1] 13/8
Dawn [63] 2/5 11/25 24/22 25/15 31/22 33/4 39/9 45/25 50/9 52/12 54/8 57/25 60/14 61/15 62/10 65/6 65/10 67/24 70/11 81/3 81/13 83/12 84/3 84/21 89/2 89/15 103/19 103/23 112/24 114/12 114/17 115/19 155/21 157/16 158/20 161/11 164/16 165/20 165/24 167/21 167/24 170/7 172/18 173/15 174/10 177/14 177/16 177/25 178/2 179/3 181/3 181/22 182/13 182/23 182/25 184/14 188/13 190/7 199/3 199/6 199/18 201/1 201/18
Dawn's [33] 33/12 39/2 39/20 41/3 45/6 45/11 47/13 48/8 48/10 49/4 50/13 51/5 52/8 52/20 56/24 57/18 58/7 60/8 64/25 66/23 67/13 77/22 78/3 79/2 79/17 79/23 80/8 80/11 82/20 87/13 88/23 180/12 202/12
day [19] 3/25 4/19 5/9 11/10 19/8 22/12 26/9 26/14 27/7 31/9 42/12 82/12 89/12 106/19 131/22 144/10 155/25 165/1 165/6
Day 4 [1] 155/25
Day 8 [3] 106/19 131/22 144/10
days [11] 2/19 12/7 12/12 33/12 38/7 41/21 47/16 68/17 71/23 87/1 165/1
de [2] 164/12 167/14
de novo [1] 164/12
deal [8] 115/17 136/1 142/25 167/22 170/9 170/10 190/6 200/24
dealer [1] 121/2
dealing [5] 15/6 28/15 120/19 142/6 187/9
deals [2] 135/1 154/17
dealt [3] 134/22 142/20 146/23
death [38] 3/3 8/4 8/5 21/17 21/17 21/23 21/25 22/6 22/14 24/22 35/5 36/5 36/15 37/3 37/24 38/5 41/3 45/23 61/16 65/22 66/5 66/6 66/13 69/8 77/8 78/13 79/18 79/19 81/24 82/1 82/12 82/17 82/20 84/23 94/8 94/12 156/7 163/20
deaths [4] 20/16 20/24 20/24 21/17
deceased [9] 26/22 30/1 40/9 52/14 55/3 55/4 61/25 65/18 69/4
deceased's [2] 40/14 80/2
decided [3] 32/17 32/19 196/20
decision [16] 3/21 32/15 111/23 112/1 112/2 142/21 145/11 170/25 192/12 193/5 193/7 198/18 198/21 198/23 200/4 203/17
declaration [6] 6/3 7/6 97/14 97/18 98/1 98/4
decompositio n [1] 66/10
decontaminat e [1] 191/22
decrease [1] 115/12
decreased [1] 122/9
decreasing [1] 149/22
deducing [1] 176/25
deeply [1] 118/10
defending [1] 25/8
defer [1] 196/25
defibrillation [1] 178/16
defibrillator [10] 161/19 162/4 162/6 163/10 163/11 164/15 165/19 167/3 174/9 178/20
defibrillators [1] 163/12
defined [1] 29/16
definitely [2] 93/11 121/16
definition [1] 137/18
definitive [9] 132/2 132/6 132/10 132/15 132/16 132/18 202/20 203/1 203/9
degree [5] 87/22 98/14 98/18 105/17 195/15
delay [1] 3/11
delayed [2] 3/20 72/12
deliberate [1] 127/11
deliver [4] 136/22 154/22 155/1 177/8
delivered [1] 165/21
delivery [1] 85/23
demonstrate [2] 60/13 67/13
demonstrate d [3] 52/3 54/5 126/20
demonstratin g [1] 126/25
department [1] 132/4
departments [1] 153/7
depending [1] 107/24
depends [3] 25/24 87/21 107/25
deployed [1] 121/16
deploying [1] 28/22
deposit [2] 64/13 64/21
depress [1] 146/21
depressant [1] 146/18
depressed [1] 50/17
depression [6] 46/15 47/11 73/21 74/5 122/5 123/20
deprivation [1] 71/14
deprive [1] 70/13
deprived [1] 70/18
dermal [8] 62/4 62/8 62/24 63/3 64/22 81/10 129/13 129/15
describe [12] 27/3 55/7 100/16 104/14 104/15 111/14 142/15 163/19 187/3 190/18 196/7 199/11
described [17] 9/25

D

described... [16] 19/15 30/7 54/3 57/5 66/19 73/16 97/20 110/23 111/6 114/25 118/1 118/25 164/17 178/21 199/14 204/7
describes [2] 150/11 163/12
describing [6] 24/14 63/17 63/23 66/3 133/13 176/19
description [5] 26/20 115/6 115/7 121/22 150/13
designated [2] 29/6 60/13
despite [6] 48/11 49/11 67/10 73/2 134/11 197/23
detail [23] 2/15 5/5 5/13 11/23 15/25 16/4 18/8 27/2 41/7 41/22 43/6 43/13 57/8 69/14 77/11 77/24 83/11 83/16 84/18 84/25 132/14 135/14 152/4
detailed [2] 15/21 134/20
details [2] 16/25 41/24
detect [1] 182/8
detectable [3] 162/16 164/4 165/3
detected [1] 157/20
detector [1] 158/15
deteriorate [2] 164/10 164/11
deteriorated [2] 65/24 81/13
determination [1] 126/16
determine [2] 126/13 198/12
develop [1] 68/17
developed [4] 65/6 69/5 81/20 130/5
developing [5] 13/3 34/4 68/11 130/13 130/17
development [5] 66/21 67/2 68/8 101/15 160/16
developments [2] 160/20 161/4
device [6] 5/3 62/5 88/17 117/15 118/16 195/11
devices [5] 95/18 117/14 119/1 119/1 195/12
diagnose [1] 131/25
diagnosed [1] 89/13
diagnoses [1] 173/1
diagnosis [11] 132/6 132/10 132/15 132/16 132/18 153/5 202/16 202/20 203/2 203/8 203/10
diagram [9] 69/22 70/1 70/4 70/6 72/5 72/13 75/24 161/18 164/19
diamorphine [3] 110/18 119/17 120/14
diaphragm [1] 73/24
diazamuls [4] 114/5 114/8 145/13 146/3
diazepam [15] 113/1 113/3 113/11 113/17 113/25 114/6 116/18 116/19 145/12 145/16 146/1 176/12 176/13 176/25 195/4
did [66] 2/8 4/25 12/10 18/24 19/14 21/9 27/22 29/25 30/16 32/19 32/22 35/7 35/25 36/19 39/6 39/11 41/8 43/13 44/13 46/23 49/8 52/19 53/3 53/12 57/8 57/19 58/11 67/5 73/13 81/4 81/18 89/12 90/15 98/3 100/1 108/16 109/11 109/13 114/13 128/7 129/21 131/17 138/23 138/25 139/3 140/5 149/21 156/3 157/2 157/9 157/16 157/19 159/13 159/25 160/15 160/21 168/16 177/15 181/3 182/14 182/15 183/17 183/25 184/3 189/13 195/1
didn't [8] 26/6 29/18 57/11 68/7 86/5 144/4 174/7 185/18
die [2] 35/2 81/4
died [2] 66/7 66/9
diet [1] 38/7
difference [12] 27/3 55/4 95/5 116/2 118/7 129/16 137/6 172/3 174/2 174/6 182/11 186/16
differences [1] 199/2
different [33] 16/16 22/18 24/10 28/11 31/5 31/22 37/12 39/23 42/25 49/10 50/25 51/9 52/10 52/23 53/4 55/23 62/6 65/9 73/23 76/20 78/6 82/24 89/15 94/4 106/2 107/8 117/13 124/22 152/15 152/16 154/6 167/13 183/24
differential [1] 173/1
differentiate [2] 152/12 181/14
difficult [8] 27/9 65/24 66/16 90/25 126/13 152/12 160/24 193/15
difficulty [4] 123/19 124/24 127/1 160/15
digesting [1] 114/21
dilate [2] 134/5 172/9
dilated [2] 134/11 134/16
dilation [1] 134/10
diminished [1] 187/7
Diploma [1] 17/9
direct [6] 40/15 49/4 74/15 74/24 80/2 118/14
direction [2] 72/14 75/9
Director [3] 19/18 99/7 101/11
directorate [1] 99/16
directs [1] 118/13
disables [1] 53/18
disabling [1] 54/1
disagreement [4] 197/15 198/17 203/16 204/6
discharge [2] 165/5 165/8
disclosed [1] 7/1
discoloration [1] 122/7
discovered [1] 58/14
discrepancies [1] 166/21
discuss [1] 48/4
discussed [7] 7/8 50/8 58/11 58/25 150/2 179/16 179/20
discussing [3] 19/25 31/5 55/7
disease [5] 34/23 37/23 38/17 78/10 93/9
diseases [1] 93/16
dismissal [1] 204/6
dismissed [2] 68/25 197/7
disorders [1] 113/10
disorganised [1] 165/25
dispatch [4] 138/5 139/3 188/25 192/5
dispatched [2] 137/15 160/9
dispatchers [1] 135/23
dispatching [1] 28/20
dispensal [1] 62/15
dispensing [3] 62/5 64/13 64/20
display [1] 161/22
displays [1] 161/21
disposition [2] 138/8 138/18
disrobe [1] 191/22
dissolved [1] 114/9
distant [2] 183/22 183/24
distress [1] 112/6
distributed [3] 29/17 29/21 184/4
do [103] 3/5 5/8 9/6 9/9 12/5 15/25 16/6 18/1 18/15 19/7 21/21 22/17 23/23 28/19 32/15 32/17 34/19 37/20 38/1 38/22 41/13 43/22 47/18 48/15 50/1 52/24 55/8 60/21 61/20 62/24 64/15 65/15 65/16 69/13 79/16 80/15 82/7 84/15 96/22 97/1 98/14 98/17 98/21 98/22 102/5 104/6 104/23 106/23 107/6 107/19 108/10 118/3 119/11 120/7

D

do... [49] 121/11 121/18 121/21 121/24 124/12 126/5 129/25 130/14 130/23 131/3 132/11 132/14 134/15 138/2 139/16 140/16 141/4 144/15 144/16 145/11 146/14 146/20 148/15 153/9 154/18 155/10 155/16 158/3 158/6 159/15 159/15 159/20 161/24 162/13 163/13 164/11 166/11 174/24 184/25 185/3 185/5 186/18 188/4 189/9 189/18 190/6 197/3 201/14 205/19

doctor [6] 16/17 16/19 18/9 18/25 117/25 119/19

doctorate [1] 16/15

doctors [4] 19/20 28/7 132/4 132/4

doctrine [1] 196/7

document [28] 2/22 4/15 5/4 5/19 5/21 9/4 9/21 10/7 27/17 30/22 47/7 47/8 57/21 58/17 58/21 59/2 59/11 61/3 61/9 65/11 77/2 77/16 96/25 121/20 138/1 140/22 140/25 153/1

documentation [3] 3/2 9/12 91/7

documented [1] 81/14

documents [20] 6/11 8/20 10/3 39/17 42/9 64/6 75/1 77/14 103/5 109/22 109/23 110/1 110/1 152/23 153/8 153/9 153/10 153/14 154/6 154/17

does [43] 3/14 7/9 9/5 9/8 14/2 14/4 15/5 15/8 20/3 44/10 46/23 59/2 59/3 61/4 75/10 78/6 78/15 78/21 80/5 83/22 89/17 89/18 90/2 99/23 108/1 113/14 113/20 115/12 121/25 128/25 133/23 136/3 139/2 139/11 144/19 146/6 154/24 161/19 162/10 163/18 177/7 193/23 203/23

doesn't [13] 23/2 43/3 45/1 48/13 61/4 144/15 144/20 149/8 160/10 163/5 182/5 191/7 194/5

doffed [1] 200/15

doing [14] 8/16 23/4 25/2 44/24 55/3 85/25 86/13 131/12 169/15 175/8 178/12 178/13 183/9 193/20

dominant [1] 37/16

don [1] 193/6

don't [38] 8/24 21/22 27/2 43/3 48/16 55/15 55/15 56/3 62/16 66/2 70/21 74/23 79/11 85/16 85/16 86/7 92/12 94/15 94/15 95/2 117/1 130/16 134/24 143/9 143/11 144/17 144/21 149/6 152/11 153/3 153/22 161/12 161/13 172/9 184/9 198/16 202/3 204/18

donate [1] 52/14

done [21] 3/22 4/3 25/22 28/1 28/5 29/23 33/13 52/10 62/16 67/4 86/21 91/19 144/15 145/2 174/21 175/4 175/5 186/21 197/11 197/11 205/14

donning [1] 184/18

dose [11] 44/20 63/17 63/18 94/20 142/24 143/12 143/24 146/3 146/7 147/11 168/15

doses [5] 84/16 146/16 147/25 167/11 167/24

double [3] 90/25 91/21 153/21

doubt [2] 67/18 83/16

down [34] 2/23 3/8 6/22 7/13 11/18 14/1 16/24 26/3 27/14 27/20 28/24 37/11 37/25 40/8 46/8 55/2 58/10 59/13 77/20 87/15 88/3 96/8 99/10 119/6 125/4 125/18 129/19 130/25 132/21 138/11 180/17 182/24 191/20 191/23

downwards [1] 72/6

Dr [18] 8/13 9/23 10/2 23/20 24/4 24/5 24/12 24/19 25/13 27/19 119/19 121/7 121/13 121/15 131/20 135/4 150/9 150/10

Dr Cockcroft [3] 121/7 121/15 150/9

Dr Haslam [2] 121/13 131/20

Dr Helen [1] 119/19

Dr Hollingbury [5] 8/13 9/23 10/2 24/4 24/5

Dr Lumb's [3] 24/12 25/13 27/19

Dr Ord [1] 135/4

Dr Philip [2] 23/20 24/19

Dr Soar [1] 150/10

drafting [1] 128/10

draw [2] 32/21 67/20

drawn [1] 41/1

dress [1] 148/12

dressed [2] 148/19 148/20

drip [1] 111/4

drive [1] 200/5

driving [2] 22/15 200/9

drop [1] 88/3

dropping [1] 3/8

Drowsiness [1] 122/4

drug [44] 19/6 39/4 40/16 44/11 49/5 63/8 63/23 80/3 81/6 90/3 93/15 110/19 111/13 111/13 111/20 112/10 114/5 114/12 114/19 116/19 116/23 117/3 120/6 120/9 120/14 121/2 121/14 122/25 143/10 143/14 143/17 143/22 144/7 144/25 145/1 149/10 149/20 170/16 171/8 173/6 176/2 176/10 188/6 196/21

drugs [57] 39/9 39/10 39/23 40/1 40/11 40/13 40/22 41/3 41/15 42/20 43/14 45/5 45/6 45/11 45/13 45/16 45/17 45/20 45/25 46/6 46/8 46/18 46/18 46/25 47/9 47/10 47/19 47/24 48/1 48/5 48/8 48/9 48/14 48/23 63/7 86/15 106/23 110/17 111/15 113/15 118/9 144/1 144/7 144/13 145/25 149/4 149/5 149/13 174/23 174/24 175/2 175/12 178/4 178/22 195/16 198/10 198/11

DSTL [5] 57/24 59/25 61/11 61/25 128/24

due [14] 3/1 14/18 26/22 31/21 32/5 65/18 73/14 81/6 127/11 134/10 160/15 165/23 170/14 205/3

DuoDote [20] 87/10 88/6 89/14 92/5 92/8 93/7 94/3 109/15 109/19 151/21 153/12 154/24 184/21 184/24 185/3 185/6 189/18 195/2 195/17 195/21

during [31] 12/2 15/23 17/24 23/18 24/18 25/23 29/10 33/13 33/23 34/3

D

during... [21] 45/16 50/15 52/8 56/24 66/23 71/2 71/11 74/9 79/23 83/13 85/4 86/1 87/13 88/21 91/24 92/7 115/12 167/23 176/21 187/12 189/19
duties [1] 4/2
duty [3] 6/5 6/9 7/11
dying [2] 35/1 176/9

E

each [4] 2/14 24/11 110/13 162/13
earlier [33] 1/23 12/18 13/4 14/6 15/6 17/14 31/14 42/14 58/12 58/25 59/9 59/16 80/9 90/23 91/5 91/12 91/20 102/21 123/25 126/10 139/22 139/23 139/25 171/7 172/2 172/5 173/18 179/17 179/20 191/10 199/17 200/7 202/18
earliest [1] 137/14
early [3] 30/24 39/2 153/5
easier [1] 199/4
easily [2] 16/7 142/15
East [2] 18/9 51/23
East Midlands [2] 18/9 51/23
easy [6] 126/16 128/1 163/19 163/25 197/16 204/12
Easytask [2] 165/23 166/4
Eclamptic [1] 176/20
educated [1] 197/7
education [2] 102/8 109/7
effect [18] 67/16 74/17 75/3 75/10 76/16 91/19 94/16 94/21 95/3 110/21 111/18 114/21 134/7 147/11 188/10 193/13 193/22 193/23
effective [1] 92/9
effectively [2] 114/20 179/7
effects [6] 36/10 89/3 89/7 111/14 112/10 201/6
efficacy [2] 102/3 185/15
effort [1] 167/17
efforts [1] 73/3
either [22] 11/14 30/14 36/25 40/15 44/22 46/18 48/9 49/5 75/2 80/3 92/20 120/2 131/16 143/15 158/9 158/11 160/5 176/6 177/8 180/6 183/14 192/5
electric [1] 163/10
electrical [8] 163/16 163/17 163/24 164/1 164/4 164/14 165/25 168/6
electrically [2] 162/22 163/21
element [1] 195/17
elements [4] 33/16 52/23 149/20 149/25
else [3] 22/5 55/14 205/11
elsewhere [1] 45/10
embedding [1] 204/16
emergencies [2] 102/16 102/18
emergency [22] 70/17 89/1 98/19 100/25 104/24 104/24 104/25 105/6 105/7 106/3 110/12 116/13 116/24 116/25 117/4 132/4 135/23 153/7 161/4 198/8 198/24 204/17
EMFPU [3] 51/19 51/24 52/3
eminent [1] 17/2
emphasise [3] 62/24 127/8 194/21
emphasised [1] 22/3
employ [3] 106/6 106/7 106/9
emulsion [3] 114/5 114/10 145/12
enables [1] 3/13
enclose [1] 72/3
encounter [3] 173/9 177/14 190/8
encourages [1] 92/17
Encouragingly [1] 69/20
end [12] 7/9 11/9 12/25 22/12 55/24 69/2 69/2 82/12 93/21 120/5 164/8 176/8
endeavour [1] 3/9
ending [1] 39/23
endotracheal [1] 174/13
engaged [1] 8/7
England [2] 20/14 152/25
enhance [1] 113/20
enhanced [4] 106/22 106/23 107/23 175/11
enlarge [2] 143/3 179/1
enough [3] 23/19 49/25 197/23
ensure [1] 32/19
enter [1] 174/7
entered [2] 39/19 45/18
enters [1] 182/2
entire [4] 27/24 38/2 136/24 165/14
entirely [3] 22/4 62/10 141/9
entitled [3] 3/18 116/15 205/19
entries [1] 47/18
entry [3] 47/15 47/18 104/18
environment [8] 18/17 29/13 30/8 30/9 111/12 112/16 115/20 127/10
enzyme [1] 53/17
epilepticus [1] 176/17
episode [1] 176/16
equally [5] 107/10 159/21 159/23 189/14 200/13
equipment [4] 27/1 27/6 184/18 193/17
error [4] 115/18 142/24 143/17 145/8
especially [1] 87/23
essence [24] 10/4 20/13 21/23 22/25 23/23 24/8 55/3 55/16 55/17 57/3 57/12 62/23 63/8 66/5 72/25 79/5 79/6 110/20 162/16 164/5 171/2 173/21 179/6 193/24
essential [2] 69/15 69/16
establish [1] 51/4
established [6] 20/20 24/4 26/4 53/2 53/8 85/5
establishment [1] 51/20
estate [1] 160/16
et [1] 75/6
et cetera [1] 75/6
evacuate [1] 191/21
even [11] 71/9 141/23 142/3 159/14 164/8 165/17 182/7 185/7 185/18 185/23 187/5
evening [4] 42/4 202/13 203/15 204/9
event [9] 19/2 35/2 43/8 67/3 81/5 94/5 127/17 149/14 161/6
events [5] 70/11 161/14 186/24 190/10 201/2
ever [3] 25/7 154/8 197/3
every [19] 3/22 4/3 5/24 8/18 8/19 9/4 19/8 22/25 38/10 76/4 99/24 100/1 100/2 111/13 134/14 150/24 158/16 168/11 179/10
everybody [1] 163/12
everyone [3] 28/1 35/1 164/7
everything [10] 22/13 24/1 25/10 27/8 27/14 27/25 29/13 29/14 68/16 91/22
evidence [58] 1/17 14/11 15/17 33/11 33/22 41/21 42/2 48/25 48/25 50/15 53/13 53/15 62/6 62/10 64/25 66/24 80/8 80/11 82/14 86/7 86/8 86/23 87/5 88/7 89/11 90/14 92/3 96/18 100/21 108/17 109/12 112/18 114/8 117/24 128/21

E

evidence... [23] 131/22 134/20 134/23 136/10 142/8 143/9 143/21 146/25 150/19 151/8 151/14 155/23 156/13 171/12 171/19 180/22 182/22 184/23 196/15 199/14 200/25 202/18 205/12
exact [1] 186/15
exactly [7] 28/10 48/7 89/11 92/16 93/14 168/21 205/2
examination [32] 2/7 3/4 9/25 23/6 23/18 24/19 24/21 25/22 26/3 26/17 26/23 26/25 31/1 31/22 32/3 33/1 37/8 37/9 38/19 38/22 40/10 41/16 51/18 57/12 57/13 65/23 66/15 66/16 77/22 78/3 78/11 81/3
examinations [3] 3/1 22/24 78/12
examine [4] 65/24 66/14 66/22 103/23
examined [2] 41/7 52/5
example [6] 21/6 37/13 116/15 123/16 123/19 203/22
examples [3] 102/19 119/14 125/23
except [1] 5/15
exception [3] 15/12 29/24 44/16
exceptionally [1] 44/10
excerpt [1] 108/19
excess [4] 45/22 56/16 123/16 126/11
excessive [1] 182/18
exclude [3] 45/19 46/2 79/12
excluded [2] 45/7 46/5
exclusion [1] 46/23
executive [1] 99/17
Executives [2] 108/4 108/8
exercised [1] 93/5
exhaustive [1] 125/24
exhibit [1] 81/17
exhibited [1] 126/23
exhibiting [2] 89/3 90/7
existing [2] 36/17 36/20
expand [5] 3/4 18/14 66/1 70/9 72/23
expanded [2] 72/13 73/5
expansion [2] 72/14 72/22
expect [24] 49/7 53/5 54/11 107/15 109/9 109/21 120/18 120/21 120/24 127/16 129/17 132/7 132/9 134/14 144/11 149/24 169/2 172/12 172/23 173/7 176/11 184/16 187/16 204/2
expectation [3] 131/17 131/18 144/14
expected [21] 53/11 54/24 55/19 57/17 74/9 81/11 81/13 90/1 109/24 110/2 121/3 137/1 137/2 150/24 151/24 155/9 168/21 176/5 184/17 184/19 184/20
experience [14] 48/13 98/13 100/24 100/24 102/6 102/17 104/10 120/3 131/6 131/8 131/15 146/12 155/18 159/5
experienced [4] 80/13 86/19 87/22 146/8
experiences [2] 155/7 155/16
experiencing [2] 83/25 87/20
expert [10] 35/11 35/13 132/11 150/10 151/2 196/25 197/2 197/10 204/1 204/4
expert's [2] 6/3 97/18
expertise [7] 6/8 18/15 19/15 63/6 186/19 195/23 205/5
explain [36] 1/17 4/18 20/10 22/22 32/14 37/24 54/18 61/15 65/3 68/24 69/10 69/24 70/5 75/22 79/4 80/12 82/17 94/18 100/14 115/22 117/13 118/6 133/19 134/3 135/21 136/17 138/6 139/20 143/3 148/10 161/15 162/14 163/25 170/22 174/16 181/10
explainable [3] 76/8 76/10 150/8
explained [11] 10/9 46/2 48/10 74/8 74/12 84/25 94/23 121/14 123/9 142/18 203/13
explaining [1] 79/17
explains [2] 69/23 72/8
explanation [9] 13/2 52/6 65/5 69/21 73/8 78/23 80/4 87/6 147/23
explanations [1] 68/24
explore [1] 86/24
explosive [1] 102/16
exposed [9] 26/23 60/14 62/1 62/11 81/8 87/19 89/5 91/25 189/10
exposing [1] 32/18
exposure [15] 62/4 62/7 63/3 63/12 81/11 89/4 89/24 90/8 109/7 123/22 127/19 129/13 129/16 149/8 201/4
express [3] 65/14 69/1 78/20
expressed [6] 44/12 61/3 66/11 91/20 97/10 186/3
expressing [2] 93/15 197/4
extended [2] 69/7 81/22
extensive [1] 31/25
extent [10] 44/21 76/25 102/7 120/2 124/12 168/16 169/9 170/22 183/17 184/3
external [1] 77/22
extract [1] 150/9
extreme [1] 93/8
extremely [6] 15/21 32/11 112/17 121/10 127/12 127/20
extremis [2] 142/14 146/9
eye [3] 6/22 32/3 37/1
eyesight [1] 141/7

F

face [3] 155/6 155/6 178/20
facilitate [1] 174/23
fact [46] 2/12 5/24 7/1 7/9 8/15 8/20 12/7 13/11 13/16 14/5 17/22 18/4 19/12 24/18 28/12 29/10 41/18 42/6 43/19 46/9 47/16 48/6 48/11 48/16 61/11 62/8 62/9 65/10 67/7 67/20 68/24 77/4 85/6 86/8 89/13 91/10 92/5 102/11 111/17 163/13 165/11 184/3 188/1 192/15 193/4 194/14
factor [4] 32/7 33/20 47/2 199/19
facts [4] 88/23 89/17 89/23 97/3
factual [1] 77/17
factually [1] 63/2
failed [1] 44/6
failure [9] 33/18 34/6 34/10 34/11 35/7 39/7 84/1 147/15 204/23
fair [18] 21/14 22/3 22/16 25/12 25/17 33/15 47/9 61/13 64/18 65/2 69/13 106/24 107/1 110/25 126/1 146/10 146/15 196/22
fairly [7] 166/24 167/7 167/10 175/4 181/11 187/17 190/6
fairness [5] 23/7 34/10 36/19 42/23 57/1
fall [4] 117/21 142/1 142/5 157/2
fallen [1] 198/13
falls [1] 141/17
familiar [6] 119/21

F

familiar... [5] 135/20 160/17 171/23 172/20 176/11
family [3] 4/3 201/18 202/12
far [12] 18/18 36/13 79/1 112/7 132/23 140/16 176/10 183/19 183/22 186/19 189/11 195/23
Faulkner [17] 96/4 96/6 96/8 96/13 96/14 98/11 107/6 135/15 144/11 151/12 151/19 156/10 190/1 202/11 205/8 205/16 207/5
favour [1] 189/22
feature [1] 7/22
features [11] 26/1 27/16 31/12 32/25 83/25 83/25 84/5 123/13 123/15 176/23 180/24
feel [2] 162/17 197/3
feet [1] 72/7
fellow [2] 17/4 17/6
felt [2] 48/14 146/14
fence [1] 44/7
fentanyl [14] 110/18 119/17 119/18 119/21 119/24 120/4 120/6 120/8 120/10 120/13 121/4 121/9 121/10 121/14
few [15] 3/8 12/7 16/5 21/2 41/21 47/16 62/2 74/12 78/19 83/1 87/1 112/10 166/21 166/24 183/20
fibrillation [8] 162/25 163/1 163/9 164/9 165/24 166/15 167/13 167/18
fibrosis [1] 36/21
fibrotic [1] 36/4
field [3] 16/21 18/2 63/5
fields [1] 19/7
figure [5] 117/15 165/8 165/13 165/14 165/16
figure 1 [1] 117/15
figures [1] 130/21
fill [1] 163/6
filling [2] 163/7 168/6
final [15] 14/12 14/23 73/9 77/7 79/25 80/23 81/23 85/11 131/19 138/16 196/3 200/18 200/22 203/12 204/5
finally [12] 13/6 30/18 31/11 66/13 74/10 82/25 92/2 133/1 149/17 164/3 176/12 190/4
find [9] 64/8 88/21 91/7 91/23 105/6 107/11 129/25 149/12 153/23
finding [3] 38/9 160/15 198/10
findings [11] 24/22 32/4 33/1 38/13 38/21 76/21 77/21 78/2 79/10 79/15 192/1
fine [1] 27/2
finish [3] 26/6 52/1 156/22
finishes [1] 137/11
fire [6] 198/25 200/10 200/12 203/25 204/1 204/4
Fire Brigade [1] 198/25
first [90] 2/14 3/17 4/12 4/23 5/21 7/12 13/14 13/19 13/20 16/9 18/9 18/23 19/24 28/19 30/19 31/9 31/10 32/15 32/16 33/17 40/19 41/19 41/19 43/18 45/9 46/6 50/16 51/2 52/11 53/16 57/21 68/3 68/19 70/17 73/20 77/11 81/14 83/2 83/3 83/15 85/7 87/6 88/6 89/10 91/14 92/12 94/18 97/1 98/14 102/11 102/12 103/5 117/9 118/17 119/11 125/7 130/12 130/12 135/5 136/11 136/14 137/15 137/24 138/19 139/19 139/20 141/11 141/11 141/14 141/14 142/8 143/24 158/6 161/15 161/19 162/21 165/3 172/20 175/13 177/17 177/21 178/7 178/8 178/10 187/17 188/20 188/23 189/1 198/4 202/15
first aid [2] 102/11 102/12
firstly [6] 99/5 110/3 137/23 148/11 190/13 195/5
fit [8] 48/13 133/18 133/20 133/23 149/20 149/23 149/25 150/3
fits [6] 176/14 176/15 176/18 176/19 176/20 176/21
fitting [14] 138/12 138/13 138/14 138/20 139/1 139/11 139/13 139/14 157/5 157/10 159/17 159/19 176/15 188/21
five [5] 45/25 59/13 101/6 131/13 176/14
five years [1] 101/6
fixed [2] 133/17 133/21
flat [1] 164/5
flight [1] 106/15
flow [7] 34/24 162/20 163/7 169/7 185/13 187/3 187/5
flowchart [2] 124/4 154/15
flows [2] 198/8 198/8
fluid [12] 74/3 79/2 79/5 79/7 122/11 122/12 122/13 122/14 126/15 180/4 180/9 181/13
focus [2] 45/20 87/9
focused [3] 19/13 42/14 130/5
focusing [2] 130/13 183/7
follow [5] 20/22 21/15 46/8 103/15 164/25
followed [3] 90/1 179/3 189/6
following [15] 1/20 16/24 37/25 46/6 62/4 81/3 84/9 84/9 84/12 84/24 86/9 103/23 127/18 175/13 189/8
footnote [1] 121/25
force [2] 7/24 92/4
Forces [1] 20/14
forensic [17] 2/5 7/22 7/25 8/6 16/12 17/3 17/9 17/11 17/17 18/2 18/16 20/1 20/4 20/7 23/20 51/23 55/21
foresight [1] 193/10
form [11] 6/14 7/8 11/11 34/22 49/25 64/10 67/12 97/21 132/19 150/22 203/2
formal [1] 3/2
formally [1] 15/16
formed [1] 150/25
forming [2] 184/1 184/2
forms [1] 198/15
forward [2] 4/11 40/3
found [10] 36/14 40/2 42/20 43/14 53/19 84/4 92/23 112/4 194/9 200/8
foundation [1] 17/11
four [9] 12/3 54/14 59/13 70/20 161/15 162/20 180/2 180/2 201/4
fourthly [2] 102/6 103/12
fragile [1] 188/2
Francesca [1] 96/4
Fred [4] 166/7 173/14 187/11 189/21
free [1] 58/1
freely [1] 64/4
frequently [3] 167/11 175/4 187/17
Friday [1] 128/9
friends [1] 201/18
front [3] 96/18 96/20 147/22
frontline [3]

F

frontline... [3] 102/17 145/16 176/2
FT [1] 189/21
FT49 [1] 124/2
full [21] 1/13 4/17 5/2 5/18 10/11 10/21 19/6 23/15 33/3 35/15 39/12 42/22 43/4 48/16 49/2 51/11 57/20 76/23 91/18 96/11 166/12
fullest [1] 201/19
function [7] 20/11 71/23 74/17 75/10 81/18 162/1 162/5
functional [3] 51/8 53/4 53/20
functioning [1] 75/4
fundamentally [1] 204/18
further [25] 10/13 10/20 11/20 13/2 14/13 21/12 27/20 41/12 41/22 45/2 45/3 48/21 58/22 63/25 69/14 70/5 70/25 86/24 87/6 93/22 133/11 134/2 189/7 200/16 202/3
future [5] 22/17 25/14 25/20 201/17 205/18

G

Gadel [2] 118/1 118/4
gain [3] 168/3 169/3 182/2
gained [2] 50/21 50/21
gaining [2] 168/7 183/7
ganglia [2] 75/15 75/17
gap [1] 153/17
garden [1] 127/23
gather [1] 107/6
gave [5] 1/24 83/10 143/23 144/7 203/13
gaze [2] 133/17 133/21
geek [1] 129/8
gel [9] 117/11 118/6 118/8 118/23 119/1 173/16 173/17 173/22 174/12
general [3] 27/3 79/9 150/21
generalise [1] 34/22
generalist [1] 105/9
generally [10] 17/23 104/21 105/13 105/14 114/18 115/9 152/19 172/6 181/16 198/6
generic [1] 91/25
generically [1] 76/2
geographical [1] 155/11
gestalt [1] 197/19
get [28] 16/4 16/24 20/17 29/15 32/20 36/23 47/8 51/3 55/17 57/7 106/2 132/2 132/6 132/9 132/18 144/3 144/19 147/25 152/19 160/23 163/2 167/9 179/7 183/4 183/9 195/16 200/16 203/1
getting [2] 86/22 178/16
gisting [1] 64/15
give [23] 1/13 1/16 16/25 18/7 19/20 25/3 29/19 81/25 84/15 84/18 86/14 86/18 96/11 96/18 102/19 111/7 116/7 129/24 144/8 147/25 175/12 181/20 188/3
given [33] 12/1 29/19 38/16 45/14 45/16 45/17 62/13 66/18 73/7 80/4 83/13 86/4 86/8 111/3 111/10 114/6 115/18 129/17 146/4 147/11 157/5 167/21 167/21 167/24 168/13 170/7 174/23 177/25 188/9 189/11 193/12 194/12 204/5
gives [1] 182/9
giving [8] 6/6 12/3 79/20 85/21 85/25 86/17 100/21 185/14
glass [5] 30/11 30/15 30/16 30/17 91/18
global [3] 66/4 71/25 73/3
gloss [1] 92/25
glottis [1] 119/1
go [92] 2/10 2/15 2/22 3/16 5/20 9/2 10/24 13/6 13/11 13/14 13/24 14/10 14/21 15/22 16/9 18/7 19/9 21/19 23/12 23/15 23/16 24/17 26/2 27/17 28/13 30/19 31/13 31/15 31/19 35/15 37/6 39/12 40/3 41/10 42/5 43/3 47/7 48/2 51/10 59/1 59/10 59/19 60/3 65/8 65/11 66/18 69/18 69/25 73/8 75/14 76/22 77/2 77/10 78/25 83/2 83/5 87/3 87/15 88/11 90/12 90/17 92/6 92/10 92/11 95/7 106/1 119/9 119/16 127/3 128/5 128/22 133/2 135/14 136/9 140/10 140/25 143/1 147/4 150/17 152/24 159/22 161/13 161/17 166/4 167/10 167/12 178/24 179/24 190/16 196/4 197/19 200/18
goes [8] 7/8 8/18 9/18 14/3 14/13 134/9 162/21 178/19
going [58] 2/16 3/16 3/19 7/5 7/12 10/17 11/13 17/1 18/21 26/13 30/6 30/12 31/12 32/24 33/9 39/22 41/13 43/20 43/25 45/3 49/18 52/17 61/8 64/24 67/20 68/14 69/11 71/1 71/20 72/20 76/8 77/10 84/4 86/24 86/25 88/9 96/20 112/24 114/17 120/11 127/4 134/19 137/23 151/12 160/8 160/12 161/14 167/16 180/16 180/17 188/15 190/11 191/10 193/3 194/7 200/20 202/14 205/3
gone [5] 15/14 41/20 88/13 89/4 181/23
good [7] 66/24 66/25 67/2 67/12 96/3 155/5 202/13
Google [1] 160/23
Google Maps [1] 160/23
gosh [2] 43/23 82/11
got [24] 42/24 46/21 48/11 56/5 56/5 61/10 90/24 93/16 106/8 106/10 126/4 134/16 140/21 144/6 148/20 150/4 155/17 162/4 171/8 185/11 193/8 193/21 197/20 200/15
governance [1] 100/14
Government [1] 61/5
GPs [1] 153/8
grading [1] 192/20
graduate [2] 98/22 98/25
grammar [1] 8/25
gratefully [1] 52/13
gratefully consented [1] 52/13
great [1] 200/24
greater [2] 53/10 121/9
ground [2] 33/11 93/24
group [7] 9/4 110/17 119/15 131/8 145/25 149/7 174/23
groups [1] 45/20
guidance [16] 83/22 107/19 107/20 107/21 107/24 107/25 108/14 108/23 151/21 151/22 153/10 154/15 178/4 179/15 184/3 184/9
guidelines [25] 83/16 92/21 101/18 101/22 108/1 108/6 108/20 122/1 122/18 122/19 123/2 123/13 123/23 123/25 153/11 153/12 154/2 154/5 154/10 169/11 169/13 169/14 177/3 180/1 189/6
guidelines' [1] 121/22
GUY [3] 1/7 1/15 207/3

H

had [125] 2/24 3/5 12/1 12/18 14/5 14/14 15/5 17/2 21/5 23/3 26/22 27/12 28/6 28/8 29/16 32/2 33/23 36/20 39/2 39/24 40/2 40/9 46/11 52/12 54/16 57/9 59/17 60/17 62/12 63/4 63/11 64/24 65/2 65/23 66/4 66/13 66/14 66/23 67/3 67/6 67/7 67/21 68/3 70/1 70/11 70/16 70/23 71/2 71/15 71/16 72/12 73/13 80/10 80/12 81/19 83/7 83/11 83/13 84/3 84/11 85/24 87/7 89/1 89/4 89/5 89/5 90/6 91/1 91/5 91/13 92/12 94/5 94/6 94/13 94/16 95/3 97/24 97/25 109/2 112/5 128/1 128/14 129/9 129/10 130/10 130/10 131/6 131/9 131/15 131/16 133/8 133/16 134/12 145/21 147/3 147/11 161/11 167/2 167/5 167/11 169/15 172/18 175/2 178/2 181/19 181/22 181/23 182/16 183/18 184/4 184/9 184/13 184/13 184/14 185/7 185/23 186/6 186/7 192/15 193/8 195/15 196/5 199/7 200/5 200/16

hadn't [2] 70/15 87/7

haemorrhage [9] 73/12 74/18 74/25 81/21 81/21 82/4 125/3 125/14 173/10

half [1] 91/18

halfway [3] 14/1 40/7 130/24

hand [15] 72/2 72/5 72/9 72/13 93/4 119/8 132/15 139/16 140/16 140/21 144/16 152/6 153/22 155/23 164/18

handled [1] 192/3

handlers [1] 153/9

handling [2] 30/1 192/2

happen [4] 23/4 68/7 202/22 204/11

happened [10] 3/5 10/16 28/8 28/10 89/11 131/4 135/9 137/17 175/16 198/18

happening [1] 70/17

happens [2] 23/5 25/19

hard [2] 118/17 154/21

harmed [2] 143/18 145/5

has [59] 5/13 8/25 9/5 9/23 9/24 10/2 12/17 23/3 24/8 25/23 34/16 44/11 61/5 62/1 62/6 65/18 66/9 67/19 69/5 69/6 69/15 72/22 74/19 83/24 84/11 86/19 88/13 111/9 111/13 112/10 114/21 118/10 119/5 120/9 120/25 121/8 124/4 134/4 134/6 145/16 150/4 157/20 158/11 158/20 160/5 164/24 165/4 168/23 175/2 175/3 177/4 177/5 179/24 185/15 188/2 191/3 191/4 199/13 200/25

Haslam [2] 121/13 131/20

hasn't [1] 10/16

hat [1] 82/20

have [478]

haven't [5] 9/16 42/23 47/14 48/11 79/1

having [23] 5/4 42/11 45/7 46/5 60/21 68/14 75/2 81/8 84/20 116/16 119/4 122/13 126/19 127/21 129/4 134/12 154/4 154/10 166/21 171/15 189/14 196/16 197/23

hazard [1] 93/15

he [31] 1/5 4/23 4/25 5/4 9/8 23/22 23/24 23/25 24/20 25/1 35/13 89/12 106/17 106/20 112/4 121/9 131/24 133/5 133/7 133/8 135/9 136/14 156/19 160/15 160/21 178/10 186/15 187/12 199/8 199/9 199/19

head [2] 66/9 129/9

headache [4] 68/20 68/21 172/19 172/20

headed [1] 136/18

heading [8] 4/14 14/1 14/11 31/16 35/17 37/8 41/14 77/4

Health [3] 104/19 105/3 152/25

healthcare [1] 116/6

hear [4] 70/20 86/23 115/17 150/11

heard [67] 33/11 41/20 42/2 50/15 53/13 53/16 53/25 62/6 62/7 62/9 65/20 71/10 73/22 82/14 86/7 87/10 88/7 89/10 92/3 105/22 108/1 110/11 110/23 111/21 112/18 114/7 114/25 117/8 117/24 119/18 119/22 121/6 124/2 130/14 131/19 134/20 134/23 135/14 136/10 136/13 137/25 140/10 140/12 142/8 143/21 145/3 146/25 151/21 152/3 152/22 154/14 155/23 156/11 156/13 160/14 161/9 164/16 170/21 184/23 186/14 186/24 188/8 188/18 190/14 196/15 196/18 199/14

hearing [3] 1/18 15/3 15/24

hearings [1] 92/7

heart [57] 23/4 34/12 34/20 34/22 34/24 35/9 35/19 36/17 36/20 36/23 37/3 37/5 37/12 38/15 38/17 38/19 38/23 38/24 50/9 70/14 71/3 71/11 72/18 73/1 73/24 75/3 84/1 93/8 100/19 114/22 114/24 115/8 122/15 122/16 143/6 150/2 150/5 162/19 162/21 162/23 163/3 163/6 163/6 163/13 163/21 163/22 165/20 168/7 169/6 170/4 179/22 180/9 180/10 183/10 187/20 188/2 188/6

heart's [1] 163/14

heartbeat [4] 71/16 163/2 163/4 163/5

held [2] 17/11 64/5

Helen [3] 117/25 119/19 134/24

Helicopter [1] 106/3

help [12] 6/5 7/20 20/10 43/20 55/12 64/8 86/5 95/9 122/17 132/6 156/15 204/10

helpful [5] 29/22 52/1 52/18 125/5 135/11

helpfully [2] 30/24 190/8

helps [5] 70/4 160/7 190/19 194/4 194/6

HEMS [1] 105/23

hence [1] 74/19

her [73] 25/18 32/20 33/12 33/13 33/16 33/17 33/19 33/23 37/2 39/3 45/15 45/23 46/1 47/16 47/19 48/15 49/13 50/15 50/19 56/24 58/2 61/16 62/11 66/6 66/12 68/2 68/6 68/10 68/19 69/8 69/8 70/13

H

her... [41] 70/18 70/25 71/1 71/3 71/17 71/18 71/23 71/23 72/1 72/2 73/13 78/13 79/19 81/18 81/22 81/24 82/17 84/4 84/22 84/23 85/4 85/15 86/14 89/8 89/18 89/24 103/23 114/13 117/8 133/17 140/13 147/1 147/9 147/12 174/10 177/12 178/4 183/6 185/11 189/8 189/19
here [22] 1/9 1/18 32/6 35/8 40/7 43/6 48/16 54/10 64/1 66/3 67/23 73/10 85/21 88/18 90/22 92/17 92/19 127/4 131/19 145/3 162/4 191/10
heroin [11] 110/17 119/17 120/7 120/9 120/13 120/22 120/22 120/24 120/25 149/11 181/17
herself [2] 39/9 52/12
Hertfordshire [1] 98/16
hesitant [1] 43/2
hesitate [1] 4/21
high [13] 32/5 44/20 45/1 68/13 138/23 138/24 147/11 147/25 157/10 157/23 177/6 180/5 195/15
higher [5] 86/11 105/13 139/24 165/5 165/6
highlight [1] 140/22
highlighted [1] 147/12
highlights [1] 149/2
highly [8] 62/14 62/22 62/25 159/5 168/22 178/11 193/7 197/22
him [9] 7/16 24/24 28/9 89/14 188/2 188/3 195/16 199/14 205/1
hindsight [1] 147/19
his [13] 7/19 23/21 23/22 23/23 24/3 24/6 35/24 108/20 131/21 145/6 186/3 195/22 205/5
histological [1] 78/11
Histology [1] 31/16
historically [1] 138/12
history [8] 33/4 33/16 38/16 39/15 50/19 77/13 123/21 182/3
hm [2] 87/14 159/9
hold [6] 16/13 17/8 20/8 98/14 98/22 189/9
holding [1] 109/6
holds [1] 20/3
Hollingbury [5] 8/13 9/23 10/2 24/4 24/5
home [15] 3/23 4/6 8/15 9/13 17/16 18/19 20/1 20/3 20/6 22/10 23/22 23/25 24/9 26/8 45/15
Home Office [7] 3/23 4/6 18/19 23/22 23/25 24/9 26/8
homicide [1] 20/15
honest [2] 12/22 44/1
honours [1] 105/16
hope [3] 22/9 155/3 201/22
hospital [43] 16/22 18/6 18/17 19/5 19/14 19/19 19/20 33/12 33/24 34/3 39/20 39/25 40/21 45/11 45/12 45/18 46/1 50/16 50/23 65/22 68/9 71/22 82/25 111/11 111/15 112/16 115/20 121/13 127/9 127/20 132/3 132/11 135/1 150/22 164/23 165/8 171/21 172/15 175/23 175/25 187/21 200/6 201/3
hospitalisation [1] 39/2
hospitally [1] 115/15
hour [1] 49/19
hours [3] 2/4 26/7 99/24
house [1] 200/7
how [36] 22/18 31/9 40/23 43/22 62/15 70/19 82/9 91/16 95/13 101/7 107/25 111/1 111/11 112/15 113/23 120/16 128/14 128/18 129/21 129/21 137/8 143/11 148/25 152/19 154/21 154/24 154/25 155/10 158/6 167/1 173/5 185/11 198/12 198/18 198/21 204/19
however [6] 36/9 84/13 89/21 104/1 127/10 147/14
Hs [1] 180/2
huge [2] 86/18 155/11
human [6] 36/11 63/20 115/25 116/4 159/7 173/24
hundreds [2] 121/8 128/14
hydrobromide [1] 175/22
hyoscine [1] 175/22
hypersalivation [6] 126/6 126/11 126/14 180/25 181/6 181/24
hypertension [1] 177/6
hypoglycaemic [1] 176/16
hypotension [3] 168/23 177/6 187/20
hypotensive [1] 187/18
hypothesis [2] 63/1 149/20
hypothesise [1] 128/1
hypothesised [1] 54/23
hypovolemia [1] 180/5
hypoxia [9] 74/7 74/9 74/10 74/16 74/19 75/5 150/5 176/16 180/4
hypoxic [13] 67/1 69/6 71/20 71/25 73/14 74/14 81/19 82/3 84/23 85/19 94/9 134/9 187/1

I

I actually [1] 187/25
I agree [2] 132/13 132/21
I also [2] 100/6 134/1
I always [1] 23/7
I am [26] 15/15 16/18 18/1 18/25 28/17 40/13 61/24 73/19 75/18 79/7 80/1 80/25 99/4 99/22 100/19 101/20 123/6 147/14 189/4 189/7 189/12 189/23 189/24 200/4 201/20 204/1
I approach [2] 21/16 23/2
I ask [6] 28/11 82/9 96/5 108/22 149/19 202/12
I asked [8] 80/9 106/16 108/9 130/6 131/4 131/9 131/13 143/24
I assume [1] 29/17
I attend [1] 169/3
I basically [1] 90/23
I believe [7] 19/21 20/6 153/21 170/8 184/23 192/3 204/12
I can [13] 17/23 45/14 45/22 64/15 69/23 70/8 76/15 82/11 91/23 130/23 146/4 146/7 202/7
I can't [6] 12/22 44/1 55/20 79/12 91/7 186/15
I cannot [2] 183/13 197/22
I caveat [1] 204/2
I changed [1] 91/8
I checked [1] 122/19
I clarify [1] 204/3
I confirm [2] 97/3 97/8
I consider [2] 79/13 191/8
I considered [2] 183/21 184/8
I could [6] 64/8 110/10 110/13 135/15 188/12 198/3
I couldn't [1] 56/6
I dare [1] 95/10
I did [11] 2/8 12/10 18/24 21/9 35/25 39/11 41/8 57/19 90/15 109/13 183/25
I didn't [2] 29/18 144/4
I do [17] 12/5 48/15 50/1 52/24 61/20

I

I do... [12] 62/24 65/16 69/13 80/15 98/17 98/21 102/5 121/24 189/9 189/18 197/3 201/14
I don't [25] 21/22 27/2 48/16 62/16 66/2 74/23 79/11 85/16 85/16 86/7 92/12 94/15 94/15 95/2 134/24 143/9 143/11 152/11 153/3 153/22 161/12 161/13 184/9 202/3 204/18
I double-checked [1] 91/21
I enclose [1] 72/3
I ever [1] 154/8
I felt [1] 48/14
I gained [2] 50/21 50/21
I gave [1] 144/7
I get [1] 16/4
I got [1] 144/6
I had [9] 28/8 40/2 91/1 91/5 128/14 129/9 129/10 130/10 184/9
I happen [1] 23/4
I have [62] 1/25 2/11 5/23 15/2 15/3 18/2 19/6 19/21 21/1 21/2 21/23 28/5 28/6 31/12 40/12 42/25 49/12 49/12 56/5 62/21 72/8 75/1 75/24 76/19 78/18 81/10 82/2 82/16 85/18 86/10 88/20 91/6 92/14 92/22 92/22 94/23 97/3 97/10 102/24 109/13 127/19 127/21 130/1 136/11 143/10 147/7 148/16 148/18 149/10 150/15 150/24 157/1 169/3 169/18 175/5 175/15 188/24 189/17 189/21 194/14 200/24 201/10
I haven't [2] 42/23 48/11
I just [9] 10/16 56/5 68/23 113/13 119/19 133/1 135/11 175/22 199/2
I keep [1] 21/18
I know [3] 18/18 47/14 133/8
I literally [1] 19/7
I look [1] 100/16
I looked [1] 130/4
I make [1] 183/1
I may [4] 43/25 147/24 197/11 202/8
I mean [3] 22/7 28/4 34/25
I mentioned [1] 18/4
I missed [1] 91/3
I need [2] 4/22 73/7
I note [1] 170/13
I often [2] 38/12 48/17
I pause [1] 191/2
I phrase [1] 54/10
I practise [1] 99/24
I premise [1] 54/17
I produced [1] 69/22
I pronounced [1] 36/12
I quite [1] 197/9
I ran [1] 51/23
I read [1] 91/16
I really [1] 45/19
I recall [1] 38/8
I recognise [1] 153/2
I referred [1] 31/9
I remain [1] 91/10
I remember [1] 135/3
I right [3] 103/22 124/1 176/25
I said [4] 91/21 126/10 151/19 200/7
I saw [2] 128/12 153/3
I say [8] 12/6 68/9 79/5 79/13 86/10 92/6 112/11 204/25
I see [6] 29/22 52/16 76/14 94/17 95/6 159/18
I should [2] 127/8 150/20
I sit [1] 101/20
I sought [1] 35/11
I spent [1] 88/18
I stand [1] 91/22
I start [1] 16/4
I started [2] 18/22 64/24
I state [1] 64/7
I still [2] 23/5 88/20
I summarise [1] 195/24
I suppose [4] 34/9 82/12 85/20 159/14
I suspect [3] 38/6 173/9 193/22
I take [1] 135/22
I teach [2] 102/10 102/11
I think [127] 1/25 7/15 11/10 18/10 20/7 22/9 23/7 23/10 27/11 27/11 30/7 32/14 32/14 42/18 42/23 43/3 43/4 51/12 53/18 54/4 56/4 62/14 62/22 62/23 62/24 63/10 65/12 67/4 69/23 71/9 73/6 73/16 74/12 76/9 79/24 80/13 80/19 86/3 86/20 90/23 94/11 94/13 94/13 94/14 94/15 94/19 94/24 95/3 95/7 103/22 105/15 105/23 107/1 108/16 108/19 110/25 112/1 112/21 114/7 114/11 115/17 115/19 118/23 124/7 126/1 126/9 126/19 128/3 128/9 129/2 129/6 129/13 139/7 140/14 141/2 141/8 141/9 141/16 146/2 146/15 146/24 147/18 148/14 152/21 155/4 155/10 157/14 166/20 167/24 170/9 170/10 171/15 171/22 172/5 172/25 174/3 175/16 178/8 180/21 182/1 183/3 185/22 186/2 186/20 187/2 188/8 192/16 193/7 193/9 194/15 194/19 195/14 196/1 197/13 197/16 198/23 199/11 199/13 200/11 200/11 202/7 203/11 204/15 204/17 204/19 204/25 205/20
I thought [1] 154/21
I took [3] 29/15 78/19 183/21
I train [2] 19/19 19/20
I treat [1] 21/17
I tried [1] 51/7
I understand [14] 6/12 42/8 43/11 49/8 60/24 62/3 70/11 71/22 87/18 90/9 94/4 161/25 204/5 205/2
I understood [3] 4/25 85/24 202/21
I upgraded [1] 18/24
I use [1] 38/10
I used [1] 64/9
I want [4] 2/14 50/11 82/25 144/8
I wanted [4] 42/16 76/17 82/19 93/19
I was [24] 3/16 4/22 10/17 12/22 20/18 22/15 29/24 29/25 31/7 39/5 43/2 52/17 75/23 76/8 91/1 102/20 102/21 102/22 103/17 120/11 128/9 131/11 167/16 180/16
I wasn't [1] 38/14
I will [23] 2/3 4/21 12/20 16/2 16/20 19/8 22/22 32/14 36/22 48/18 51/1 52/1 70/24 83/19 91/25 94/18 114/16 131/21 137/25 152/3 153/21 205/6 205/19
I wish [1] 201/16
I won't [7] 14/21 48/25 92/10 97/19 106/18 135/13 190/11
I wonder [3] 30/19 49/15 151/8
I work [3] 18/21 143/13 164/24
I worked [2] 128/6 128/12
I would [57] 10/14 15/16 19/23 22/8

I

I would... [53] 25/3 25/3 25/4 25/4 29/19 36/24 41/9 49/6 50/23 63/6 65/8 65/13 76/22 81/12 89/25 104/10 109/10 109/24 111/14 112/1 119/6 120/21 120/24 127/12 127/15 128/15 130/2 134/14 139/10 145/1 146/6 148/9 150/15 150/24 151/19 168/21 169/2 171/13 173/7 175/14 176/10 178/11 184/10 184/10 184/17 184/19 184/19 187/15 189/14 190/4 190/18 201/19 204/2

I wouldn't [7] 21/21 132/7 132/9 146/15 172/12 185/5 197/3

I wrote [2] 64/7 91/4

I'm [100] 7/5 11/11 11/12 17/1 17/6 18/18 18/19 18/20 18/25 19/5 19/8 19/17 22/9 26/13 27/10 28/18 32/24 33/8 38/11 38/12 38/13 39/22 40/1 43/24 43/25 44/3 45/13 46/4 49/11 49/14 49/20 54/9 56/10 66/3 68/20 69/11 70/9 74/22 74/23 75/6 75/7 75/8 77/10 79/20 83/20 85/16 86/3 86/24 86/25 96/13 96/20 99/7 100/18 103/14 111/24 113/8 113/24 126/9 126/24 127/4 129/2 129/8 129/8 131/2 135/4 137/5 141/22 148/5 151/12 153/23 154/25 160/19 161/14 167/19 170/25 174/14 177/15 180/17 182/20 182/23 183/5 183/24 185/10 185/17 185/19 187/7 187/15 188/15 191/10 191/25 192/4 193/3 197/2 197/5 197/6 200/20 202/14 202/14 204/3 204/25

I've [1] 25/1

i-gel [9] 117/11 118/6 118/8 118/23 119/1 173/16 173/17 173/22 174/12

Ian [9] 106/16 118/1 119/22 134/21 136/11 140/9 141/2 196/16 196/16

ICU [3] 117/24 119/19 144/6

idea [1] 117/17

identical [2] 5/13 5/15

identified [14] 15/2 32/3 37/19 40/10 40/13 41/15 42/25 45/25 59/4 59/6 59/24 78/10 82/17 186/6

identifies [1] 126/2

identify [5] 16/1 45/9 45/14 199/5 204/9

identifying [3] 43/14 59/25 203/23

identity [1] 59/23

ie [3] 73/14 74/18 83/24

ie an [1] 73/14

ie has [1] 83/24

ie this [1] 74/18

ill [1] 198/13

illicit [4] 40/16 49/5 80/3 81/6

image [2] 71/25 72/5

imagine [3] 27/8 126/12 185/17

immediate [3] 123/7 136/12 175/19

immediately [7] 7/19 11/22 23/19 26/4 81/25 128/8 142/17

immunohistochemical [1] 54/20

immunohistochemistry [1] 51/18

impact [1] 94/7

impacts [2] 100/21 203/22

impinged [1] 193/18

implementation [1] 109/19

implication [1] 127/25

importance [2] 34/8 37/2

important [6] 16/1 33/20 38/16 67/8 67/16 83/15

impossible [2] 124/23 161/3

impression [5] 91/1 123/7 150/22 151/1 194/18

impressions [2] 132/19 203/2

improved [2] 85/3 145/6

improvement [2] 81/19 204/8

inadequacies [1] 204/21

incapacitated [3] 190/23 190/25 191/19

inches [1] 117/17

incident [8] 66/12 102/22 148/4 152/1 188/19 196/4 196/21 204/9

incidents [4] 102/18 102/25 153/6 183/15

include [3] 102/18 128/21 166/12

included [5] 33/17 35/23 109/4 116/8 119/15

includes [1] 60/8

including [11] 28/15 31/23 33/24 100/12 101/24 101/24 102/17 103/5 108/11 132/5 150/25

inclusive [1] 105/5

increase [6] 54/9 84/17 85/23 154/12 168/5 170/4

increased [2] 175/7 184/6

increases [4] 168/4 168/6 169/7 200/16

increasing [4] 86/15 114/22 125/16 169/8

incredibly [5] 148/19 148/19 183/3 183/18 201/12

indeed [8] 44/7 93/20 95/22 109/16 175/16 195/25 205/16 205/23

independent [14] 6/7 8/21 22/4 23/25 24/1 24/11 24/15 24/16 24/21 25/9 28/6 31/2 58/12 60/23

independently [4] 21/24 57/1 57/2 58/18

INDEX [1] 206/3

indicate [14] 2/24 17/8 44/11 60/10 61/3 88/12 101/10 121/25 124/17 145/7 160/21 165/22 174/13 199/22

indicated [20] 3/9 7/15 9/24 10/19 18/10 35/19 40/21 61/12 118/2 118/2 122/18 143/14 162/18 165/20 166/20 171/18 172/14 177/1 179/9 180/21

indicates [5] 59/22 99/15 100/11 102/14 187/12

indicating [8] 16/13 59/17 92/25 93/12 122/8 126/21 168/24 185/22

indication [14] 6/4 11/19 40/14 49/3 68/21 80/1 91/9 115/14 145/15 165/9 177/2 184/24 188/21 197/25

indications [2] 145/17 176/12

individual [12] 5/9 9/1 25/8 27/22 28/8 29/8 36/3 52/14 87/19 136/23 142/4 197/7

individuals [4] 60/6 136/1 155/14 204/19

infarctions [1] 93/9

inflatable [2] 119/5 174/20

influenced [1] 22/5

information [27] 9/24 32/21 45/2 48/16 48/22 57/17 58/6 58/22 64/4 81/9 88/1 88/10 88/15 157/15 158/8 160/4 160/6 160/23 161/2 182/16 192/13 192/14 193/8 194/17 198/5

I

information... [2] 198/9 198/10
informed [3] 50/23 61/24 68/20
informs [1] 57/25
inhalation [3] 62/12 63/2 129/13
inhibition [3] 33/24 56/11 56/15
initial [7] 45/4 47/2 138/9 150/25 156/12 157/13 166/12
initially [5] 84/13 157/5 164/17 168/17 178/18
inject [1] 87/11
injected [1] 120/7
injection [3] 111/8 111/8 185/14
injector [8] 87/18 87/22 88/12 88/20 89/6 89/14 116/16 189/18
injectors [5] 87/9 88/2 88/6 89/1 109/19
injuries [1] 125/15
injury [27] 34/4 65/10 67/1 68/17 69/6 70/22 71/21 71/21 71/25 72/20 73/3 73/14 73/14 74/14 74/19 75/17 76/19 78/18 81/20 82/3 84/23 85/19 94/9 125/17 125/20 173/2 187/1
input [1] 185/16
INQ000607 [1] 166/5
INQ000623 [1] 92/6
INQ000646 [2] 137/24 140/10
INQ000659 [1] 152/24
INQ004495 [2] 10/24 83/4
INQ004496 [2] 12/12 87/2
INQ004691 [1] 128/22
INQ004988 [1] 47/8
INQ005003 [2] 2/17 30/21
INQ005227 [4] 23/16 35/16 51/12 76/23
INQ005526 [1] 4/13
INQ005818 [6] 13/7 31/14 41/10 48/3 69/19 90/16
INQ005942 [13] 96/22 117/12 119/10 136/9 143/2 147/5 150/17 161/17 178/25 188/14 190/16 196/5 200/19
inquest [2] 24/5 24/14
Inquiry [17] 1/21 2/1 13/16 14/15 22/1 62/6 96/5 96/19 103/18 105/23 114/8 128/25 134/21 188/18 190/15 201/1 205/25
Inquiry's [1] 98/8
insecticide [1] 127/24
insert [1] 111/5
inserted [2] 7/10 117/10
inside [2] 29/14 192/22
insight [1] 196/1
inspections [1] 78/7
inspections/investigations [1] 78/7
inspector [1] 196/19
instance [2] 145/4 178/10
instead [1] 142/24
instigated [1] 189/16
instructed [4] 4/22 7/16 21/6 24/20
instrumentation [1] 174/21
insult [1] 73/19
intact [3] 58/2 165/9 165/12
intake [1] 41/3
intelligence [2] 197/21 198/6
interactions [4] 134/19 135/1 142/6 142/7
interchangeable [1] 105/25
interest [3] 6/25 7/2 102/3
interested [4] 7/24 11/13 75/23 136/15
intermediate [1] 178/21
internal [6] 37/8 38/18 78/3 107/23 109/23 151/25
international [3] 31/2 31/6 180/1
internationally [2] 127/21 201/9
interpret [2] 161/22 204/20
interpretation [1] 52/25
interrupt [1] 49/20
interrupted [1] 34/24
intervention [1] 145/8
interventions [1] 199/25
intoxicants [1] 149/14
intoxicated [1] 60/15
intra [1] 185/14
intra-muscular [1] 185/14
intracerebral [6] 67/14 69/5 78/21 81/20 81/21 82/4
intracranial [7] 67/14 68/5 68/21 94/9 172/17 172/21 173/10
intramuscular [1] 111/8
intranasally [2] 111/10 111/22
intraosseous [3] 195/3 195/10 195/12
intraosseously [1] 111/7
intravenously [2] 114/6 119/25
introduced [2] 8/16 8/17
introductory [1] 134/17
intubation [2] 174/17 175/1
invasive [2] 118/8 118/20
investigation [6] 8/4 11/8 20/15 20/25 23/5 52/15
investigations [2] 50/8 78/7
involve [1] 69/7
involved [12] 7/21 8/1 8/22 21/10 94/12 100/19 102/8 102/23 102/25 155/8 183/15 201/7
involvement [3] 8/9 22/20 28/16
IO [1] 111/7
IPO [1] 134/12
irrespective [1] 116/14
irreversible [1] 73/4
is [627]
ischaemia [1] 84/1
ischaemic [3] 73/14 74/14 75/16
isn't [14] 2/2 5/25 6/20 12/7 33/3 87/8 90/20 113/24 135/5 140/3 151/10 163/7 205/1 205/4
isn't it [10] 2/2 5/25 6/20 12/7 33/3 87/8 90/20 135/5 140/3 151/10
issue [10] 16/8 35/6 38/15 41/12 61/18 65/15 90/14 93/20 160/22 165/7
issued [2] 92/8 151/21
issues [3] 34/15 93/2 93/13
it [531]
it's [166] 2/2 3/23 4/3 4/13 6/14 6/18 8/19 8/25 9/1 9/3 10/12 10/19 12/7 15/3 20/5 20/6 20/13 21/18 21/19 21/23 25/4 25/12 25/18 28/4 28/12 30/21 30/23 32/13 32/14 33/2 34/9 34/10 34/12 34/25 35/4 35/16 35/22 36/22 36/23 38/7 38/9 38/15 40/6 40/7 42/21 43/21 44/3 44/23 46/20 49/10 51/11 51/12 52/6 55/2 56/22 59/9 62/17 62/22 63/6 63/8 63/18 63/21 63/22 65/12 65/13 66/7 66/15 68/15 73/1 73/10 74/2 76/12 82/13 83/3 86/11 87/8 91/11 92/15 93/10 93/14 100/5 100/6 100/8 101/3 107/1 111/17 111/19 112/1 113/5 113/6 113/19 114/22 114/23 117/3 118/15 118/20 121/1 122/12 122/12 123/18 126/4 126/13 129/25 130/2 130/24 132/5 135/4 135/11 137/13 138/9 138/15 140/1 140/14 141/8 141/8 141/13 143/2 143/7 144/3 144/8 144/22 144/23 146/10 149/2 149/9 151/8

I

it's... [40] 153/17 154/10 154/24 155/15 156/1 158/16 159/2 159/5 160/6 160/10 160/18 162/5 162/8 162/9 162/12 165/12 166/24 167/4 167/8 168/25 169/17 170/23 173/11 173/23 174/21 175/25 176/1 176/4 176/9 176/10 176/18 182/1 182/7 183/18 190/19 192/16 193/18 198/7 204/19 205/3

its [12] 13/2 20/7 39/23 43/5 46/7 51/8 66/7 66/16 94/12 94/21 115/14 142/4

itself [14] 19/25 30/12 34/20 37/5 38/19 55/6 58/5 68/22 73/25 74/6 74/24 103/2 121/10 187/11

J

January [2] 92/9 109/18

jaw [3] 145/21 146/2 146/4

JESIP [5] 196/6 196/7 198/4 204/12 204/24

Jesse [1] 202/11

job [5] 104/23 105/1 106/12 132/3 132/5

JOHN [3] 96/6 96/13 207/5

joint [5] 101/21 108/2 108/5 196/14 198/7

JRCALC [14] 92/21 108/1 108/5 121/21 123/13 153/11 153/15 154/2 155/5 169/11 169/14 169/15 169/16 179/13

judgment [1] 146/9

July [18] 1/24 2/7 2/18 4/10 13/8 13/12 24/14 26/4 28/22 28/22 31/13 41/6 42/4 42/12 69/10 69/18 78/23 90/16

June [10] 33/18 42/11 42/15 47/16 92/10 103/24 110/6 129/3 203/15 204/10

just [186] 3/4 3/8 3/16 4/14 4/15 4/18 4/21 6/3 6/22 7/6 7/12 7/13 8/25 10/16 10/18 11/2 12/25 13/18 14/7 16/11 16/21 16/24 18/14 19/15 24/12 25/24 25/25 26/11 26/13 27/10 27/12 27/13 28/8 30/6 30/18 31/4 31/5 31/8 31/11 31/19 32/5 32/14 33/15 35/19 37/10 37/13 37/25 38/13 39/24 40/1 40/18 40/22 44/23 44/25 45/20 46/4 46/21 47/3 47/5 49/7 51/24 51/24 53/18 54/4 54/13 55/5 55/18 56/5 56/5 56/6 57/4 57/8 60/18 61/8 61/22 62/20 63/1 63/6 63/16 64/11 65/12 65/13 66/1 67/9 67/11 68/23 69/25 71/5 71/5 73/16 73/22 74/8 76/13 76/22 76/25 77/15 79/20 82/2 82/22 83/1 85/6 85/16 88/3 88/3 88/9 88/23 90/20 90/24 91/25 92/2 92/2 93/2 94/21 96/20 97/14 97/19 100/14 102/7 104/10 106/14 108/10 108/23 113/13 117/13 118/6 119/19 120/15 125/18 126/11 127/3 130/12 130/23 131/4 133/1 133/19 135/8 135/11 137/25 141/17 143/3 143/3 144/8 144/9 145/14 147/4 147/24 150/14 150/15 150/18 153/16 154/12 155/13 161/23 162/13 162/24 167/6 172/2 173/13 173/23 174/16 175/2 175/22 178/7 178/19 179/1 179/18 179/20 183/9 185/21 187/9 188/12 188/15 188/16 190/17 191/2 191/20 192/18 194/5 194/22 195/14 197/20 198/3 199/2 200/20 201/4 201/6

justice [2] 6/13 11/15

justice system [2] 6/13 11/15

K

Karl [1] 142/23

keep [6] 21/18 26/13 108/11 132/1 151/14 161/4

keeping [1] 133/10

Keith [3] 161/10 166/7 173/15

kept [1] 10/5

Kerry [1] 156/6

key [5] 33/16 103/1 160/6 195/22 199/2

kill [4] 32/19 63/19 64/22 121/18

kind [8] 6/25 107/22 119/4 124/5 126/9 129/11 149/24 203/16

Kingdom [5] 28/20 35/13 59/4 59/18 59/24

kneeling [1] 126/17

know [32] 6/24 15/21 18/18 45/19 47/14 49/25 53/1 66/2 89/23 92/12 93/14 96/5 107/16 133/8 140/8 142/23 143/9 143/11 144/21 154/11 158/3 158/6 159/15 159/15 159/16 167/2 172/18 184/22 193/12 194/7 200/7 202/3

knowing [2] 35/6 56/7

knowledge [9] 14/25 32/17 81/11 85/2 97/5 97/7 106/22 120/2 198/1

known [6] 63/15 72/16 96/14 122/24 122/25 173/12

L

laboratories [2] 29/7 60/13

laboratory [4] 3/1 29/5 57/14 81/2

laboratory examinations [1] 3/1

lachrymation [1] 123/16

lack [9] 66/4 71/21 73/14 134/4 134/9 134/10 150/4 186/10 204/6

lacking [1] 172/8

language [1] 201/13

lapse [1] 49/9

large [10] 32/11 32/13 44/19 46/12 93/3 103/4 127/17 146/3 146/7 167/11

largely [1] 154/1

larger [2] 128/23 138/1

laryngeal [1] 119/3

last [16] 15/1 15/2 16/7 24/16 41/21 54/13 54/14 73/10 74/12 75/13 78/20 88/19 90/12 94/1 128/6 128/12

lasting [1] 176/14

Lastly [1] 200/18

late [4] 35/11 48/24 75/19 76/15

later [7] 12/13 52/16 80/5 87/2 89/12 110/9 166/22

latter [2] 45/19 139/23

Lawes' [1] 156/7

lay [1] 104/12

layman's [3] 68/4 69/21 70/10

LD50 [2] 63/15 63/16

lead [6] 46/24 77/7 99/12 100/18 105/20 161/10

leaders [1] 102/12

leadership [1] 99/17

leading [4] 74/7 94/8 94/9 187/1

learning [4] 129/11 129/14 204/8 204/15

least [8] 16/21 27/9 29/12 33/17 56/1 92/24 111/9 203/24

leave [1] 205/6

L

led [4] 39/8 69/8 81/24 201/5
Lee [1] 193/5
left [9] 18/2 47/3 72/2 72/5 72/9 93/4 140/16 140/21 166/10
left-hand [6] 72/2 72/5 72/9 93/4 140/16 140/21
legal [3] 6/11 100/13 100/22
Leicester [1] 17/12
length [4] 38/3 130/7 131/6 131/7
lengthy [1] 18/24
less [5] 149/25 150/3 150/7 173/12 193/23
let [6] 16/15 25/25 34/15 38/25 95/7 151/4
let's [10] 4/14 5/19 51/10 51/16 59/8 61/22 69/18 69/25 69/25 78/5
lethal [2] 63/17 63/18
level [28] 19/10 19/17 32/5 44/11 44/13 68/13 95/19 95/21 98/22 105/4 105/16 109/8 110/20 112/6 122/8 122/9 122/23 124/24 146/21 149/22 149/23 193/9 196/1 199/7 199/11 205/20 205/21 205/22
Level 1 [1] 205/20
levels [12] 40/12 50/13 50/17 51/5 51/7 52/21 54/2 54/5 56/25 57/18 102/10 150/4
Liaison [2] 101/21 108/6
liberation [1] 62/20
licensed [1] 16/18
life [36] 19/4 19/18 19/20 37/22 37/22 40/9 52/8 56/24 66/23 67/1 79/23 81/2 87/24 90/2 102/13 120/5 132/23 143/20 145/8 166/13 168/9 168/20 169/13 176/8 178/2 178/8 178/9 178/13 178/13 178/17 178/21 178/23 178/24 179/3 179/8 199/25
life-threatening [1] 19/4
lifestyle [1] 36/24
light [3] 133/16 150/14 188/17
like [40] 10/15 19/23 24/7 36/23 38/11 38/12 41/9 56/6 62/18 62/18 64/3 64/3 65/8 65/13 68/9 76/22 86/10 96/7 100/15 104/11 104/17 118/21 119/7 119/25 129/10 129/12 130/2 135/2 147/17 148/9 148/16 149/13 154/23 188/16 190/1 190/4 200/21 201/19 201/24 204/13
likelihood [1] 48/9
likely [14] 25/5 36/4 36/7 45/16 45/17 62/14 62/15 62/22 62/25 95/14 147/23 159/6 167/4 193/13
limitations [1] 49/12
limited [8] 72/22 106/6 109/5 171/13 185/15 185/17 187/4 201/11
limits [1] 36/3
line [15] 24/16 30/24 39/14 46/4 73/10 83/9 90/18 106/19 115/24 131/23 131/23 144/10 164/5 178/4 187/17
lines [9] 3/8 7/14 11/3 11/19 30/23 39/14 54/14 59/13 69/2
linked [2] 45/8 47/1
links [1] 88/5
lipid [1] 114/10
Lisa [8] 111/22 123/6 134/21 140/9 140/12 142/9 142/19 143/21
list [40] 20/3 20/7 20/8 20/11 20/12 20/13 20/17 20/18 23/17 27/17 29/16 31/11 40/1 42/19 42/19 42/21 43/8 43/11 45/4 45/25 46/6 46/8 46/9 116/8 116/8 116/11 116/12 119/14 119/18 121/6 123/13 125/24 127/1 128/25 132/19 132/19 132/20 172/25 180/2 203/2
listed [3] 9/4 42/18 124/12
listen [1] 205/18
listing [2] 38/10 38/13
lists [2] 116/5 116/9
literally [1] 19/7
literature [3] 76/2 130/4 130/13
little [15] 2/23 7/13 11/23 18/14 36/21 41/7 43/16 70/20 99/10 107/9 108/10 110/9 125/4 140/11 202/16
living [1] 126/18
local [6] 107/15 107/16 153/11 155/12 155/13 183/23
location [2] 139/15 198/11
locked [4] 131/5 145/21 146/2 146/4
logs [4] 103/7 103/8 156/2 156/4
London [7] 98/20 99/8 100/17 101/11 102/24 131/10 131/11
long [14] 8/15 17/2 20/20 26/8 26/9 26/11 26/14 27/7 45/4 70/19 70/21 117/17 132/20 201/6
long-term [1] 201/6
longer [6] 43/2 70/21 118/16 162/17 162/19 176/14
look [56] 2/23 3/17 4/16 4/17 5/4 5/18 7/7 9/20 11/2 12/14 13/18 16/11 21/24 24/10 26/15 28/11 28/18 28/24 30/21 37/13 38/21 51/7 57/20 57/22 59/8 59/21 65/13 66/22 68/23 69/2 69/12 69/14 72/7 78/5 86/25 88/24 92/13 93/2 97/20 97/25 100/16 117/12 121/21 129/10 131/3 133/10 135/17 147/19 147/21 147/22 152/4 153/14 154/11 162/23 165/11 187/2
looked [29] 10/6 14/7 27/19 35/9 38/17 38/18 40/22 42/21 47/14 49/1 50/11 52/22 52/23 53/6 59/9 59/11 59/16 77/25 78/19 80/7 83/4 83/6 83/9 87/4 92/6 130/4 149/18 180/19 182/18
looking [32] 6/3 16/7 46/4 47/13 51/13 54/13 54/15 55/2 55/9 55/20 57/21 58/10 60/18 65/13 72/4 72/6 80/17 83/20 90/20 103/14 131/2 136/17 140/13 148/5 159/8 159/8 167/5 171/3 171/5 174/14 182/5 191/25
looks [6] 33/9 43/2 100/15 148/16 154/23 158/19
lose [1] 197/18
loss [3] 162/16 163/24 201/21
lot [7] 41/21 62/21 88/18 131/13 149/9 193/20 193/21
lots [6] 55/22 55/22 149/14 154/6 154/12 181/20
Louise [1] 133/12
low [11] 71/16 122/8 150/2 150/5 168/23 168/24 180/4 180/4 180/5 185/16 187/5
lower [3]

L

lower... [3] 93/3 165/12 168/15
Lumb [2] 23/20 24/19
Lumb's [3] 24/12 25/13 27/19
lunch [1] 95/25
lung [2] 79/8 180/8
lungs [13] 63/10 74/3 118/15 122/11 122/12 122/14 123/17 123/18 124/21 125/17 125/19 126/15 181/14
LW [1] 123/6
lying [1] 127/23

M

machine [2] 173/24 174/1
macroscopically [1] 36/25
made [20] 1/23 23/10 27/4 27/8 40/19 48/20 48/21 67/11 95/4 96/19 97/3 97/14 128/1 137/25 174/1 174/2 175/7 192/12 199/4 205/4
main [7] 10/14 11/2 105/4 133/24 170/4 171/4 187/20
mainly [2] 29/4 115/24
maintain [1] 168/13
major [4] 31/24 100/12 100/18 101/24
majority [3] 36/2 114/22 127/13
make [22] 3/20 10/4 95/16 98/3 126/16 128/23 131/19 134/2 138/1 140/5 140/11 140/15 141/1 144/8 145/11 152/19 155/16 179/19 183/1 191/20 201/21 205/3
maker [1] 163/15
makes [1] 150/14
making [8] 44/23 65/24 101/6 146/8 148/12 148/22 186/16 199/15
male [1] 133/7
malleable [2] 118/12 118/18
Maltings [1] 139/15
manage [4] 147/9 155/6 194/25 198/21
managed [4] 178/5 178/5 194/19 195/4
management [16] 89/8 101/25 103/23 113/18 120/5 153/5 154/7 171/1 174/3 176/8 179/7 183/7 183/14 187/21 189/4 189/8
manager [2] 99/16 101/15
manner [3] 22/11 35/10 49/8
manual [2] 162/8 167/5
many [27] 8/20 17/3 20/23 20/23 21/4 30/14 32/22 38/6 38/14 64/16 64/21 67/18 70/19 76/3 101/7 120/24 128/14 128/16 163/24 169/2 169/2 169/15 172/12 173/9 176/1 176/11 201/23
map [1] 160/19
mapping [1] 161/5
Maps [1] 160/23
March [8] 109/22 110/4 129/3 131/21 139/17 148/5 150/19 151/3
MARK [10] 96/6 96/13 96/14 136/13 156/18 160/14 161/9 161/12 164/17 207/5
MARK FAULKNER [4] 96/6 96/13 96/14 207/5
marked [3] 32/7 166/19 193/23
Marriott [6] 136/13 156/18 160/14 161/9 161/12 164/17
marrow [2] 111/5 111/6
Martin [1] 193/5
Mary's [1] 98/19
mask [6] 119/3 173/16 173/22 178/19 178/19 193/25
massive [1] 155/11
masters [2] 98/18 98/22
material [8] 5/2 15/23 54/23 64/21 82/16 94/16 95/5 186/16
matter [9] 11/20 13/1 23/2 83/15 83/18 104/10 144/15 144/20 204/22
matters [8] 6/8 10/20 10/21 23/12 23/14 86/23 97/4 97/11
maximum [2] 32/20 32/21
may [56] 1/5 5/7 5/11 15/9 16/4 21/16 27/16 29/15 34/19 43/4 43/25 45/14 51/11 59/8 61/8 70/7 74/10 82/9 82/15 90/7 90/22 92/3 93/21 93/21 94/25 94/25 107/2 107/2 107/3 107/5 107/7 107/8 110/9 137/23 143/18 145/6 146/12 147/12 147/13 147/24 149/4 155/15 159/22 159/23 161/16 186/5 186/9 189/9 193/13 195/21 197/11 199/4 201/15 201/22 202/8 204/23
Maybe [1] 75/12
McCourt [2] 134/23 135/5
McKerlie [1] 196/19
MDPS [1] 136/3
me [27] 1/17 12/21 15/12 16/16 23/3 25/2 25/25 34/15 35/14 38/25 43/20 57/25 64/8 64/15 69/15 86/3 92/16 108/11 128/15 129/24 131/5 144/17 153/16 186/19 195/23 197/13 200/25
mean [15] 22/7 28/4 34/25 99/23 113/14 137/1 137/2 137/4 137/6 138/23 139/11 157/9 179/21 189/3 192/22
meaning [1] 122/15
meaningful [1] 155/1
meaningfully [1] 155/10
means [16] 22/17 62/7 63/11 65/20 66/19 111/19 123/6 138/7 138/19 142/1 142/3 144/21 154/20 158/13 160/9 160/10
meant [2] 66/16 146/13
meantime [1] 151/15
measure [1] 137/10
measured [1] 84/16
measures [1] 183/10
mechanical [3] 173/18 173/20 173/23
mechanically [1] 162/22
mechanics [1] 173/23
mechanism [3] 53/15 55/19 94/7
medazepam [1] 113/17
media [1] 1/20
median [1] 137/6
medical [25] 3/2 16/14 16/15 16/17 16/19 19/2 19/5 19/18 33/16 47/14 81/4 84/3 101/11 102/13 103/8 104/24 105/6 105/7 106/3 116/14 125/1 125/10 135/9 135/10 135/23
medication [4] 113/5 113/6 113/20 176/4
medications [15] 39/9 110/11 110/11 113/1 115/24 116/6 116/8 116/11 116/12 119/14 134/18 147/9 167/21 177/7 189/20
medicine [6] 16/14 16/22 18/7 98/19 114/3 116/15
medicines [4] 92/8 109/15 115/25 116/4
medico [2] 6/11 100/13
medico-legal [2] 6/11 100/13
meeting [1] 131/5
member [4] 20/12 20/18 20/19 23/3
membranes [1] 63/9
mental [1] 129/9

M

mention [3] 120/12 125/9 130/3
mentioned [9] 5/24 18/4 43/12 46/11 82/21 119/19 125/11 130/1 136/11
met [2] 28/9 141/23
metabolic [1] 180/5
metabolite [6] 39/23 43/21 44/4 44/7 46/7 46/20
metabolites [1] 43/5
metres [3] 137/20 141/15 156/20
micrograms [1] 143/13
microphone [1] 1/9
microphones [1] 96/8
microscope [2] 32/2 55/2
microscopically [1] 37/1
mid [1] 116/10
mid-wives [1] 116/10
middle [4] 13/19 49/24 70/9 151/14
Midlands [2] 18/9 51/23
midnight [1] 26/6
might [24] 3/10 22/19 39/3 43/5 45/6 45/21 49/15 62/16 62/19 106/24 129/17 141/7 142/19 155/5 171/8 172/24 175/8 181/25 183/1 184/5 185/23 198/13 199/11 202/16
miles [1] 183/23
Miller [1] 133/4
Mills [2] 166/7 173/15
mind [11] 21/18 35/10 48/2 60/17 69/18 70/2 91/8 108/9 132/8 133/10 187/9
minded [1] 198/16
mindful [1] 27/11
minimal [2] 36/4 71/24
minimise [1] 194/4
minimised [1] 200/12
minimises [1] 194/6
minor [1] 36/21
minute [6] 125/18 136/25 141/10 141/17 156/21 179/8
minutes [16] 49/22 70/20 74/13 78/19 83/1 137/3 137/7 159/3 159/12 166/25 168/11 175/13 176/15 189/2 192/21 202/8
miosis [13] 112/5 122/22 123/16 124/21 133/20 134/8 149/23 171/16 172/3 172/5 173/2 173/5 182/18
mirtazapine [6] 44/18 46/10 47/3 47/10 47/20 48/5
misreading [1] 91/11
missed [1] 91/3
mistake [1] 143/17
mitochondrial [1] 36/6
mixed [4] 120/10 120/13 120/23 120/25
mixture [1] 106/11
Mm [2] 87/14 159/9
Mm-hm [2] 87/14 159/9
mode [6] 62/15 161/23 162/8 162/9 162/12 167/5
model [2] 129/9 166/10
Moderate [1] 38/2
moment [14] 4/18 16/21 24/12 43/12 47/5 47/7 49/16 113/1 115/18 136/16 168/12 185/22 191/2 203/13
monitor [3] 164/5 167/5 177/19
months [1] 183/20
mooing [2] 199/14 199/15
more [54] 3/5 5/13 7/5 11/23 13/8 16/1 22/16 22/23 27/9 27/9 27/12 32/13 38/14 41/7 43/16 49/9 54/22 63/11 64/4 69/10 76/10 83/10 84/18 86/13 88/7 91/19 100/7 102/21 104/21 106/23 108/10 109/8 111/9 118/8 118/10 118/18 118/20 120/14 130/18 131/14 147/1 152/4 160/24 172/7 172/7 178/22 181/24 182/1 182/7 182/16 191/16 191/18 193/20 193/21
morning [9] 1/17 85/1 97/21 108/17 128/10 172/14 184/24 205/20 205/23
morning's [1] 1/4
morphine [3] 110/17 119/16 144/23
morphological [1] 36/10
mortem [9] 22/19 29/1 46/22 54/8 57/25 66/10 66/22 103/12 172/15
mortuaries [1] 30/14
mortuary [2] 29/13 30/16
most [20] 10/9 16/7 35/2 95/14 104/15 108/13 109/8 112/8 119/2 126/6 127/16 128/3 162/17 171/20 171/22 171/23 173/7 174/19 193/19 201/19
mouth [1] 126/14
move [12] 4/11 19/23 25/25 32/24 38/25 49/14 50/11 84/8 119/7 134/19 167/20 180/17
moved [2] 130/20 133/22
movements [1] 193/18
moving [11] 26/15 27/15 79/22 80/16 103/2 125/9 145/10 169/20 177/13 178/22 184/12
MPDS [3] 136/5 136/6 158/14
Mr [42] 1/3 1/12 49/17 49/23 50/6 60/14 95/10 96/4 96/6 96/8 98/11 103/20 103/20 107/6 112/4 122/22 135/15 144/11 145/5 145/21 147/10 148/7 151/12 151/19 152/22 156/10 170/13 190/1 195/1 195/15 199/25 201/16 201/16 202/10 202/11 203/15 205/2 205/8 205/16 207/4 207/5 207/7
Mr and [4] 103/20 148/7 170/13 201/16
Mr Charles [1] 60/14
Mr Charlie [1] 103/20
Mr Darch [1] 152/22
Mr Faulkner [13] 96/4 96/8 98/11 107/6 135/15 144/11 151/12 151/19 156/10 190/1 202/11 205/8 205/16
MR JOHN [2] 96/6 207/5
MR NICHOLLS [3] 202/10 205/2 207/7
Mr O'Connor [7] 1/3 1/12 49/17 49/23 50/6 95/10 207/4
Mr Rowley [2] 199/25 201/16
Mr Rowley's [3] 195/1 195/15 203/15
Mr Skripal [5] 112/4 122/22 145/5 145/21 147/10
Ms [29] 29/2 60/14 96/2 96/10 103/20 135/3 135/5 135/18 136/14 147/8 147/10 148/7 153/17 170/13 170/13 176/22 183/14 188/19 189/5 189/8 189/10 189/17 189/25 201/16 202/5 202/17 203/13 205/11 207/6
Ms Dawn [1] 60/14
Ms McCourt [1] 135/5
Ms Skripal [4] 103/20 147/8 147/10 148/7
Ms Sturgess [10] 29/2

M

Ms Sturgess... [9] 135/18 136/14 176/22 183/14 188/19 189/5 189/8 189/10 189/17

Ms Sturgess' [1] 189/25

Ms Whitelaw [6] 96/2 135/3 153/17 202/17 203/13 205/11

much [30] 13/8 33/11 36/20 40/23 50/2 56/18 74/3 86/2 93/18 95/7 95/13 95/22 96/17 107/25 108/9 118/16 143/11 147/1 153/14 165/6 173/11 183/6 183/9 185/11 187/6 202/1 202/5 205/8 205/16 205/23

multiple [5] 127/17 139/1 147/1 157/10 165/25

muscle [10] 31/23 111/9 113/3 113/5 113/12 113/19 118/9 146/18 146/19 186/1

muscles [4] 74/4 117/20 185/13 185/24

muscular [2] 185/14 199/12

must [3] 20/22 61/13 201/11

mustn't [1] 24/3

my [68] 1/15 21/22 25/3 25/23 48/12 63/5 63/22 71/15 72/3 74/23 75/9 81/24 85/2 88/25 89/25 90/18 91/8 91/12 91/22 93/21 94/11 94/15 95/4 96/4 97/4 97/7 97/10 102/21 112/23 114/15 115/16 124/9 128/4 129/6 129/9 130/23 131/18 132/5 132/22 135/12 141/7 145/18 146/2 147/8 153/3 153/13 154/7 159/5 160/12 160/19 175/6 175/12 178/5 184/1 184/9 186/19 191/6 192/10 192/10 195/23 196/11 199/9 201/17 201/19 201/22 202/1 202/11 204/2

myocardial [3] 36/11 84/1 93/9

myself [3] 44/1 150/25 175/15

N

naked [2] 32/3 37/1

naloxone [29] 110/14 110/16 111/3 111/16 111/17 111/22 112/10 112/19 112/22 117/2 123/10 142/21 142/25 143/23 144/18 147/11 147/21 147/25 170/7 170/7 170/14 171/1 171/7 171/11 171/12 171/25 180/15 194/24 195/6

name [21] 1/13 1/15 2/21 7/13 7/14 7/19 8/11 9/3 9/19 18/21 27/19 27/19 59/2 61/4 96/4 96/11 112/19 118/4 118/24 170/20 202/11

names [2] 58/21 166/7

Narcan [2] 112/18 170/20

narcotic [1] 119/12

narrow [1] 132/21

narrowing [3] 34/23 35/3 37/20

nasal [1] 63/9

nasally [1] 62/23

NATHAN [3] 1/7 1/15 207/3

national [11] 92/20 101/18 101/22 107/20 107/21 108/6 109/25 153/11 154/4 154/15 169/13

nationally [2] 105/1 201/8

natural [6] 21/19 68/23 78/10 81/4 159/7 159/9

naturally [1] 35/2

nature [4] 31/21 110/13 141/25 192/23

nausea [1] 122/4

near [2] 42/16 58/19

nearly [2] 26/7 150/24

necessarily [6] 48/7 65/1 95/2 132/8 141/24 201/13

necessary [1] 104/2

need [26] 4/22 18/6 19/4 38/21 43/3 51/13 70/21 73/7 74/14 90/12 95/14 108/11 108/22 111/24 119/16 140/11 142/16 147/24 170/23 174/24 177/23 190/23 191/7 195/16 203/24 205/17

needed [5] 34/8 65/1 117/8 174/10 188/9

needle [2] 111/5 111/5

negatives [1] 90/25

neither [3] 86/1 137/17 189/20

nerve [49] 13/3 58/1 81/8 81/12 87/19 89/3 89/6 89/7 89/13 89/24 90/8 108/25 109/4 109/7 115/9 123/14 123/15 124/17 124/20 127/11 127/16 128/20 128/25 129/9 143/16 151/5 152/1 152/6 172/10 175/23 175/25 180/18 182/22 183/5 183/16 183/19 184/6 184/12 184/14 184/20 185/19 186/6 189/10 189/13 189/15 194/18 196/18 199/5 201/5

nervous [2] 114/20 115/5

Netherlands [3] 31/3 31/8 58/13

neurogenic [2] 125/16 181/18

neurologically [2] 165/9 165/12

neurotoxic [1] 201/5

neurotransmitter [1] 115/4

neurotransmitters [1] 113/21

neutral [2] 11/11 22/11

never [5] 25/2 28/8 91/13 127/14 128/17

new [3] 160/16 160/20 161/4

next [23] 2/3 7/7 7/9 24/17 37/11 42/12 43/17 62/2 64/14 72/1 77/21 80/16 84/8 114/16 115/16 117/7 120/11 127/24 135/7 138/16 138/22 148/25 160/12

NHS [2] 101/1 153/8

NICHOLLS [4] 202/10 202/12 205/2 207/7

nicotine [3] 39/23 46/19 46/21

night [1] 128/9

nine [1] 137/7

no [93] 6/24 7/5 8/10 9/11 9/11 11/9 22/7 22/21 23/1 31/7 36/9 36/16 36/17 37/18 37/18 37/22 38/6 38/24 41/22 44/3 44/22 49/12 51/22 51/22 55/1 57/11 67/18 69/17 75/1 78/10 82/17 83/15 88/21 89/19 91/9 91/23 92/24 93/23 93/23 94/17 95/4 95/4 106/12 109/8 111/13 112/2 121/2 123/6 124/16 126/1 140/7 141/25 142/18 142/20 144/24 147/7 147/11 147/18 151/3 153/13 157/1 161/8 162/17 162/19 163/20 163/22 164/1 169/23 174/1 174/2 175/3 176/7 176/9 176/24 179/5 182/9 183/1 184/24 186/16 187/3 187/4 188/24 190/3 190/23 190/25 191/19 192/19

N

no... [6] 192/19 194/14 201/25 205/10 205/12 205/17
no one [1] 144/24
noises [1] 199/15
Nolan [1] 150/10
non [8] 38/2 40/11 79/7 79/14 122/10 122/15 168/10 179/10
non-cardiac [2] 122/10 122/15
non-specific [2] 79/7 79/14
non-therapeutic [1] 40/11
non-ulcerated [1] 38/2
none [4] 88/12 91/4 131/8 131/16
normal [20] 4/9 7/22 8/1 33/6 33/7 36/3 36/10 66/9 66/17 79/16 86/2 86/11 86/12 90/1 158/10 160/5 162/18 163/14 166/1 168/9
normally [15] 11/14 53/2 100/5 101/3 105/19 107/23 113/4 114/23 144/3 149/6 162/7 174/22 175/10 176/8 195/13
nose [1] 111/10
not [231]
notable [1] 31/12
note [4] 155/25 160/14 170/13 173/13
noted [4] 21/11 40/25 83/7 147/10
notes [9] 39/25 40/2 45/11 47/14 50/23 61/24 66/25 166/11 170/20
nothing [14] 4/7 8/8 8/10 18/1 36/25 55/8 57/11 92/17 92/19 92/19 126/3 163/22 164/9 201/20
notice [2] 59/12 109/18
noting [9] 4/10 14/21 14/22 15/11 40/25 44/25 48/6 136/22 152/11
notwithstanding [1] 196/21
November [10] 1/1 4/11 4/19 5/23 11/1 12/12 83/4 87/3 186/4 206/1
Novichok [57] 26/23 33/25 36/8 50/14 50/18 50/24 53/14 53/22 54/24 55/6 55/8 55/13 55/14 55/16 55/21 56/1 56/7 56/8 57/7 57/9 57/18 58/1 58/2 58/7 59/6 60/1 61/4 61/13 61/14 62/1 62/7 62/11 64/1 64/9 64/12 64/25 65/5 73/20 74/6 74/24 74/25 75/2 75/19 75/20 76/12 76/16 79/12 80/8 80/11 80/20 81/8 81/9 82/5 86/20 194/8 200/8 201/5
novo [2] 164/12 167/14
now [67] 4/15 10/8 13/14 16/16 16/21 18/1 18/25 27/2 32/4 32/24 47/15 50/11 52/7 61/21 63/16 70/15 72/2 76/20 76/22 83/21 86/25 92/4 97/16 97/20 103/14 104/9 113/16 117/7 124/2 124/12 125/9 126/8 128/18 129/19 130/15 139/19 142/23 142/23 143/21 147/16 148/5 152/22 154/15 155/20 157/25 158/13 160/22 161/9 167/20 169/20 174/12 178/21 180/17 180/19 180/24 182/4 182/20 184/22 188/12 193/3 193/12 194/7 196/15 200/7 202/6 202/16 205/20
nuanced [1] 134/13
nuclear [1] 102/16
nuclear' [1] 26/25
number [25] 2/9 10/5 14/1 29/3 32/6 32/11 32/13 39/22 40/10 76/20 87/21 103/4 103/17 104/21 105/1 106/1 106/9 130/7 138/2 139/8 145/16 152/22 171/19 183/23 191/3
number 2 [1] 14/1
numbered [5] 30/24 39/14 40/5 77/5 77/12
numbers [2] 138/9 155/2
nurse [2] 143/22 144/6
nurses [1] 104/17

O

o'clock [2] 205/20 205/23
O'Connor [7] 1/3 1/12 49/17 49/23 50/6 95/10 207/4
objective [2] 6/6 6/7
observation [3] 30/14 38/10 44/23
observations [1] 79/20
observe [2] 24/1 28/9
observed [5] 27/24 27/25 29/13 29/14 31/1
observer [2] 28/4 29/12
observers [5] 28/7 30/16 31/2 31/6 58/13
observing [4] 29/1 30/8 38/13 167/6
obtain [1] 48/21
obtainable [1] 67/2
obtunded [1] 174/24
obvious [5] 71/7 128/4 190/23 190/25 191/19
obviously [7] 7/21 22/11 38/15 85/18 87/6 144/4 160/24
occasion [4] 22/1 32/23 49/21 189/13
occasionally [2] 120/7 173/9
occasions [1] 10/6
occur [1] 117/21
occurred [7] 25/23 73/12 81/10 129/4 158/7 159/3 204/6
occurring [2] 125/12 173/20
occurs [4] 120/17 159/6 160/18 164/9
October [4] 106/19 131/23 144/10 156/1
oedema [8] 122/10 125/16 126/16 175/8 181/13 181/15 181/16 181/18
off [6] 26/11 121/11 133/22 162/4 172/6 193/22
offer [4] 107/2 107/5 107/17 201/19
Office [13] 3/23 4/6 8/15 9/13 17/16 18/19 20/1 20/3 22/10 23/22 23/25 24/9 26/8
officer [2] 12/17 12/18
officers [4] 196/20 200/5 200/10 200/12
often [20] 34/17 35/3 38/12 48/17 107/11 111/15 120/16 122/12 132/17 134/5 134/10 154/12 160/22 162/22 163/5 167/10 172/8 175/12 178/20 203/1
Oh [6] 43/23 56/7 82/11 144/22 147/20 191/9
Okay [3] 22/21 86/10 198/2
old [4] 38/9 118/4 122/19 138/10
once [12] 9/18 32/19 34/18 64/24 71/9 84/11 90/5 160/4 169/24 179/7 182/1 182/8
one [96] 2/14 4/12 5/13 5/15 5/18 6/22 10/10 10/16 12/9 15/1 18/18 21/14 22/16 27/8 28/12 29/12 29/25 33/9 33/10 35/22 41/1 42/11 42/11 42/21 44/16 47/5 48/5 57/16 58/6 59/9 63/11 64/15 65/12 67/19 68/19 80/17 88/6 90/14 90/22 90/23 91/3 91/5 91/11 93/4 93/10

O

one... [51] 94/24 97/19 99/12 101/17 102/21 107/8 108/19 111/14 114/4 117/2 117/25 118/17 118/18 118/20 119/2 119/2 119/8 121/16 121/17 127/22 128/3 128/15 129/17 129/24 133/21 137/12 137/13 140/3 142/14 144/8 144/24 145/17 149/8 149/24 152/6 152/24 152/25 153/17 163/25 171/2 171/22 175/8 180/13 180/24 186/3 187/3 190/22 195/21 200/8 200/14 201/4

ones [6] 40/22 42/16 103/1 129/2 129/4 162/6

ongoing [2] 3/1 11/8

only [22] 9/14 18/18 18/19 29/24 29/25 32/19 46/10 47/16 62/11 64/8 66/12 70/13 71/17 72/22 73/6 78/19 121/17 124/1 129/4 145/5 152/5 183/20

onwards [1] 135/19

OP [2] 117/16 118/11

opaque [1] 61/12

OPCW [12] 28/14 29/5 29/9 31/4 58/14 58/18 58/23 59/8 59/21 60/13 60/21 61/11

open [5] 21/18 21/20 25/9 58/17 132/8

opened [2] 25/6 138/12

operate [1] 107/20

operating [1] 4/5

operational [1] 197/4

operations [1] 100/9

opiate [23] 112/15 119/7 119/15 120/20 121/10 121/23 122/25 123/3 123/7 124/19 125/8 127/7 127/8 133/9 142/20 147/14 148/3 149/18 152/7 170/15 171/21 180/20 195/8

opiates [3] 119/12 124/19 133/18

opinion [27] 6/8 25/3 35/11 44/12 69/4 73/19 75/18 78/20 79/20 80/25 81/24 83/14 83/18 91/10 111/23 135/16 142/7 147/8 151/2 152/8 173/18 177/1 177/13 186/3 190/5 195/11 200/9

opinions [3] 97/10 97/11 146/23

opioid [28] 110/19 111/17 112/9 112/12 128/13 128/14 133/21 133/23 134/15 147/24 148/17 148/18 149/3 150/8 150/12 150/16 151/1 171/9 171/9 173/8 183/1 183/3 183/6 194/16 194/25 197/20 199/13 199/16

opioids [8] 110/16 110/21 110/22 134/6 134/7 149/25 150/2 150/7

opportunity [3] 109/11 148/2 148/8

opposed [2] 48/23 129/15

opposite [1] 72/8

options [1] 132/9

orally [1] 62/23

Ord [4] 117/25 119/19 134/24 135/4

order [6] 1/22 2/16 30/4 104/1 118/8 168/3

ordinarily [1] 198/11

organisation [4] 18/21 27/21 29/18 107/7

organised [2] 163/17 164/1

organophosphate [45] 53/14 55/18 64/3 64/10 74/15 74/21 75/16 79/9 81/12 81/17 87/20 92/1 109/3 119/8 123/14 124/17 125/8 126/7 126/24 127/7 127/10 127/14 127/22 127/24 128/16 129/23 130/11 130/17 131/7 131/9 143/15 147/15 150/11 151/4 152/7 153/6 172/4 173/6 180/20 181/2 181/7 183/4 185/8 185/19 194/18

organophosphates [6] 74/17 76/3 130/6 130/15 149/19 172/10

organs [1] 31/24

original [2] 42/5 91/22

originated [1] 75/17

oropharyngeal [4] 117/9 117/15 117/22 118/11

oropharynx [1] 126/14

other [62] 4/15 5/14 5/16 6/23 6/25 21/5 24/11 26/1 30/8 38/20 39/10 42/2 46/8 46/18 48/5 53/13 53/14 68/15 73/7 77/15 79/3 79/10 82/15 82/17 86/15 86/23 90/7 94/3 94/24 105/7 113/15 119/2 119/9 120/22 120/23 124/13 125/1 125/10 126/21 130/17 132/5 133/13 145/18 149/6 149/14 152/7 152/8 152/14 154/19 161/2 177/2 179/10 181/7 182/6 182/20 182/21 183/15 189/24 200/13 202/24 205/9 205/15

others [6] 32/8 57/17 93/23 106/13 129/1 137/17

otherwise [1] 148/12

ought [9] 146/14 152/9 153/9 154/18 173/18 184/5 197/10 197/11 198/4

our [13] 4/4 6/11 6/22 7/11 7/11 8/19 9/5 72/17 95/18 100/8 129/13 132/3 132/5

ourselves [3] 23/11 32/18 157/9

out [35] 9/18 17/1 18/25 19/9 32/7 39/22 41/12 43/6 44/24 45/13 83/14 97/19 98/13 119/11 121/21 122/14 123/12 124/23 129/7 134/14 135/19 137/7 144/20 154/5 155/21 156/2 158/1 163/23 164/23 166/24 167/9 176/13 190/8 190/15 200/15

outcome [1] 34/13

output [11] 162/16 163/19 164/2 168/24 169/1 169/4 171/3 187/4 187/5 187/6 188/7

outset [4] 1/18 33/3 51/17 82/22

outside [10] 29/12 30/9 30/12 63/5 72/23 141/17 142/2 142/5 174/22 195/13

over [19] 7/8 13/24 18/7 24/17 59/19 78/25 83/5 88/19 92/11 94/21 97/24 119/16 132/15 133/7 134/11 140/25 163/15 169/18 193/3

overall [6] 38/21 63/11 76/16 127/8 147/7 194/13

overarching [1] 103/18

overdose [40] 39/4 81/6 112/12 112/15 119/8 120/20 121/23 123/3 123/8 124/19 125/8 127/7 127/8 127/14 127/23 128/13 130/11 131/7 133/9 133/21 133/23 142/20 147/14 148/3 149/18 149/20 150/8 152/8 170/15 170/16 171/21 173/6 173/8 180/20 183/1 189/14 194/16 195/8

O

overdose... [2] 197/20 199/13
overdoses [6] 128/14 148/17 148/18 149/3 149/10 150/16
overlap [3] 152/5 152/15 180/21
overly [3] 174/16 175/14 189/23
overriding [2] 6/6 182/11
oversight [1] 100/20
overt [1] 37/18
overtly [1] 183/25
overwhelmed [1] 94/22
own [16] 4/4 25/3 25/11 25/11 50/12 51/3 54/5 60/22 80/17 97/4 97/7 104/9 132/5 153/3 175/6 178/12
oxygen [22] 66/5 70/13 70/19 71/1 71/6 71/14 71/17 71/21 73/1 73/2 73/15 85/4 85/23 122/8 134/4 134/9 134/10 150/4 172/8 177/11 180/4 184/19
oxygenation [1] 71/19

P

P1 [1] 142/10
PA [1] 164/10
pace [1] 163/15
packet [1] 127/24
page [144] 2/22 2/24 3/17 5/20 5/22 5/24 6/2 7/7 7/9 7/12 9/20 11/3 11/18 12/14 13/12 13/14 13/20 13/24 14/1 14/3 14/4 14/4 14/10 16/10 18/5 18/7 23/16 24/13 24/17 24/18 26/2 26/16 26/17 27/17 28/11 28/13 30/21 30/22 31/16 31/19 35/16 37/7 37/11 37/25 39/13 40/3 41/13 41/14 45/10 45/24 46/5 47/6 47/6 47/8 47/13 48/3 48/4 51/12 57/20 57/23 59/11 59/11 59/17 59/19 61/9 65/11 65/12 69/20 70/1 73/8 77/2 77/3 77/21 78/25 80/16 83/6 87/3 87/15 87/17 90/17 90/17 92/12 96/21 96/25 97/24 98/3 98/13 103/14 106/19 108/22 111/24 117/13 119/10 119/16 127/3 128/22 129/21 130/1 130/24 131/23 131/23 133/3 133/11 134/1 135/21 136/10 140/11 140/15 140/25 143/2 144/10 147/5 148/5 149/21 150/18 155/22 156/3 156/15 158/1 161/17 164/21 166/5 166/11 167/23 170/10 170/24 174/14 177/15 177/23 182/20 182/24 183/12 186/5 188/14 190/16 191/25 193/3 193/4 194/23 195/20 196/5 199/22 200/19 207/2
page 1 [1] 166/5
page 10 [3] 39/13 41/13 103/14
page 11 [3] 26/16 45/24 135/21
page 12 [3] 47/6 48/3 136/10
page 13 [1] 31/16
page 16 [1] 90/17
page 190 [1] 131/23
page 191 [1] 131/23
page 2 [7] 12/14 13/24 14/3 87/3 87/15 140/11 166/11
page 20 [1] 13/12
page 21 [1] 133/3
page 25 [1] 117/13
page 26 [2] 35/16 106/19
page 29 [1] 119/10
page 3 [3] 2/22 14/4 140/25
page 31 [1] 111/24
page 32 [2] 77/2 143/2
page 33 [2] 65/11 147/5
page 34 [4] 40/3 57/20 61/9 148/5
page 35 [3] 51/12 149/21 150/18
page 37 [3] 155/22 156/3 158/1
page 38 [1] 156/15
page 39 [1] 5/20
page 4 [3] 14/4 98/13 128/22
page 41 [1] 161/17
page 43 [1] 9/20
page 44 [1] 167/23
page 46 [1] 170/10
page 47 [1] 134/1
page 48 [1] 174/14
page 5 [2] 14/10 70/1
page 50 [2] 47/8 177/23
page 51 [1] 177/15
page 52 [1] 170/24
page 56 [1] 188/14
page 66 [1] 191/25
page 67 [3] 28/13 59/11 190/16
page 68 [2] 193/4 194/23
page 69 [1] 195/20
page 7 [3] 23/16 26/2 27/17
page 70 [1] 199/22
page 72 [3] 129/21 130/1 130/24
page 75 [1] 108/22
page 77 [3] 182/20 182/24 183/12
page 79 [2] 164/21 186/5
page 8 [1] 69/20
page 81 [1] 200/19
page 82 [1] 96/25
page 83 [1] 98/3
page 85 [1] 196/5
page 9 [1] 73/8
page 97 [1] 144/10
pages [8] 14/13 37/6 41/11 96/20 135/19 156/1 190/9 190/10
pages 128 [1] 156/1
pages 15 [1] 37/6
pages 28 [1] 135/19
pages 58 [1] 190/9
pages 60 [1] 190/10
pages where [1] 14/13
pain [2] 120/5 177/5
pallet [2] 117/19 117/21
pandemic [1] 193/19
paper [2] 154/9 154/13
papers [1] 101/23
paragraph [99] 1/25 6/4 6/23 6/23 9/21 12/15 12/25 16/25 28/19 28/21 28/25 40/6 42/1 51/10 51/12 51/17 52/17 54/14 55/8 57/22 58/10 58/11 58/16 59/21 60/11 61/19 61/22 63/13 63/25 65/3 65/14 69/3 73/10 75/14 77/17 78/2 78/5 78/17 78/25 79/4 79/22 79/25 80/16 80/23 80/23 82/2 83/15 83/20 84/8 84/19 85/11 85/17 87/16 88/24 90/18 90/21 91/5 103/15 108/21 111/24 113/8 115/22 119/12 121/21 122/20 123/12 124/13 129/20 130/1 130/25 131/2 133/3 133/6 133/11 134/2 143/1 143/4 143/5 145/10 147/6 148/6 149/21 150/18 156/16 164/21 165/7 167/23 170/10 170/24 174/14 177/15 177/22 177/23 182/24 188/15 190/16 194/23 195/20 199/23
paragraph 1 [1] 6/4
paragraph 1.11 [1] 103/15
paragraph 10 [2] 65/14 78/17
Paragraph 11 [1] 78/25

P

paragraph 12 [2] 40/6 79/22
paragraph 13 [1] 61/19
paragraph 14 [1] 57/22
paragraph 15 [2] 58/11 58/16
paragraph 16 [3] 51/12 55/8 80/16
paragraph 17 [1] 80/23
paragraph 2 [2] 28/21 83/20
paragraph 25 [1] 1/25
paragraph 3 [1] 6/23
paragraph 3.17 [1] 133/3
paragraph 3.18 [2] 113/8 115/22
paragraph 3.38 [1] 119/12
paragraph 3.39 [1] 121/21
paragraph 3.40 [1] 122/20
paragraph 3.41 [2] 123/12 124/13
paragraph 3.42 [1] 111/24
paragraph 3.44 [1] 143/1
paragraph 3.46 [1] 145/10
paragraph 3.50 [1] 147/6
paragraph 3.57 [1] 148/6
paragraph 3.58 [2] 149/21 150/18
paragraph 4 [3] 77/17 84/19 85/17
paragraph 4.10 [1] 156/16
paragraph 4.22 [1] 167/23
paragraph 4.26 [1] 170/10
paragraph 4.27 [1] 134/2
paragraph 4.32 [1] 174/14
paragraph 4.40 [1] 177/15
paragraph 4.41 [1] 177/23
paragraph 4.44 [1] 170/24
paragraph 5 [1] 28/25
paragraph 5.25 [1] 190/16
paragraph 5.28 [1] 194/23
paragraph 5.30 [1] 195/20
paragraph 5.34 [1] 199/23
paragraph 50 [1] 177/22
paragraph 53 [1] 188/15
paragraph 6.2 [2] 129/20 130/1
paragraph 6.5 [1] 108/21
paragraph 6.8 [1] 164/21
paragraph 7 [1] 59/21
paragraph 8 [2] 60/11 78/2
paragraph 9 [1] 78/5
paragraphs [12] 12/3 40/5 59/16 77/11 77/12 77/20 78/1 80/7 83/14 83/19 85/7 90/22
paragraphs 1 [1] 77/12
Paragraphs 13 [1] 80/7
Paragraphs 5 [1] 77/20
paralysis [2] 73/24 74/3
paramedic [41] 98/15 98/23 99/3 99/8 99/12 99/20 102/20 104/16 104/16 104/19 105/19 106/16 106/24 107/2 107/22 111/22 118/2 119/23 128/19 133/5 133/7 133/13 134/14 136/11 136/13 150/21 150/24 159/4 161/10 176/2 177/17 177/21 178/9 178/12 182/22 187/16 196/22 197/4 198/4 202/16 203/8
paramedic's [2] 112/11 156/18
paramedics [74] 89/12 89/17 89/21 102/8 102/10 104/11 104/13 104/21 105/4 105/5 105/8 105/12 105/15 105/24 106/6 106/8 106/9 106/10 106/13 106/14 106/15 106/22 107/15 107/19 108/24 109/2 113/23 116/9 116/20 116/21 120/19 120/21 120/24 121/3 129/22 131/25 132/7 132/14 134/22 135/7 144/11 144/12 145/12 145/23 151/3 151/24 152/9 152/19 153/10 155/8 155/23 156/14 158/4 170/21 171/23 172/13 172/23 173/7 173/9 175/4 175/5 175/12 176/11 181/22 184/4 187/23 193/6 194/13 197/14 197/17 198/5 198/12 199/5 202/19
paraphernalia [1] 198/11
paraphrased [1] 199/11
parasympathetic [1] 114/20
parceled [1] 34/11
parenchyma [1] 36/11
Parsons [8] 106/16 118/2 119/22 134/21 136/11 140/9 196/16 196/16
Parsons' [1] 141/2
part [28] 23/9 35/22 37/8 38/20 43/17 46/1 50/19 51/5 52/8 60/18 73/9 75/7 76/10 85/18 85/19 86/1 86/11 86/12 100/8 102/21 130/2 133/3 168/9 172/15 177/11 178/7 189/24 198/15
particular [19] 2/6 7/3 12/16 21/3 26/9 27/16 32/25 44/6 53/6 55/19 76/10 76/11 76/21 78/18 87/13 94/12 133/22 145/4 146/12
particularly [14] 38/8 49/6 79/8 85/12 85/17 117/18 120/8 120/23 126/24 130/5 149/5 175/4 196/12 196/13
parts [4] 31/22 37/12 77/16 135/16
party [1] 11/13
pass [1] 37/11
passage [5] 41/19 41/19 49/1 60/17 73/7
passages [2] 7/6 69/12
passed [1] 155/15
passersby [3] 117/25 134/24 135/9
passing [1] 119/20
past [2] 26/5 151/14
patch [2] 120/1 120/6
pathological [3] 76/1 81/23 82/16
pathologist [20] 2/5 7/25 8/12 8/13 8/14 8/21 9/4 9/8 9/23 17/3 17/17 17/24 18/17 18/20 20/2 23/20 23/23 23/25 25/9 82/20
pathologists [7] 8/7 17/5 17/7 20/4 22/10 24/9 34/17
pathology [11] 16/12 17/1 17/9 17/12 18/2 20/7 35/17 36/13 36/20 51/24 55/22
pathway [1] 153/8
patient [53] 83/24 84/11 88/13 101/24 107/5 111/19 118/10 126/12 127/22 127/23 128/12 128/20 132/16 134/4 134/6 134/8 134/12 139/11 139/12 139/13 142/14 146/3 146/9 147/22 148/16 154/11 158/12 158/16 159/20 160/4 164/12 168/10 168/23 172/7 175/1 175/2 179/24 182/1 182/5 182/8 183/15 187/19 187/22 188/2 191/4 191/6 191/10

P

patient... [6] 192/15 192/17 198/13 198/19 199/20 203/21
patient's [1] 114/2
patients [27] 101/7 114/24 122/13 125/15 126/22 127/18 132/1 134/15 146/2 148/19 149/1 149/3 149/12 150/5 165/1 165/2 167/7 167/11 173/8 174/22 174/24 176/8 176/9 181/13 191/4 195/12 201/7
pattern [6] 53/5 53/11 54/11 55/17 55/18 74/18
pause [3] 71/5 159/10 191/2
pausing [5] 63/16 89/10 113/24 127/25 173/13
pavement [1] 126/17
peak [1] 45/1
peaks [1] 44/19
peer [1] 24/6
pen [8] 88/7 89/14 92/5 92/8 92/18 94/14 95/4 195/18
pending [1] 3/3
pens [6] 87/9 87/10 87/21 91/3 91/10 93/1
penultimate [1] 46/4
people [29] 10/5 20/9 20/11 22/23 23/17 27/18 30/7 30/8 30/11 35/2 38/7 70/19 92/2 93/8 104/12 104/15 108/10 149/9 149/10 155/17 159/8 162/17 163/25 175/9 175/10 181/19 190/25 191/18 201/4
per [6] 63/18 63/19 64/22 114/1 165/5 165/17
percentile [2] 136/19 137/7
perform [2] 20/11 144/13
perfume [1] 62/18
perfusion [1] 186/1
perhaps [9] 10/9 33/10 34/22 34/23 92/25 117/12 147/20 154/19 199/4
peri [1] 142/15
peri-arrest [1] 142/15
pericardial [1] 79/3
period [21] 20/22 26/9 65/18 66/11 70/14 70/16 70/23 71/11 86/21 110/8 129/5 151/20 151/20 152/24 175/19 186/23 187/3 187/4 187/5 187/12 189/20
peripheral [2] 115/5 168/5
permission [1] 98/7
permitted [1] 4/24
persistent [1] 90/6
person [10] 10/3 29/14 29/24 29/25 38/12 82/14 91/24 93/17 154/19 190/22
personal [8] 20/6 26/25 27/6 98/5 155/16 155/18 184/18 193/16
personally [1] 29/18
personnel [4] 104/12 146/13 196/9 196/24
persons [1] 190/24
perspective [1] 198/4
pesticide [2] 76/13 115/10
pesticides [1] 130/16
PHE [1] 153/6
Philip [2] 23/20 24/19
phone [1] 139/8
phones [1] 1/9
photo [1] 117/23
photographs [1] 9/12
phrase [4] 11/13 54/10 186/15 186/20
physical [4] 3/4 34/20 38/23 50/10
physically [3] 3/24 35/9 63/4
physiology [1] 132/2
pick [1] 198/3
picking [3] 39/14 40/18 62/2
picture [4] 55/21 118/16 173/17 198/15
pictures [1] 117/11
pieces [2] 31/24 55/23
pinpoint [17] 112/5 122/22 125/2 125/11 125/13 133/2 133/8 133/16 133/20 133/25 134/3 134/7 149/7 171/16 172/3 173/8 173/11
pipe [3] 118/15 174/18 174/20
piste [1] 82/24
place [5] 30/10 32/16 91/14 124/7 203/16
placed [4] 6/11 114/1 174/17 195/2
places [1] 201/14
plastic [3] 117/16 118/12 118/17
plasticine [1] 119/4
plasticine-type [1] 119/4
play [3] 27/22 83/17 93/2
please [66] 1/5 1/6 1/9 1/14 2/17 2/23 4/13 4/16 5/20 7/12 9/20 10/24 12/11 13/7 13/12 15/18 16/9 18/21 23/15 23/16 26/16 28/13 31/13 35/15 37/6 39/13 40/3 41/10 47/7 47/15 51/12 59/11 59/19 65/11 69/19 69/20 73/9 77/2 79/4 83/6 87/16 90/16 92/6 95/17 96/12 96/21 98/12 100/24 101/12 102/9 103/16 110/14 113/2 119/10 128/23 129/24 129/25 130/22 136/10 138/2 143/2 151/13 151/15 151/15 203/12 204/5
plenty [1] 149/10
plus [1] 190/14
pm [5] 95/24 96/1 151/16 151/18 205/24
pneumothorax [1] 180/7
podiatrists [1] 116/10
point [32] 21/22 22/15 40/19 44/17 48/18 48/20 61/10 66/14 67/11 67/16 71/25 75/4 76/7 82/16 90/8 93/3 94/1 95/10 99/1 129/8 129/14 130/12 131/19 135/13 137/17 151/9 158/20 165/18 183/4 183/5 187/8 205/15
pointing [1] 129/7
points [7] 14/8 21/4 40/18 134/17 137/13 199/16 204/8
poison [2] 53/16 64/10
poisoned [1] 58/1
poisoning [52] 13/3 33/25 53/23 55/13 55/14 55/16 55/18 56/1 61/6 65/5 80/20 87/20 89/14 93/7 109/3 119/8 123/14 123/15 125/8 126/7 126/24 127/10 128/20 128/25 129/23 130/17 143/15 147/15 150/11 151/4 151/5 152/1 152/6 152/7 152/9 172/5 173/6 175/24 176/1 180/19 180/20 181/2 181/8 182/23 183/16 183/19 184/7 184/14 185/8 196/18 199/5 203/23
poisonings [5] 76/3 109/1 115/10 129/3 151/23
poisons [1] 53/14
police [32] 7/20 7/21 7/24 8/9 11/5 11/15 12/17 12/18 12/23 13/16 20/14 21/8 21/10 21/16 23/1 29/20 29/20 61/25 82/23 87/7 196/19 196/20 196/24 197/1 197/17 197/20 198/6 199/1 200/5 203/24 204/1 204/4
Police Forces [1] 20/14
police officer [2] 12/17

P

police officer... [1] 12/18
police officers [2] 196/20 200/5
policemen [1] 197/10
policies [2] 103/10 146/5
policing [2] 196/25 197/2
policy [2] 8/19 9/5
poor [1] 148/17
population [2] 165/13 165/14
portfolio [1] 100/12
position [5] 5/17 46/24 67/24 89/15 185/21
positive [1] 54/22
positively [2] 92/17 93/11
possibility [8] 22/17 25/14 25/20 35/8 39/6 94/2 172/16 185/23
possible [15] 3/10 3/25 3/25 25/20 42/17 48/24 62/10 87/23 94/2 123/22 132/24 159/2 181/14 181/24 182/1
possibly [1] 68/22
post [36] 17/19 22/18 29/1 46/22 54/7 57/24 65/19 66/9 66/22 69/5 70/24 71/2 74/11 74/20 78/21 81/17 82/3 84/20 84/23 86/4 98/22 98/25 103/12 110/8 151/20 151/22 152/23 168/18 168/23 169/10 169/14 172/15 175/1 187/19 187/22 189/22
post-cardiac [4] 74/11 74/20 82/3 189/22
post-graduate [1] 98/22
post-ROSC [2] 175/1 187/22
post-Skripal [1] 152/23
posteriorly [1] 117/22
potency [1] 121/8
potent [5] 120/8 120/14 120/24 121/10 147/24
potential [15] 8/3 21/20 32/16 63/11 120/19 123/7 132/9 162/20 170/15 181/2 186/10 194/1 194/18 194/25 195/8
potentially [12] 32/18 45/7 62/19 64/13 64/20 71/1 163/9 171/6 171/9 179/25 186/16 186/21
PPE [5] 193/6 193/20 200/10 200/12 200/15
practical [6] 22/16 23/11 23/14 30/1 137/22 193/13
practice [25] 8/2 9/5 18/2 18/11 28/5 98/23 99/25 100/14 100/15 101/14 106/8 106/10 107/22 130/9 145/16 145/23 152/13 153/4 169/17 169/18 175/6 175/11 193/10 194/20 204/17
practise [2] 99/24 175/15
practised [1] 193/19
practising [3] 16/17 16/18 99/23
practitioner [2] 99/21 105/2
Practitioners [1] 104/23
praise [1] 195/24
pralidoxime [2] 87/11 94/23
pre [26] 16/22 18/6 18/17 19/3 19/5 19/14 29/16 36/17 36/20 82/25 83/23 111/11 111/15 112/16 115/15 115/20 127/9 127/20 132/11 135/1 150/22 171/21 175/23 175/25 187/21 201/3
pre-arrest [1] 83/23
pre-cardiac [1] 19/3
pre-existing [2] 36/17 36/20
pre-hospital [16] 16/22 18/6 18/17 19/5 82/25 111/11 111/15 115/20 127/9 127/20 132/11 135/1 150/22 171/21 187/21 201/3
pre-hospitally [1] 115/15
precautions [2] 27/13 184/17
preceding [1] 179/6
precisely [1] 128/13
preface [1] 48/15
pregnancy [1] 176/21
preliminary [1] 104/10
premise [1] 54/17
preparation [3] 62/21 114/9 153/2
preparations [1] 143/8
prepare [5] 5/8 7/16 7/17 11/4 21/11
prepared [8] 2/18 4/12 10/18 10/20 19/12 87/1 119/24 120/1
preparing [5] 12/8 88/19 103/3 128/8 128/18
prescribed [4] 47/10 47/19 47/23 47/25
presence [14] 39/21 40/21 43/14 48/23 50/18 50/24 51/8 52/4 54/21 58/7 58/12 58/19 59/6 61/12
present [28] 23/17 24/20 25/10 27/18 27/25 28/7 40/11 40/23 45/6 46/11 53/2 53/8 53/10 53/19 58/2 87/24 125/10 126/21 149/7 161/20 164/8 165/2 181/3 182/15 191/5 191/7 191/16 199/20
presentation [16] 48/12 49/11 81/1 85/9 87/13 127/9 147/13 148/7 148/9 171/10 180/12 184/6 189/12 195/4 195/16 199/3
presentations [6] 124/2 124/14 152/8 152/15 171/20 182/12
presented [3] 127/22 182/25 188/19
presenting [10] 68/19 78/12 122/22 127/18 143/7 148/23 164/12 167/14 176/22 177/4
presents [2] 159/21 164/12
preservation [1] 198/25
pressure [8] 71/16 84/17 86/15 168/24 169/6 177/6 180/8 187/18
Presumably [1] 47/22
pretty [1] 150/16
prevent [1] 204/10
previous [5] 14/2 89/25 192/15 192/17 193/8
previously [5] 16/17 91/2 91/6 101/10 183/20
primarily [2] 104/1 143/5
primary [2] 37/3 139/21
principal [3] 37/14 72/17 84/22
principle [1] 132/17
principles [7] 196/6 196/9 196/12 204/12 204/15 204/18 204/24
prior [9] 84/3 88/18 101/6 109/22 129/10 129/14 159/12 169/16 185/6
priority [9] 132/23 138/16 139/7 139/24 142/10 157/23 198/19 198/22 203/18
probably [23] 16/6 18/18 62/22 62/25 103/1 112/8 128/3 129/7 129/8 131/12 147/23 150/3 160/18 165/13 171/22 173/12 185/15 192/16 193/17 197/7 197/19 200/13 200/16
probative [1] 80/21
problem [11] 36/18 37/3 68/22 84/22 85/2 86/19 139/11 154/8 160/17 160/18 161/6

P

problems [4] 68/3 68/11 94/14 187/23
procedure [7] 5/10 6/19 25/18 27/7 27/24 29/25 143/25
procedures [4] 4/5 90/2 97/23 103/10
proceeded [1] 188/21
proceedings [1] 100/22
process [16] 4/9 9/2 9/18 11/11 26/21 27/4 27/6 37/23 46/23 51/6 52/9 81/23 94/7 101/2 101/4 179/3
processes [1] 169/15
procured [1] 149/4
produce [4] 3/24 4/20 4/22 12/23
produced [5] 10/3 10/7 58/18 69/22 136/4
produces [1] 180/2
production [1] 115/12
profession [1] 22/10
professional [8] 13/21 16/6 16/12 97/11 98/12 196/23 204/7 204/16
professionals [1] 116/6
Professions [2] 104/20 105/3
Professor [64] 1/5 1/7 1/8 1/16 2/3 4/18 9/7 10/25 14/19 15/11 15/19 16/13 17/22 22/15 24/25 26/4 26/18 27/2 27/22 28/13 29/8 30/23 31/17 32/25 35/12 35/18 35/20 39/14 41/11 41/14 47/6 47/9 48/4 49/18 49/24 50/7 51/14 56/10 59/12 65/14 69/20 73/6 76/17 82/7 82/18 83/6 86/24 87/8 90/20 91/19 92/11 93/18 93/22 93/24 95/7 95/23 108/17 172/14 184/23 186/3 186/14 188/8 189/19 207/3
PROFESSOR GUY [2] 1/7 207/3
Professor Rutty [18] 1/5 1/8 4/18 10/25 14/19 15/11 15/19 49/18 49/24 56/10 93/24 95/7 108/17 172/14 184/23 186/14 188/8 189/19
Professor Rutty's [1] 186/3
Professor Suvarna [1] 35/12
Professor Suvarna being [1] 35/20
profound [4] 33/24 134/4 150/4 150/4
profoundly [3] 134/8 172/8 185/16
programme [1] 105/17
progress [1] 4/2
progresses [1] 172/6
Prohibition [1] 27/21
prolonged [8] 49/9 70/23 74/10 84/24 85/5 85/23 86/6 86/21
promise [1] 90/15
pronounce [2] 43/22 44/1
pronounced [1] 36/12
property [1] 194/8
propose [2] 134/25 161/13
proposing [1] 38/14
prosecution [7] 21/15 21/15 21/20 22/17 25/7 25/14 25/20
protect [1] 194/6
protected [1] 104/16
protection [1] 139/9
protective [3] 27/1 184/18 193/17
protocol [4] 91/23 92/4 92/8 109/15
protocols [2] 190/24 191/1
prove [3] 55/15 67/6 75/1
proved [2] 55/13 73/4
provide [13] 3/10 11/20 11/23 12/3 12/8 24/21 25/4 35/20 43/13 45/2 83/7 87/5 201/22
provided [22] 2/9 2/12 14/7 14/19 25/5 33/3 35/13 39/17 40/12 41/24 44/22 58/20 58/23 81/10 82/23 117/11 143/19 154/19 157/15 158/8 198/6 200/25
provides [5] 13/21 25/1 58/22 83/15 117/23
providing [4] 24/24 154/9 179/23 199/24
proximity [1] 191/18
PT [1] 139/12
public [3] 23/3 61/2 152/25
published [7] 28/14 75/1 98/8 101/23 108/7 108/14 130/4
pull [1] 22/13
pulmonary [9] 122/10 125/16 126/15 175/7 180/7 181/13 181/15 181/16 181/17
pulse [6] 83/24 162/17 162/20 163/19 163/22 182/6
pulseless [3] 163/16 163/23 164/14
pupils [25] 112/5 122/4 122/23 124/20 125/2 125/11 125/13 133/2 133/8 133/16 133/20 133/22 133/25 134/3 134/5 134/7 134/10 134/11 134/16 149/7 171/16 172/3 172/9 173/8 173/11
pure [1] 58/19
purely [1] 55/2
purplish [2] 122/6 122/7
purpose [10] 4/1 8/23 24/24 31/24 103/16 103/22 110/15 121/17 168/2 168/3
purposes [5] 26/2 51/13 83/2 103/3 140/3
put [12] 17/23 49/2 52/24 80/19 111/4 111/4 127/19 137/22 150/9 161/3 188/2 197/23
puts [1] 92/25
putting [2] 55/22 193/21
puzzle [1] 55/23

Q

QM73 [1] 27/20
qualification [2] 106/4 116/14
qualifications [10] 16/6 16/14 19/22 98/12 98/14 98/23 100/23 104/9 106/8 106/11
qualified [1] 99/3
qualify [1] 113/13
quality [2] 101/1 101/4
quantification [4] 44/16 44/22 48/7 48/22
quantifications [1] 48/12
quantify [1] 129/21
quantifying [1] 44/21
quantitative [1] 55/1
quantity [2] 46/12 48/22
quarter [2] 49/18 151/13
Queen [1] 98/19
question [18] 12/4 19/13 22/19 27/11 30/13 38/17 39/1 57/8 82/22 83/11 85/12 115/16 120/11 160/13 191/3 196/23 204/5 205/4
Questioned [6] 1/12 96/10 202/10 207/4 207/6 207/7
questions [29] 2/4 10/13 11/12 14/14 14/18 16/2 16/5 19/24 21/2 38/15 82/19 83/1 85/7 87/7 93/19 93/21 93/22 96/5 103/17 110/10 136/7 138/14 155/18 201/23 202/2 202/4 202/6 202/12 205/17
quickly [1] 81/14
quinine [1] 46/19
quite [11] 41/21 62/21 91/16 109/4 132/19 134/13 142/15 146/3 146/6 171/13 197/9
quiver [1] 162/23
quivering [1] 162/22
quivers [1]

Q

quivers... [1] 162/25
quote [2] 131/21 133/12
quotes [1] 133/3

R

radiological [3] 26/24 76/1 102/15
raised [2] 54/5 68/5
ran [1] 51/23
range [1] 102/17
rapid [4] 140/8 163/2 163/4 163/5
rapidly [2] 63/9 95/2
rare [4] 127/12 128/19 129/22 183/18
rarely [1] 154/7
rarer [1] 173/11
rate [15] 71/11 83/24 114/22 114/24 115/8 143/7 150/3 150/6 158/17 165/5 165/6 169/6 170/4 187/20 188/6
rates [1] 164/23
rather [20] 10/10 22/16 36/8 49/8 49/22 66/21 68/13 74/16 75/8 81/6 84/16 92/24 113/17 119/4 125/23 135/15 154/5 162/24 173/24 200/10
rationale [4] 112/11 153/13 154/1 189/21
RCUK [1] 189/6
re [3] 91/6 91/21 92/22
re-read [3] 91/6 91/21 92/22
reach [6] 3/6 20/16 132/15 187/16 202/19 203/9
reached [1] 10/1
reaches [1] 203/8
reaching [1] 22/5
react [1] 72/20
reacting [1] 133/16
reaction [6] 72/19 116/17 116/17 133/18 159/7 197/13
read [29] 4/24 5/1 8/20 15/20 17/1 39/22 44/24 61/22 64/18 64/18 72/7 77/14 82/2 83/20 91/6 91/16 91/21 92/14 92/22 97/19 109/11 109/13 127/4 133/9 144/17 144/19 188/15 188/18 200/20
read in [1] 188/18
reading [11] 40/2 63/13 64/11 67/9 74/23 75/13 89/20 90/24 94/15 160/19 201/15
reads [1] 97/2
ready [1] 178/16
real [2] 106/11 152/12
realisation [1] 90/6
realised [1] 89/5
really [27] 45/19 46/24 47/3 68/3 75/23 77/12 93/16 102/11 126/13 130/16 144/15 147/24 148/20 149/8 152/12 154/21 154/25 155/15 155/17 160/6 191/10 194/20 197/5 201/10 204/14 204/16 205/1
reason [10] 49/12 82/17 113/24 121/1 145/19 182/20 182/21 190/23 190/25 191/19
reasonable [13] 8/24 9/1 10/1 10/7 112/1 123/9 148/8 150/23 168/16 170/22 171/10 185/6 203/11
reasoning [4] 5/12 69/14 70/5 76/18
reasons [5] 28/7 46/1 65/3 71/7 94/18
recall [4] 38/8 82/21 156/6 173/17
recalling [1] 92/3
recap [1] 172/2
received [13] 45/12 45/25 57/17 58/7 81/2 108/24 111/21 112/22 114/12 151/25 152/10 156/11 188/23
receiving [1] 173/21
recent [5] 13/9 44/14 44/20 93/9 108/13
recently [3] 80/17 102/21 111/9
receptor [1] 110/20
recirculated [1] 151/22
reclassified [1] 157/22
recode [1] 158/18
recoding [2] 158/1 158/7
recognise [4] 30/2 151/4 152/25 153/2
recognised [3] 35/12 36/9 147/2
recognises [2] 159/7 159/10
recollection [3] 7/3 29/18 135/12
recommendation [1] 9/14
recommendations [1] 191/15
recommended [2] 9/3 169/21
record [8] 9/22 14/5 15/20 37/15 38/1 39/18 46/14 156/11
recorded [11] 1/23 14/23 33/8 42/1 43/9 43/9 43/17 44/17 120/16 121/1 156/20
recording [6] 12/16 39/16 39/24 40/1 61/11 156/7
records [7] 37/9 39/20 40/21 67/12 78/5 103/8 165/19
recovery [1] 201/17
recreational [1] 120/6
rectal [1] 114/3
rectally [1] 114/1
rectum [1] 114/2
redacted [1] 139/8
redaction [2] 12/15 98/5
redactions [2] 5/19 61/21
reduce [2] 70/25 182/7
reduced [6] 71/19 122/23 182/4 185/13 186/12 199/7
reduces [1] 71/3
reduction [1] 71/17
reductive [1] 136/6
refer [17] 24/18 28/19 28/23 35/18 41/18 46/9 52/16 97/12 104/12 109/6 109/14 111/25 124/3 134/1 170/23 171/15 187/13
reference [26] 7/20 8/11 28/21 28/25 37/13 63/25 64/8 71/10 91/7 96/22 106/19 108/21 129/20 129/21 130/14 130/23 131/22 144/9 144/10 155/25 156/6 164/21 165/23 171/16 177/22 196/6
referenced [2] 63/24 88/2
references [3] 37/12 88/4 156/3
referred [14] 19/25 31/9 43/19 58/11 88/4 97/4 104/22 105/23 106/2 106/3 106/13 106/14 106/15 108/20
referring [4] 64/1 75/12 111/24 128/7
reflect [3] 36/7 48/18 157/19
reflected [1] 62/21
reflection [1] 38/7
reflects [1] 157/20
refresh [1] 155/5
refresher [1] 154/24
regard [6] 4/7 25/17 57/6 79/16 148/10 197/1
regarding [10] 108/24 109/19 148/4 177/14 177/24 192/2 193/5 195/11 196/17 198/10
regards [4] 13/2 146/24 147/5 150/20
region [1] 155/12
register [4] 20/3 104/18 104/19 164/25
registered [8] 16/17 16/18 17/16 20/1 104/17 105/3 105/12 116/7
regularly [3]

R

regularly... [3] 100/25 167/8 181/12
regulate [1] 72/17
Regulation [1] 116/5
Regulations [1] 116/1
relate [3] 15/5 80/8 138/25
related [9] 38/23 65/9 74/18 74/19 76/19 79/12 84/23 88/1 196/21
relatedly [1] 198/9
relates [4] 78/17 79/1 79/22 202/15
relating [3] 50/9 78/17 78/20
relation [6] 48/14 58/22 77/22 78/3 79/9 203/21
relatively [6] 76/24 81/13 112/10 127/9 171/7 181/9
relatives [3] 21/23 52/14 66/3
relax [1] 117/20
relaxant [5] 113/3 113/5 113/19 118/9 146/19
relaxation [1] 146/20
relaxing [1] 114/21
release [8] 3/18 3/21 3/24 4/3 30/20 127/17 129/10 129/15
released [1] 3/13
releases [1] 129/12
relevance [3] 65/1 76/21 148/11
relevant [12] 36/5 36/15 38/4 40/7 51/10 128/21 135/17 148/25 180/11 180/13 198/11 199/19
reliable [1] 121/2
reliably [2] 120/16 121/1
relieve [1] 85/22
remain [8] 20/17 25/6 46/6 78/15 78/22 80/5 82/7 91/10
remained [2] 84/22 86/6
remember [5] 10/15 12/22 87/4 135/3 186/15
remind [2] 153/16 157/9
reminded [1] 126/10
reminding [1] 15/12
removal [2] 66/15 66/15
remove [2] 67/5 194/5
removed [1] 22/23
removing [1] 194/2
repeated [1] 176/15
report [169] 3/10 3/20 4/14 4/17 4/23 4/24 5/2 5/18 7/1 7/13 7/17 8/18 8/20 9/9 9/14 10/1 10/8 10/10 10/11 10/11 10/13 10/14 10/14 10/21 11/1 11/20 12/23 13/19 13/20 14/3 14/5 14/12 23/15 24/2 24/6 24/22 24/25 25/1 25/3 25/11 28/12 28/14 33/8 35/14 35/16 35/20 35/22 35/22 35/24 37/6 37/9 38/17 39/12 40/4 41/11 41/19 42/6 42/22 43/4 43/18 43/18 44/10 44/12 44/18 45/4 48/3 48/21 49/2 51/11 54/10 57/21 57/24 58/5 58/5 59/8 59/10 60/18 61/4 61/19 64/7 66/11 69/12 70/1 70/5 72/3 73/8 76/23 77/25 78/23 80/5 90/19 90/19 96/19 97/4 98/4 98/7 98/13 99/15 100/11 100/25 101/7 102/14 103/2 103/3 103/14 103/16 108/22 109/6 109/15 113/8 115/22 117/1 117/11 119/9 120/12 126/5 128/10 128/18 129/20 133/3 133/11 134/1 134/25 135/21 136/9 138/6 140/1 141/9 143/1 145/7 145/10 147/3 148/4 150/17 156/2 156/7 156/11 156/15 164/22 165/22 165/23 166/4 166/5 166/11 166/20 170/23 174/14 176/13 178/25 182/21 186/2 186/5 187/13 188/13 190/9 190/11 190/15 192/1 194/23 196/4 196/7 196/23 199/22 200/19 200/23 201/13 201/21 201/22 204/8
reported [6] 74/20 75/15 79/8 139/6 159/17 177/18
reports [27] 2/9 2/12 4/12 4/20 4/23 5/9 7/11 10/18 15/21 15/25 21/12 41/23 46/19 46/22 47/1 76/2 81/2 90/24 91/12 94/24 103/12 104/6 120/7 150/10 158/10 159/10 166/23
represent [1] 97/10
representative [2] 29/9 31/23
request [2] 12/16 19/1
requested [5] 12/18 13/15 83/7 87/5 106/17
require [3] 19/9 19/19 107/3
required [6] 27/13 64/21 69/24 70/19 131/25 198/14
requirement [5] 3/23 6/12 6/18 9/14 19/10
requirements [1] 104/18
research [1] 91/19
resistance [1] 168/5
resource [4] 137/15 141/12 141/14 189/1
respect [11] 5/7 101/19 190/5 190/13 191/12 191/24 196/23 200/22 203/14 204/7 204/16
respiration [1] 146/21
respiratory [16] 34/10 36/8 39/7 70/12 73/20 74/5 81/15 112/6 122/5 123/19 123/20 124/24 127/1 146/18 149/23 181/20
responded [1] 106/20
responder [4] 18/24 100/3 100/5 194/6
responders [3] 102/22 190/20 201/7
responding [2] 137/20 147/20
response [33] 18/8 18/25 100/4 100/6 100/7 102/23 110/12 135/17 136/18 136/19 137/1 137/2 140/8 141/10 141/17 141/20 141/22 142/4 146/24 148/1 155/21 156/15 156/24 157/1 157/2 157/3 161/7 190/5 191/12 191/25 192/5 192/23 193/2
responses [1] 104/3
responsible [2] 75/6 131/20
rest [2] 183/8 191/21
restart [1] 179/22
restarted [1] 183/10
restarting [1] 163/13
restricting [1] 180/9
restriction [1] 1/22
restricts [1] 166/1
result [9] 39/19 40/15 49/4 54/24 67/14 74/6 80/2 81/5 181/6
resulted [2] 81/16 189/6
resulting [4] 66/5 81/7 84/22 120/14
results [13] 41/20 41/25 42/3 50/11 50/22 50/24 53/12 56/5 59/20 60/4 60/10 60/12 79/23
resume [1] 95/17
resuscitation [17] 45/16 70/24 71/2 83/22 98/18 100/13 100/18 101/19 101/20 102/3 102/13 167/8 167/17 177/12 178/3 179/14 180/1
retained [2] 35/19 155/3
retired [4] 17/6 17/14 17/19 17/23

R

return [7] 33/18 65/20 84/11 90/5 165/21 166/16 168/4
returned [1] 71/10
reverse [3] 73/3 111/17 171/6
reversible [4] 171/3 179/16 179/25 180/3
reversing [1] 110/23
revert [1] 197/17
review [17] 8/13 8/14 9/7 9/9 9/15 9/23 9/24 15/5 24/6 24/7 60/4 100/20 100/25 101/4 103/18 178/5 192/10
reviewed [5] 10/2 14/6 88/10 143/10 192/11
reviewing [2] 42/5 88/1
revisited [1] 88/20
rhythm [20] 161/20 161/21 161/22 162/10 162/11 162/22 163/14 164/6 164/9 164/13 164/17 165/3 167/8 167/10 167/14 167/15 168/10 168/14 179/9 188/3
rhythms [3] 161/16 162/20 167/6
Richard [1] 133/4
right [60] 2/6 2/19 7/17 8/25 10/17 11/5 12/7 13/12 13/20 13/24 14/12 14/19 16/15 17/5 22/9 26/15 33/2 36/12 37/16 41/5 42/7 45/8 51/3 51/14 56/10 63/2 66/18 67/4 67/23 72/13 82/21 87/8 88/4 90/13 92/15 94/20 95/6 95/22 102/12 103/22 104/6 107/14 118/12 124/1 125/22 126/22 128/11 133/17 135/12 139/16 141/8 141/16 149/16 164/18 170/9 176/25 178/10 192/24 202/9 205/11
right-hand [3] 72/13 139/16 164/18
rigidity [1] 199/12
rise [2] 54/2 205/19
risk [18] 32/16 111/20 146/17 175/6 175/6 190/19 190/21 190/21 194/3 194/4 194/5 196/14 198/7 200/9 200/11 200/13 200/17 203/23
risks [3] 187/23 187/25 188/5
road [2] 124/22 126/12
role [21] 2/4 8/13 9/8 9/11 9/15 17/24 20/1 22/4 23/21 23/22 23/23 24/3 24/6 24/13 25/13 27/22 28/9 82/15 99/6 131/14 145/24
roles [4] 24/10 99/5 99/12 130/9
room [12] 1/19 27/25 29/20 30/9 30/10 30/12 30/17 35/1 100/8 126/18 131/5 192/11
rooms [1] 30/14
ROSC [36] 65/19 70/25 81/16 81/17 84/12 84/16 84/20 86/5 86/9 86/22 166/16 168/8 168/13 168/18 168/23 169/3 169/10 169/14 175/1 175/21 178/5 181/3 183/8 185/9 185/10 185/16 185/18 185/20 185/21 186/7 187/2 187/12 187/19 187/22 189/6 189/8
round [2] 68/15 104/23
route [8] 62/4 62/8 63/7 63/12 64/22 81/11 114/3 114/4
routes [3] 50/25 111/2 129/18
routine [8] 3/19 25/18 25/21 100/7 101/3 145/16 169/12 176/10
routinely [3] 84/15 169/4 176/1
Rowley [23] 60/14 89/12 103/21 104/4 112/25 114/13 115/20 159/17 172/18 182/12 182/15 190/6 190/9 191/13 191/25 193/6 194/13 195/25 196/10 199/3 199/7 199/25 201/16
Rowley's [4] 194/8 195/1 195/15 203/15
Royal [6] 17/4 17/6 17/8 101/21 108/2 108/5
RRVs [2] 185/3 185/4
rude [1] 35/1
rules [2] 6/19 97/22
ruling [2] 1/24 2/1
run [1] 15/13
runs [1] 96/20
rural [2] 131/13 131/14
Rutty [21] 1/5 1/7 1/8 1/15 4/18 10/25 14/19 15/11 15/19 49/18 49/24 56/10 93/24 95/7 108/17 172/14 184/23 186/14 188/8 189/19 207/3
Rutty's [1] 186/3

S

sack [1] 79/3
Sadly [1] 165/11
safe [3] 111/11 111/13 171/8
safer [1] 111/15
safety [3] 184/17 198/25 203/22
said [47] 1/25 9/16 11/10 25/13 30/2 30/6 30/7 30/25 43/5 53/19 54/4 54/16 61/5 80/13 85/18 86/11 90/14 91/6 91/13 91/21 94/5 113/19 120/15 121/9 121/15 126/10 131/24 133/8 133/15 143/25 144/5 150/14 151/19 158/11 158/12 172/5 172/18 179/12 179/20 184/5 185/17 189/14 192/19 193/2 200/7 202/18 202/24
Salisbury [15] 42/3 92/7 109/12 122/25 129/10 129/14 144/25 153/18 155/13 155/13 155/24 183/19 183/23 184/4 201/2
saliva [1] 115/12
same [37] 3/25 4/2 4/19 5/9 12/18 21/18 23/6 23/6 23/8 23/24 25/23 33/11 35/10 42/19 42/19 42/21 55/17 57/3 57/9 57/21 59/4 118/3 122/18 124/10 140/19 141/1 147/9 149/1 149/4 149/11 157/6 170/16 170/17 172/9 174/3 191/5 191/7
sample [6] 42/21 43/10 52/16 57/25 60/22 67/7
sampled [3] 31/23 32/2 32/20
samples [26] 28/23 29/4 29/4 29/10 29/15 29/17 29/23 30/3 32/6 32/12 32/13 32/22 41/22 42/6 52/4 52/11 52/13 53/9 54/8 57/14 58/23 58/25 60/5 60/8 60/12 67/8
sampling [1] 31/25
sat [1] 116/13
Saturday [1] 128/10
save [1] 5/13
saving [4] 132/23 143/20 145/8 199/25
saw [8] 25/10 108/16 108/19 128/12 153/3 173/17 180/14 180/24
say [107] 2/25 10/15 11/23 12/6 24/15 24/19 25/12 25/17 26/21 31/20 33/2 33/15 42/5 43/16 46/5 46/17 47/9 48/17 53/15 55/12

S

say... [87] 55/20 56/6 57/16 57/23 58/16 58/20 60/10 60/25 61/4 61/13 61/23 62/2 63/14 64/3 64/11 64/16 65/3 65/17 66/14 66/18 67/5 67/9 68/9 69/3 69/13 73/11 73/18 74/5 74/22 75/14 76/2 76/8 76/9 78/9 79/5 79/13 80/24 83/20 84/2 84/10 85/10 86/10 87/17 88/11 88/24 89/20 92/6 92/16 94/8 95/10 100/1 100/24 102/2 112/11 113/9 117/1 122/20 123/5 126/1 126/3 126/5 127/5 130/20 141/9 144/16 144/18 144/18 144/19 144/22 144/22 145/6 147/6 147/20 148/6 150/20 183/11 185/5 186/14 192/18 193/12 195/20 196/22 200/3 200/21 200/22 203/21

204/25

saying [15] 22/9 26/13 67/23 71/9 74/23 75/8 91/5 142/16 152/18 153/25 165/13 186/9 195/24 196/25 202/21

says [6] 40/8 69/21 123/14 133/5 138/11 144/17

scale [3] 26/11 121/11 127/17

scan [4] 71/24 72/1 72/7 72/9

scanning [1] 66/25

scans [6] 34/2 66/22 67/4 67/13 68/7 72/3

scar [3] 36/22 36/22 36/23

scenarios [1] 126/23

scene [12] 136/12 136/14 140/23 141/6 143/22 156/20 189/1 192/21 198/21 198/24 199/24 203/22

schedule [6] 116/5 116/12 116/18 116/19 116/23 117/3

schedules [5] 115/25 116/1 116/3 116/4 117/2

Science [2] 98/15 105/16

scientific [2] 31/2 44/22

scope [2] 18/15 175/11

scout [1] 102/12

screen [5] 2/17 4/13 12/11 30/11 96/21

scroll [5] 7/13 11/18 14/4 77/20 191/20

seal [1] 25/4

sealed [2] 4/25 25/6

second [31] 4/24 8/21 9/15 11/18 13/25 23/24 24/21 24/24 25/1 25/21 30/21 30/22 53/3 68/4 83/6 87/1 90/19 92/12 93/2 106/10 118/18 118/20 129/24 171/3 179/18 191/4 191/6 195/10 196/18 199/20 203/12

secondary [1] 176/15

secondly [8] 44/17 53/25 99/5 103/7 110/6 117/10 193/3 198/9

seconds [1] 137/16

Secretary's [1] 20/6

secretion [1] 176/4

secretions [13] 123/16 124/21 125/17 125/19 126/11 150/1 150/1 150/13 175/8 180/25 181/11 181/21 182/19

section [16] 6/10 13/20 13/25 14/2 14/5 14/7 14/12 14/23 39/15 40/5 70/9 73/10 127/4 134/25 148/4 150/19

section 2 [1] 14/23

secured [1] 174/20

see [135] 1/19 1/20 2/21 2/21 2/23 3/8 4/14 4/16 5/21 6/4 7/7 7/14 7/19 10/25 11/3 11/18 12/12 12/15 12/25 13/8 13/25 14/10 17/2 18/5 21/10 23/17 24/13 26/3 26/5 26/17 27/20 29/22 30/12 30/23 31/16 31/25 33/8 33/10 35/17 37/7 37/10 38/6 40/20 41/1 41/13 42/16 45/3 45/10 45/22 45/24 46/18 46/20 46/21 47/18 47/22 51/8 52/16 56/4 59/19 60/21 61/21 63/24 65/15 65/16 76/14 77/3 77/10 79/2 79/10 87/2 88/3 93/4 94/17 95/6 96/22 97/1 97/18 98/4 109/11 118/6 118/16 120/7 120/8 122/3 122/20 123/12 124/18 124/20 124/21 124/24 125/1 125/2 125/13 125/15 127/14 129/3 129/22 130/16 134/5 134/6 134/11 134/15 138/2 138/5 139/6 140/17 141/1 141/4 149/3 149/7 150/1 150/5 159/18 159/20 163/23 164/11 166/7 166/11 166/19 166/24 167/11 172/8 172/9 179/15 181/11 181/12 181/15 181/16 181/17 182/21 187/18 191/15 191/21 196/5 204/22

seeing [3] 44/24 55/4 197/6

seek [1] 144/12

seeking [1] 198/12

seem [3] 93/23 146/6 202/16

seems [2] 48/24 189/5

seen [33] 25/2 32/1 39/24 59/25 79/15 85/10 109/15 122/12 126/12 127/22 128/14 128/15 128/17 128/24 130/10 130/10 131/7 131/9 131/16 150/15 153/8 153/12 161/16 170/19 172/4 172/4 173/2 173/6 173/7 181/23 184/9 185/7 191/21

seizure [5] 113/18 138/20 157/9 159/21 195/4

seizures [5] 113/7 113/12 113/16 145/17 159/21

selected [1] 35/18

send [1] 57/14

senior [4] 99/15 101/4 102/22 130/8

sense [5] 8/8 32/11 47/23 79/15 150/14

sensible [2] 192/12 193/7

sensitive [3] 5/3 5/5 126/6

sent [3] 18/25 41/22 41/25

sentence [8] 52/1 54/13 75/13 78/20 78/22 79/25 87/25 88/9

sentiment [1] 132/13

separate [2] 59/20 93/20

separated [2] 30/10 30/15

separately [1] 51/1

separating [1] 45/13

September [1] 59/14

sequence [10] 34/7 34/12 70/10 73/1 75/5 75/7 135/2 135/6 161/14 186/24

sequential [1] 67/3

Sergeant [1] 196/19

Sergei [10] 111/21 114/11 115/18 126/25 133/5 134/22 142/8 142/9 145/13 146/24

Sergei's [1] 147/2

series [2] 40/5 136/6

serious [1] 147/2

service [36] 18/9 18/20 18/22 19/1 99/9 100/17

S

service... [30] 101/12 102/23 103/19 107/8 107/11 107/16 109/24 114/23 127/12 127/21 130/7 130/8 136/21 136/24 137/2 137/19 142/3 143/12 155/2 155/11 161/4 162/7 162/9 164/24 169/18 177/2 188/20 203/17 203/20 203/25

services [16] 8/6 70/17 89/1 92/21 101/18 106/3 107/11 113/16 136/21 139/22 169/15 176/2 197/1 198/8 198/24 204/17

session [1] 155/6

set [24] 9/2 31/5 41/12 43/6 83/14 98/13 107/21 119/11 121/21 123/12 128/24 135/19 137/10 137/18 138/10 138/13 154/5 155/21 156/2 157/25 176/12 190/8 190/15 197/9

sets [1] 52/11

setting [5] 113/4 119/21 119/25 131/12 204/13

settings [1] 148/20

seven [1] 189/2

several [4] 14/17 19/9 69/12 71/23

severe [3] 81/19 87/23 93/7

severely [1] 50/17

severity [4] 138/22 138/23 138/24 157/10

shall [2] 66/14 197/12

share [1] 196/13

shared [2] 155/7 198/23

sharing [1] 204/15

she [67] 9/8 12/1 36/19 36/20 38/8 45/11 45/14 45/16 45/17 45/18 45/20 49/8 62/16 63/11 66/4 66/9 68/3 70/12 70/15 70/16 70/23 71/2 71/15 71/16 71/18 71/20 72/12 72/24 80/12 81/14 81/16 81/19 83/13 84/21 85/24 86/3 86/4 86/5 86/6 86/8 86/19 89/5 89/16 89/21 90/6 112/12 119/20 133/14 133/16 143/21 143/22 143/23 143/25 144/5 147/3 167/2 172/19 173/21 177/4 177/10 177/18 177/18 177/20 184/22 185/7 185/9 188/21

shed [1] 127/23

sheet [1] 154/9

sheets [3] 88/1 88/10 88/16

shift [4] 128/6 128/7 128/12 160/19

shock [6] 84/1 163/10 163/11 164/15 165/21 179/9

shockable [4] 162/11 165/20 168/10 179/10

shocked [2] 167/13 185/16

shopping [1] 126/18

short [10] 2/17 19/12 28/14 50/4 70/14 82/22 87/1 132/20 151/2 151/17

shortened [1] 20/5

shorter [1] 5/15

shorthand [1] 51/22

shortly [2] 135/22 190/6

should [34] 23/11 42/19 42/19 48/17 54/15 54/24 69/24 87/18 87/23 88/12 91/3 91/9 91/23 93/5 93/8 93/13 96/18 108/24 127/8 132/8 141/1 144/6 144/14 147/10 147/20 150/20 156/16 180/18 184/25 185/4 196/2 198/19 198/22 203/17

shouldn't [1] 91/8

show [4] 44/19 68/7 68/9 81/18

showed [4] 39/21 50/16 54/21 71/25

showing [5] 33/24 34/3 71/24 72/9 148/24

shown [3] 61/15 117/22 167/3

shows [5] 55/18 72/1 72/14 193/9 195/14

side [17] 23/1 42/24 42/24 47/5 72/2 72/8 72/13 93/4 93/10 94/19 111/14 112/10 124/22 126/12 126/17 133/22 140/16

side-effects [2] 111/14 112/10

sign [10] 6/16 98/4 126/7 133/9 140/12 141/2 156/19 171/19 172/20 192/21

signal [1] 165/25

signature [1] 5/22

signed [3] 5/22 5/24 13/11

significant [12] 3/11 37/19 79/17 125/15 125/17 125/20 127/19 147/4 155/1 173/10 175/7 187/8

significantly [1] 158/14

signs [23] 61/15 65/6 73/25 78/12 80/12 81/1 108/24 119/7 121/22 133/1 134/18 148/23 149/18 151/25 154/5 171/8 180/19 182/3 182/6 182/25 185/8 192/17 194/17

silver [1] 126/1

similar [8] 12/9 67/18 110/24 127/18 131/14 153/8 170/13 187/25

similarity [1] 21/4

similarly [2] 161/13 184/2

simple [2] 56/11 170/16

simplicity [1] 66/6

simply [11] 9/9 10/10 38/10 43/14 48/24 55/9 76/24 91/11 118/4 161/3 165/8

since [4] 2/9 105/15 129/5 129/5

sincere [1] 201/19

single [13] 4/4 10/3 10/10 64/12 64/20 67/3 91/11 95/3 124/16 126/2 128/17 160/24 182/9

sir [181] 1/4 1/15 1/23 2/8 2/11 2/20 3/7 3/12 3/15 4/6 4/9 5/1 5/6 5/10 5/16 6/1 6/13 6/17 6/21 7/4 7/11 7/18 8/1 8/7 8/10 10/16 10/23 11/6 11/15 12/5 12/10 12/24 13/5 13/10 13/13 13/17 13/23 14/9 14/16 14/20 15/4 15/15 15/16 16/19 16/23 17/7 17/10 17/13 17/15 17/18 17/21 18/3 18/13 19/22 20/9 20/18 20/21 21/1 21/7 21/9 21/13 25/16 26/10 26/14 26/19 27/5 27/7 27/12 27/24 28/1 28/17 30/5 30/17 31/10 31/18 32/9 32/23 33/5 33/14 33/21 34/1 34/5 34/14 34/21 35/5 35/14 35/21 35/25 36/16 36/19 37/24 38/24 39/5 39/11 40/2 40/17 40/24 41/4 41/8 41/17 42/13 42/17 42/23 43/11 43/15 44/15 46/13 46/16 47/4 47/12 47/21 48/1 49/14 50/1 50/25 51/7 51/15 51/25 53/21 53/24 57/19 58/4 58/9 58/15 59/7 59/15 60/2 60/9 60/16 60/20 60/24 61/7 61/17 61/20

S

sir... [47] 64/23 65/7 65/16 69/9 69/17 70/3 77/6 77/9 77/16 77/19 78/4 78/8 78/14 78/16 78/24 80/6 80/15 80/22 82/6 82/8 88/14 88/22 89/9 89/19 90/11 91/15 93/25 95/12 96/3 97/20 98/7 106/19 107/10 116/16 125/21 135/13 144/9 151/7 155/25 156/6 159/23 182/18 202/3 202/7 205/6 205/10 205/13

sit [5] 96/7 99/17 101/20 119/1 162/23

site [1] 88/21

sits [3] 118/12 162/24 198/25

sitting [3] 1/8 1/19 85/21

situation [6] 83/23 84/9 117/1 117/5 203/14 204/10

six [2] 2/12 14/24

skills [1] 19/5

skin [5] 31/23 62/8 62/11 122/6 122/7

Skripal [39] 103/20 106/17 108/25 110/8 111/21 112/4 112/21 114/11 114/12 115/18 115/19 117/8 118/1 119/23 122/22 126/25 133/5 133/14 134/22 142/8 142/9 145/5 145/13 145/21 146/24 146/25 147/8 147/10 147/10 148/7 151/20 151/22 152/1 152/9 152/23 170/13 174/4 174/6 201/16

Skripals [17] 104/3 119/20 121/8 131/21 134/20 136/12 137/24 142/7 149/17 157/6 161/13 170/17 170/21 182/12 182/14 190/7 196/17

skull [1] 72/23

slice [1] 72/5

slides [3] 9/12 128/24 130/1

slightly [11] 42/24 51/9 61/12 70/7 82/24 93/10 93/20 126/10 165/5 193/15 199/4

slow [10] 71/3 71/11 71/15 83/24 99/10 114/24 115/8 125/4 125/18 143/6

slowed [1] 27/13

slowly [1] 108/10

small [7] 10/5 20/13 37/17 117/16 122/4 168/25 169/4

smell [1] 62/19

Smith [1] 196/20

smoking [1] 38/8

so [242]

so-called [3] 8/17 18/23 30/20

Soar [1] 150/10

social [1] 149/14

soft [3] 117/19 117/21 119/4

softened [2] 66/8 66/14

software [1] 136/4

solely [1] 29/23

solicitors [1] 28/6

solid [2] 204/14 204/17

solo [1] 178/10

soluble [1] 114/10

solved [1] 154/8

some [74] 2/15 14/13 15/22 16/1 16/2 18/7 19/24 21/4 26/1 29/10 29/16 32/4 34/22 36/6 36/19 41/12 45/7 52/13 52/15 61/21 62/9 62/9 62/20 63/2 63/7 63/8 65/14 77/25 81/18 83/1 84/18 84/25 88/7 91/19 92/3 93/21 102/11 102/19 103/1 106/2 106/3 106/5 106/7 106/13 106/14 107/3 107/4 107/23 110/10 117/11 117/23 119/14 125/9 125/13 125/14 126/19 130/4 130/14 130/20 143/19 145/11 148/18 150/16 155/4 159/3 160/15 161/25 162/3 171/23 174/25 176/7 186/6 189/9 201/22

somebody [11] 8/22 117/20 144/3 150/3 159/10 163/20 167/9 173/10 185/12 185/15 199/12

somebody's [4] 111/17 126/18 138/12 148/21

someone [6] 27/20 67/19 88/17 92/18 116/16 177/4

something [26] 6/14 18/6 30/6 34/8 34/19 38/4 41/5 55/14 56/14 61/14 62/12 62/18 62/18 67/20 120/18 121/1 124/17 126/7 129/7 133/2 134/13 146/14 155/9 158/13 171/5 172/23

sometimes [6] 35/3 113/11 113/14 113/15 132/19 132/20

somewhat [1] 174/15

soon [5] 3/10 3/24 3/25 87/23 95/17

SOPs [1] 146/5

sorry [18] 8/12 13/14 24/5 24/14 24/16 43/19 43/24 49/20 66/3 68/8 100/1 125/6 125/18 125/21 135/8 153/25 177/22 188/15

sort [7] 15/5 25/19 73/25 93/3 101/1 107/16 198/17

sorts [1] 28/7

sought [1] 35/11

soul [1] 56/11

sounds [1] 38/11

source [2] 58/17 149/4

sources [2] 58/6 64/8

South [1] 109/23

space [1] 72/21

spasms [1] 113/12

speaking [1] 114/18

special [2] 4/7 25/18

specialist [5] 38/18 100/17 102/15 106/10 145/24

specialties [1] 132/5

specific [15] 75/19 76/12 76/18 79/7 79/14 100/12 109/7 110/1 115/25 116/11 146/5 152/10 153/10 194/21 195/5

specifically [11] 76/6 79/11 116/9 130/6 141/23 152/2 152/11 180/13 181/16 189/7 198/24

speedily [1] 76/25

spell [1] 8/25

spend [1] 2/3

spent [2] 88/18 199/24

spice [1] 149/8

spinal [1] 72/16

spoke [1] 171/7

spoken [1] 145/13

spontaneous [7] 33/18 65/20 84/11 90/5 165/21 166/17 168/4

spray [1] 111/10

spreadsheet [1] 124/5

sputum [3] 122/13 123/17 123/18

squeeze [1] 163/23

squeezed [1] 114/2

squeezing [1] 173/24

staff [3] 19/20 102/13 106/4

staffing [1] 107/7

stage [13] 39/2 43/1 46/21 48/24 84/14 84/21 90/3 90/4 95/20 108/23 109/9 167/4 175/16

stages [3] 51/16 74/13 85/9

staining [2] 54/9 54/22

stamped [1] 67/3

stand [6] 77/1 91/22 108/2 126/8 147/16 204/13

S

standard [17] 4/4 6/10 6/14 6/18 7/8 22/18 77/15 86/13 97/21 105/13 143/12 145/22 169/17 169/17 190/24 191/1 197/8
standing [1] 199/10
stands [1] 52/7
stark [1] 201/14
start [17] 16/4 16/13 33/1 34/7 34/15 41/13 44/21 66/7 87/4 95/16 98/11 141/13 156/14 156/22 164/10 178/15 189/2
started [4] 18/22 26/5 64/24 178/12
starting [10] 37/7 66/10 73/10 90/18 90/18 110/14 131/2 135/19 182/7 188/14
starts [6] 16/9 23/18 137/11 137/12 137/18 137/19
starvation [3] 73/1 73/2 85/4
starved [1] 71/6
state [6] 51/16 59/3 64/7 112/4 130/25 148/17
stated [6] 27/5 29/2 44/18 84/20 89/25 131/1
statement [46] 2/18 3/17 3/18 3/18 3/19 3/24 4/8 11/3 11/17 11/20 11/21 12/8 12/19 13/1 13/4 13/7 13/15 14/23 15/2 16/7 30/3 30/20 30/20 30/25 31/10 31/14 31/14 31/15 41/6 41/10 69/11 69/19 69/20 83/5 83/8 87/1 87/6 87/8 89/25 90/12 90/16 92/16 97/1 133/4 133/12 187/11
statements [16] 2/13 14/2 14/6 14/18 14/24 15/6 15/13 15/17 19/12 19/16 82/22 83/3 91/22 103/5 108/20 186/4
statistical [1] 128/21
statistics [1] 130/3
status [3] 113/6 145/17 176/17
statutory [1] 4/2
stay [3] 170/4 187/20 205/18
staying [1] 112/25
stem [6] 72/16 125/2 125/3 125/13 125/14 172/21
step [8] 47/5 85/6 144/2 144/13 162/15 190/14 190/18 190/22
stesolid [1] 114/1
stick [2] 5/19 65/11
sticking [4] 23/9 23/14 24/12 185/21
stiffness [1] 113/12
still [15] 3/3 3/5 16/18 18/11 23/5 27/15 58/2 67/6 77/1 88/20 89/13 93/17 165/12 176/15 199/9
stimulate [1] 168/7
stimulating [1] 169/5
stop [2] 156/23 163/13
stopped [5] 70/12 70/15 75/13 158/12 159/9
stopping [2] 34/12 117/18
stops [4] 70/14 73/2 75/4 137/20
stores [1] 139/15
stories [1] 70/20
straight [1] 87/3
straightforward [1] 113/25
strange [1] 133/17
straying [1] 63/5
Streatham [1] 102/22
street [3] 119/23 120/9 120/13
strength [2] 143/9 143/10
strengths [1] 120/22
strictly [3] 36/22 51/7 104/13
stroke [6] 68/4 100/13 100/19 125/3 172/16 172/21
strokes [1] 125/14
strong [1] 149/5
structure [1] 13/18
struggle [1] 10/14
Sturgess [54] 2/5 11/25 24/23 29/2 57/25 60/14 67/24 70/11 81/4 81/13 83/12 84/4 89/2 103/19 103/23 112/25 114/12 114/18 115/19 135/18 136/14 157/16 158/20 161/11 165/24 167/22 167/24 170/7 170/14 172/18 173/15 176/22 177/14 177/16 177/25 178/2 181/3 181/23 182/13 182/23 182/25 183/14 184/14 188/14 188/19 189/5 189/8 189/10 189/17 190/7 199/4 199/18 201/1 201/18
Sturgess' [10] 25/15 31/22 33/4 50/9 155/21 164/16 165/20 174/10 179/4 189/25
sub [3] 138/17 138/25 197/8
sub-category 2 [1] 138/25
sub-standard [1] 197/8
subject [9] 11/19 12/9 13/1 19/22 30/18 63/19 65/9 79/1 133/25
subjectively [1] 54/22
submitted [1] 200/25
subsequent [14] 28/24 29/6 33/19 34/11 67/1 68/8 68/11 73/4 78/11 83/19 139/20 140/2 191/4 191/6
subsequently [5] 28/14 33/22 50/18 58/13 194/8
subset [1] 157/23
substance [3] 12/14 83/18 126/2
substances [3] 120/23 120/23 149/6
substantial [1] 196/6
subtitle [2] 26/17 69/21
subtle [2] 172/11 172/12
subtlety [1] 129/16
subtly [1] 124/22
successful [2] 81/16 84/10
such [8] 10/21 31/25 86/18 87/13 121/2 150/23 184/5 201/5
sudden [2] 37/24 156/7
suddenly [1] 49/7
suffer [1] 71/20
suffered [4] 66/4 73/13 128/20 161/11
suffering [2] 71/4 111/18
suffers [1] 70/22
sufficient [5] 4/25 65/5 80/11 152/20 161/6
suggest [12] 21/25 22/13 36/24 37/2 40/14 44/14 49/3 49/13 62/17 63/6 80/2 92/23
suggested [2] 38/22 91/2
suggesting [4] 32/5 44/19 88/16 88/21
suggestion [3] 26/22 82/13 91/23
suit [1] 193/25
suite [1] 136/4
sulfate [2] 119/17 142/24
summaries [1] 77/15
summarise [6] 79/6 146/10 190/10 192/1 194/22 195/24
summarised [1] 43/5
summary [20] 4/13 4/23 10/11 10/14 33/16 36/13 48/6 52/19 65/2 73/9 77/12 77/17 77/21 78/2 82/1 85/13 106/24 107/1 200/18 200/22
Superdrug [1] 139/15
superficial [1] 109/8
supplementary [4] 10/12

S

supplementary... [3] 11/21 83/8 90/19
supplied [1] 103/4
supply [1] 63/10
support [28] 19/18 19/21 81/3 83/22 90/2 102/13 104/25 106/17 106/25 117/23 132/1 166/13 168/9 168/20 169/1 169/3 169/13 178/2 178/8 178/9 178/13 178/14 178/17 178/21 178/23 178/24 179/3 179/8
supported [2] 54/7 173/22
supporting [2] 117/19 171/2
supportive [2] 56/2 146/6
supports [4] 54/11 56/11 56/13 56/15
suppose [4] 34/9 82/12 85/20 159/14
supposed [1] 167/2
suppression [1] 54/1
supraglottic [1] 118/25
sure [7] 10/5 70/9 135/12 144/8 153/23 185/11 191/20
surgery [2] 16/15 115/13
surprised [2] 44/3 47/22
surprising [1] 76/9
surrounding [1] 155/14
survival [9] 85/13 85/15 102/3 164/22 165/2 165/4 165/6 165/15 195/22
survived [3] 12/1 65/19 83/13
survivors [1] 165/10
susceptible [1] 75/16
suspect [5] 38/6 173/9 182/22 185/18 193/22
suspected [6] 158/23 170/17 184/13 184/14 184/20 185/8
suspecting [1] 183/16
suspicious [2] 8/5 20/15
sustain [1] 70/13
sustained [2] 65/10 81/19
Suvarna [2] 35/12 35/20
swapped [1] 174/12
SWASFT [5] 110/3 136/3 151/22 151/24 160/22
SWASFT's [1] 190/8
sweating [2] 150/2 150/13
swelling [1] 72/21
swollen [1] 66/8
sworn [5] 1/5 1/7 96/6 207/3 207/5
symptom [3] 124/16 159/19 181/3
symptomatic [3] 143/6 145/18 177/3
symptoms [45] 39/3 54/4 61/15 65/6 66/21 68/20 73/23 78/13 80/12 81/1 87/21 87/22 87/24 90/8 93/7 111/19 119/7 121/22 122/18 123/2 124/10 124/12 124/16 124/19 125/8 125/10 126/19 126/23 127/7 127/18 129/17 133/1 134/18 143/7 148/23 149/18 151/25 152/6 154/5 171/8 180/20 182/4 182/7 192/17 194/17
synapses [1] 115/4
syncope [1] 84/1
system [12] 6/13 11/15 37/10 45/6 48/8 58/8 114/20 115/5 138/9 157/20 158/14 160/22

T

table [3] 93/3 136/10 136/17
tachycardia [3] 163/8 163/9 177/5
take [48] 5/7 5/11 7/5 9/8 9/11 12/20 12/21 15/12 22/12 26/8 28/2 32/12 33/9 41/9 49/1 49/16 51/1 51/16 69/11 76/24 82/23 119/6 129/11 129/19 131/3 134/25 135/15 135/22 143/3 156/3 162/13 163/15 173/13 178/7 179/1 180/17 183/17 184/3 188/12 190/4 190/11 190/17 191/23 198/5 198/19 198/22 203/17 204/2
taken [18] 22/24 32/7 45/4 45/22 52/8 52/8 52/12 60/21 76/20 79/23 119/24 134/6 149/11 177/5 199/13 199/24 201/11 203/24
takes [5] 62/9 90/13 132/6 134/11 158/16
taking [16] 27/12 28/18 29/22 30/3 45/15 45/21 47/5 63/1 85/6 90/4 130/12 133/7 149/13 149/14 192/18 193/22
talk [7] 19/22 32/25 33/1 38/12 51/1 55/6 161/25
talked [3] 51/20 71/6 79/24
talking [5] 52/7 73/25 126/3 162/1 162/5
talks [1] 190/22
tamponade [1] 180/9
target [8] 136/18 136/19 136/24 142/1 142/2 157/3 157/3 189/3
targets [5] 136/20 136/23 141/23 141/25 142/4
TAV [2] 28/21 28/22
teach [2] 102/10 102/11
teaching [2] 102/11 102/12
team [13] 28/20 28/22 28/25 29/3 31/2 31/4 31/7 59/17 59/23 60/3 60/3 103/18 198/20
teams [1] 176/7
technical [1] 37/20
technicians [3] 104/24 105/6 105/7
tell [15] 38/20 52/20 56/3 69/15 99/6 102/7 103/15 116/2 130/21 145/14 155/17 158/15 161/19 162/10 197/13
telling [2] 93/11 197/18
temporisation [2] 171/5 179/23
ten [2] 12/12 137/7
tends [2] 19/2 188/5
tenet [1] 168/19
tension [1] 180/7
term [6] 70/25 91/25 94/25 95/1 138/10 201/6
terminal [1] 164/6
termination [1] 113/6
terms [31] 5/11 27/3 37/20 67/16 68/4 70/10 76/21 79/17 81/1 94/23 100/23 102/6 102/25 104/7 105/24 107/19 112/21 117/7 135/6 146/25 148/2 149/17 153/19 167/1 170/16 183/2 186/15 194/1 194/11 195/22 196/8
terrorist [2] 102/18 102/25
test [7] 30/4 42/15 43/12 53/1 53/3 54/20 54/22
testing [1] 54/15
tests [24] 33/12 33/23 40/21 41/24 42/3 50/16 51/4 52/8 52/8 52/10 52/19 53/12 54/5 55/6 55/6 55/13 55/25 56/23 56/24 57/5 57/9 80/18 80/19 81/2
text [1] 11/2
Thames [2] 7/20 61/25
than [29] 5/14 5/15 6/25 10/10 36/8 49/22 53/10 54/23 63/11 66/21 68/13 75/8 106/23 109/8 113/17 118/10 119/4 121/9 125/24 147/2 154/6 162/24 165/15 165/17 173/24 176/14 181/7

T

than... [2] 199/6 200/10
thank [81] 1/8 1/11 1/16 4/10 11/16 13/6 15/11 18/4 19/11 19/23 23/9 25/12 25/25 27/15 30/18 31/11 32/24 35/15 35/17 37/4 38/25 40/7 49/14 50/2 52/18 53/13 56/21 61/8 63/13 65/8 73/6 76/17 79/22 82/18 91/16 93/18 93/25 95/6 95/8 95/9 95/22 96/7 96/17 98/3 99/10 99/11 103/2 108/12 110/2 115/16 117/24 119/6 125/4 125/22 129/19 134/17 136/6 140/12 140/23 151/11 153/24 155/20 159/24 160/12 161/17 164/16 167/20 173/13 177/13 188/12 190/4 191/23 198/2 201/25 202/1 202/5 205/7 205/8 205/13 205/16 205/22
that [1166]
that's [147] 1/9 3/7 3/12 3/15 6/1 6/21 7/18 10/8 10/15 10/23 11/6 13/13 13/17 13/23 14/12 16/23 18/13 20/7 21/13 22/3 22/25 28/10 28/18 29/22 31/9 32/22 37/5 39/13 40/6 40/17 40/24 41/18 42/8 43/15 44/15 44/16 48/20 48/24 49/11 51/9 51/9 51/15 51/22 51/23 52/1 52/18 53/4 53/21 54/17 55/1 55/11 56/4 56/7 57/2 57/4 57/11 57/12 58/25 59/7 60/24 60/25 62/14 62/24 67/25 69/19 70/3 73/16 75/4 75/12 76/17 76/23 86/10 86/21 88/14 90/19 91/16 93/20 96/8 96/16 99/19 104/8 104/13 105/11 105/18 110/18 110/25 111/20 112/20 112/23 114/7 114/8 114/15 115/2 115/7 115/14 116/24 117/4 117/17 118/20 121/17 124/9 125/22 126/16 127/2 129/6 129/7 131/2 132/3 132/21 136/15 138/24 139/8 142/10 143/7 144/18 144/18 145/22 146/20 146/23 147/5 151/6 155/3 156/10 156/21 157/6 158/25 162/25 164/18 166/14 166/16 166/23 167/13 169/20 170/9 174/3 174/8 174/11 177/4 179/12 179/18 180/13 180/16 181/14 189/21 191/12 203/11 205/14
their [56] 4/2 5/12 9/15 9/19 9/23 25/11 25/11 28/9 28/15 29/6 44/24 53/14 60/3 60/22 61/2 67/21 88/21 104/23 105/4 107/16 108/6 109/24 117/20 122/14 127/15 127/23 130/7 131/6 132/2 134/24 136/24 137/3 143/10 145/20 148/9 148/12 158/13 163/21 164/13 165/3 167/14 169/3 178/12 183/2 185/13 185/13 187/17 193/18 194/14 196/17 197/18 197/25 198/1 200/15 201/21 203/9
them [57] 1/8 2/16 4/17 5/12 9/25 14/21 23/6 25/22 29/19 29/19 29/19 29/21 29/21 30/3 30/4 30/4 31/9 39/22 40/23 44/21 46/21 48/23 49/7 51/1 64/16 72/4 77/11 79/11 79/13 79/16 84/13 87/12 90/1 107/2 107/5 109/25 128/1 131/16 132/1 132/9 141/25 144/16 144/19 153/14 154/9 161/25 162/3 162/14 167/9 181/25 182/17 196/7 197/18 197/23 201/16 202/7 204/2
themselves [2] 9/17 167/6
then [158] 2/25 4/10 5/7 8/6 8/6 9/17 9/18 10/8 11/22 12/3 13/6 13/24 14/4 14/10 19/23 22/13 23/19 24/17 25/7 26/4 26/20 27/19 28/21 28/23 28/24 29/16 29/20 31/11 32/17 33/22 34/2 35/11 38/25 40/3 40/18 41/9 41/23 42/5 42/18 44/17 45/3 45/15 45/17 46/5 46/7 46/8 48/18 50/10 52/12 52/19 53/3 53/6 53/25 54/2 54/18 55/5 55/23 57/7 57/16 57/20 58/10 59/19 60/10 61/13 62/16 63/24 64/12 66/9 69/1 70/8 70/23 71/2 72/1 72/13 74/9 75/5 75/18 76/7 78/5 80/23 81/15 81/21 81/25 83/9 83/18 84/2 84/5 84/8 84/19 84/20 85/11 87/25 88/10 88/23 89/6 89/25 90/4 92/9 92/15 98/11 99/5 103/2 110/10 111/18 111/20 114/16 117/10 118/6 119/14 119/15 119/16 119/18 122/20 123/12 130/6 130/20 131/11 132/3 133/10 134/8 136/17 138/13 138/16 138/16 139/6 141/24 144/2 146/10 159/22 161/21 163/16 164/3 166/10 167/12 167/13 171/5 177/13 178/21 178/24 179/10 179/15 179/23 180/16 184/12 187/5 187/14 188/16 188/21 190/13 191/24 192/17 195/3 195/21 196/3 200/15 200/20 202/6 205/6
theoretical [2] 94/2 154/23
therapeutic [6] 40/11 40/11 40/15 49/5 80/3 81/5
therapies [1] 19/6
there [243]
there's [38] 8/10 9/2 11/19 15/1 20/5 23/17 28/21 28/25 36/24 37/13 38/20 42/23 44/21 45/1 45/15 56/4 66/24 66/25 74/2 77/3 87/16 90/21 90/22 90/22 90/23 91/9 92/19 94/25 121/2 126/3 159/9 163/22 180/22 185/22 195/5 198/17 200/21 205/17
thereafter [1] 21/12
thereby [1] 185/13
therefore [23] 11/12 21/21 25/7 62/20 66/6 66/7 75/3 76/6 79/13 85/22 91/4 91/8 112/9 123/6 126/4 143/16 145/1 159/2 163/6 168/5 168/24 185/19 193/1
these [50] 19/7 22/10 26/1 38/7 41/24 46/25 47/9 49/13

T

these... [42]
51/13 52/10 52/19 54/11 55/6 55/12 72/24 76/6 77/4 79/10 83/25 88/5 88/20 90/24 91/3 91/9 91/23 93/1 94/3 110/12 116/4 117/13 122/1 124/1 124/10 125/10 125/23 126/20 126/22 128/23 129/12 130/8 136/20 136/22 145/23 153/14 183/15 188/16 196/9 196/12 197/22 202/25

they [134]
4/19 5/12 5/15 7/25 8/16 8/16 8/24 9/9 9/11 9/12 9/13 9/15 9/17 10/4 10/6 15/21 19/4 20/8 21/11 27/24 27/24 28/19 28/19 28/23 31/7 31/8 34/17 34/18 43/5 44/25 45/18 45/22 46/14 47/23 48/14 55/8 55/15 55/15 55/15 56/3 58/18 59/5 60/3 60/10 60/10 60/25 61/2 61/2 61/4 68/6 76/25 77/6 79/15 80/8 80/14 87/20 88/5 89/5 89/13 93/15 97/12 105/2 105/4 106/21 106/22 106/22 107/3 107/3 107/12 107/17 109/3 109/25 111/18 118/25 122/2 122/19 125/23 128/16 130/10 131/6 131/10 131/11 132/1 132/2 132/8 135/22 135/23 136/23 144/20 144/22 144/22 146/14 146/14 147/20 148/23 148/24 158/12 160/22 163/13 163/20 163/21 167/4 167/10 174/10 174/24 174/25 180/2 180/18 181/24 182/14 183/5 184/5 184/20 185/5 185/7 185/18 186/6 193/8 194/7 194/15 194/24 194/24 195/1 195/2 195/2 195/15 197/14 199/10 199/14 201/23 203/9 203/22 204/14 204/17

they'll [1]
47/25

they're [14]
44/24 44/24 44/25 48/1 56/2 77/15 79/19 79/19 79/21 160/8 160/8 167/14 195/13 204/18

thing [7] 5/8 25/19 67/4 121/2 141/1 182/9 202/22

things [13]
22/7 22/8 22/12 22/23 79/16 90/25 94/6 112/6 150/6 150/7 180/3 181/20 205/15

think [147]
1/25 4/21 7/15 10/16 11/10 18/10 20/7 22/9 23/7 23/10 23/13 27/11 27/11 30/7 32/14 32/14 42/18 42/23 43/3 43/4 45/5 51/12 53/18 54/4 56/4 62/14 62/17 62/22 62/23 62/24 63/10 65/12 67/4 69/23 71/9 73/6 73/16 74/12 76/9 79/24 80/13 80/19 86/3 86/7 86/20 90/23 94/7 94/11 94/13 94/13 94/14 94/15 94/15 94/15 94/19 94/24 95/2 95/3 95/7 103/22 105/15 105/23 107/1 108/16 108/19 108/23 110/25 112/1 112/8 112/21 114/7 114/11 115/17 115/19 118/23 124/7 126/1 126/9 126/19 128/3 128/9 129/2 129/6 129/13 139/7 140/14 141/2 141/8 141/9 141/16 146/2 146/15 146/24 147/18 147/21 148/14 152/11 152/21 153/9 154/18 155/4 155/10 157/14 166/20 167/24 170/9 170/10 171/15 171/22 172/5 172/25 174/3 175/16 178/8 180/21 182/1 183/3 184/9 185/22 186/2 186/20 187/2 187/25 188/8 192/16 193/7 193/9 194/14 194/15 194/19 195/14 196/1 197/13 197/16 198/23 199/11 199/13 200/11 200/11 202/7 203/11 204/15 204/17 204/18 204/19 204/25 205/20

thinking [8]
21/19 27/10 41/12 85/17 85/21 126/24 179/23 193/10

third [5] 26/2 90/17 182/24 195/17 203/7

thirdly [5]
34/2 100/23 103/10 194/11 198/17

this [295]

Thompson [3]
166/7 173/14 189/21

Thompson's [1] 187/11

thorough [1]
94/5

those [116]
1/18 1/19 1/21 14/6 14/17 14/24 15/6 15/17 15/20 19/9 19/12 19/15 19/19 25/8 29/17 33/24 36/1 37/20 41/3 42/14 42/25 45/5 45/13 45/19 46/2 46/5 46/11 47/19 48/4 48/8 48/9 48/14 48/17 48/23 50/24 53/11 55/16 56/5 56/22 62/2 67/6 68/25 72/3 73/5 73/25 74/13 75/4 76/4 78/6 80/19 82/7 82/9 82/18 82/22 83/2 83/3 85/6 86/23 88/10 88/15 92/22 93/19 94/6 97/7 100/22 102/25 105/24 108/20 109/22 109/23 110/1 110/3 112/7 117/2 117/12 120/2 122/18 124/20 129/2 129/4 129/17 130/21 131/8 134/17 137/13 140/9 142/5 142/21 143/2 152/24 155/7 155/8 155/22 156/3 162/14 164/25 175/10 175/13 176/22 180/11 182/3 182/6 187/25 188/17 190/12 193/14 194/22 197/7 197/17 199/12 199/16 201/6 202/1 204/16 204/24 205/16

though [3]
5/11 16/4 197/11

thought [10]
39/3 62/3 62/13 68/6 123/9 129/11 142/11 154/21 191/9 204/14

thoughtful [1]
6/15

thoughts [1]
193/4

thousands [1]
121/9

threatening [3] 19/4 37/22 87/24

three [23]
11/2 12/3 24/8 24/9 37/16 41/11 54/14 69/2 77/11 79/6 88/1 88/5 88/19 107/12 137/13 140/6 160/18 167/24 191/15 191/18 194/21 195/5 198/24

throat [1]
118/13

thrombus [1]
180/5

through [45]
2/10 2/16 9/2 9/18 14/21 15/14 15/22 31/12 32/3 41/11 50/22

T

through... [34] 50/25 52/14 53/3 58/17 61/22 62/4 62/8 62/11 62/12 63/9 72/6 73/20 74/9 76/20 76/24 77/10 81/10 92/11 94/11 118/14 134/25 135/14 155/15 161/13 162/13 174/17 179/2 183/10 188/16 190/11 190/17 192/18 200/20 204/14

throughout [3] 24/20 31/1 193/19

Thus [7] 59/5 69/4 74/14 80/25 84/3 84/15 88/25

tidily [1] 205/14

time [75] 4/2 8/15 8/19 10/20 20/20 23/24 25/10 25/21 25/23 26/8 26/9 27/9 33/13 33/23 34/3 45/21 46/22 50/15 62/9 64/6 65/18 65/22 66/11 67/2 68/5 70/14 70/16 86/21 88/19 113/25 124/7 129/5 131/3 132/7 137/1 137/8 137/13 137/14 137/15 139/16 141/10 141/11 141/13 141/17 141/21 141/22 142/4 149/1 151/8 153/3 155/4 156/8 156/10 156/14 156/21 156/23 156/25 157/1 158/16 160/22 161/7 163/6 169/9 173/14 187/2 188/19 189/2 191/5 191/7 193/16 199/23 202/14 202/17 204/20 205/15

time-consuming [1] 27/9

timed [1] 68/9

timeline [1] 190/8

times [12] 19/9 64/16 64/21 87/13 94/4 121/9 132/14 144/23 160/19 192/5 192/23 202/19

timing [1] 140/3

timings [8] 155/22 156/3 156/4 156/16 157/25 158/19 166/19 166/24

tip [1] 175/8

tissue [7] 29/4 35/18 36/23 52/11 52/15 55/3 55/4

tissues [2] 32/2 36/2

title [6] 4/16 13/19 16/11 20/2 104/17 106/12

titles [3] 104/23 105/1 106/2

today [11] 15/23 16/1 80/4 85/18 96/17 104/22 109/16 169/16 193/22 204/11 205/12

together [4] 2/10 22/13 55/23 123/21

Tokyo [1] 129/12

told [5] 22/7 31/7 39/16 50/19 77/13

tomorrow [3] 150/11 205/20 205/23

tone [1] 175/3

tongue [1] 117/19

too [7] 56/18 59/5 74/3 150/16 183/19 183/22 197/16

took [6] 29/15 30/10 32/22 78/19 183/21 203/16

tool [1] 190/19

top [16] 2/22 9/22 10/25 11/19 13/8 14/11 24/17 59/13 72/6 77/3 83/7 139/16 141/1 164/18 166/8 174/18

top-downwards [1] 72/6

topic [4] 49/15 196/3 198/3 203/12

topics [1] 202/15

total [2] 131/7 136/23

totality [1] 82/13

touch [2] 104/2 114/16

touched [5] 19/11 79/1 172/2 176/14 202/17

towards [8] 30/22 41/14 45/9 47/17 48/3 57/22 72/15 175/8

toxic [4] 58/21 59/23 60/15 126/2

toxicity [14] 63/23 73/20 74/6 74/21 75/20 76/16 79/9 81/8 81/17 82/5 86/19 112/9 145/18 177/3

toxicological [3] 40/9 57/12 57/13

toxicology [9] 39/1 39/19 41/16 41/20 46/19 46/22 47/1 50/11 79/23

toxidrome [9] 54/4 73/23 124/3 124/5 149/24 150/12 150/23 151/1 154/23

toxin [1] 36/10

toxins [2] 180/10 180/13

trace [1] 164/5

trachea [1] 174/19

tracheal [1] 118/15

trade [1] 118/4

tragic [1] 201/21

train [3] 19/19 19/20 154/22

trained [5] 19/17 105/12 135/23 135/25 197/6

trainer [1] 19/17

training [18] 18/25 19/7 19/19 20/16 102/8 105/5 106/7 106/23 108/23 151/20 151/25 152/10 152/18 154/18 154/19 155/1 155/12 190/14

Tramadol [1] 119/16

tranche [1] 151/7

transcriber [1] 99/11

transcript [4] 106/18 131/22 144/9 155/25

transdermally [2] 120/1 120/4

transport [1] 29/4

trauma [4] 19/4 100/13 100/18 101/24

treat [9] 21/17 113/10 113/11 113/16 115/9 132/8 193/24 196/21 198/19

treated [5] 119/23 121/7 173/16 183/6 194/16

treating [2] 121/13 187/19

treatment [31] 46/1 46/15 47/11 47/11 70/25 82/25 86/12 86/14 104/2 108/25 112/13 112/21 112/24 114/17 135/17 143/6 167/21 170/4 175/23 175/25 177/24 184/12 184/15 187/17 188/13 189/15 197/24 198/13 203/15 203/17 203/21

treatments [2] 117/7 134/18

treats [1] 188/6

triage [10] 136/7 136/25 138/8 138/11 138/17 138/18 139/23 157/20 158/14 188/25

triaged [7] 135/22 135/23 137/14 139/25 160/9 160/11 192/4

triaging [1] 140/6

tried [2] 45/5 51/7

trigger [2] 158/17 171/24

triggered [1] 39/8

triggers [1] 75/5

trismus [2] 145/21 146/2

true [3] 14/24 97/8 97/11

trust [2] 99/13 107/24

trust's [1] 99/17

trusts [1] 107/23

truth [1] 97/1

try [3] 45/20 69/25 72/23

trying [9] 46/25 52/22 66/21 74/22 137/5 146/20 179/22 183/9

T

trying... [1] 196/13
Ts [1] 180/2
tube [4] 114/1 117/16 174/13 174/17
Tuesday [1] 1/1
turn [5] 56/6 85/11 96/25 97/24 149/11
turning [2] 21/3 57/7
tweak [1] 23/7
two [56] 2/19 4/12 4/20 4/23 5/9 5/18 7/14 11/19 15/6 19/12 19/15 27/19 41/11 42/6 42/14 45/20 46/10 47/9 47/18 47/19 48/4 48/14 50/25 52/10 52/23 64/8 68/3 82/22 83/3 85/7 90/22 92/9 94/14 94/18 107/12 115/25 116/2 129/17 134/21 138/9 139/20 140/1 140/8 144/2 144/13 148/25 149/3 149/9 149/10 149/12 152/12 179/8 190/24 190/25 202/8 203/7
two-minute [1] 179/8
two-step [1] 144/13
twofold [1] 171/2
type [2] 35/7 119/4
types [3] 88/2 115/9 181/10

U

UK [12] 18/19 101/18 106/2 106/5 106/12 111/9 113/17 129/5 179/14 179/25 187/21 201/3
ulcerated [1] 38/2
ultimate [1] 30/13
ultimately [6] 30/3 61/16 68/25 72/24 79/13 197/24
ultrasound [1] 99/1
ultrastructural [1] 36/6
ultrastructurally [1] 37/1
unable [3] 128/13 132/18 203/1
unaffected [1] 23/14
unaware [2] 48/7 89/24
unbiased [1] 6/7
unchanged [1] 123/24
uncomfortable [1] 193/18
uncommon [5] 132/17 166/23 171/9 189/11 202/20
unconscious [5] 89/3 117/20 118/10 174/25 199/8
unconsciousness [1] 49/10
uncorrected [1] 176/16
under [10] 32/1 54/11 73/12 76/6 79/10 91/1 106/1 174/21 180/8 198/4
underneath [5] 7/19 16/11 23/19 83/10 88/3
underpins [1] 34/13
understand [25] 6/5 6/12 6/15 34/8 39/17 42/8 43/11 49/8 60/24 62/3 70/11 71/22 87/18 90/9 94/4 130/14 146/4 146/7 153/7 160/8 161/25 165/18 197/9 204/5 205/2
understanding [17] 42/9 63/23 71/15 75/9 88/25 94/11 95/4 112/23 114/14 114/15 124/9 129/6 145/19 192/10 196/14 198/7 199/9
understood [5] 4/25 6/9 80/10 85/24 202/21
undertake [3] 34/18 53/2 57/15
undertaken [12] 15/6 21/5 22/25 26/23 34/3 40/10 50/16 51/19 52/3 54/20 66/23 175/15
undertaking [3] 24/15 31/25 82/15
undertook [3] 52/20 55/1 55/25
undoubtedly [2] 22/7 22/8
unequivocally [1] 177/19
unexpected [2] 38/9 57/11
unexplained [1] 8/5
unfortunately [3] 45/1 72/21 73/4
unhappy [1] 111/18
unique [3] 31/21 32/10 201/12
unit [7] 3/22 8/19 8/22 51/23 51/24 64/5 137/20
United [5] 28/20 35/13 59/4 59/18 59/24
United Kingdom [5] 28/20 35/13 59/4 59/18 59/24
units [1] 107/8
University [3] 17/12 98/15 98/19
unkempt [1] 148/17
unless [3] 139/23 159/7 205/18
unlikely [1] 145/5
unnatural [1] 21/19
unprecedented [2] 201/3 201/12
unpronounceable [1] 46/7
unreasonable [2] 9/16 62/17
unrelated [1] 74/20
unresponsive [1] 147/3
unresuscitated [1] 164/7
unsure [1] 154/25
unsurprisingly [1] 33/10
until [3] 26/6 132/2 205/25
untreated [1] 164/7
unusual [20] 5/8 5/10 8/8 8/10 10/12 10/19 11/7 18/16 25/22 26/7 26/9 28/2 84/12 128/15 149/3 149/9 193/17 195/13 199/12 199/15
up [35] 16/8 31/4 39/14 40/18 47/1 47/8 54/25 55/21 62/2 70/7 86/11 88/9 94/22 96/21 102/12 106/18 108/11 109/16 111/10 114/2 122/13 126/15 138/1 142/10 142/17 149/11 161/4 164/8 165/1 172/25 181/13 197/10 198/3 201/21 204/13
update [1] 13/21
updated [2] 16/11 160/7
updating [1] 14/8
upgrade [1] 192/13
upgraded [3] 18/24 192/6 192/22
upon [6] 20/17 48/18 172/2 176/14 188/17 194/21
upset [2] 21/22 201/15
upwards [1] 72/7
urban [1] 131/12
urine [2] 42/6 42/20
us [35] 1/13 1/18 2/13 7/20 15/20 18/7 20/10 24/9 28/9 32/19 38/20 52/15 55/12 73/16 74/12 75/22 90/13 96/11 99/6 100/14 102/7 102/19 103/15 116/2 122/17 130/21 133/19 134/3 143/3 143/4 145/14 162/13 179/1 190/17 193/19
use [51] 11/13 11/21 13/3 15/24 19/13 32/10 36/22 38/10 44/14 44/20 54/19 70/4 70/24 82/24 83/8 83/23 84/5 84/16 85/3 87/9 88/16 88/21 88/25 89/6 90/9 91/3 91/9 91/9 91/25 92/17 93/1 93/11 93/12 93/14 95/3 111/11 113/17 115/14 118/9 127/11 136/3 146/11 169/9 169/21 176/13 187/10 195/10 195/12 195/17 195/21 204/23
used [46] 46/14 63/22 64/9 84/14 84/14 84/21 87/19 87/21 87/23 88/13 89/14 90/3 91/24 92/5 93/8 94/6 94/14 105/1 111/15 113/4 113/6 113/10 113/11 113/15 114/23 114/23 115/9 119/21 120/1

U

used... [17] 120/5 130/15 143/5 145/25 146/1 146/16 147/9 159/8 170/3 170/20 173/19 184/25 185/23 186/20 190/21 195/14 202/25
useful [1] 15/22
usefully [1] 199/24
uses [1] 158/14
using [9] 26/25 70/6 87/12 94/3 136/6 146/16 190/24 191/1 194/16
usual [3] 26/7 98/9 143/24
usually [2] 3/25 139/21

V

Valley [2] 7/20 61/25
valve [1] 173/16
variable [1] 106/5
varies [1] 107/10
variety [3] 116/5 143/8 143/8
various [9] 14/22 16/25 37/12 74/3 85/9 95/18 101/23 110/11 111/2
variously [1] 105/22
vary [3] 104/23 107/7 107/8
varying [1] 120/22
vascular [1] 168/12
vast [1] 127/13
vehicle [2] 156/19 166/10
vehicles [1] 140/8
vein [2] 111/3 111/4
ventilating [1] 173/25
ventilation [8] 117/18 118/14 145/22 173/18 173/20 173/21 173/23 174/19
ventilations [1] 178/18
ventricles [2] 163/4 166/1
ventricular [9] 162/25 163/8 163/8 163/9 164/9 165/24 166/14 167/12 167/17
versed [1] 144/7
version [5] 20/6 51/22 108/13 179/5 179/12
versions [1] 179/6
very [74] 2/14 5/21 11/16 11/18 15/1 15/22 17/2 18/5 20/13 22/3 23/10 24/13 24/16 26/7 26/16 30/24 31/19 33/10 36/21 42/19 50/2 52/13 52/25 54/9 54/16 66/24 66/25 66/25 67/2 68/13 70/21 70/23 75/13 80/17 83/6 87/4 87/16 92/2 93/18 94/5 95/7 95/22 96/17 106/5 108/9 116/10 125/5 128/1 132/20 140/15 146/7 148/14 150/6 154/7 155/1 156/2 163/2 163/4 172/12 183/24 187/7 187/25 189/11 190/7 192/12 202/1 202/5 202/15 204/12 205/8 205/14 205/16 205/22 205/22
vessels [6] 35/3 37/17 37/17 169/8 180/6 180/7
VF [2] 166/14 167/2
via [4] 62/5 64/22 114/3 188/20
vial [1] 119/24
video [1] 1/21
view [28] 21/22 48/8 68/15 82/16 85/14 91/20 109/6 126/6 127/13 127/15 132/22 145/20 146/2 146/11 157/12 175/12 178/3 183/3 183/11 184/10 187/7 189/9 191/5 191/6 196/8 196/11 197/13 205/15
views [4] 22/5 25/4 65/14 197/23
virtually [2] 19/8 187/15
visit [1] 28/24
vital [2] 69/7 81/22
VN106 [1] 12/17
vocal [3] 118/13 118/14 174/18
volume [3] 163/20 180/4 188/9
volumes [1] 86/18
voluntary [1] 18/8
volunteer [1] 18/23
vomiting [2] 122/4 122/23
VT [1] 167/2
VX [6] 63/15 63/24 64/1 64/2 64/12 65/4

W

wait [2] 137/25 151/13
Wales [1] 20/15
wall [1] 162/4
want [12] 2/14 7/25 27/2 45/19 50/11 82/25 144/8 155/22 162/13 185/5 197/3 205/18
wanted [8] 10/4 42/16 68/23 76/17 82/19 90/15 93/19 135/11
wants [1] 161/24
wary [1] 93/16
was [357]
wasn't [12] 25/18 38/14 67/3 124/7 144/25 145/1 161/6 168/22 177/4 183/22 185/20 192/6
watch [1] 108/16
watching [1] 1/21
watery [2] 123/17 123/18
way [31] 2/23 6/7 16/16 17/23 22/18 23/6 23/12 26/3 26/11 27/10 33/15 49/2 54/10 57/9 61/12 63/16 64/15 68/15 75/2 80/19 92/11 98/9 135/21 142/16 163/19 170/17 171/23 176/18 183/13 189/4 193/11
Wayne [1] 109/12
ways [1] 198/8
we [470]
we're [15] 5/17 38/10 47/13 49/18 54/7 57/21 112/24 126/3 133/25 134/18 135/20 136/15 140/13 173/13 193/20
we've [4] 61/10 140/21 191/21 193/21
weapon [1] 64/3
Weapons [1] 27/21
wear [1] 172/6
wearing [3] 193/16 193/20 193/24
website [3] 1/22 2/1 98/8
websites [1] 88/5
Wednesday [1] 205/25
week [5] 15/2 19/9 99/24 100/1 100/2
weeks [2] 88/19 92/4
weigh [1] 86/12
well [52] 4/15 5/17 10/17 19/8 43/2 43/25 48/11 49/25 61/25 63/3 64/1 66/7 67/5 67/6 68/2 69/22 70/4 81/1 82/11 85/16 86/4 92/22 95/6 98/25 100/9 100/19 105/8 112/22 114/13 115/8 126/19 141/18 144/6 145/6 145/7 148/19 148/19 149/25 150/3 155/17 159/11 159/22 160/23 179/22 183/8 197/12 197/19 201/8 204/14 205/14 205/15 205/22
went [3] 68/16 81/14 166/14
were [108] 7/21 8/16 10/21 11/4 12/8 17/4 17/16 19/13 20/19 21/3 21/4 21/6 21/10 23/12 24/15 27/11 27/13 27/18 27/25 29/12 29/17 31/8 31/8 31/23 33/3 33/13 33/17 34/2 37/17 39/1 39/16 40/21 40/23 41/25 42/6 42/20 45/14 46/10 48/6 50/16 50/19 50/19 52/10 52/11

W

were... [64]
52/22 53/11 53/17 55/13 56/1 56/24 58/14 60/14 60/18 62/17 65/12 67/7 67/8 71/13 77/13 80/14 80/19 82/19 83/16 85/7 87/5 89/24 101/10 101/14 102/7 103/4 107/8 111/23 124/10 128/18 128/21 129/12 130/8 130/21 131/10 131/11 139/20 140/1 140/10 145/20 145/23 146/5 148/25 152/23 153/25 155/8 166/21 167/5 171/23 174/10 177/7 177/23 178/4 189/20 193/4 194/7 194/24 197/14 197/17 199/3 201/2 204/11 204/21 205/9

weren't [7]
10/22 48/14 49/3 174/9 177/8 193/1 199/17

western [2]
38/7 109/23

Westminster [1] 102/24

wet [2]
150/12 150/16

what [148]
7/7 8/13 15/25 18/14 20/10 23/20 25/12 27/22 28/10 28/18 30/2 30/12 39/16 39/16 39/24 40/20 42/25 43/9 44/23 45/3 45/19 47/13 48/8 49/12 52/6 52/19 53/7 53/18 53/25 54/3 54/11 56/4 56/22 60/25 61/5 62/16 63/3 64/7 65/1 66/19 67/23 73/16 74/22 75/7 75/12 79/4 80/10 85/10 85/13 85/18 85/24 89/11 91/21 92/24 94/4 100/15 100/16 103/16 104/14 104/21 107/1 107/17 108/23 109/9 111/6 111/22 111/23 113/1 113/14 114/18 117/21 120/1 120/15 124/12 125/19 126/2 126/10 128/1 129/9 130/7 130/21 131/6 136/21 138/6 141/20 143/10 144/16 144/17 144/18 144/21 144/22 146/20 147/23 148/16 150/14 152/3 152/18 153/16 154/17 154/22 154/23 154/24 155/7 156/14 156/24 157/12 157/19 160/8 161/24 163/13 167/14 168/2 168/16 168/21 169/9 175/23 176/3 177/15 177/23 179/20 179/24 180/16 183/9 183/17 184/2 184/15 185/9 185/22 187/3 187/14 192/12 192/18 193/4 193/12 193/13 193/24 194/1 194/11 195/11 196/8 197/5 197/10 197/12 197/17 197/25 198/13 199/2 199/11

what's [7]
24/24 61/22 110/14 146/17 155/5 155/12 191/5

what3words [1] 160/23

whatever [1]
94/4

when [62]
4/21 9/9 33/9 40/2 44/24 45/17 60/17 63/23 66/13 71/23 72/6 83/23 88/13 88/17 89/16 89/21 90/14 93/7 93/17 97/24 101/12 101/15 117/20 120/19 126/16 128/18 135/17 137/10 137/11 137/18 137/20 138/11 146/1 147/18 147/21 147/21 153/13 153/19 154/11 154/12 160/8 160/19 160/24 162/10 162/12 162/19 163/23 165/11 165/19 177/17 178/8 183/25 185/7 185/9 185/12 187/2 191/3 196/9 197/4 197/14 199/10 199/17

where [57]
1/9 3/19 4/11 8/3 8/5 14/13 16/8 19/4 25/19 28/6 30/9 34/16 41/12 41/24 43/9 46/24 61/10 64/24 65/14 66/15 67/19 72/17 75/4 76/11 78/20 87/20 90/23 91/7 93/1 93/4 93/12 95/1 96/8 98/4 120/25 131/13 133/22 134/2 134/4 134/6 134/8 144/24 149/10 154/11 158/15 159/20 161/23 163/17 163/25 164/11 165/1 173/2 174/17 187/4 194/8 201/10 203/8

whereas [3]
64/6 91/10 130/17

whether [31]
11/25 21/18 23/3 32/1 32/15 45/7 45/22 46/25 50/9 51/8 61/14 80/10 83/12 85/14 86/4 122/17 127/11 130/10 130/10 131/6 143/24 144/20 148/7 177/16 179/2 179/9 180/18 186/14 189/17 191/3 196/8

which [163]
2/10 2/13 3/20 4/23 4/24 5/2 6/25 7/21 9/2 14/3 14/12 15/2 15/2 15/3 17/19 19/2 21/21 23/12 25/1 29/15 30/11 34/11 34/13 34/23 36/7 36/14 37/9 39/7 39/21 40/21 41/10 43/17 45/11 45/17 45/25 50/16 53/7 54/3 55/7 58/21 61/2 62/16 64/7 65/9 66/11 68/5 68/9 69/6 69/11 69/21 69/22 71/17 72/5 72/12 72/16 72/17 72/19 72/21 73/3 74/10 75/24 76/3 76/25 77/7 79/6 79/16 81/9 81/20 82/23 83/10 83/19 85/12 85/24 86/5 87/10 89/23 90/2 90/21 92/17 92/20 92/21 92/24 93/5 93/16 94/7 94/23 94/25 95/1 96/19 97/1 97/3 97/5 97/12 97/21 98/13 102/7 107/22 108/20 108/21 109/16 110/16 114/5 114/6 114/22 116/18 120/14 120/18 124/23 124/23 126/10 128/21 129/1 130/4 135/22 136/3 142/1 142/2 143/19 149/8 149/19 149/20 150/11 151/9 154/5 156/12 157/25 158/9 160/17 161/10 161/16 161/19 162/9 162/17 163/3 164/3 166/1 166/11 167/22 170/20 170/22 171/2 176/13 177/3 177/11 178/3 178/15 178/18 178/20 179/6 179/16 180/7 180/8 180/11 186/4 188/14 190/19 194/21 195/20 198/7 200/8 200/16 200/19 205/19

whichever [1]
137/13

while [5]
19/25 47/8 71/6 89/12 133/25

whilst [6]
45/15 45/21 89/2 92/18 189/8 201/20

Whitelaw [10]
96/2 96/4 96/10 135/3

W

Whitelaw... [6] 153/17 202/6 202/17 203/13 205/11 207/6
who [87] 7/16 7/24 12/17 12/18 15/20 19/9 19/19 23/3 24/9 25/10 25/10 27/18 29/8 29/13 29/14 29/25 35/12 58/13 82/15 91/24 104/15 105/7 106/5 106/8 106/9 106/10 106/16 107/11 113/17 114/24 116/6 117/25 119/19 119/20 119/23 121/7 125/15 127/22 128/20 131/4 131/9 131/14 131/15 133/5 133/7 133/13 134/15 134/16 134/22 134/24 135/9 135/25 142/14 144/6 144/15 148/17 149/3 150/3 155/7 159/8 159/16 160/4 165/2 167/11 168/23 169/3 174/24 175/2 175/3 175/9 175/10 175/10 175/11 176/9 177/4 177/5 181/13 181/19 182/5 182/12 185/15 188/2 195/25 196/20 197/22 199/13 200/5
whoever [1] 25/8
whole [5] 71/18 72/3 98/7 147/14 190/10
whom [2] 140/9 150/10
whose [2] 198/18 198/21
why [28] 4/19 22/22 32/22 45/5 49/11 56/5 63/25 67/5 68/1 72/8 75/23 75/25 75/25 76/10 79/20 106/17 106/24 107/2 112/3 113/13 114/22 139/20 142/13 146/4 160/3 170/23 192/9 205/2
wider [1] 201/8
widespread [1] 201/6
will [139] 1/20 1/21 2/3 2/10 4/17 4/21 7/7 7/10 7/23 7/24 11/17 12/6 12/13 12/20 14/17 15/9 15/21 15/24 15/25 16/2 16/20 16/20 19/8 22/22 22/23 25/2 32/4 32/14 35/2 36/22 36/24 38/6 40/19 41/10 43/25 47/6 48/18 51/1 51/1 52/1 55/5 63/19 66/8 69/12 69/14 70/13 70/18 70/20 70/24 71/17 71/18 72/19 72/20 72/22 72/23 72/24 82/1 82/21 83/19 86/23 87/2 87/4 91/25 92/15 94/18 95/16 95/19 98/8 104/15 105/6 105/19 106/7 106/9 107/11 110/8 114/13 114/16 115/17 115/17 118/16 124/6 124/18 125/14 131/21 132/14 132/15 132/18 132/20 134/5 134/6 134/11 137/25 138/5 139/6 140/11 142/1 142/4 144/23 147/24 150/5 150/10 152/3 153/21 156/6 158/8 158/9 158/11 158/12 160/22 161/23 162/23 164/7 164/10 164/11 167/10 172/6 172/8 173/7 173/9 173/17 174/22 175/9 175/9 178/19 179/15 181/11 181/12 181/15 181/16 181/17 181/20 182/13 187/18 201/23 202/19 202/24 203/2 205/6 205/19
wind [3] 118/15 174/18 174/20
window [3] 30/11 30/16 30/17
windows [1] 30/15
wish [5] 9/13 21/22 70/7 95/18 201/16
wishes [1] 201/17
withdrawal [2] 111/19 113/11
withholding [1] 189/22
within [68] 5/12 5/19 5/20 6/8 6/11 7/6 8/21 9/20 10/5 12/7 14/7 30/7 30/14 31/15 35/13 35/16 35/23 36/2 37/23 39/12 39/15 40/4 44/12 50/13 58/2 59/10 61/24 64/5 64/6 66/8 69/19 72/2 72/21 75/17 77/2 79/2 79/6 94/23 97/4 97/7 97/22 99/8 99/13 99/16 100/7 100/9 100/17 107/10 120/2 123/2 127/12 137/7 137/16 137/20 138/17 141/14 141/18 146/1 153/15 154/1 154/15 156/1 157/2 158/8 189/3 200/5 201/3 201/20
without [6] 5/4 56/7 63/5 93/15 118/9 175/1
witness [11] 1/4 1/19 2/13 2/18 14/2 31/13 103/5 124/2 133/4 133/12 187/11
witnesses [1] 147/1
wives [1] 116/10
won't [9] 14/21 15/22 22/24 48/25 92/10 97/19 106/18 135/13 190/11
wonder [3] 30/19 49/15 151/8
Wood [6] 111/22 123/7 134/21 140/9 142/9 143/21
Wood's [1] 140/12
Woods' [1] 142/19
word [11] 11/22 12/20 32/10 36/22 38/11 43/20 83/10 90/24 91/3 91/11 204/23
wording [2] 6/10 20/8
words [8] 7/8 54/16 54/19 62/2 64/14 64/16 97/21 202/25
wore [1] 27/5
work [21] 3/5 16/2 18/8 18/21 23/13 28/15 57/15 69/23 92/22 100/7 100/12 100/20 105/7 106/5 124/23 131/14 134/14 143/13 155/16 160/19 164/24
worked [8] 21/8 127/20 127/21 128/6 128/12 150/25 169/18 185/24
workers [1] 104/25
working [5] 18/17 145/23 150/21 175/5 203/8
works [1] 104/15
world [5] 35/5 76/4 130/5 130/13 152/13
worried [1] 197/5
worse [2] 165/15 165/17
worsen [1] 146/19
worth [5] 15/19 56/22 129/7 136/22 165/13
would [199] 3/9 3/23 8/1 9/17 9/22 10/10 10/14 12/1 15/16 19/23 21/20 22/8 25/3 25/3 25/4 25/4 25/5 25/6 25/8 29/19 29/20 33/6 33/15 34/6 36/24 41/9 47/22 49/6 49/9 49/17 50/23 53/1 53/5 53/5 53/11 53/22 54/11 55/12 55/16 55/25 57/13 57/16 62/19 63/3 63/6 64/16 64/18 64/18 65/8 65/13 66/6 68/4 70/25 71/13 74/6 76/22 81/12 83/12 84/6 85/2 85/15 85/22 86/14 86/17 89/6 89/25 90/9 90/15 94/6 94/16 94/19 94/20 94/20 94/21 94/24 95/3 95/4 96/7 104/10 107/15 108/9

W

would... [118]
109/2 109/3 109/4 109/9 109/10 109/21 109/24 110/2 111/14 112/1 112/7 112/8 112/12 116/14 118/11 119/6 120/18 120/21 120/24 121/3 121/15 124/16 124/22 126/1 126/3 126/6 127/12 127/14 127/15 127/16 128/13 128/15 129/10 130/2 133/18 133/20 134/14 138/12 138/13 139/10 139/25 141/24 142/15 143/13 143/18 144/11 145/1 146/6 146/15 147/17 147/19 148/9 149/24 150/15 150/24 151/19 151/24 152/14 152/15 152/20 154/22 154/22 155/1 155/9 158/17 162/5 167/1 167/4 168/21 168/21 169/2 171/10 171/13 171/20 171/22 171/24 172/23 172/25 173/7 174/1 174/2 174/15 175/14 176/10 176/10 178/11 181/24 182/16 184/10 184/10 184/15 184/17 184/19 184/19 185/11 185/17 186/12 187/3 187/15 188/9 188/16 189/14 189/17 190/1 190/4 190/18 193/17 193/22 194/2 197/16 198/9 200/11 200/14 200/21 201/19 201/24 204/2 204/10

would/could [2] 12/1 83/12

wouldn't [13]
10/13 21/21 22/4 86/2 132/7 132/9 146/11 146/15 172/12 176/5 177/1 185/5 197/3

write [2] 24/1 25/3

writing [2] 15/25 38/12

written [1] 9/10

wrong [3] 68/14 86/3 204/18

wrote [4] 25/11 60/18 64/7 91/4

Y

yeah [1] 144/22

year [12]
1/23 1/24 11/1 17/14 17/20 17/25 31/15 41/6 69/11 76/4 128/4 131/1

years [9]
17/17 20/20 38/8 92/9 101/6 127/20 131/8 131/15 169/19

yes [346]

yesterday [1] 156/7

you [874]

you know [2] 53/1 93/14

you're [33]
22/7 23/12 39/24 41/1 43/20 49/24 63/2 67/23 71/9 72/4 75/12 96/14 99/23 126/17 137/1 141/8 146/20 148/21 148/22 152/18 159/8 160/17 160/24 171/5 179/23 182/4 183/9 185/22 186/9 197/4 199/23 205/3 205/19

you've [5]
93/16 126/4 148/20 155/17 171/8

your [246]

your July [4]
31/13 41/6 69/10 78/23

yours [1] 22/3

yourself [5]
39/6 57/5 57/9 144/2 197/10

Yulia [13]
106/17 112/21 114/11 115/19 117/8 118/1 119/23 133/14 134/22 146/25 147/5 174/4 174/6

Z

zoom [2] 9/21 47/15

zopiclone [6]
44/19 46/10 47/3 47/10 47/20 48/5