

5 July 2023 (Day 143)

Judge's Summing Up Day 3: Babies H, I, J & K

Wednesday, 5 July 2023
(10.30 am)

(Delay in proceedings)

(10.43 am)

(In the presence of the jury)

SUMMING-UP (continued)

MR JUSTICE GOSS: I'm sorry about the 15-minute delay in your being brought into court. There was an administrative matter with which I had to deal, so I apologise.

I move on then to counts 10 and 11 on the indictment, which concern [Baby G] (sic).

They are both allegations of attempted murder on consecutive nights, the 24 and 25th, and the 25th and 26 September 2015, so some 3 and 4 days, respectively, after the [Baby G] events on the 21st, which is where we ended yesterday.

The baby concerned, [Baby H], was born at 18.22 on 22 September 2015 at the Countess of Chester and so was only a few days old at the time. Her mother, [Mother of Baby H], and her husband, [Father of Baby H], had been wanting a baby and she had a healthy pregnancy, the only complication being that she is type 1 diabetic. [Baby H] was born in good condition at 18.22 on Tuesday, 22 September at 34 weeks and 5 days' gestation by emergency C-section, as her mother's blood sugar level kept dropping and it was a struggle to control it.

It was an uneventful birth. [Baby H] weighed 2.33 kilograms, so 5 pounds 2 ounces. Her Apgar score was 7 at birth and 10 at 5 minutes. By reason of being born before 39 weeks' gestation, she was more likely to have respiratory distress syndrome, RDS, and more likely to struggle to maintain her body temperature. This and the maternal diabetes meant she was at high risk of developing hypoglycaemia in the neonatal period and it was for these reasons that she was admitted to the neonatal unit.

Between the morning of 24 September and about 04.00 hours on Sunday, 27 September, [Baby H] was very unstable, suffering a number of pneumothoraces of the left lung, a leak in the lung allowing air to escape into the area around the lung known as the pleural cavity, as well as episodes of profound desaturations and bradycardia.

The pneumothoraces were addressed by the insertion of chest drains and, in the case of the tension pneumothoraces, by a needle thoracentesis, which involved releasing the air by inserting a needle into the pleural space. I'm sure all this is coming back to you as I recite it.

A number of aspects of her care and treatment were sub-optimal. Dr Evans and Dr Bohin agree that surfactant should have been administered to [Baby H] earlier given that she had respiratory distress syndrome by reason of her prematurity. This would have aided gaseous exchange to improve oxygenation, surfactant being a lung product in which neonates who are born early will be deficient. Also, there was an unacceptable delay in intubation for the purpose of ventilation between the development of the pneumothorax by 06.00 on 24 September and the intubation at 08.10 hours; in other words, 2 hours and 10 minutes later.

Further, the needle used in the first thoracentesis on 24 September was not removed after the tension caused by the air had been removed and the chest drain had been inserted as it may have punctured lung tissue if the lung expanded.

Finally, it was not recognised at the time that air had re-accumulated by 20.50 on 24 September and [Baby H] appeared to be breathing against the ventilator. There was a delay and the second drain, inserted by Dr Saladi, may have been interfering with other structures in the chest.

However, in the opinion of both Dr Evans and Dr Bohin, although the pneumothoraces were probably a complication of [Baby H]'s condition and some or all of the shortcomings in relation to aspects of the treatment may have added to the later pneumothoraces, none, they said, was causative of the sudden collapses at 03.22 on the 26th, which is the subject of count 10, and at 00.55 on the 27th, which is the subject of count 11, for which neither of them could find any cause.

After the collapses, [Baby H] was transferred to Arrowe Park Hospital on 27 September, leaving the Countess of Chester prior to 05.30 hours. The transporting consultant neonatologist, Dr Srinivasaro Babarao, wrote that from the ventilation perspective, [Baby H] was stable. The oxygen requirement was less than 30%, which was not worrying at all. The chest X-ray revealed no pneumothorax. Blood pressures were fine and good for her gestation. The capillary refill time and heart rate were normal. Blood sugars were stable and there was no bradycardia. The base deficit was normal. There was a good urine output. The CRP was high and the temperature was slightly low for a baby. Her blood count was normal.

After an uneventful transfer, they arrived at Arrowe Park at 05.55, where, over the course of the next 2 days, her management was quickly de-intensified, the chest drains were removed, ventilation was weaned and she was extubated by 29 September and feeds were started. She remained well and had no further cardiac arrest. An echocardiogram showed a structurally normal heart with mildly raised pulmonary pressure, which was normal for a baby of her age. She returned to the Countess of Chester on 30 September.

The prosecution case is that recognising, as they do, that [Baby H] had a challenging condition and acknowledging the sub-optimal care, looking at the overall picture, the coincidence of the defendant being on duty in the ward and having involvement with [Baby H] during those shifts on those nights when children suddenly collapsed unexpectedly and for no identifiable reason, then once removed from the ward to Arrowe Park she progressed without significant incident until further unexpected collapses in the context of other evidence and relating to her interest in the family and other events, about which you have heard, you can be led to the sure conclusion that, however she did it, the defendant was responsible for the sudden and life-threatening collapses by deliberately harming [Baby H] on two occasions.

The handover sheet for [Baby H] was found in the Morrisons shopping bag under the defendant's bed in her home after her arrest, as were handover sheets for [Baby G] and [Baby I]. She didn't remember having taken them home and didn't know why she had 231 handover sheets there.

The defendant accepts staffing levels had nothing to do with [Baby H]'s collapses but said that she did nothing to harm her. She denied having dislodged the chest drains but questioned whether they were securely put in. She was a premature baby with RDS who received sub-optimal care in the early stages of life and during the course of her treatment and that added to the risks of desaturations and bradycardia and there was a cumulative effect that led to her collapse and requirement for resuscitation.

The defence say her care was sub-optimal and you cannot be sure that there is no innocent natural explanation for these episodes.

Well, that's the background. [Baby H] had been fine -- I'm sorry...

(Pause)

I've realised that I've duplicated some of my notes in relation to this and I did refer, of course, to desaturations. There were

the incidents between the 23rd and 25 September, to which I have referred. I will give you a little more detail about them because it is appropriate. So I'm going to go back and revisit some of those events briefly because it relates to what the defendant's case is in relation to these charges.

On the night of 23/24 September, she was on non-invasive ventilation, her heart rate was fine, she was on BiPAP, her breathing was with a gasping pattern and her oxygen level requirement was 60% and that was why she was ventilated.

At 10.05 on the morning of the 24th, she had an acute desaturation on the ventilator and was not responding to the Neopuff. This was a consequence of the pneumothorax and nothing else. There was a left-sided pneumothorax and at that time her oxygen requirement increased and she was starting to struggle, which suggested that the pneumothorax was bigger than first thought. A needle thoracentesis was performed, inserting a butterfly to provide the immediate release of air, and there was an instant improvement in her condition.

The first of three chest drains was then inserted. She was clinically much better after that. She remained on the ventilator. Her heart rate remained stable throughout all the procedures and she was pink and well perfused. She was given Curosurf through her endotracheal tube, but as I've already reminded you, she was not given it earlier, and the needle was left in place.

At 01.25 on the 25th there was a profound desaturation, no breath could be detected on the ventilator and the chest drain was no longer fluttering. 70ml of air was aspirated, but the X-ray confirmed that there was a tension pneumothorax. That was an emergency life-threatening situation. In a tension pneumothorax the heart and the midline move over to the opposite side and that could be seen on the X-ray behind tile 48.

There was a further desaturation at 01.45, the consultant was called, Dr Jayaram arrived, and despite a further needle thoracentesis, [Baby H] continued to have poor chest movement and poor entry and she suddenly dropped her saturations.

The ET tube was removed and appeared to be blocked with a mucus plug, she was bagged and re-intubated. The decision was taken to insert a second chest drain lower down than the first, going in around the seventh or eighth intercostal space. This was of a different kind: the first had been a pigtail drain, as you will recall, and none was available, so it was a different type of drain, and that was confirmed by an X-ray, which is behind tile 75, to be in a good position.

The tip of the drain would move with respiration anteriorly and, as you saw from the sequence of X-rays that were taken, the drain would move around in the pleural space. But it remained there in the pleural space and that reflected that the pneumothorax had decreased and resolved.

Under cross-examination Dr Jayaram did not consider a chest drain could come into contact with the heart or vagal nerve and he'd never known that happen. It could come into contact with the pericardium, the sac surrounding the heart, but that was very unlikely and would not compromise the function of the heart. He didn't believe it was actually causing abnormal stimulation of the heart muscle or the vagal nerve.

On the afternoon of the 25th at 16.21, [Baby H] had a further desaturation; tile 160. [Nurse D] put out a crash call and Neopuffed her on 30% oxygen. She then started to breathe spontaneously and had good saturations by the time the doctors arrived. It was thought that the ET tube was blocked or dislodged and it was replaced by the registrar.

Dr Gibbs reviewed the X-ray taken after replacement of the ET tube. There was still a left-sided pneumothorax but it was small and not a tension pneumothorax.

The drain Dr Jayaram had inserted had moved outwards. Dr Gibbs fixed it more securely to the chest wall. He was not aware of any internal structures (sic) by movement of the drain: it was still functioning, was well inside the chest and was moving outwards, away from the heart.

So that's a summary of the proceedings up to the night of the 25th/26th: two chest drains in place by that time, pigtail drain and another one, and the episodes that there had been associated with difficulties in relation to ventilation.

On the night of the 25th/26th, the defendant was [Baby H]'s designated nurse. On the previous morning, the 24th, at 09.15, she'd sent a message to [Nurse E], which is behind tile 27, saying:

"It's completely unsafe."

A reference, she told you, to staffing levels in the unit, and she was referring to a different time.

At 14.07 hours that day, she sent a message to Sophie Ellis, behind tile 33, this is on the 25th, saying:

"It was pretty bad so far, how busy the unit was and the number of babies."

In her evidence she said she'd come across chest drains at Liverpool Women's Hospital, where the drains were always stitched into the skin, but hadn't seen one at the Countess of Chester and none of them there, including the doctors, that's the staff there, were overly familiar with them. She also said that the third drain had to be obtained from the children's ward.

[Baby H] was the only baby in nursery 1 that night.

[Nurse A] was the shift supervisor. She looked after [Baby H] -- she said looking after [Baby H] was quite a task for the defendant, but she was qualified and was very competent and she trusted she would ask her if she had any problems.

Dr Bohin noted that at 20.50 hours [Baby H] was struggling and appeared to be breathing against the ventilator. A blood sample was taken at 22.02 and at 23.05, a blood transfusion that had been prescribed at 15.00 hours was commenced. This eight-hour delay was longer than normal. [Nurse A] did not know why, but she signed for the two bags of blood that were needed. The transfusion time was 4 hours. [Baby H]'s father, [Father of Baby H], was in the room with [Baby H] with his mother-in-law until just before midnight. According to the defendant's notes and what she said to Dr Ventress, [Baby H] had further episodes of desaturations prior to 23.50.

Dr Ventress said the taking of the blood sample could have been a trigger event of one and she improved with bagging and suctioning of the ET tube after the second; tile 210.

An X-ray revealed there was air in the central part of the chest. The second chest drain, said Dr Ventress, had almost fallen out and so reduced its function. By 01.00 hours, of what was now 26 September, tile 216, her oxygen requirements had gradually increased to 70% and she required an increased amount of ventilation and pressure.

Dr Ventress called Dr Gibbs, who said that, very unusually, despite having two chest drains, [Baby H] had developed another tension pneumothorax. It had not been possible to drain it. Dr Gibbs looked at the X-ray behind tile 200, taken at 22.56, his note is at tile 228. The two chest drains were blocked with yellow serous fluid, so he inserted a third chest drain, an 8.5-centimetre pigtail drain, on the left side. Both Dr Gibbs and Dr Jayaram said that chest drains can become blocked. Dr Gibbs also agreed that there is a potential risk of a chest drain touching the heart, but in [Baby H]'s case she had bradycardia after the chest drain had been removed.

There was then a marked improvement. This is after the third chest drain had been inserted. The lungs moved better and the oxygen requirement reduced to 30%. The X-ray behind tile 229 showed the lung had fully expanded by 02.30. There was no pneumothorax.

In retrospect, it is apparent that air had re-accumulated but this was not recognised at the time.

In evidence the defendant accepted staffing levels had no direct relevance to the events of that night but said there was potential incompetence with regard to the location of the chest drains and how they were secured.

Her nursing note, behind tile 208 and also tile 261, for that night was written between 04.14 and 04.28. [Nurse A] was there to assist her with any drugs and maintain the chest drain, being, said the defendant, supernumerary so far as nursing duties were concerned. She called on her from time to time and she co-signed for medications. Her note, reference to which I've just given you, recorded that:

"At 23.30 bradycardia and desaturation requiring Neopuff in 100% oxygen to recover. 10ml aspirated from chest drain by Registrar Ventress. Following poor blood gas and 100% oxygen requirement, Consultant Gibbs attended the unit and inserted a third chest drain. All three drains swinging and serous fluid present. Dressing in situ. X-rays taken as documented."

The note of Dr Ventress was that she was called at 23.50 and that [Baby H] had bradycardia and desaturation and had to be Neopuffed. The defendant also recorded on the intensive care chart, J12701, behind tile 199, of which you have a paper copy in section 10 of your second jury bundle, an entry at 22.10:

"Desat 52% during heel prick. SHO present. Serous fluid ++ x2 drains."

There was no reference to this event in her nursing note and the SHO was not identified. The defendant said she commonly did not name the doctor. The SHO on duty, Jessica Scott, made no note of such an event. The prosecution allege that the defendant was falsifying records. Dr Ventress also noted that the defendant had told her that there had been:

"Several episodes of desaturation in the past 2 hours."

The defendant said in evidence she couldn't confirm she had told Dr Ventress anything. The prosecution allege she was falsely representing [Baby H] had been having problems for a couple of hours, which aren't matched by the charts and the notes. There

was also an error in the notes in relation to the blood transfusion, which was completed at 03.05, being a four-hour transfusion commenced at 23.05 and so finishing at 03.05, as recorded in the transfusion prescription behind tile 239, and not at 02.00, as recorded in her notes. The defendant said these differences were just mistakes and she was not deliberately fabricating them.

And when asked about Dr Ventress advancing the second chest drain back 4 centimetres, as it was almost out, as noted behind tile 210, she denied sabotaging the drains and being responsible for the profound desaturation at 01.35, referring to the drains not being stitched in place as she had seen was the practice at Liverpool Women's Hospital.

At 03.20, Dr Gibbs left. He was called back from home at around 03.30, tile 262, by Dr Ventress, [Baby H] having had a further desaturation that required her to be Neopuffed at 03.24, tiles 245 and 246, and she was given a bolus of adrenaline. This is the event giving rise to count 11.

Dr Ventress noted the heart rate reading was 92 on the monitor and her sats were reading 70%, but as soon as the chest compressions were stopped the heart rate decreased again. At 03.35, behind tile 248, a further dose of adrenaline was given.

Dr Gibbs arrived at 03.36; tile 251. She was given further adrenaline and at 03.45, tile 253, she was given atropine, which is medication to prevent bradycardia and is a later part of the cardiac arrest algorithm protocol.

At 03.46, tile 255, the chest compressions were stopped as the heart rate had improved to 120 and then to 160 and stayed high and her colour started improving. Dr Ventress had no further direct dealing with [Baby H] and had no direct recollection of anyone who was present at the resuscitation.

She was referred to messaging, which for your reference are tiles 511, 517 and 518, sent early the following morning, 27 September, in which the defendant was saying to her:

"[Baby H] had resus again but not as long-lasting as it was for us. She went to Arrowe."

To which Dr Ventress responded:

"Oh crap. Do they know why she did it this time? I'm glad she's been transferred. How are you? Really rough set of nights for you."

The defendant answered:

"No, did exactly what she did for us: desat and didn't pick up and dropped heart rate. Looked fine again after though, but made decision to transfer, which I think was sensible."

Dr Gibbs referred to the note behind tile 262. The cold light did not suggest there was a tension pneumothorax. He carried out a limited cardioecho and there was obvious fluid around the heart. There was a tiny rim of "[query] air" against the left side of the heart but there was no evidence of a tension pneumothorax. He confirmed the administration of a third dose of adrenaline and thought a dose of atropine would help to speed up the heart.

A spontaneous heart rate of 160 was achieved, he said, 22 minutes after the commencement of the resuscitation. He tried to work out why [Baby H] arrested. This was a cardiac arrest with no obvious pneumothorax and certainly with no tension pneumothorax. Her electrolytes were normal, so not likely to be the cause of the cardiac arrest. There was no evidence of a tamponade, that is fluid around the heart squashing or compressing the heart, which can cause a cardiac arrest. Her blood sugars had all been normal, so hypoglycaemia could be ruled out as a cause. There was no evidence of toxins or a thromboembolism, a blood clot affecting her heart, which is very rare in a premature baby anyway. Her temperatures were normal, so extreme cold, which can cause cardiac arrest, is not relevant.

Applying a differential diagnosis, hypoxia, lack of oxygen leading to profound bradycardia and hypotension low, blood pressure, was the likely cause. That didn't tell them why she got the hypoxia leading to these problems.

During the morning shift of the 26th, Dr Soni spoke to Dr Rath a consultant neonatologist at Arrowe Park Hospital about a possible transfer to Arrowe Park, but Dr Rath had advised against it as [Baby H] was unstable and had chest drains, so she remained at the Countess of Chester for the night of the 26th/27th.

It was during this shift that the event charged as count 11 occurred, when she had a profound desaturation at 00.55. [Baby H] was in nursery 1. The defendant had two babies in nursery 2, NC and EM, and said that she didn't have much to do with [Baby H] on the shift. Shelley Tomlins, who gave evidence from Australia, was [Baby H]'s designated nurse. She relied on her nursing notes behind tile 392.

Early in the shift, at 20.15, [Baby H] tolerated the removal of one of the chest drains reasonably well and the documents show

she was given a bolus of morphine sulphate at that time. Fifteen minutes later, at 20.30 hours, she had a profound desat and brady. Her ET tube was blocked. The doctors were crash called. Dr Matthew Neame, now a consultant at Alder Hey, then a registrar, was bleeped at 20.49, tile 399.

On his arrival, [Baby H] was being Neopuffed and his recollection was that the defendant was providing the breathing support. He got the impression that she was the nurse in charge of her. He had no recollection of Shelley Tomlins being there, but accepted it was possible. He recalled seeing the old ETT blocked with thick yellow/brown secretions. He re-intubated [Baby H] with a 3.5 ETT. Shelley Tomlins didn't know if that was the old ETT or the new one; she thought probably the new one.

Initially, there was good entry, but then it ceased to be effective after around 2 minutes, so the tube was removed. There were yellow secretions noted in the tube after removal. Shelley Tomlins noted:

"Copious secretions obtained via ETT and orally bloodstained."

The X-ray revealed no recurrence of a pneumothorax. In her evidence the defendant said she was not aware of these events having occurred. When cross-examined she was referred to her message to [Nurse A] at 21.51 behind tile 406 in which she said:

"I've been helping Shelley, so least still involved but haven't got the responsibility."

She agreed she was helping.

At 00.55, [Baby H] had a profound desaturation to 40%, despite equal bilateral air entry and positive capnography. ET tube suction yielded nil secretions.

At 01.07 she remained in the stable condition until 01.30 hours that night when the events behind tile 412 were recorded.

Dr Neame was called to attend as [Baby H] had had a desaturation, bradycardia and was not responding to bagging or suction. Again, the defendant was present and he thought he spoke to her, but he could not remember who else. There was another or others there and he said it was possible that Shelley Tomlins was there and gave him the history, but he could not remember. He was more concerned on this occasion because it wasn't completely clear why she had deteriorated. Transillumination, reference tile 442, showed no further pneumothorax. They could detect air going into [Baby H]'s lungs and were concerned because of the previous finding of sticky secretions in her airways.

He remembered being told that [Baby H] had remained alert with no abnormal movements noted during the resuscitation event. Her oxygen levels were around 60%, her heart rate was around 60, but there was movement of her chest and some air was noted as going into her lungs. She was alert and her eyes were open.

Dr Saladi was called in from home. Dr Neame wanted extra help because there was no clear explanation for this event and that it happened a relatively short space of time after the last, after which she'd seemed perfectly stable.

Dr Neame removed the breathing tube and increased the breathing pressure, using the Neopuff. [Baby H]'s condition still didn't improve at that point. A cold light test was negative so there was no evidence of a re-accumulation of the air around the lungs using that test.

[Baby H] was re-intubated again with a 3.5-millimetre ET tube and it was confirmed that air was going into both of her lungs. Her oxygen level and heart rate remained low. Chest compressions were started at 01.07 and adrenaline was requested. A second cold light test was negative. The first dose of adrenaline was given at 01.08. Attempted aspiration of the chest drain at 01.12 yielded around 5ml of air, so there was no re-accumulation of air outside the lungs.

At 00.13 (sic), her heart rate recovered to a more normal level for a baby who's unwell and her oxygen level rose to 100%. They stopped chest compressions.

Dr Saladi arrived 2 minutes later. He relied on his clinical notes which are behind tile 458. He undertook an ultrasound of the head as well to see why [Baby H] had suddenly desaturated and become unwell. The scan was normal, he ruled out re-accumulation of the pneumothorax and went through the checklist of potential causes of desaturation in a neonate. Her heart rate, respiratory rate, saturations and capillary refill were all within acceptable limits. There was some respiratory acidosis with a build-up of acid but that, he said, might just be a reflection of the baby receiving resuscitation and it was something they needed to monitor. He discussed the case with Dr Rath, a consultant at Arrowe Park Hospital, as there was no explanation for these profound desaturations and bradycardias needing external compression and they set a plan, including taking another X-ray, further tests, complete a cranial ultrasound and discuss the case with the Arrowe Park Hospital.

A blood sample for tests was collected at 02.54, tile 463. The only result that stood out was CRP, the infection marker, which was more raised than previously, and the white cell count was

slightly elevated. [Baby H] was taken to Arrowe Park later in that shift.

Behind tile 498 is Dr Neame's signed handover completion at 05.20 for the transport team that came to collect [Baby H].

The defendant was interviewed on three occasions about the incidents. In her first police interview on 5 July 2018, she recalled caring for [Baby H] because she had chest drains in and being [Baby H]'s designated nurse on 26 September, but did not recall where she was when the profound desaturation took place and had no recollection of being present.

She presumes she was alerted to [Baby H]'s monitors alarming and did not recall seeing a lot of yellow milky serous fluid coming out of [Baby H]'s chest drains and [Baby H] being a pale blue colour. She thought that could be indicative of some sort of airway problem stopping her getting enough oxygen. She could not recall who made the crash call. From the notes she believed she commenced Neopuff with oxygen and called for help.

In the interview on 11 June her attention was drawn to the saline bolus administered to [Baby H] at 02.50 hours on 26 September, tile 235. She confirmed her signature but wouldn't say confidently that the countersignature was [Nurse A]'s. She could not say that she herself had administered the bolus and was unable to explain why [Baby H] had collapsed. She denied intentionally harming [Baby H] and described her as a sick baby at the time.

She said in the third interview on 10 November 2020 she had done nothing to harm [Baby H]. She agreed she'd searched for [Baby H]'s mother, [Mother of Baby H], on Facebook at 01.18 on 5 October 2015, but could not remember doing so.

In her evidence the defendant said she had no awareness of any of these events and did not recall being involved in them. She was not alleging the cardiac arrest was contributed to by nursing staff levels but she did allege medical mistakes. She denied it was a shift on which she wanted to be in nursery 1.

She referred to the neonatal review for this event, page 5, and referred to her and Shelley Tomlins giving medication to [Baby H], namely benzylpenicillin and a flush of sodium chloride, reference tiles 405, 414 and 415, at 22.12, and then starting a morphine infusion with her at 22.38. Her next involvement was administering medications between 03.41 and 03.44.

She was referred to her use of Facebook at 00.45 at tiles 433 and 434, but denied she was bored and says she may have been on her break or may have been covering for Shelley Tomlins.

She agreed [Baby H] was on hourly observations, tile 435, but none were recorded at 01.00. The bleeps for the SHO and consultant were at 01.04 and 01.06. She could not say if she was there when Dr Neame arrived. She denied having interfered with [Baby H]'s tubes on any of the occasions during that shift.

[Baby H] was the twelfth case that Dr Evans considered. He reviewed her history. She showed early signs of respiratory distress syndrome. It was very unusual for a baby to require three chest drains. He thought the original pneumothorax was a consequence of RDS.

Managing a pneumothorax is difficult. However, the collapses at around 03.20 on the 26th and shortly before 01.00 on the 27th were not a consequence of a pneumothorax because that had been treated. There was no blocked tube. Infection was an option but she was on antibiotics and the pattern of the collapses was not consistent with infection. Her deterioration would have been far more gradual and there would have been other indications of infection.

When cross-examined he recognised that pneumothorax was probably a complication of [Baby H]'s condition and that she had a very challenging condition and that he was not ignoring her series of problems involving the delays and problems with the chest drains, but said that they were dealt with.

He pointed to the overall picture: she was on ventilatory support, receiving intravenous feeding and was sedated on morphine. She improved significantly and quickly as a result of treatment and when taken to Arrowe Park they found her to be stable. Her urinary output and blood pressure were fine and they ruled out infection.

Dr Bohin noted the presence of RDS, which she said was the underlying cause of the pneumothoraces and had the surfactant been given earlier, it would have reduced but not removed the likelihood of developing a pneumothorax. A pneumothorax had developed by 06.00 on the 24th and there was an unacceptable delay between then and intubation at 08.10.

The butterfly needle used to perform the thoracentesis should not have been left in place. It was there when the X-ray was taken at 08.58. It may have punctured lung tissue. She confirmed it was very uncommon to have three chest drains, however the drain served its purpose until the evening of the 24th when, in retrospect, air had re-accumulated, but this was not recognised at the time and in due course a third thoracentesis -- third chest drain was required and a thoracentesis and, once in place, the second chest drain stabilised the situation.

By 02.15 on the 26th, the drains appear to have been blocked and Dr Gibbs inserted the third drain, which was successful and the oxygen requirement immediately reduced.

The event at 03.24 was different: there was equal air entry, the chest wall was moving, the drains were patent and fluid was coming out of the drains. The lung was not collapsed and the end of the ETT was not blocked. This was a very different collapse that required over 20 minutes of resuscitation for which there was no obvious clinical or mechanical cause.

The collapse at 00.55 the following morning, with bradycardia and desaturation, was not improved by re-intubation. It mirrored the previous collapse, had no obvious cause, and didn't respond to measures. The second drain didn't move on the 26th and wasn't touching the heart on the 27th either, so bradycardia could not have been caused by touching the heart or the vagal nerve and would not have been the cause of the bradycardia.

Dr Bohin confirmed that, unlike the earlier collapses before those two nights, where there was a pneumothorax or a blocked tube, she could not identify any cause for these significant collapses, the subject of counts 10 and 11, that required resuscitation.

Professor Arthurs confirmed that the 15 radiographs from the 22nd to 27 September showed a recurring pneumothorax. The bowel gas pattern was normal throughout.

In relation to chest drains, he explained that there was no ideal position. The drain needs to be somewhere in the pleural space and have the desired effect of draining the pneumothorax. There was movement of the second chest drain.

On the issue of the possibility that one of the drains in some way touched the heart or the vagal nerve and precipitated a decline in the child, he said chest drains aren't known necessarily to cause bradycardia and desaturations. They are not a common cause on a neonatal unit, otherwise they would be seeing it in almost every baby who had a chest drain in. As radiologists, they don't comment on the position of chest drains because they're largely not relevant to the care.

An X-ray is a two-dimensional image of a three-dimensional structure. The heart is at the front of the chest, so although on some of the images the drain looks as though it's touching the heart, it may actually be several centimetres away from the heart because it's going round the chest wall at the back, for example, but he did accept that the drain may have touched the

heart, he simply could not say from the radiological point of view.

Radiologists don't try and examine where chest drain positions are in detail, largely because they tend not to cause any problems. And so long as the drains are resolving the complication their precise position isn't really that relevant to a radiologist.

So that's the evidence in relation to those two incidents on the two consecutive nights.

I move on to [Baby I], count 12, an allegation of murder. [Mother of Baby I] gave birth to [Baby I] at 21.02 on 7 August 2015 at Liverpool Women's Hospital. [Baby I] was born prematurely at 27 weeks' gestation and weighed 970 grams, 2 pounds 2 ounces, in very good condition with an Apgar score of 9 out of 10 at 1 minute and 5 minutes.

She had a daughter at that time who was then 1.5 years old. Her partner is [Father of Baby I]. During the pregnancy, [Baby I] was noted to have IUGR, intrauterine growth restriction, and [Mother of Baby I] had a prolonged pre-labour rupture of the membrane and was on antibiotics for almost a week, her waters having broken at 22 weeks' gestation.

[Baby I] had an umbilical arterial catheter and a long line through which she was fed with TPN, total parenteral nutrition. The catheter was removed on 12 August, 5 days after she was born, as it was no longer needed. She was on a ventilator for 10 hours and then on CPAP. She was on a course of 5 days' antibiotics from 13 August as there were markers for infection, although she was stable from a respiratory point of view and had time off CPAP.

On 18 August she was ready to go to the Countess of Chester, where she was expected to continue to improve with no ongoing concerns. So initially, in the Liverpool Women's Hospital from the 7th to 18 August.

[Baby I] passed away in the Countess of Chester at 02.30 on 23 October 2015. The prosecution case is that on four occasions, namely 30 September, 13 October, 14 October and 23 October, all at times when the defendant was working in the unit, [Baby I] suffered sudden and unexplained episodes when she desaturated and required resuscitation.

Each event was, say the prosecution, a consequence of her being deliberately harmed by the defendant and the final event, in the middle of the night of 22/23 October, caused her death and they say the defendant is responsible for her murder.

The defendant's case is that she did nothing to harm [Baby I] on any occasion. Whatever the cause or causes of her sudden deteriorations, she was not responsible. [Baby I] had a history of recurrent episodes of abdominal distension and desaturations on other occasions, had required oxygen in various ways at various times, and there were periods when she had infection or suspected infection, for which she received treatment and had suspected NEC.

It is argued that you cannot be sure that the defendant deliberately did something or things to her that caused her death and that she did not die of natural causes. The prosecution say that all potential natural causes, including NEC or other bowel disorders, can be excluded and the evidence of the features of the events, their sudden onset and, save in the final event, rapid recovery can and should lead you to the sure conclusion that [Baby I] was deliberately fatally harmed and the defendant was responsible.

I've given you that general background and comments and I now go on to remind you of the chronology and the detail of the events in [Baby I]'s life.

On 23 August, which was 5 days after [Baby I] had been admitted to the Countess of Chester and her 16th day of life, it was noted at 09.37 that morning that there was a small amount of fresh blood in [Baby I]'s stool, which was mucousy; the relevant nursing note is J13807.

Her designated nurse on that shift, [Nurse C], asked for a clinical review, which was carried out by [Dr B], who was on the ward, at 11.15. Her note is J13758.

[Nurse C] noted that [Baby I] was settled and handled well, she was on CPAP but having, periodically, 2 to 3 hours off it, being put back on when she had clustered desaturations, which was not unusual and was an indication that she needed to be back on CPAP.

She didn't have any increasing oxygen requirements and was warm and well perfused throughout. She had good capillary blood gas, which measures the pH and the amount of carbon dioxide in the blood and indicates how well the CPAP is working. She was tolerating two-hourly feeds of expressed breast milk via her NGT and her abdomen was distended, which was reported as normal for her.

Her abdomen was soft and veins were apparent all over her trunk. [Nurse C]'s next note is timed at 17.19. [Dr B] ordered an abdominal X-ray, tests revealed no evidence of an infection, the

plan was to observe her. She had a further stool that was yellow and slightly orange in colour at 16.30 and that was free from obvious blood and mucus. She was passing urine well and was warm and well perfused and was stable. [Nurse C] had no immediate concerns.

Dr Sally Ogden, whose clinical note is J13760, was asked to review [Baby I]'s abdomen. Repositioning of the NG tube after an X-ray which was taken at 22.03 on 23 August and which showed that the tube was too far in, that happens quite frequently, appeared to resolve the issue of the discontinued abdomen. It wasn't that the tube was in the wrong place, it was just that it wasn't deflating the air properly, so it will have been in the stomach. There was nothing about this episode other than routine neonatal management of a quite frequent occurrence. The defendant wasn't working on that day.

Consultant Dr Elizabeth Newby had contact with [Baby I] on 26 August when conducting the grand round that day. She noted [Baby I] handled well. She also conducted a routine review on 30 August and noted she was fairly stable.

Six days later, on 5 September, [Nurse C] was on duty for the night shift and was the designated nurse for [Baby I] for part of the night. Others on duty for that shift included the defendant. [Nurse C] took over [Baby I] from Val Thomas at 20.30 hours because she was obviously deteriorating. [Baby I] was very quiet and desaturating frequently, especially at handover, on handling.

She had a series of significant desaturations during that shift and had to be put on to Optiflow, Neopuffed and then intubated and was given a blood transfusion. Her low temperature, desaturations and paleness pointed towards infection and NEC.

Dr Bohin, when asked in cross-examination about this episode over the 5th and 6 September, said it was very different from the later episodes. She had clinical signs of an infection, she had a high white cell count, a high neutrophil count, which is compatible with and indicative of a bacterial infection, and had a high platelet count of 96, which you see where there is a lot of inflammation. She slowly deteriorated because of that infection. She had a septic screen early on and was started on antibiotics but continued to slowly decline and ended up on the ventilator. It was not a sudden and unexpected collapse.

Later that day, 6 September, [Baby I] was returned to the Liverpool Women's Hospital on a diagnosis of suspected NEC. After her admission at 18.50 hours, and whilst Nurse Nicola Simmons was involved in setting up a new intravenous line at that hospital, she had a profound bradycardia upon

repositioning. This was not uncommon but indicated something was wrong. Her airway was found to have large creamy secretions in her ET tube, which may have blocked her airway, possibly as a result of being moved. Nurse Simmons gave [Baby I] suction, she recovered from the episode. Her drugs, antibiotics, and dextrose were changed.

Later on in the day [Baby I] had settled. She had good tidal volumes, her blood gases, heart rate and capillary refill time were normal. Her case was discussed with the surgical team and it was decided she did not need a surgical review.

Sorry, not the surgical team -- was consulted with -- the case was discussed with the surgical consultant at Alder Hey and it was decided that she did not need a surgical review.

It was thought she had sepsis rather than NEC. Her antibiotics were changed and stopped 5 days later. She continued to self-ventilate in air and tolerate her feeds, which were increased. She did have self-correcting desaturations on 13 September, but did not have NEC and was well enough to return to the Countess of Chester on 13 September in the expectation that she would continue to improve and there were no ongoing concerns.

Her history and condition on return to the Countess of Chester, as noted by Dr Harkness, is at tile 9. She was on small two-hourly feeds. There were no concerns. She was alert, pink and handled well.

I now turn to the evidence relating to the four events which the prosecution say are directly relevant to [Baby I]'s death on 23 October. The first concerns an episode on Wednesday, 30 September.

Following her return from Liverpool Women's Hospital on 13 September up to 29 September, nothing remarkable had occurred. [Mother of Baby I], in the statement read to you, referred to an event she said was at around 3 pm on a day in mid-September after [Baby I]'s return to the Countess of Chester, when a nurse called Lucy phoned her and said she had noted that [Baby I]'s belly was extended and she would get a doctor to check her. [Mother of Baby I] went to the hospital and thought [Baby I]'s stomach did look veiny and swollen. A female doctor came and checked [Baby I] over and said that it seemed soft to touch. As the doctor didn't show any concern, she left shortly after 3 pm. That's [Mother of Baby I] left shortly after 3 pm. [Baby I] was taking her feeds without incident.

On Tuesday, 29 September Dr Lucy Beebe, or Hunt as she was then called having since remarried, who was training to be a GP and had worked in four neonatal units, reviewed [Baby I] for the

grand round that was to take place the following day. Tile 46 is the relevant tile.

She had no respiratory distress, her chest was clear, she handled well, there were no issues with her breathing and nothing of concern in relation to blood clots. She was anaemic, which is very common, and could account for her looking pale. She was gaining weight at the expected rate. They were very happy with her at that point.

As recorded behind tile 24 in the note by Shelley Tomlins, the day shift up to 16.10 was unremarkable. Another nurse, Lisa Walker, carried out a skin patch test on her at 13.00, which she would not have done if [Baby I] had not been well. [Baby I] was given bottle feeds by her father over the night of the 29th and the 30th. Jennifer Jones-Key was [Baby I]'s designated nurse for the night shift of the 29th to the 30th. Tiles 31 to 42 are the tiles relating to that shift. Nothing remarkable occurred.

Tile 43 and onwards set out the day shift from handover at 07.30 to 08.00 on 30 September. [Baby I] was in nursery 3. The defendant was the designated nurse for all three babies in that room. Her nursing note for the period 08.30 to 13.36 is behind tile 45. In evidence, she said she had some memory of the shift and didn't do anything to cause the ensuing events to happen.

There was a grand round by the consultant, Dr Newby, it being a Wednesday. Tile 48 refers to [Baby I] being given a 35ml bottle feed by her mother at 10.00 hours. At the grand round Dr Harkness' agreed evidence was that at 11.40 hours on 30 September, [Baby I]'s temperature had come down slightly to 36.2. Other than being pale, which fitted with anaemia, her abdomen was slightly larger than typical for a baby. However, it was the same as the previous day and there was nothing to worry about as she had opened her bowels. The plan was to watch and see how she got on.

Dr Newby said that they were at a stage of establishing feeds and weight gain and [Baby I] was stable. I pause there in the narrative to remind you of Dr Newby's evidence about the weight of preterm babies because this was a topic that was relevant in relation to [Baby I].

The target for weight gain is 15 grams per kilogram per day. There are standard centiles which chart the weight of babies from birth, taking account of their prematurity. The 50th centile is the weight at which 50% of babies at that age are expected to be. [Baby I] was always well below that.

Between 25 August and 20 October, her weight gain was about 0.6 of a kilogram and meant that she went down to below the 0.4%

centile. When asked about this, Dr Newby agreed that failure to put on weight may indicate an underlying health problem and [Baby I]'s weight was low and dropped down the centiles. But she said she had had numerous episodes throughout her life where they had been unable to feed her because of abdominal distension or initially when she was first born and when she was ventilated, so they often find that premature babies may grow along the lower centiles because it's a different situation to a term baby that just comes out -- that's out at birth -- and feeds.

As you know from the evidence, in the last weeks of her life there were a number of episodes which resulted in her enteral feeds being interrupted and, at times, even requiring intravenous feeds via a long line.

Dr Bohin, on the subject of [Baby I]'s weight, said that premature babies will often cross centile lines before they settle on a line and grow along that centile line, so it was no surprise that she dropped from the 50th centile, but thereafter she didn't grow appropriately, but that was because she'd been ill. Her low weight did not predispose her to the four episodes of collapse from which she suffered.

Dr Newby was also asked about adrenaline. She refuted the suggestion that more and more doses of adrenaline can become counterproductive. She explained that the longer resuscitation continues, the chances of success diminish and there is no particular amount of adrenaline that is counterproductive. I'm inserting that because it comes later on in relation to the resuscitation, but that was her evidence and the evidence in relation to doses of adrenaline being counterproductive.

I'm going to take the break at that point. I know that because we started a bit late it's not quite as long as we normally have, but that's a good convenient point at which to break for our 10 minutes. Then we'll continue at 12.05. Thank you very much.

(11.57 am)

(A short break)

(12.07 pm)

MR JUSTICE GOSS: I'm sorry about yesterday and the late sitting. Can I just reassure you that today and tomorrow we will finish by 4 o'clock, so you needn't worry about that. Next week will be a subject that I will come to later on because next week you will be deliberating on your verdicts and I'll decide what the sitting times should be, but they won't be before 10.30 because

it's inconvenient for anyone to be here before 10.30, but whether it's going to be 4.00, 4.15 or... I will say now it won't be beyond 4.15, but I might say 4.15 because there will have to be smoke breaks and things like that. All right?

Back to [Baby I] and tile 58. The next feed at 13.00 hours was recorded by the defendant as a 35ml feed by NGT, [Baby I] being recorded as asleep in the feeding chart entry and she initialled that time. The paper copy of that is in section 12 of your jury bundle.

The defendant said it would take about 15 minutes. Behind tile 61 is the nursing note made at 13.36, in which she wrote:

"3x8 feeds EBM, 2 bottles to 1 NG tube. Abdomen appears full and slightly distended. Soft to touch. [Baby I] straining ++. Bowels have been opened. Mum feels it is more distended to yesterday and that [Baby I] is quiet. Appears generally pale, not on monitor, but nil increased work of breathing. Handling well and waking for feeds. Doctor to review. To continue with current plan."

She agreed that the reason she gave for calling Dr Beebe was the low temperature. In evidence she said the reference to waking for feeds was to the 10.00 feed because, of course, two were by tube.

According to the defendant's note, written as an addendum at 19.31 that day, behind tile 65, [Baby I] was reviewed by doctors at 15.00 as she was mottled and monitoring was recommenced. There is no doctor's note. The defendant thought it was [Dr A] who carried out the review, which is what she had said in police interviews.

At 16.00, the defendant recorded that she gave [Baby I] another 35ml bottle feed by the NGT as she was asleep; tiles 68 and 69. She denied that she force fed and caused the vomit half an hour later. She did not know whether she had been there when [Baby I] vomited.

[Mother of Baby I] had left the unit and [Father of Baby I] was at work, so neither of the parents were there.

Tile 71 is the report of a large vomit and apnoea in the feeding chart and the defendant's account written in the nursing notes. She wrote:

"At 16.30 [Baby I] had a large vomit from mouth and nose ++. Suction given. Became apnoeic with bradycardia and desaturation (30). Help summoned and IPPV given for approx 3 minutes in 100%

oxygen to recover. Doctors were crash called. Transferred to nursery 1 and placed in an incubator for closer observation."

When interviewed, she could not recall how she became aware of [Baby I]'s large vomit, as noted behind tile 72, or who put the call out. She confirmed [Baby I] was then moved to nursery 1 and she remained her designated nurse.

In evidence, she said staffing levels did not cause or contribute to the event and incompetence was not an issue. She didn't recall any concerns on handover at the start of the shift and the medical notes from the grand round painted a positive picture. [Baby I] was due her immunisations the following Monday.

She went over to [Baby I] when she vomited. She referred to the messages behind tiles 164 to 171 that evening in which she said it was nice to hear positive comments about her and she thought [Nurse A] was sticking up for her. A lot of staff, she said, were very drained physically and emotionally.

[Dr A]'s note is behind tile 30. [Baby I] had been bagged on a resuscitator and oral and nasal suction had taken place. Although her saturations had dropped to the very low level of 30% and her heart rate had dropped as well, when he arrived she was pink and her heart rate was 130, her saturations were 99% in air and normal. She was breathing well, there was no effort for breathing and she wasn't working hard. Her chest signs were clear. Her abdomen was a little bit distended and she had active bowel signs all over. Her fontanelle was normal, as was her tone and movements.

The plan is in his note: blood tests, a full blood count and a CRP, as markers of infection, and a blood culture for presumed infection. Chest and abdominal X-rays were ordered. Feeding was then to be by intravenous fluids and intravenous antibiotics were started. The venous gas results were raised but that was not surprising as they had come at a time of collapse and it was not possible to say whether the levels preceded or were because of the collapse.

Bernadette Butterworth, who came on duty for the night shift on the 30th with [Nurse A] and Kate Brammall, recalled [Baby I]'s heart rate dropping and her desaturating and having to use the Neopuff. As they did so, she noticed [Baby I]'s stomach, which she thought was slightly distended anyway, getting larger, and she asked the defendant to aspirate the NG tube, which she did. They got quite a bit of air out and a little bit of milk, she thought 2ml. Nurse Butterworth recorded it as "+++ of air", so there must have been a fair bit. [Baby I] settled down after she

had been aspirated, her chest movements came back, as did her saturations.

In the final interview on 10 November 2020, the defendant said she did not know why there was so much air that came out of [Baby I]'s stomach when it was aspirated on 30 September. In her evidence she said that she had not pumped [Baby I] full of air.

The doctors then arrived. [Dr A]'s entry at 20.00 related to the X-rays. The chest X-ray showed perihilar shadowing, that's where all of the airways or the blood vessels that join the lungs into the main breathing apparatus and the main blood vessels have some increased markings, which could be consistent with infection but he couldn't say any more.

The abdominal film showed there were dilated loops of bowel in the lower quadrant but there was no air in the biliary tree and no obvious falciform ligament. There wasn't air tracking back up the bowel, which is evidence of NEC. He wrote a diagnosis of presumed NEC with a very, very low score.

Dr Harkness saw [Baby I] at 22.00 that evening by way of a routine review because of the events in the day. She was breathing well for herself, the blood tests did not show any indication of obvious signs of infection. She was still receiving antibiotics and she still looked pale. [Baby I] did not like being touched or being handled to change her nappy, which again suggested an infection. Her abdomen was still distended and you could see visible loops, which means they were full of air. He could hear her bowels, which was a good sign. As with severe NEC, this can stop your bowels from moving. A repeat of the blood gas showed the lactate had gone down to 1.1, which was good, and there was nothing concerning.

Christopher Butterworth (sic) recorded that:

"Over the course of the shift [Baby I] handled much better without desats and bradys."

Ashleigh Hudson took over the care of [Baby I] at the start of her long day shift at 07.30 on 1 October. Tile 196 is the relevant tile. Her observations were satisfactory, her temperature was stable, she appeared pale but pink and well perfused, she appeared to be well.

[Dr A] saw and reviewed [Baby I] at 09.00 on 1 October. He noted her previous care and presumed NEC, the plan for nil by mouth, a further CRP, and 3 days of antibiotics. He observed she was alert, active, pink, well perfused with a heart rate of 150 and oxygen saturations of 97% in air. The abdomen was soft and markedly less distended.

At the end of her shift Ashleigh Hudson noted [Baby I] had remained stable, her abdomen was soft and less distended, there had been some heart rate fluctuation around 18.00, but within the satisfactory range. Nothing stood out.

[Baby I] continued to receive care at the Countess of Chester. The defendant was off duty on 1 October, then worked three long days on the 2nd, 3rd and 4th and was off on the 5th.

Dr Newby saw [Baby I] on the 4th; J14369 is the note. She was self-ventilating in air, being fed a combination of supplements and expressed breast milk three-hourly and there was a note that she was nil by mouth for 24 hours last week, referring back to earlier events. She was recently screened for sepsis and NEC and was negative at 36 hours. On examination she found [Baby I]'s abdomen to be very soft, her bowels had opened resulting in a soft yellow stool, she appeared stable and there were no concerns, so they were just going to continue with the current plan.

In the early hours of 5 October, over a period of 3 minutes, the defendant searched on Facebook for [Mother of Baby I], [Father of Babies E & F] and [Mother of Baby H]; tiles 2, 3 and 4 in the section for event 2.

She worked late on the 6th, had a training day on the 7th and was off work on the 8th, 9th, and 10 October.

By 12 October [Baby I]'s feeds were up to 54 or 55ml every 4 hours. The neonatal feeding chart is at tile 8 and her weight was up to 1.83 kilograms.

Dr Harkness saw her at 11.15. He had no concerns. There were no nursing concerns recorded for 12 October; tiles 10 and 22. [Baby I] was feeding well and handling well and pink with a capillary refill less than 2, heart sounds were fine, tummy was soft, she had bowel sounds, her CRP had gone from 71 to 21 and now down to 8, so that was really good. There was nothing, said Dr Harkness, to suggest anything was going to happen. She was pale that evening, but her tummy was soft to touch; tile 27.

At the shift handover at 19.30 to 20.00, the defendant had a single child who was in nursery 1. Ashleigh Hudson became [Baby I]'s designated nurse. [Baby I] was in nursery 2 and Ashleigh Hudson was also the designated nurse for two other babies in that room, [Baby G] and JF.

The note made by her on takeover, behind tile 32, this is Ashleigh Hudson's note, records that the equipment, alarm limits and feeds were checked, [Baby I]'s temperature was 36.5, she was

demanding and tolerating four-hourly feeds and feeding well. She was alert when awake, pale pink in colour, but well perfused. She took a further 55ml of milk at 21.30 and passed urine and her bowels opened ++; tile 38. Tiles 44 and 45 record that her temperature and the position of the probe were checked and at 01.30 on the 13th she took a bottle feed; tiles 44 and 45.

So I move to the second event. This occurred at around 03.20 that night, which was of course now Sunday, 13 October. Ashleigh Hudson wrote her note at 05.04. That's to be found behind tile 48:

"When in the nursery, Neonatal Nurse Lucy Letby noticed that [Baby I] looked quite pale. When turning the light on for closer examination, we found [Baby I] to be very pale in colour and not moving. Apnoea alarm in situ had not sounded. Breathing was shallow and respiration rate appeared low. Philips monitoring commenced and Senior Neonatal Nurse Laura Eagles and Paeds SHO Katarzyna Clegg shouted to assist. 30% Neopuff O2 commenced whilst Philips monitor establishing a trace. Philips monitor saturations 53%. Heart rate in 50s confirmed via stethoscope."

That's the note.

The defendant wrote her note later at 07.59. It is behind tile 47. She will have been able to read the earlier note of Ashleigh Hudson. She wrote:

"[Baby I] noted to be pale in cot by myself at 03.20. SN Hudson present. Apnoea alarm in situ and had not sounded. On examination [Baby I] centrally pale. Minimal shallow breaths followed by gasping observed. Ventilation breaths given via Neopuff and further help summoned."

Dr Neame recorded he had been bleeped at 03.33; tile 49. Chest compressions were commenced at 03.35. There was no heart rate; tile 50. The resuscitation measures are set out on tile 42, and at tile 54 the defendant's retrospective note sets out the resuscitation measures. [Baby I] was given three boluses of adrenaline and Dr Newby was called.

A minimum of 22 minutes after the collapse, at 03.45, there were signs of life. Care for [Baby I] was taken over by the defendant at that time; tile 71. Emergency blood was ordered and she was given a blood transfusion at 04.20; tile 78. An X-ray at 04.25 showed marked gaseous distension of abdominal bowel loops; tile 80. Venous blood collected at 04.25 had no bacterial growth after 5 days' intubation; tile 81.

Care of [Baby I] was handed over to the day shift at 07.45. The nursing note compiled by the defendant at 07.59 is at tile 120.

Belinda Simcock then became [Baby I]'s designated nurse for the ensuing day shift. Ashleigh Hudson confirmed that she gave [Baby I] the feed at 01.30, although she didn't sign it off on the chart. She was in good clinical condition, behaving appropriately for her age and seemed behaviourally very stable. Her temperature had been very stable and the fact that she was waking and cueing for feeds herself was really encouraging at the time. There had been discussion about discharge planning, although she wasn't quite ready. Their perception was that she was very stable at the time.

In the half hour preceding the emergency she assisted a colleague, Laura Eagles, with a procedure in nursery 1. She thought she was away from nursery 2 for about 15 minutes. Then she went back. She would not have left [Baby I] if she had been unsettled. There were two colleagues in the area and she asked one to keep an eye on her. Caroline Oakley has no recollection of being asked to keep an eye on [Baby I] while Ashleigh went and did something else.

After she had finished assisting with the procedure, Ashleigh Hudson went to the milk room to fetch milk. She then went to nursery 2. Nobody was there. She was preparing milk on the worktop to the left of [Baby I] with her back to her. The defendant was standing in the doorway. They were talking and the defendant then, from where she was standing, said, "[Baby I] looks pale", or, "Don't you think [Baby I] looks pale?" She was about 5 or 6 feet away from her, pointing to the distance from the witness box to where the clerk of the court sits.

The light in the room was switched off but the corridor light provided some illumination. She refuted the suggestion that the room light was dimmed and not off. There was a canopy over the upper half of the cot that obscured any light from the baby's face. The canopy covered about the upper half of [Baby I]. There were blankets in place over her. Ashleigh Hudson couldn't see the top half of [Baby I] because she was obscured by the canopy and the lighting. She switched the main light on and was closer to her than the defendant. She could then see her face was pale. The defendant, she said, would not have had a better view than her. She went to [Baby I], pushed back the canopy and blankets, and realised she was in poor condition.

She selected one of the photographs taken in August 2020 that best showed the lighting at the time. She knew that the lighting had changed and was brighter by this time and that Lucy Letby had been arrested, but this did not influence her in her choice of photograph. The photograph is document J25368.

[Baby I] was in a quite critical condition she said. She was incredibly pale, almost white. They removed her clothes at the start of resuscitation. She hadn't responded. She was very still, not moving her limbs and there was no normal respiratory pattern, only gasping a handful of times a minute. She was floppy. Her apnoea alarm attached to her abdomen had not sounded. If there was no movement, it will not sound (sic).

Ashleigh Hudson said it was very surprising that [Baby I] had deteriorated so rapidly. The defendant had come to the cot side and they tried to resuscitate her, using a Neopuff and chest compressions. Dr Neame came into the room, then Nurses Laura Eagles and Caroline Oakley, so Ashleigh Hudson took a step back and contacted [Baby I]'s parents.

The defendant doesn't allege that staffing levels or medical or nursing incompetence contributed to the event.

When first interviewed she remembered the event. She and Nurse Hudson went into the nursery and put the light on in the nursery for something. She looked over at [Baby I] and noticed her face was pale in colour. They went over and removed the covers and undid her babygro to check her colour centrally. She was shallow breathing and gasping. She could not recall having treated [Baby I] up to that point.

She started to give her Neopuff ventilation and a call for help was made. She denied injecting air into her stomach and indicated she had aspirated air from the stomach. She could not remember at what point they put the lights on, whether it was before or after they saw [Baby I]. She thought they were at the doorway when she spotted how pale [Baby I] was and that they had just put on the lights. She could not remember why they had gone in and turned them on. The nursery was never that dark that you would not be able to see the baby.

In the second interview on 11 June 2019, she remembered telling Ashleigh that [Baby I] looked a little bit pale at the doorway, saying:

"Maybe I spotted something that Ashleigh wasn't able to spot. The rooms are never that dark that you would not be able to see the baby at all. There's always a level of light for that reason."

From the position that she was, she said she thought she could notice that [Baby I] was pale and wasn't well. When they switched the lights on she did look dead. [Baby I] would have been wearing a babygro and possibly a cardigan. There was always a degree of light that would be on the cot.

In her evidence she was asked how she could spot [Baby I]'s colouring and Ashleigh couldn't. She responded she had more experience "so she knew what she was looking for", which she corrected to "looking at".

When interviewed again, on 10 November 2020, she agreed she had described [Baby I] as "not good" in texts to [Nurse A] after the shift and had asked to care for [Baby I] again the next night as it was quite common to keep the same baby for continuity of care.

In her evidence she said she could not recall having any involvement with [Baby I] before the event occurred. She agreed [Baby I] was doing well and couldn't remember which one of them, her or Caroline Oakley, had been asked to look after nursery 2. She didn't believe she was as she would have remembered.

She did recall herself and Ashleigh Hudson going into nursery 2 together, but didn't recall where she had been. Ashleigh Hudson was doing something on the worktop and she was stood in the doorway of the room and could see [Baby I]'s face and her hands. She could not recall specifically what lights were on. The nursery was never in complete darkness as they need to be able to see monitors and the babies themselves. They put more lighting on and pulled back her clothing. [Baby I] was gasping and shallow breathing, so the alarms did not go off. They called for help.

She was asked about what she had said in interview about putting on the lights and not being sure at what point they did so. She did remember telling Ashleigh Hudson that [Baby I] looked a little pale at the doorway. She explained that her memory was that the lights were on a dimmer switch and they turned those lights up when they entered at the time they saw [Baby I]. The room was not as dark, she said, as shown in photograph J25368 and the cot was nearer the work bench. She could see [Baby I]'s face and hands.

Dr Matthew Neame was bleeped at 03.23. His note of attending is behind tile 49. On arrival, the nurses were providing breathing support by Neopuff ventilation in 100% oxygen and she was being given chest compressions. [Baby I] was pale and floppy. He took over managing her airway and improved the management of her airway, after which the chest wall was moving with the ventilation breaths. He also increased the pressure on the breathing support to help with the resuscitation and successfully intubated her to secure the airway. Cardiac compressions continued. A cold light test for pneumothorax was negative.

Dr Newby was contacted and arrived at 03.36. As she was walking down the corridor, the defendant was leaving the room. When she arrived, resuscitation led by Dr Neame was ongoing. [Baby I] was intubated and CPR was ongoing. She noted that there had been no concerns during the day in relation to [Baby I] tolerating her feeds.

The notes behind tile 60 record the drugs [Baby I] was given and their timings. She was given three doses of adrenaline at 03.31, 03.36 and 03.45 as well as saline and dextrose. It took 12 minutes of resuscitation before signs of life were detected at 03.45. It was, said Dr Newby, definitely a serious state of affairs.

At 05.20, [Baby I] was being managed on a ventilator with the settings as set out on the note: on oxygen at 43% with 150ml per kilogram per day of fluids and no longer being fed, a blood transfusion was provided, she was mottled with normal heart sounds and had been started on all three antibiotics that are named in Dr Neame's note. He described her as "stable for a baby on ventilation".

An X-ray revealed that the breathing tube was too far in and had to be withdrawn by 1 centimetre and the NGT was not far enough in. The defendant agreed to re-pass it.

At 05.26, it's noted that the nasogastric tube had been re-passed with acidic gastric aspirates by the defendant, which indicated it was in the appropriate position. The X-ray also showed patchy bilateral air space, shadowing and bowel loops distended but there was no evidence of air having leaked out of the bowel.

Dr Harkness reviewed [Baby I] at 16.00 that day, so that afternoon. Her blood gases and her ventilation were all acceptable, her blood pressure had been dropping throughout the day. She had been put on dopamine, which had improved it. Bowel sounds were there. They'd sent X-rays over to Alder Hey, to the team there, to review and had asked for their thoughts. He had also inserted a long line at that time into her right thigh. They were waiting to hear back from the surgeons to find out what they thought, but otherwise he would describe her as sick but stable and still on the ventilator.

With regard to her earlier collapse they were thinking along the lines of NEC as her abdomen had got larger and firmer. There was nothing definitive in relation to NEC but it was grumbling on.

I turn then to the events of the next night shift. This is in the third sequence of events -- I'm sorry, I should have said

the references I was giving you to the second sequence of events. This is now the third sequence of events.

The defendant was also the designated nurse for [Baby I] on the following night shift of 13/14 October, taking over her care at 19.45. There were three babies in nursery 1. The other two were being cared for by Joanne Williams. Of course, [Baby I] had already been transferred into nursery 1 the previous night shift.

At 20.30, the defendant sent an SMS to Ashleigh Hudson saying she had got [Baby I]; tile 13. She was on inotropes and gone up with ventilation, but stable when handled and referred to her abdomen and some changes on X-ray, but Alder Hey were happy for them to keep her -- that's the Countess of Chester to keep her for now.

The shift leader was Caroline Oakley. From 21.28 there was an exchange of WhatsApp messages between the defendant and [Nurse A], tiles 25 on sequence 3 onwards, to which you can refer for the details. At tile 31 the defendant told [Nurse A] that she'd got [Baby I]:

"Not great, on inotropes, 70% O2. Thinks it's abdo but AHCH don't want her at the mo."

Tile 40 fronts the defendant's note made at 21.49 in relation to the shift up to that point. That's up to 21.49. Nothing untoward is recorded. There was reference to:

"Abdo full but soft and some bruising, [query] from chest compressions [that had taken place the night before]."

Dr Neame carried out a night review at 22.05; his record is behind tile 46. The results of a blood test at 17.00 were good, her respiratory situation was stable and fluids were positive. [Baby I] was settled and pink, had good chest wall movement and equal air entry. Her breathing was a bit squeaky, which you sometimes hear in ventilated babies, her heart sounded normal, her abdomen was distended but soft, with some tenderness, and her bowel sounds were normal.

She was receiving a moderate amount of respiratory support but was stable. Behind tile 60 is her nursing note made retrospectively at the end of the shift.

At tile 74, the defendant wrote a nursing note at 5 am:

"Abdomen noted to be more distended and firmer in appearance with area of discolouration spreading on right side. Veins more

prominent. Oxygen requirement began to increase. Colour becoming pale."

There are no medical records relating to observations at that time.

At 05.00 on 14 October, Dr Neame was asked, he thought by the defendant, to see [Baby I] due to an increased oxygen requirement and reduced blood oxygen levels on the saturation monitor. Tile 79 fronts the relevant note. On his arrival, [Baby I] was receiving Neopuffing with pressures of 20/5, her oxygen concentration on the Neopuff machine was 100%, but her blood oxygen saturation level was only 77%, which was low. There was some evidence of chest wall movement. Her heart rate was a little high. Her abdomen was distended and mottled, the mottling of the abdomen was unusual, and she grimaced on palpating the abdomen, which he concluded was tender.

Dr Neame increased the pressure and noted that there was some improvement, so restarted the ventilator with some increased pressures and an increased concentration for oxygen. His impression was that the increasing abdominal distension may have caused [Baby I]'s lungs to become squashed, making it harder for her to breathe and maintain normal oxygen levels. She was more unwell, her oxygen levels were low and she needed increased breathing support. The other aspect that stood out for Dr Neame was a change in the appearance of her abdomen with a change in the skin and increased tenderness.

At 06.20, having received the X-rays and blood gas test results, he spoke to the on-call consultant, Dr Jayaram. His note is behind tile 90 and was written at 08.10. The findings from the abdominal X-ray, which included the small appearance of the lungs and the dilated appearance of the bowel loops, were in keeping with his earlier assessment.

Dr Jayaram was told of the massive abdominal distension. The tube was in and the chest wall was moving and gas was going in and out of the lungs, but in spite of this and being in 100% oxygen, they couldn't get good saturations. Following the discussion, it was decided to continue with the ventilation settings that [Baby I] was receiving. The cold light test for pneumothorax was negative. He contacted the surgical team at Alder Hey, who said they would look at [Baby I]'s X-rays and contact them, that's the Countess of Chester, with a plan in the morning. A pneumothorax was included.

Shelley Tomlins was one of the nurses who came on duty at 07.30 that morning of the 14th, taking over from the defendant as [Baby I]'s designated nurse. Her first notes were written at 09.22. At handover, from 07.30 to 8.00, she thought she went

straight in to get a bedside handover from the defendant because [Baby I] wasn't well and there was going to be a lot to talk about.

The defendant was probably already at the bedside when she walked into nursery 1. She couldn't remember how long they got into the handover before [Baby I] had a cardiac arrest when they were looking at her. Her notes recorded this was minutes after arriving on the unit. Yvonne Farmer was in the room. Jo Williams did the chest compressions. Dr Neame led the resuscitation. She was then stable on a ventilator.

Shelley Tomlins recalling that she passed urine and had a small bowel movement and that her abdomen was very large, pale and veiny, with an umbilical hernia evident, with an area of slightly greyish discolouration. Dr Neame thought her bowel had blown up so massively that it was compressing her lungs.

Dr Jayaram arrived at 07.59. His detailed notes are behind tile 122. By the time he arrived, [Baby I] was stable.

From an X-ray at 08.03, tile 129, there was nothing to suggest a pneumothorax. The ETT was in a good position, there was ongoing quite significant abdominal distension. He suspected the lungs were compressed and weren't moving a huge amount of air in and out.

His notes recorded that at 08.25 [Baby I] had another acute deterioration of her saturations, so they took her off the ventilator, hand ventilated her with Neopuff, and her saturations picked up to 89%. It was clear, he said, that in spite of the higher rate of morphine and the dose she had had of suxamethonium, a very short-acting muscle relaxant, which seemed to make a difference, she was still breathing against the ventilator, so they decided to start her on vecuronium, another muscle relaxant that works longer term.

In her evidence the defendant didn't have any recollection of the shift and [Baby I]'s deterioration other than what was in her notes. She said staffing levels had no relevance to the event and she was not saying there was any medical incompetence or mistakes made. She agreed that in her nursing note, behind tile 60, the signs were initially good and didn't now recall the discolouration.

In relation to Dr Wright's report on the X-ray, which is behind tile 85, that the gaseous distension of the bowel had increased, she said that she had not inflated [Baby I] with air and sabotaged her at around 7 o'clock.

At 11.00, Dr Harkness noted [Baby I]'s blood pressures were poor, her lactate was high, she had a good urine output, and her blood cell count was high, which was a sign of infection, inflammation and stress. In discussions with Alder Hey, it was thought she may have a stricture, a narrowing of the gut.

By 16.00, her ventilation had much improved and the pressures on the ventilator had come down, as had her CRP. At that stage they still had no answer as to whether it was NEC or possibly a stricture.

On 15 August (sic), it was decided that [Baby I] should be transferred to Arrowe Park. She arrived at 15.30, was ventilated with a breathing tube -- this was the evidence of Dr Babarao -- she was on intravenous fluids and routine sedation. She was pink, warm and well perfused. Her abdomen was soft.

She remained stable until 00.13 on the 16th, when she had a sudden episode of bradycardia and desaturation. Her breathing tube was found to be blocked with dark-coloured blood, probably from her previous collapse. She responded very quickly and the heart rate and saturations came up. She was then spontaneously breathing and she received PEEP to support her breathing. She was saturating well and had a good weight and respiratory pattern, so they decided not to re-intubate her, but to try a lower level of respiratory support, which was high flow.

They visually checked the oral cavity and the vocal cords where the breathing tube went in to check for any evidence of trauma. There was no fresh bleeding or any significant injury so they commenced with high flow in about 35% oxygen.

The following morning she was reviewed. She was stable and had very good blood gases and no issues with her breathing, no respiratory difficulty. Her blood pressures were fine, urine output was good and her abdomen was soft and not distended. There were no markers for infection and the blood cultures that were taken in Chester were also negative. The triple antibiotics were continued. She had low phosphate; all other blood tests were reasonable.

The following morning, 16 October, another review was completed and notes were made to reduce the phosphate infusion as her levels were coming up and she was moved to the high dependency unit as she was stable on high flow and her gases were good. She had been very stable since transfer.

A contrast study to see if there was any narrowing in the bowel at any point or any obstruction was to be arranged at one of the two tertiary hospitals. There were no issues overnight and gases remained good, oxygen requirement was down and she remained

stable. [Baby I] was transferred back to the Countess of Chester the following morning, 17 October.

I mistakenly said August a short time ago. It was on 15 October it was decided that she should be transferred to Arrowe Park. You probably noticed my error at that particular point.

We now move on to the fourth event on 23 October, the day that [Baby I] died, but I will break off now and we'll do that of a piece when we resume at 2 o'clock, please.

I just want to remind you, I know that this is very repetitious and must become very tedious for you to hear it every time we have breaks, but I just want to emphasise to you that the importance of adhering to your obligations as jurors, which includes no form of any communication with anyone about anything to do with this case and any of the details of it or anything about it or any views that you may have about it or researching anything on the internet about anything to do with this case must be adhered to. I'm sure you are adhering to them, and you'll be sick and tired of me saying this, but you'll appreciate as we get closer and closer to the end of the trial, maintaining what I called, you'll recall, the integrity of the jury system, you deciding this case on the evidence that you hear and the assessment you make of it, is so vitally important.

Thank you very much and thank you for hearing that yet again.

(12.56 pm)

(The short adjournment)

(2.00 pm)

MR JUSTICE GOSS: On to event 4 and the fourth sequence of events. [Baby I] was pronounced dead at 02.30 on 23 October 2015, 6 days after her return from Arrowe Park Hospital.

As she had been the night before, Ashleigh Hudson was [Baby I]'s designated nurse for the shift of the 22nd to 23 October. [Baby I] was not an intensive care baby, but was in nursery 1 in an incubator as a precautionary measure.

Behind tile 9 is Ashleigh Hudson's notes of her cares from around 20.00 on 21 October, written at 03.04 on 22 October. So this is the first of the two night shifts:

"Self-ventilating in air. Observations satisfactory as charted. [Baby I] was unsettled and rooting at start of shift. Settled with dummy and containment holding."

Ashleigh Hudson told you [Baby I] was stable. The ensuing tiles record her vital signs and the neonatal fluid balance chart. There were no entries at 23.00 because [Baby I]'s long line had been removed, and with the defendant's help, due to constant occlusions, blockages. She was alert and well, pink and well perfused; tiles 91 and 92. TPN was administered peripherally from then on, lipids being suspended until the long line could be sited.

Prior to that, the defendant had been engaged in messaging various colleagues about matters, including babies, and at tile 68 referred to:

"[Baby I] still waiting [that is to go to Alder Hey] but had had an abdo scan that was fine."

You have a paper copy of the intensive care chart for that night shift in your second jury bundle in section 12.

Her heart rate was stable and within the acceptable range. Her respirations were also good, save for one raised reading at 22.00. She was self-ventilating in air and her sats were between 96 and above.

There was no increased work of breathing. Her VIP score was optimal. Her abdomen was soft and not distended. She looked very well, being pink, well perfused and stable. She was on free drainage through the NG tube. In evidence the defendant agreed that she was settled and stable.

Ashleigh Hudson handed over to Caroline Oakley for the following day shift; tile 17. [Baby I] had a long line in, fluids going through, and she was still nil by mouth, waiting to go to Alder Hey for a barium enema. She was unsettled at times, obviously very hungry, but was usually settled with a dummy. They were getting minimal clear aspirates from her NG tube, her abdomen was fine, soft and not distended. She had also passed urine and her bowels were opened. Her cares were attended to by mum. Her readings and observations during the remainder of that day were unremarkable, as set out in the ensuing tiles.

For the ensuing night shift of 22/23rd, as I have said, Ashleigh Hudson was her designated nurse again and for baby AB in nursery 1. The defendant was the designated nurse for two other babies, one in nursery 2 and one in nursery 3. Melanie Taylor and Christopher Booth were also on duty.

Behind tile 48 is Ashleigh Hudson's nursing note for the handover at 19.45 on 22 October. The defendant, in her defence statement, said she did not recall a lot of the detail of the night [Baby I] died. She said in evidence she thought staffing

levels may potentially have been relevant. Also, Dr Chang being called away to another case and Dr Gibbs not being there might be relevant.

At just prior to midnight, Ashleigh Hudson remembered that [Baby I] was unsettled, crying, so she attended to her in the incubator and tried to settle her by the usual measures of containment holding and a dummy with sucrose as a comfort measure. It didn't seem to work. She was very unsettled, it was quite a relentless cry, so she tried to reposition her on to her tummy, which sometimes would settle her, but did not on this occasion. It was very loud crying, relentless, almost constant. There was no stopping and starting, no fluctuation, something that she had not heard from her before.

Within seconds of putting her on her tummy, she became very quiet and started having pauses in her breathing. Ashleigh Hudson turned her back over and shouted for help around the same time. The defendant came in to give her assistance. They got her into position for giving her ventilation breaths. [Baby I] did not respond to ventilation breaths of oxygen and they crash bleeped the paediatric doctors. That call went out at midnight, 00.00.

Ashleigh Hudson's note of the event behind tile 99, made at 03.39, recorded that [Baby I] was very unsettled, became very quiet, apnoeic, dusky in appearance, which was indicative of poor perfusion. Her abdomen was soft and non-distended prior to resus, no change from handover.

In her evidence, the defendant said she did not hear [Baby I] cry in a way she had never heard before. She was quiet when she went into the nursery and apnoeic.

When Dr Rachel Chang, who was the first clinician to attend, arrived, [Baby I] was having two-person ventilation. She had desaturated to 40%, her heart rate was 60, falling to 30. She was told she'd been crash called because [Baby I] had had a significant deterioration at the time of crying. She took over the ventilation and started chest compressions. Dr Gibbs was called. [Baby I] was in cardiac arrest and was intubated by Dr Chang. Good ventilation was achieved.

The defendant and Ashleigh Hudson were the two nurses involved she said. They continued with chest compressions. [Baby I] showed signs of improvement over 5 minutes. Her heart rate picked up. When Dr Gibbs arrived, [Baby I] was being ventilated with a Neopuff through an ET tube, she was active, which meant she was moving, she had a pink-coloured face but was pale and mottled, blue in her trunk and peripheries, an indication of reduced circulation. She was receiving a bolus of saline to

improve her circulation. Her colour steadily improved over the next 5 minutes and then she became pink all over. There was moderate abdominal distension.

Dr Gibbs, in discussion with Dr Chang, decided to extubate [Baby I] and let her ventilate herself. She was fighting ventilation, which was a good sign. They did not have any concerns that she would not be able to self-ventilate. Dr Gibbs could not understand what natural disease would have caused her deterioration and yet she had recovered so rapidly. Either he had to sedate her heavily, paralyse her and carry on ventilating her or take out the endotracheal tube and see how she managed.

Babies collapse because something has affected them, usually it's some sort of disease process. Sometimes premature babies can deteriorate quite quickly, usually they would hope to have some warning that they were deteriorating, that's why they monitor and perform observations on babies.

In [Baby I]'s case she had been fine up to just before midnight, her breathing had been fine, her tummy had been soft and not distended, so she had rapidly deteriorated shortly before midnight. Although some diseases and some disorders can come on quickly, common disorders, being infection, haemorrhage or NEC or severe lung disease, once the baby has deteriorated to the extent of needing ventilating, it is not going to go away suddenly. So he would have expected [Baby I] to be floppy, unresponsive, not resisting being ventilated. That was why Dr Gibbs couldn't understand what natural disease had affected her that she had recovered so quickly.

At that time, although she was hungry, hunger does not cause someone to suddenly be in severe pain or appear to be in pain and then rapidly deteriorate, so it appeared to be something else rather than just being hungry. Once you've got distressed and breathed out heavily, your lungs can collapse down a bit because they are getting smaller. And because [Baby I] had chronic lung disease of prematurity it would be more difficult for her to re-inflate the lungs so at that time that is what he had supposed had happened and he wasn't sure what had happened to cause that collapse.

A radiograph, which is behind tile 116, showed a large stomach bubble and the tube was in a satisfactory position. There were no indications of any need to do a septic screen. When Dr Gibbs left, [Baby I] seemed stable. She was in air and was content, sucking a dummy.

When she was cross-examined about the records leading up to midnight, the defendant was asked about J34535, the record for baby HS for whom she was the designated nurse and was to be

transported back to Royal Stoke University Hospital. Dr Chang examined HS and noted her to be safe for transfer at 22.00.

In her nursing note, J34537, written between 22.50 and 22.52, the defendant wrote:

"To commence 10% glucose for transfer, awaiting arrival of transport team."

The IV fluid chart, J34542, for HS showed the start time for the infusion altered from 23.00 to 24.00. Although there was an entry in the fluid balance chart, J34546, for 23.00, there was no entry at midnight in the pressure VIP line.

In response to the allegation that she was falsifying paperwork to cover her activities, the defendant said the entry of 23.00 was an error, which she then corrected to 24.00.

Just over an hour after that first event, at 01.06 there was a further event from which [Baby I] never recovered. The relevant tile is 130. Between the events, Ashleigh Hudson said [Baby I] was behaving entirely normally for her and as she had been before the first event. She was not in nursery 1 with [Baby I] all the time between the events and was alerted to [Baby I] being unsettled. She did not recall whether it was the monitor alarming or hearing her cry when she was either at the nursing desk or at the computer, which was directly opposite the nursing desk in nursery 1.

When she re-entered the nursery, the defendant was already with [Baby I], trying to comfort her, trying to settle her. At that point in time, her observations were normal, she wasn't desaturating, she wasn't bradycardic, she wasn't apnoeic, she was crying. The defendant was at the incubator with her hands in the incubator with a dummy, trying to settle [Baby I], who was crying in the same sort of way as in the event an hour earlier, loud and relentless.

Ashleigh Hudson's concerns were that she was going to have another episode and collapse. Within about 60 seconds of being in the room, Ashleigh Hudson said something along the lines of, "She's going to do it again, it's the same cry". The defendant responded, "She just needs to settle, she just needs to settle". Ashleigh Hudson thought she was trying to reassure her.

[Baby I]'s relentless cry persisted. They couldn't settle her and, as before, she then became quiet, began to have slow pauses in breathing, her heart rate started to drift down, she became bradycardic and her saturations started to drift. They initiated oxygen delivery again, ventilation breaths, and shouted for help.

Christopher Booth attended. Rather than bleep, Ashleigh Hudson then went to the delivery room to get clinical help. Dr Chang attended; tile 132. When she arrived, the defendant and Melanie Taylor were in nursery 1. [Baby I] was pale, her sats were low, her heart rate was dropping. She was being ventilated on Neopuff. The succeeding events are documented from tile 134 onwards.

Compressions were commenced at 01.16. Dr Chang intubated [Baby I] and achieved good air entry, but she did not improve. Adrenaline and bicarbonate of soda were administered, the details are recorded in the notes. Further doses were given. Dr Gibbs arrived at 01.23, his notes are behind tile 193.

[Baby I] was receiving chest compressions as well as being ventilated with a Neopuff. She was mottled and purple and white all over, indicating poor perfusion. The ventilation was changed over to a bag to achieve higher pressure, but her sats and heart rate remained low with an abnormal slow rhythm. Over the succeeding minutes, she was given boluses of adrenaline as well as boluses of bicarbonate, atropine and calcium gluconate. Her heart rate increased temporarily at around 01.20. Chest compressions were stopped temporarily at 01.45 after 29 minutes of resuscitation and she was given saline to improve her circulation.

At 01.50, her heart rate dropped to 70, her saturations dropped and cardiac compressions were restarted and she was given further boluses of adrenaline to a total number of eight and atropine. All attempts at resuscitation failed and the decision was made to stop.

[Baby I] was extubated, given to her parents and Dr Gibbs confirmed that she passed away at 02.30.

Melanie Taylor said they were all devastated, even more so because they knew the family and [Baby I] so well, and they'd been through so much. It was pure shock. This was the second baby whose death she was directly involved with on the unit. Before that, she had been there a few years and wasn't involved in any death. She was never concerned about any of the care or treatment that the babies had on the unit.

The defendant helped Ashleigh Hudson after [Baby I]'s death because this was Ashleigh Hudson's first death.

When [Mother of Baby I] and her husband were bathing [Baby I], the defendant came back in, was smiling and kept going on about how she was present at [Baby I]'s first bath and how much [Baby I] had loved it. She told you, the defendant, that she said this

because she was trying, in that awful situation, to have a little bit of whatever can be normal and referring to a positive memory. [Baby I] had really enjoyed her first bath. It wasn't meant with any malice. They still talk to babies, they still treat them as if they're alive. It was just trying to reflect on a happier memory.

At 09.40 that morning, Dr Gibbs informed the coroner's officer because he didn't know or couldn't understand why [Baby I] had died. On 9 November there was a debrief that was attended by the hospital chaplain who had started to attend the debrief meetings because of the sudden increase in deaths in 2015, despite nothing else changing. Clinical practices hadn't changed and staffing levels hadn't changed from previous years. The defendant and Ashleigh Hudson also attended. The note is document J14297. There was a short general review of the history and the comment that:

"Removing ETT after first collapse might not have helped."

Dr Gibbs said this referred to a possibility it might have been better to leave it in because it was unclear why [Baby I] had collapsed, so depending on why she had collapsed, keeping the ETT in might have helped. But he couldn't understand any natural disease process that had affected [Baby I] that had caused her to collapse and recover so quickly that required the endotracheal tube to remain in. She was behaving as though she did not need an ETT by fighting ventilation and being very active and remained stable for 40 to 45 minutes post-extubation after her first collapse.

He also noted and accepted that it was possible that her poor response to the second resuscitation might have been due to the heart being compromised by previous cardiorespiratory collapses.

There was a good deal of messaging between the nursing staff and some messaging between Dr Ventress and the defendant. It begins from tile 228 in the fourth sequence of events. Amongst the messages were ones passing between [Nurse A] and the defendant at around 272, which included references to the defendant feeling that she had to prove herself.

Two weeks later, on 5 November, a day that she was off work, between 20.30 and 23.44, the defendant searched on Facebook for [Mother of Babies E & F], [Mother of Baby G] and [Mother of Baby I]; tiles 293 to 295. The next tile, 296, is the text of a photograph recovered from the defendant's phone of a card to [Mother of Baby I], [Father of Baby I] and family, the [Family of Baby I], from the defendant, which she took on the unit before giving the card to a colleague to give to them on the day

of [Baby I]'s funeral, which was Tuesday, 10 November. You have a copy of the photographs from the phone.

Almost 6 months later, on 29 May 2016, a day the defendant was off work, she searched for [Mother of Baby I] a third time on Facebook at 23.00.

When interviewed by the police the defendant did not remember the shift of 13/14 October, but agreed from the notes that she was [Baby I]'s designated nurse. She agreed she had noted some bruising/discolouration evident on the sternum and the right side of the chest from chest compressions and she thought it was spreading from the centre of her abdomen across to the right side. She didn't remember if she was present when [Baby I] collapsed.

She remembered drawing up the drugs for the resuscitation. She couldn't remember if she was the person to find [Baby I] collapsed, maybe she had gone to her because she was crying. Generally, she had a recollection of [Baby I] coming and going to other hospitals and there was a general feeling on the unit that she was being transferred to the Countess of Chester too quickly and before she was ready and the transfer process was quite stressful for her.

She had sent a sympathy card to the [Family of Baby I], tile 296, and photographed it. She had not sent cards to other parents. This was the only one she had ever sent. It was upsetting losing [Baby I]. She said she often took images of cards she sent. She didn't know why she had searched for [Mother of Baby I] on Facebook on 5 October and didn't have any recollection of doing so and didn't recall the searches on social media for [Mother of Baby I] on 5 October 2015 at 01.16, 5 November 2015 at 23.44 and on 29 May 2016. She asked to care for [Baby I] on the following shift she was on for continuity of care and because she wanted to care for her.

In evidence to you, the defendant said she didn't have any independent recollection of any of the details of event 4 and didn't recall whether she was there after the second collapse. She did recall settling her after crying, but didn't know if this was after the first or second event. Her memory started from [Baby I] being resuscitated. She did not remember [Baby I] being unsettled and appearing to be rooting and hungry. She thought Ashleigh called her to help when [Baby I] appeared to be unsettled. She couldn't remember her condition. She referred to the neonatal review which showed she had no involvement with [Baby I] up to the event and she didn't recall where she was between the two events during the shift. She was there when [Baby I] died. This was Ashleigh Hudson's first experience of death, so she helped her.

In relation to the funeral on 10 November she was working nights at that time and was advised she could send a card, which she did. This is the sympathy card, J13163 and 13164, of which she took images that were on her phone, agreed facts 41 and 42. She said she photographed the majority of cards she sent and referred to D29, a photograph of a card congratulating a close friend and her family on the birth of a daughter.

In cross-examination it was pointed out to her that in paragraph 120 of her defence statement she had said:

"I called for Ashleigh who came in."

And after saying she had no recollection now, that meant she came into the room. She did recall trying to settle [Baby I], who she thought was rooting and hungry. She did not recall Ashleigh saying, "She [was] going to do it again, it [was] the same cry". She denied she had pumped air into [Baby I]'s stomach.

Professor Arthurs reviewed all the in-life radiographic material from 19 August. Up until then, the material was unremarkable. There were non-specific findings of bowel gas dilatation of the stomach on the radiographs of 23 August but no features of NEC.

By 5/6 September, [Baby I] was developing lung changes of chronic lung disease of prematurity and she had some residual distended bowel loops but no features of NEC.

On the 30 September image in the [Baby I] 1 sequence at tile 78, he could see lung disease of prematurity but her abdomen was very distended because her diaphragm was quite high up. The distended abdomen would have been obvious clinically. There could be a small amount of air within the bowel wall rather than simply in the tube, he said. Again, there were no features of NEC.

An image of 13 October, tile 80 on the third sequence of events, taken at 04.25, just after the second incident, showed the large bowel was quite distended. Professor Arthurs thought it was large bowel distension and not stomach distension.

On the radiograph behind tile 129, taken at 08.03, there was an almost identical appearance but the stomach had been decompressed.

By 24 hours later, tile 305, at 03.17 all of the bowel had now decompressed, so it had all gone down. There was no more dilatation, the diaphragm had come down, so clinically she

wouldn't have had such an extended abdomen. That episode had resolved within 24 hours or so.

On her return to the Countess of Chester, the bowel on 18 October was normal, there was mild dilation of the right sided loops on the 20th. On the 23rd, shortly before her death, tile 116 on the fourth sequence of events, the lungs were back to normal for her prematurity. There was a nasogastric tube in place and massive dilatation of the stomach all the way across the midline. The image cannot give any clue as to the cause but it was quite unusual, said Professor Arthurs, to see babies with this degree of dilatation of the stomach. It causes splinting of the diaphragm, compressing up against the diaphragm and preventing the baby from bringing the diaphragm down in order to breathe, so you could get respiratory complications as a result of that.

The post-mortem imaging showed [Baby I] also had a large amount of dilatation in the bowel, but she had that ante-mortem, in other words before she died, so that there was dilatation in the bowel both before and to be seen post-mortem.

He explained that there are not very many conditions that cause intermittent dilatation of all the bowel and occasionally of the stomach as well. That is not a feature of NEC and there were not very many other features of NEC in her case. It would be apparent from the autopsy whether the bowel had been recently or previously affected by NEC and we know from Dr Marnerides that it was not.

So one of the explanations for this would be giving air down the NG tube. Had [Baby I] had several episodes of sepsis, where she was generally unwell with an infection, it is possible that the bowel stops working and gets dilated from those, typically not the stomach, and again that's because most babies like this have an NGT in the stomach and they are either regularly being aspirated or they are on free drainage, which allows the gas to freely emit from the body. So it's quite unusual, given that context, to see this degree of stomach dilatation in particular.

For babies who are on CPAP sometimes the gases can go down into the stomach and distend the stomach, but she was mainly intubated and ventilated by conventional means and he did not think, that's Professor Arthurs, that CPAP was a cause for several of these findings. He did not know how much air it takes to generate the sort of appearance to be seen on these images as those experiments can't be carried out for obvious reasons, but he would guess that it would be more than 20ml or 50ml of air because nurses can draw those amounts from a stomach. So if those possibilities are excluded it follows that one is left with the inference that someone has deliberately injected air.

Dr George Kokai, a consultant paediatric pathologist, conducted a post-mortem examination of [Baby I] at the Liverpool Children's Hospital at 14.30 on 26 October and made a written report almost 2 years later on 25 September 2017, agreed fact 23 in section 24. Dr Marnerides was dependent on the findings reported by Dr Kokai as the histology slides had been destroyed.

[Baby I] did not have NEC. Although she had chronic lung disease there was no inflammation, so no evidence of an infection going on in the background of that chronic lung disease that may be an explanation for why she died. Nor was there any recent bleeding. So she had nothing occurring acutely shortly before she died.

There were changes around the ventricles in the brain, indicating that there had been a hypoxic ischaemic event, a reduction of oxygen supply, to the brain anywhere between 1 to 2 weeks earlier and not shortly before her death.

He could not see any traumatic injuries, any facial dysmorphic features or abnormalities externally. The organs showed normal structure. The segments of bowel that he could see in the photographs were very dilated, apparently because of the presence of air. Other than that, he could not see any abnormality. The one unusual finding was a markedly dilated bowel, apparently with air in it.

Dr Marnerides was very sceptical that [Baby I] died of natural causes. The hypoxic ischaemic brain injury that Dr Kokai described could not be attributed to her birth. Had that brain injury occurred around the time of her delivery, the CT scans around the time of her first collapse would have picked much more advanced changes rather than the small haemorrhage that they did pick out. So the starting point of that hypoxic brain injury cannot be tracked back to the point of delivery, it must have been sustained at some stage after her birth. The hypoxic injury itself cannot explain the final collapse.

The collapses on 30 September and 13 October were more likely due to the infusion of air into her stomach and bowel. There was no evidence at the post-mortem that revealed morphological evidence of some sort of natural disease which would account for excessive air being identified in [Baby I]'s gastrointestinal tract.

He explained that although they cannot morphologically prove it, the two proposed mechanisms in the literature, which are entirely reasonable and make sense on the physiology and pathophysiology of the human body, to be observed in the living, excessive air in the stomach causes a collapse in one of two ways: either by a splinting of the diaphragm, an over-distension

causing a splinting because of the air pushing it up so the lungs cannot work, or, because of where the stomach is located and how the nerves go down, you can have stimulation of the vagus nerve because of the pressure against it, resulting in cardiac arrest.

In the absence of sufficient clinical or post-mortem findings to explain the fatal deterioration, and given the presence of air detected radiologically, in the absence of findings of post-mortem decomposition or an underlying disease like NEC or obstruction or volvulus, in his opinion the excessive air in her stomach and bowels was caused by the excessive injection or infusion of air down the NGT into the gastrointestinal tract.

When cross-examined, Dr Marnerides agreed that Dr Evans' review of [Baby I]'s medical notes failed to demonstrate a natural disease process to which that first clinical deterioration back on 23 August could be attributed.

The defence suggest that this event, as recorded in the nursing note back on 23 August, was a similar event to later ones and, as the defendant was not on duty at that time on 23 August, she could not have administered air down the NGT on that occasion.

Both Dr Evans and Dr Bohin gave their opinions in relation to each of the four events. In relation to the first event on 30 September, Dr Evans noted [Baby I] was entirely stable, right until she suddenly collapsed. He concluded she collapsed as a result of some kind of event. And looking at the X-rays and the clinical pattern, in his opinion she'd been subjected to an infusion of air, in other words, air being put into her stomach. A large infusion of air into the stomach interferes with the ability of the diaphragm to move up and down and that interferes with the breathing. Anything interfering with breathing will quickly reduce oxygen to the tissues, reduce oxygen saturation and then heart rate.

[Baby I] had a large vomit, which reduced the pressure in her abdomen and therefore made it easier for her to breathe. On top of that, she had a gastric tube from which air +++ was aspirated, which will have reduced the abdominal pressure even more, and this led to her recovery on that occasion.

The X-ray at tile 78 showed a large amount of air in the large bowel. Though not a radiologist, he saw loads of air in the whole of the intestine, the bowel preventing the abdomen from moving up and down effectively, and that would have led to oxygen desaturation which also would have led to the collapse. He also noted there was no sign of lung collapse or pneumothorax.

Put shortly, in his opinion, her saturations were caused by splinting of the diaphragm caused by an injection of air into the stomach.

Under cross-examination, Dr Evans agreed that [Baby I] had had recurrent episodes of abdominal distension and recurrent desaturations, regardless of the four events under consideration, had required oxygen in various ways at various times, and there were periods when she had infection or suspected infection and received treatment for that, and periods when she had suspected NEC and received treatment for that.

He accepted her weight gain could have been better and could have been a consequence, the cumulative failure to gain weight, of the cumulative problems with her ill health over time.

He agreed that in his reports of 8 November 2017 and 31 May 2018, in relation to -- maybe 2019 -- to the abdominal distension on 23 August, about which I have reminded you, he had formed the view that [Baby I] had received a large bolus of air via the NGT. He said he did not know how much would have been injected to splint the diaphragm but it would have to be quite a bit, nor did he know how long it would take or how long it would be there before there was vomiting and desaturation. There was no data on this and, of course, no one could carry out clinical trials.

He said the X-rays were compelling evidence of the injection of air and added that air had been aspirated as well. He refuted suggestions that he looked at the event of 30 September, took bits of evidence, and then put them together with a prosecution bias in order to support his allegation, repeating that no one was being prosecuted or had been arrested when he reviewed the clinical notes, which were what he relied on in identifying untoward events.

Dr Bohin confirmed she had read all the clinical and nursing records and reviewed the salient events and features she identified in her report. In relation to that first event on 30 September, she noted that prior to the collapse [Baby I] was well and giving no causes for concern. She had no respiratory symptoms, was self-ventilating in air, she was gaining weight and her collapse was sudden and unexpected. She didn't have any of the usual things that would cause a baby to collapse suddenly. She wasn't suffering from an infection because that doesn't present in this way. Nor did she think that she had a malrotation or an obstruction in her bowel that caused her abdominal distension or an intraventricular haemorrhage because they tend not to come and go.

[Baby I] had abdominal distension and the X-ray showed huge gaseous distension, so much so that the lungs were squashed, which could easily be seen on the X-ray. She too thought that abdominal distension had splinted the diaphragm, squashed her lungs, which were not normal, being the lungs of a premature baby who had mild chronic lung disease, so it would not take much to tip the balance to squash those lungs and that in turn facilitated her collapse.

She considered but discounted NEC. A distended abdomen is not the only feature of NEC and [Baby I] had no other features of NEC either clinically or on X-rays. In her opinion the collapse of [Baby I] was caused by the administration of air via the NGT into the bowel.

In relation to the second event, Dr Evans noted that at 03.36 on 13 October [Baby I] had been found blue and not breathing and required very intensive resuscitation over a very short period of time in the form of chest compressions, intubation and adrenaline on three occasions and an intravenous bolus of salt, fluids, sodium bicarbonate and dextrose. This, he said, was a more serious episode than the first. He came to a similar conclusion to the cause he did for the first event because again the collapse was unexpected and she had been stable. At tile 80, the X-ray showed lots more air than you'd expect in the intestine which interfered with her breathing, splinting the diaphragm from which she recovered following robust resuscitation.

She had appeared well, there were no warning signs, as far as he could tell, that would have alerted any nurse or doctor to the possibility that [Baby I] would suddenly have collapsed that morning.

When cross-examined attention was drawn to the absence of evidence that there was an NGT in place at the time of the collapse and this was something -- and that this was something of which he was mindful, having written in his report on 19 October 2021 that if [Baby I] did not have an NGT in place the other explanation for her collapse was an airway obstruction in the form of being smothered. It was suggested to him that this was another example of his looking around for an explanation to support an allegation of wrongdoing.

It was also pointed out to him that in a joint report dated 13 August 2022, he raised air embolus as a possible explanation, which he had not mentioned before. Dr Evans explained that now he had more evidence and the opinions of others.

Dr Bohin's opinion was that the appearance of the X-ray associated with the collapse and discolouration of the abdomen

could be accounted for by the exogenous administration of air via the NGT into the bowel and also an air embolus, in other words air being deliberately administered into an intravenous line.

There was no evidence of NEC or of an obstruction and she couldn't find any pathological reason for the abdomen to have the appearances that were seen on the X-ray.

She was not able to say from looking at the notes whether there was or was not an NGT in place at that time. Staff were not particularly good at recording when they inserted removed or changed NGTs. Despite their paperwork having boxes for them to fill in it was often incomplete.

[Baby I] was bottle feeding and had been for several days so there was no clinical need for her to have an NGT. However, it is normal practice to leave an NGT in place for some days after a baby gets back to full bottle feeds just because it's an unpleasant procedure to undertake and just in case they require tube feeds again, so the nursing staff tend to leave them in for several days. She didn't know what the policy was in Chester. There is no other evidence that a tube was removed but there was no evidence that a tube was in place either.

It only takes seconds to put one in place or to remove one. She accepted that in her report she'd written:

"I do not think that [Baby I] had an NGT in situ prior to this event. She had been bottle feeding and therefore wouldn't have needed one. I could find no reference to an NGT being in situ in the nursing notes."

So, as I've said, she accepted that there was no evidence as to whether there was or wasn't at that time.

She considered air in the vein was a possibility because the staff give a description of a bruise-like discolouration over the right side of the sternum. In her opinion CPR chest compressions don't cause that sort of bruise. Over the years she's attended many, many resuscitations of newborn babies both on a neonatal unit and in a regional cardiac unit, where CPR is much more common, but has not seen children or babies with significant bruising over their chest. So she couldn't account for this discolouration from a pathological process, so deduced it was down to an air embolus associated with the ensuing collapse.

When cross-examined it was put to Dr Bohin that, having seen Dr Evans' reports, she was backing him up whenever she felt able to do so. In particular, it was suggested to her that, at the very

least, she would never have come up with an air embolus in the way that she was in other cases had she not been exposed to Dr Evans' theories.

She refuted that, emphasising that she was independent and reached her own conclusions, in some cases disagreeing with those of Dr Evans. She was asked how an air embolus presented. She responded:

"It can present in a variety of ways in neonates. It occurs very rarely."

She has seen it twice in her career: in one, a baby who was receiving ECMO therapy, which is a specific sort of therapy on a cardiac unit where babies are put on a kind of bypass machine as a temporary measure until their lungs or lungs and heart can recover from their underlying illness and an air embolus got into the circuit. That's a known risk and she could see bubbles and the child immediately had a cardiac arrest.

For the symptoms she could only go on what was reported in the literature and that presents either as a full unexpected collapse and the person dies or it can present with a collapse where, after resuscitation, the person recovers. Most of the studies have been done in older children and adults. There may be a drop in blood pressure or a drop in heart rate, there may be skin changes. The clinical presentation is, she said, wide and varied.

The mechanism she was proposing was that air is injected into a vein, it goes into the right side of the heart and then goes across the small hole between the top two chambers of the heart, the foramen ovale, about which I reminded you yesterday, which is present in newborn babies and sometimes remains present for life; in others it closes. If that happens then blood can go across that little hole and, if you inject air, air can also go across that little hole and is then pumped through the left side of the heart around the circulation and can lodge in the skin and other organs.

Dr Bohin agreed that there is nothing specific about discolouration that makes it characteristic of an air embolus. Discolouration is not specifically characteristic or indicative of a particular condition but it is consistent with air embolus.

In relation to the third event towards the end of the following night, Dr Evans said there was an early marker at just before 06.00 on 14 October that [Baby I] was unwell when her heart rate was slightly higher than it should be and her abdomen was distended, mottled and tender on palpation. There was then a significant deterioration at 07.00, very similar to the one the

previous night but more prolonged. Transfer to Alder Hey Children's Hospital was considered but she stabilised during the day.

He again came to the conclusion that the most likely cause was the injection of a large volume of air into the stomach via an NGT. There was nothing in the records to suggest any benign explanation which could account for what happened. Her response to resuscitation is not what one would expect if she had an infection. There was no sign of any other complication, there was no collapsed lung, there was no pneumothorax.

Under cross-examination, it was pointed out to him that he never formally identified this as an event in which [Baby I] received inappropriate care. Dr Evans responded that he had made reference to a significant dilatation of (inaudible: distorted) first report and it was an oversight on his report not to identify it and was not because he did not consider it was a suspicious event. It was. He had been required to prepare over 30 reports in a short space of time.

It was put to him that the events subsequent to 13 October were a continuation of that event. His response was that they were separate events. The deterioration which led to [Baby I]'s admission to Arrowe Park was a result of a blocked ET tube, a separate and explicable cause for her condition.

Dr Bohin, based on the appearances of the X-ray, the discolouration of the abdomen and [Baby I]'s collapse, said [Baby I]'s collapse can again be accounted for by the exogenous administration of air into the bowel and air embolus, ie air being put into a vein, her reasons being that, as well as the bruising on the right side of the chest, the abdomen had become distended and hard, the staff had noted spreading areas of discolouration over the abdomen, and then resuscitation was required within the hour. The X-ray after that showed that there was widespread gaseous distension and she could find no clinical pathological reason for that appearance.

Finally, in the fourth event, Dr Evans noted that at 03.04 on 22 October, her oxygen saturation was normal at 96% and above, there was no increased work of breathing and she was receiving her nutrition intravenously through a line. The aspirates from the NGT were minimal and her abdomen was soft and non-distended. She was a stable baby.

Her recorded observations at J15034 through to J15035 behind -- there's a copy in writing in your -- sorry, there's a photocopy in your jury bundle of the note -- recorded oxygen saturations levels that were consistently high for the 20th,

21st and 22 October. She was breathing in air, not requiring any respiratory support.

He also noted that at just before midnight, she had been rooting, which was a good sign. He thought that on this occasion she was subjected to an infusion of air again, but on this occasion he thought it was more likely that the air was injected into the blood circulation. Going back over the previous few days she had been stable, she had stabilised. She was recorded as breathing spontaneously, her oxygen saturations were higher, 96% or higher, in other words she was a stable, well baby.

He thought the relentless crying, in the way Ashleigh Hudson had described, at the time of the first collapse and then repeated on the second occasion during that night was the cry of a baby who was in pain and was severely distressed. There was no obvious explanation why she was crying relentlessly and it was very loud, being the victim of having air injected into her blood circulation probably explains her crying, her distress, and the failure of the medical team the second time round to save her life.

When cross-examined, he agreed that the joint report of the experts of August 2022 -- in that report he said the collapse on 22 October was secondary to excessive amounts of air introduced into the gastrointestinal tract via the NGT and to air embolus secondary to blood in the vessel (sic) and that this was something he had not mentioned before in relation to this event and he denied he was going for whatever mechanism he thought would support the allegation. He explained that [Baby I] died as a result of an air embolus. If she had air injected into her stomach as well that was something he could not rule out.

It was then that he was asked about the material in section 4 of the agreed facts, beginning with agreed fact 15 relating to the judgment on paper of Lord Justice Jackson with which you are familiar and Mr Myers referred you to it. You have the context of that written decision which arose out of a case in which Dr Evans was asked for his views on a case in the Family Court in which a very young baby suffered fractures and was taken from his or her parents and provided to the solicitors. He provided to the solicitors representing a report without charging for it, hoping it might assist them in gaining increased contact with their child and not knowing, he said, that without reference to him it would be submitted to support an appeal. It was, said Dr Evans, in very different circumstances from the evidence relating to babies in this case.

The Appeal Court judge who considered and dismissed the application to appeal on paper, that is without hearing any oral

evidence, expressed strong views about the quality and contents of the report as detailed in the agreed facts.

The defence submit that the inconsistency of Dr Evans in his opinion as to the causes of some of the desaturations in this case undermines his reliability and the judge's criticism is relevant to the issue of the approach and impartiality of Dr Evans as an expert witness of the medical evidence in this case and it supports, they say, their contention that he has behaved in the same way in this case.

As with all evidence, it's for you to decide the significance of the comments of Lord Justice Jackson in that case, about which you know no more than the agreed facts, to any of the babies in this case having regard to the evidence you have in this case, both to the facts and circumstances of the events, the evidence of others, including experts, and your assessment of all of that material.

Dr Bohin was of the opinion that the cause of death in [Baby I]'s case was air embolus, air being injected into an intravenous line. She based this on the features of a sudden and unexpected catastrophic collapse and the compelling evidence of her being unsettled and agitated and crying in a way that the nurses felt was unusual. It was very different crying and she was inconsolable. Dr Bohin thought she must have been in severe pain to be this upset and agitated. This, and the distension of the abdomen and the sudden collapse, led her to think that this was an air embolus. She had considered whether there was anything there to support the suggestion that this collapse and death was the result of an innocent process but could think of nothing that would cause the mottling of the trunk.

The description of Dr Gibbs of [Baby I] having a pink face but mottled trunk and limbs associated with her becoming very, very unsettled was, to Dr Bohin, a baby in pain and it may well have been that she was hypoxic at that point, in other words there was low oxygen in her blood because that causes you to become agitated.

The inconsolable crying was a baby in pain and that may have been due to the fact that the heart had become starved of oxygen in the process of an air embolus. When air goes into the heart, it can cause a lock in the heart, which can be a painful process and effectively causes the collapse, which is what she thought happened here.

That completes my review of the evidence in relation to [Baby I]. We next move on to [Baby J], count 13. But we'll do that after the break.

(3.03 pm)

(A short break)

(3.13 pm)

MR JUSTICE GOSS: Count 13, [Baby J], an allegation of attempted murder on 27 November 2015.

[Baby J] was born to [Parents of Baby J] at 15.00 hours on 31 October 2015 at 32 weeks' gestation after her mother's waters had broken. It was a difficult pregnancy and they lost a twin during the pregnancy at 17 weeks.

[Baby J] appeared to be extremely well but after a short time produced some brown bile and was taken to Alder Hey Hospital in the early hours of 1 November. She had a perforated bowel and underwent emergency surgery. The surgeons removed a part of the bowel and created two stomas, from one of which partly digested food was taken and then it was recycled into the other, thus enabling it to progress through the bowel to excretion.

[Baby J] was returned to the Countess of Chester on 10 November. The defendant was the nurse who admitted her. She was fed on her mother's expressed breast milk and some donor milk. She had no respiratory problems or complications. She moved to having all feeds by bottle over 2.5 weeks. She progressed well, eventually moving into nursery 4.

It was a challenge managing the stomas and a fistula developed in the recycling stoma, but it could be managed and it was planned that the bowel would be reconnected. She had issues with gaining weight, but the hospital staff were not overly concerned.

Nicola Dennison, a nursery nurse with approaching 30 years' experience by that time, and who was [Baby J]'s designated nurse when the events in the early hours of 27 November occurred, told you that babies with stomas don't tend to grow terribly well.

[Mother of Baby J] said that between the 10th and 27 November, there were no major problems with the stoma bags. The plan was for her to stay a couple of nights and to get involved in the night-time process before going home with [Baby J]. She stayed for the nights of the 25th to the 26th and for the day of the 26th doing cares, feeding her, changing her nappies and stoma bags. She went home the night of the 26th to the 27th.

Between tiles 16 and 64 you have a number of series of messages passing between the defendant and other nurses working in the hospital at that time in relation to babies, issues and the

differences between them, which speak for themselves. In particular, between tiles 45 and 58, to which she referred, the defendant was messaging with [Nurse E] about the fact that nursery nurses should not be doing stoma bags, how busy the unit was, and it being:

"... shocking that they were willing to take responsibility for things they have no training in or responsibility for."

In the one behind tile 61 she said what a nightmare it was all getting and they would have to send babies out, which was a reference to the number of babies and the high acuity she said.

At the end of the night shift of 25/26 November, no obvious problems were noted, tile 68, Nurse Nicola Dennison noting that at the end of that shift [Baby J] was stable, no desaturations and no obvious problems from the stoma fistula, nor was there anything untoward at 10.30 on the 26th; tile 72.

There were more messages passing between the defendant and [Nurse E] and some between the defendant and Jennifer Jones-Key during the 26th relating to the manageability of work and the management; tile 80 onwards.

It was during the shift of that night, Thursday the 26th into Friday the 27th, that the events the subject of count 13 occurred. In summary, [Baby J] had two sets of sudden and unexpected desaturations towards the end of that shift which required resuscitations, and in the later one there were features of a seizure or fitting.

[Baby J] had no previous or subsequent history of fitting. There was, according to Dr Bohin, no cause for the events. Dr Evans felt infection could not be ruled out. The prosecution say that although no specific form of harmful act can be identified in her case, the defendant did something or things to [Baby J] that caused these collapses intending, as they allege in other cases, to kill her.

The defence argue that infection cannot be ruled out as the cause and, together with her denial of wrongdoing and the absence of any identifiable cause, you cannot be sure that she, the defendant, did anything to harm [Baby J].

The details of the shift handover are behind tile 140. The defendant was the designated nurse for two babies in nursery 2. Nicola Dennison was [Baby J]'s designated nurse in nursery 4. She described [Baby J] as a lively, alert and engaging baby who had medical concerns but at that point was a well baby, ready for going home.

Mary Griffith was also on duty that night and was the designated nurse for another baby in nursery 2, FB.

Nicola Dennison had difficulty remembering the details and timings of incidents. Her note behind tile 160 on the apnoea/brady/fit chart recorded two entries there, one at 04.40 and one at 05.03, and you'll readily remember that you have a paper copy of that document, the apnoea/brady/fit chart.

She did remember one of them was when she thought she was giving [Baby J] a feed. She had to break it off and she got the doctors to review her, and she attended an incident when [Baby J] had lost colour and was desaturating and she needed to be repositioned and then Neopuffed. She thought she may have got muddled up with the incidents when she made up her retrospective nursing notes.

Mary Griffith remembered an event at about 5 or 6 o'clock in the morning of the 27th when she was in nursery 2. She heard an alarm go off in nursery 4. She went to nursery 4 and saw Nicky, Nicola Dennison, had the Neopuff on [Baby J] because she'd gone apnoeic and desaturated. As she walked in, the doctors were a few seconds behind her and took over and she left because there were enough members of staff to deal with it.

Dr Verghese was the SHO on duty that night, which he remembered was a busy night because twins who had been born at home were admitted to the unit that night, EC and FC, and they were put into room 2 between 06.10 and 06.30.

Dr Verghese's note is behind tile 165. He recalled attending only once. His note is timed at 05.15. The swipe data records show him entering at 05.03; that's tile 164.

The entry prior to the O/E abbreviation with which you are familiar, on examination, that the doctors would put down, was that he was told what had happened, in other words what came before OE was what he was told, not what he had seen.

[Baby J] had had two profound desats, the first to the 30s, which may not be a true reading as below 70 there may be factors affecting its reliability and the siting of the probe, and the reference to "being handled during stoma cares". The second was a desaturation to the 50s which was profound. The nurses had to intervene and give some respiratory support. The baby was pale and mottled afterwards and was working hard with her breathing. He considered that, given the abnormal colour and working hard with her breathing, at least one was significant.

On examination she was alert, stable from a cardiovascular status, and her increased rate of breathing was the only

concern. The plan included the taking of blood cultures to test for infection. Dr Verghese was looking for a medical cause and the greatest risk is infection and he discussed the case with the registrar, Dr Austin, who confirmed that antibiotics was a suitable course of action. Dr Austin also called the on-call consultant, Dr Gibbs, and called him in. [Baby J] was moved to nursery 2, where the defendant had two babies.

In her evidence, the defendant said she wasn't asserting that staffing levels or competence were relevant or there were any medical mistakes, but she did said it was widely talked about that band 4 nursing staff were doing stomas and she sometimes felt that nursery nurses were undertaking roles they weren't trained for and referred to the terms of the text messages at tiles 55 and 56.

She said it was a very busy shift. She accepted [Baby J] had progressed well and was going to be going home soon and had no respiratory problems prior to 27 November. She said she had no idea these events were happening. She said that nurses go in and out of the unit frequently if needed and referred to tile 159, which showed her coming in through the unit doors at 04.29. She said there was no way of knowing how long she had been out of the unit. There was messaging traffic as how busy it was that night. Texting by the defendant stopped at 06.49, tile 193.

Dr Gibbs did not have any previous involvement with [Baby J]. He entered the unit at 06.34. It is reasonable to infer that it was in relation to the twins EC and FC who had just been admitted. His notes relating to [Baby J] are behind tile 196. He acquainted himself with Dr Verghese's note of the earlier desaturations. [Baby J] then dropped her oxygenation level again but this time she also dropped her heart rate.

On the earlier occasions, she had dropped her oxygen levels alarmingly but not dropped her heart rate much. This time she dropped her oxygen levels and her heart rate was needing support from the nurses. He wasn't with [Baby J] when she first dropped her oxygen saturation level but came in and assisted Nurses Griffith and Letby, who were with her.

Both a drop in heart rate and a drop in oxygen saturation levels are of concern and can cause serious problems to a baby if not addressed, but both occurring together is more concerning than just one occurring by itself. There is uncertainty about which one comes first: a drop in oxygen level can lead to a drop in heart rate level, but conversely a drop in heart rate level can cause the oxygen level to drop.

Dr Gibbs' note is behind tile 197. [Baby J] had two further episodes of sudden desats "to unrecordable levels". The first

one was at 06.56 and the second about 28 minutes later at 07.24, plus bradycardia. Both episodes were associated with clenching of hands, stiff limbs, the upper greater than the lower, and on the second occasion her eyes deviated to the left.

She was displaying two seizures. Her eyes deviating to one side was a sign of a seizure, particularly in neonatal babies. In the first episode the stiffness took 10 minutes to settle and she needed Neopuff ventilation for about 20 minutes. Her perfusion was poor and she was given 14ml of saline after 14 minutes. In the second episode, which started about 8 or so minutes after the Neopuffing had ended, all the features of the seizure settled after 5 minutes and she required similar ventilation for about 5 minutes.

Dr Gibbs was looking for reasons why [Baby J] had displayed these two seizures. They were not explained by a low blood pressure, because it wasn't low, nor were they explained by abnormal electrolyte levels because they weren't abnormal. The potassium being a little low does not cause seizures.

In relation to the medical causes of deterioration, the greatest risk is infection or sepsis, so they tested and treated for infection by antibiotics, but there was no bacterial growth after 5 days on the specimen taken before the last two seizures. An ultrasound scan of her head did not reveal any cause for her seizures. She'd never presented with seizures before this morning and has had no convulsive seizure or stiffening seizure again to his knowledge; Dr Gibbs followed [Baby J] up in clinic after she had left the neonatal unit until she was 19 months old.

In relation to the cause of the seizures he would favour a drop in oxygen leading to the seizure. Exactly why and how the oxygen dropped he didn't know. It was not consistent with [Baby J]'s course up to that stage that she should suddenly drop her oxygen level, but he accepted he could not be definitive.

Professor Arthurs reviewed all the X-rays of [Baby J]. The relevant image was taken at 08.54, about an hour and 20 minutes after the second event, the last event. It was unremarkable and the bowel gas was unremarkable, so for all intents and purposes within normal limits. It could not assist in providing any explanation for this event.

When interviewed by the police on 4 July 2018, the defendant recalled [Baby J] as she arrived with a Broviac line and a stoma. They didn't have babies with Broviac lines or stomas in the unit very often. She did not remember a series of collapses in the early hours of 27 November. She was not [Baby J]'s designated nurse but according to the notes she did administer

medication shortly after midnight, tile 149, and it was her signature on the infusion prescription chart at 07.20, tile 204. She thought she only treated her after her collapse that resulted in her being moved nurseries.

When interviewed a year later, on 12 June 2019, her involvement with administering medication was because [Baby J]'s designated nurse, Nicola Dennison, was a nursery nurse and not authorised to administer certain medications. She thought Nicola called her for help when [Baby J] collapsed. She denied having done something to make her unwell.

In a third interview on 10 November 2020, she accepted she had searched for both of [Baby J]'s parents once on Facebook on 17 December, but could not remember having done so.

In relation to messages to colleagues about [Baby J], she could not remember who told her [Baby J] had been fitting and thinking, "Maybe sepsis".

The defendant told you in her evidence that she was aware of this second pair of events. At 06.56, Mary Griffith and her heard the alarm in nursery 4, went in and found [Baby J] fitting. No one was with [Baby J]. They began to use the Neopuff system and shouted for Dr Gibbs to come and review her. [Baby J] was then moved to nursery 2. Before this she had nothing to do with [Baby J].

She thought she was in nursery 3 when she was asked to help with the second episode at 07.40, she didn't recall doing the infusions with Mary Griffith.

She accepted that from the terms of her Facebook message to [Nurse E] at 06.28, tile 177, she knew that [Baby J] had been moved to nursery 2 by that time and had had profound desats, a reference to the events at 04.40 and 05.03, and that the twins were admitted to nursery 1 at 06.10 and 06.30. She also agreed that she was messaging at 06.43 in relation to the twins, tile 168, and her messaging stopped at 06.49, and there were no recorded actions by her in the neonatal review between 06.23 and 06.56. She denied that she had been in nursery 2 between those times, 06.23 and 06.56, sabotaging.

[Baby J] remained at the unit until about 08.00. Nurse Ailsa Simpson took over as designated nurse for [Baby J] for the day shift on 27 November. [Baby J] remained stable throughout the shift and nothing abnormal was detected.

Dr Stephen Brearey reviewed [Baby J] at 1.20 pm, 13.20, that afternoon having read the notes of his colleague Dr Gibbs about the profound desaturation events towards the end of the night

shift and noted that there were no significant blood glucose or electrolyte abnormalities to explain the seizures and that the blood tests and X-rays that were taken showed no evidence of an infective cause at that stage for the sudden deterioration. Dr Brearey's note is behind tile 258.

The ultrasound scan was entirely normal and there was nothing of concern in relation to the blood test results. Although the blood transfusion requirement was not quite met, they decided to give a transfusion. Abdominal X-rays did not raise any abdominal concerns or cause for what had taken place. Dr Wright's report is behind tile 262.

Alder Hey were consulted and did not recommended any action. Dr Brearey had no concerns. It was, in retrospect, he said, quite a remarkable recovery from what happened overnight, really. She normalised very quickly over the course of the day and all the investigations couldn't identify why she had had the desaturations that she did have and didn't explain why she had a seizure.

Hypoxia can cause seizures if the brain becomes hypoxic, starved of oxygen, so that would possibly be the most likely cause for the seizures. But then it still remains a question why was [Baby J] hypoxic when for 2 or 3 weeks beforehand she'd been breathing normally in air and there was no evidence of infection in the blood tests and none of the investigations they did suggested any significant infection anywhere. In fact, they stopped antibiotics 36 hours after starting them because there was no evidence of any infection in the blood cultures or the subsequent blood tests the following day.

The defendant was [Baby J]'s designated nurse the following night of 27/28th and there were no issues with her that night. The defendant said she never wanted things to be going wrong. Dr Brearey saw [Baby J] again on the 29th and there was nothing of any concern.

Dr Evans confirmed that all the markers of inflammation for infection were indicative of no infection. There was no increase in temperature or air and her oxygenation saturations were all good and all the results of the blood taken by Dr Gibbs at 07.00 hours were satisfactory.

The first collapses were unexpected, as were the second ones, which were more serious, required more resuscitation and coincided with a fit or seizure. This was indicative of something going wrong with the brain. In his opinion, like that of Dr Brearey, [Baby J]'s brain was deprived of oxygen for a sufficient length of time to cause brain hypoxia, in other words loss of oxygen to the brain, causing the fit.

She's not had any subsequent seizures so there's no evidence of her having an inherent predisposition to epilepsy. Epilepsy occurs in children, but if her seizures were due to an epileptic focus then she would have had seizures in the future. Dr Evans could not identify any natural process that might have caused that hypoxia.

It was also the opinion of Drs Gibbs and Brearey that infection wasn't the cause of her seizure. Had infection been the cause of her rapid decline he didn't think she would have recovered as quickly as she did. Babies who develop an infection usually recover over a period of days and not this promptly.

She was at risk of infection and *Klebsiella oxytoca* was grown from the central venous line site from the skin around the site and is capable of causing infection in vulnerable infants and Dr Evans accepted that the presence of an infection could not be ruled out for sure.

Dr Bohin explained that these events were completely unexpected and [Baby J] required the Neopuff ventilation for a long time before she came round and was well again and that seemed extremely unusual, the speed of the collapse, the longevity of the resuscitation, and the fact that she seemed to recover well quite quickly afterwards. Infection, in her opinion, was not responsible for that isn't the way that infection plays out, so having looked at other things that may have caused this, she didn't come to any major conclusion other than there were serious and unexpected deteriorations.

Because she had the stomas and a Broviac line, [Baby J] was at risk of infection, but her observations in the days prior to and on the day of this event -- her recorded temperature, her heart rate and respiratory rate -- were all stable and she was tolerating her feeds. Babies who are kind of brewing an infection tend to exhibit subtle abnormalities in some or all of those things, particularly intolerance of feeds, which shows you that all isn't well and you need keep a special watch on them. She didn't exhibit any of these things until she had her desaturation, which can be a feature of infection. But then, having resuscitated her, she seemed to be better and back to normal, which is not a feature of an infection because by the time she was clinically well, and described by the medical team to be back to her normal self, she hadn't even received her antibiotics by that point, so Dr Bohin excluded infection. She didn't think that was the cause of the collapse.

When asked under cross-examination about the presence of infection despite the absence of normal inflammatory markers, she said that the first inflammatory marker showed a CRP of less

than 1 and her subsequent inflammatory markers were also low. So although nothing is ever 100% in medicine, it made infection very, very unlikely to have been a cause for her collapse.

Well, the next baby is [Baby K], count 14, attempted murder. This is going to take longer than the 15 minutes we have, but I'm just going to make a start on [Baby K], an allegation of attempted murder on 17 February 2016.

[Baby K] was born on 17 February 2016. Her mother, [Mother of Baby K], went into labour on 15 February at 25 weeks' gestation. There was no bed available at Arrowe Park. The decision that the birth should go ahead at the Countess of Chester was made by an obstetrician.

The post-event opinion expressed by Dr Babarao that she should not have been born there, in the Countess of Chester, was made without knowledge of the circumstances that had in fact arisen. It was unusual, said the defendant, to have a baby of 25 weeks' gestation at the Countess of Chester. Such a baby should be at a tertiary centre, which is correct.

[Baby K] was in the footling breech position, in other words feet first, and was born at 02.12 on 17 February. She weighed 692 grams, 1 pound and 8 ounces. She was dusky, floppy and had no respiratory rate, and a heart rate of about 60 beats per minute. Her Apgar score was 4 at 1 minute, then 9 at 5 minutes and 10 minutes.

She was transferred to the NNU prior to being transferred to a tertiary unit, being only 25 weeks' gestation. Later that day, [Baby K] was transferred to Arrowe Park Hospital where her condition continued to deteriorate and, sadly, making what [Mother of Baby K] said was the hardest decision of her life, they agreed to bring the life support to an end and, shortly after having the breathing pump removed, [Baby K] died at 05.28 on 20 February, 3 days after she was born.

The prosecution do not allege her death was caused by the defendant. She was a very premature baby with severe lung disease. What they do allege is that the defendant attempted to kill [Baby K] within 2 hours of her being born by interfering with her breathing tube at around 03.50, thereby causing a collapse from which she was resuscitated.

There were two later collapses at 06.15 and 07.35, in which there is evidence that the defendant was involved and the prosecution allege was the defendant sabotaging [Baby K], but they are not the subject of separate charges, so it's just the first event at 03.50 that is the one that is the subject of the count on the indictment.

There is no expert opinion in [Baby K]'s case, rather the evidence is factual and circumstantial, the prosecution inviting you to rely on inferences. In common with the pattern in other cases, the collapses involve the presence of the defendant, were unexpected and were in suspicious circumstances.

The defence point to [Baby K]'s extreme prematurity and that she was born with severe lung disease. There is no direct evidence of any harmful act. She was given surfactant late and they argue that Dr Jayaram's evidence in relation to the event at around 03.50 is tainted and unreliable.

The defendant herself has no recollection of the events, but potentially felt the ET tubes were not secured appropriately.

The sequence of events begins with messaging between the defendant and [Nurse E] and Ailsa Simpson during the day of 16 February before the defendant came on duty for the night shift of 16/17th.

The defendant made an inquiry as to "whether the 24-weeker had come" and is told by Jennifer Jones-Key that it hadn't. The handover for the shift of 16/17 February is at tile 21. The on-call consultant was Dr Jayaram. Joanne Williams became [Baby K]'s designated nurse after her birth during the shift, and she was admitted to nursery 1 on the unit.

There were two children in nursery 1 being looked after by Caroline Oakley, who was the shift leader. The defendant was looking after two of the three children in nursery 2, AR and GT. The details of [Baby K]'s birth at 02.12 are set out on tile 27.

Dr Jayaram, Dr James Smith, the registrar on duty, Nurse Joanne Williams and the defendant were amongst those present at the birth. Her condition at birth was not unexpected for a baby of her gestation, explained Dr Smith, and the full neonatal life support pathway was initiated. [Baby K] was initially stabilised with a mask.

The notes behind tile 28, written by Dr Jayaram retrospectively at 04.50 hours, describe the acts undertaken by him and Dr Smith. [Baby K]'s heart rate was above 100 at 2 minutes and 30 seconds of life and her oxygen saturation level of 85% at 6 minutes was good, especially at her gestation, and sufficiently high for them to attempt intubation with an ETT.

About 20 minutes after birth, according to Dr Jayaram's note, Dr Smith succeeded in inserting a 2 millimetre tube at the third attempt at intubation, having been unable to insert a 2.5

millimetre tube. The nursing notes recorded the time as being 12 minutes after birth.

Dr Smith said that if he had seen any evidence of trauma, any bleeding, he would tell his consultant. To the best of his memory, he did not see anything like that with [Baby K]. If he had seen significant trauma or bleeding he would have asked his consultant to step in and take over. Dr Smith said there was no indication in the notes to do with any blood, secretions or any indication of trauma, nor was there any that he could remember.

In relation to the securing of the tube, Joanne Williams said it would normally be a team that did it. She didn't remember this particular case, but said the practice was that once the ETT is in place, it's secured by a clamp that fits over the tube and there is a small piece of plastic that is tightened to make sure the tube doesn't slip and then it is tied to a hat using two holes on the end of the plastic holding -- that fits against the cheeks of the baby to keep it in place and are tied to the hat. This is done on the Resuscitaire before the baby is moved.

[Baby K] was then transferred to the unit on a Resuscitaire, being admitted to the unit at 02.40. By reason of her extreme prematurity, she was going to be transferred to a tertiary unit; tile 30.

The note behind tile 35 was written by Joanne Williams. In summary [Baby K]'s heart rate during the period she was caring for her stayed within the necessary parameters up until about 7.30.

She was on a ventilator by 02.45 and was receiving ventilation breaths at the rate of 45 breaths per minute, the ventilator tube passing through the portholes of the incubator straight on to the ET tube.

Joanne Williams' nursing note behind tile 39, made at 04.48, refers to a leak on the ventilator. Mr Myers referred to the figures in relation to the leak on the ventilator in his closing address to you.

Dr Babarao, a consultant neonatologist at Arrowe Park, and to whose evidence I shall come tomorrow, accepted that those numbers did not tally with the oxygen saturation level of 94%, which he said was the optimal saturation level for a preterm baby. So there was a mismatch between what the ventilator was showing and what in fact [Baby K]'s readings and saturation level of 94% were showing.

Joanne Williams said that if [Baby K] was not getting the required ventilation, the alarm on the Philips monitor would

have gone off. The clinical picture at this point was that the resuscitation following birth was a good one and her blood gases, taken from the venous blood following cannulation, were good for a baby of her gestation.

She was given surfactant down the ETT. The computer record behind tile 36 recorded that the surfactant was administered at 03.00 hours, which was late. Dr Smith agreed that surfactant should be given as soon as possible. He was questioned about guidance that it should be given within 15 minutes, but the delay in [Baby K] being given surfactant, which is to assist with oxygenation, and which was 13 or 18 minutes late, will not, said Dr Smith, have compromised her. In other words, it was 13 or 18 minutes after the 15 minutes that she was given the surfactant.

She was prescribed antibiotics as a matter of course as well as vitamin K and Dr Smith accepted the antibiotics should have been given in the first hour of life, the golden hour, to which I shall also return, but they were not in fact given until 04.20, after the event at 03.50.

Intravenous 10% dextrose was given for nourishment.

Dr Smith examined [Baby K] from a cardiovascular perspective. She had normal heart sounds and two femoral pulses present, good air entry bilaterally, her abdomen was soft and non-tender with bowel sounds present; a normal examination. Neurological examination showed normal tone.

Dr Smith was asked about the insertion of a central line for the venous administration of medication. He said that venous access was gained by a venous catheter and the insertion of a central line in a baby as small as [Baby K] was difficult and its timing was affected by her circumstances.

The need to re-intubate as a result of the event that ensued was a higher priority, establishing respiration being more important than the form of venous access. In other words, ensuring the baby is breathing properly before you achieve another form of venous access.

That's a good moment to break off because I'm coming on to the event in that case. So 10.30 tomorrow morning, please.

I'm just going to say to you a little more about where we're going to go. I'm not going to complete my summing-up tomorrow and we're not sitting on Friday, so even if I did complete it at around this time in the afternoon, you wouldn't be starting your deliberations tomorrow. So there is no question, you will not be starting deliberations in this case tomorrow, you will be doing

that some time on Monday when I've finished my summing-up to you, which I anticipate will be around midday, something like that. So it'll be earlier rather than later on Monday.

The usher will communicate to you about the necessary arrangements so far as sustenance is concerned during the period that you are in retirement next week and I will be able to give a clearer picture at the end of tomorrow when you will begin your deliberations in this case because I will have got that much further in the summing-up. All right?

So that's the timetable. Remember your responsibilities as jurors, as you have done for the last 9 months, and 10.30 tomorrow morning, please. We will, as I said to you, finish by 4 o'clock tomorrow. Thank you.

(In the absence of the jury)

MR MYERS: We would be grateful to have an opportunity to speak, my Lord.

MR JUSTICE GOSS: Certainly. Thank you very much.

(3.59 pm)

(The court adjourned until 10.30 am on Thursday, 6 July 2023)