POLICE SERVICE OF NORTHERN IRELAND

Police Identification Mark WRC102

SUMMARY OF TAPE RECORDED INTERVIEW

TAPE REF NO:

BDV 44/05

Master Tape Seal Number(s):

T88748A

PERSON INTERVIEWED: DONNCHA HANRAHAN

ADDRESS: [redacted]

DOB:

PLACE OF INTERVIEW: GROSVENOR ROADPSNI

DATE OF INTERVIEW: 02/03/2005

TIME COMMENCED: 1244 HOURS TIME TERMINATED: 1326 HOURS

INTERVIEWING OFFICERS:

1 D/SERGEANT CROSS, CARE UNIT, ENNISKILLEN
2 D/CONSTABLE HALL, CARE UNIT, ENNISKILLEN
3

OTHER PERSON(S) PRESENT:

1 [redacted] SOLICITOR
2
3

MADE BY: D/SERGEANT CROSS

Tape Number and Tape Times:

PACE 10 completed, rights of a voluntary attender given, introductions made and caution given and explained.

D/Sgt Cross: Well doctor if I could ask you maybe to give us your qualifications, your experience and to say whatever you want to say at the outset?

Solicitor: I think the best thing is to read the statement you have prepared.

Dr Hanrahan: I, Doctor Donncha Hanrahan of the Royal Belfast Hospital for Sick Children, Grosvenor Road, Belfast have made a statement of my own free will. I understand that I do not have to say anything, but if I do not mention something which I later rely on in court it may harm my defence.

Dr Hanrahan: I am a Consultant Paediatric Neurologist, I qualified in 1985 and was appointed to my present position in 1998. I was awarded the MD Degree from University College, Dublin. I am a member of the Royal College of Physicians of Ireland and am A Fellow of the Royal College of Paediatrics and Child Health. I would refer to the section of

Dr Hanrahan: the notes of Royal Belfast Hospital for Sick Children concerning Lucy Crawford and the extracts from same. I have a desire to place on the record that I had no conversation with Doctor Jarlath O'Donohoe or anyone else from the Erne about this patient before or during my management of her. On 13th of April 2000 at approximately 10.30 I first encountered the patient Lucy Crawford. I would have been in possession of a letter penned by Doctor O'Donohoe from the Erne Hospital, which was written to Doctor Seamus McKaigue, who was the Intensivist or Anaesthetist Consultant on call in Intensive Care at that time. The letter pointed out that the child presented at approximately 1930 hours the previous day with a history of fever, vomiting and drowsiness. Capillary refill was more than two seconds, which would have been suggestive of dehydration. She was given an intravenous line at approximately 2300 hours. There were various investigations carried out including haemoglobin, white cell count and platelets. On admission sodium 137, potassium, chloride, carbon dioxide, urea, glucose, creatinine, were all normal. At 3.00 am the patient's mother noticed her rigid as she was given diazepam rectally, but it was thereafter quite a lot of diarrhoea. She responded to bagging and was intubated and had a pulse, but her pupils were fixed and dilated from 3.30 when Doctor O'Donohoe said he first looked at them. Doctor Peter Crean had previously examined the patient and his typed note was later put into the chart. The Paediatric Intensive Care Unit, SHO, Doctor Louise McLoughlin, who was on call noted that the patient arrived at 8.00 am on 13th of April 2000. An Anaesthetist from the Erne Hospital rang at 9.00 am to report sodium level of 127, potassium of 2.7 and renal function normal. From the notes it is clear that I took a detailed history from the patient's parents. My notes states that on 11th of April 2000 the patient was vomiting everything, not eating, went to

the baby-minder, was brought home at 12 o'clock and at 2.30 pm went to the General Practitioner, was checked out and felt to be ok and was playing away. She slept quite well on the Tuesday night. On 12th of April 2000 her father stayed at home. This is the history I was getting from the parents in intensive care. Her father stayed at home. The child was listless, lethargic, but drinking. When mum came home the child was still lethargic and was given Calpol and kept down water and she went to sleep at 6.30 pm. She was pyrexic, meaning she had a high temperature and they contacted the Contactor's Bureau and were advised to go to the Erne Hospital and they went there about 1930 hours. They tried IV placement for three hours during which time the patient was trying to drink and got the IV at approximately 10 pm, which would be slightly different to the time from the letter. The history I got from the parents they said about 10 pm, the letter said 11 pm. So a slight discrepancy. At 2320 hours her eyes were glassy and she went back to sleep. At 3.00 am she was restless with abnormal breathing, her arms, legs and fists were tonic, I mean stiff. Pupils were not reacting and she was unconscious and she was intubated at 4.00 am. So when I examined her she was cold and pale and unresponsive and there was no sign of brain stem function. It was proposed that she should have a CT scan and an EEG. My differential diagnosis did not include dilutional hyponatraemia, but did include infection, for example herpes, haemorrhagic shock and encephalopathy, metabolic disease, urea cycled defect. I suspected she might have cerebral oedema, but was unsure of the cause.

D/Sgt Cross: Sorry, could I ask you, Doctor, your differential diagnosis, what actually do you mean by that?

Dr Hanrahan: Different conditions which it might be.

D/Sgt Cross: OK right.

Dr Hanrahan: So I was not... immediately struck by the dilutional hyponatraemia if that should be the case.

D/Sgt Cross: Right so then you have listed the possible causes?

Dr Hanrahan: Possible other causes.

D/Sgt Cross: That's fair enough.

Dr Hanrahan: I was aware at this stage that the sodium had dropped from 137 to 127.

D/Sgt Cross: Yes.

Dr Hanrahan: I knew from the letter that it was 137 and from the notes.

D/Sgt Cross: Phone call .

Dr Hanrahan: No no the phone call which was documented from the notes directly above my entry 127. So dilutional hyponatraemia did not strike me at that stage.

D/Sgt Cross: Right. Ok.

Dr Hanrahan: I suspected she might have cerebral oedema but was unsure of the cause. I recommended a clotting screen, ammonia and herpes PCR, that's a good way to check for infection if a lumbar puncture was carried out, which it was not. When I reverted at 1745 I would have had the result of the CT scan and the EEG and I concluded that the case was hopeless and that the child should have brain stem tests as she was still on a ventilator. I subsequently carried it out in the company of Doctor Chisakuta and found no evidence of brain function. I referred to my entry on the notes where I stated that if the patient succumbed during the night a post-mortem would be desirable and that the Coroner would have to be informed. I felt a post-mortem was desirable as I was not confident as to the cause of death. My uncertainty did not extend to believing that the patient had died an unnatural death, but simply that a child presenting with gastroenteritis

should not then have brain oedema without the matter being further investigated. From the clinical notes I see that Doctor Caroline Stewart noted that I discussed the matter with Doctor Curtis in the Coroner's Office, but I do not recall this conversation. In retrospect an earlier Inquest might have been helpful as stated by Mr Leckey when Lucy had her Inquest, but the findings of the post-mortem report were not considered suspicious by Doctor O'Hara who carried out the post-mortem, but he did not choose to refer back to the Coroner's Office. The clinical history section of the post-mortem report would have emanated from an autopsy report form completed by Doctor Caroline Stewart, my Specialist Registrar at the time. Under clinical diagnosis it states dehydration and hyponatraemia, cerebral oedema, acute coning and brain stem death. I would point out that Doctor Stewart again, was my registrar when she placed hyponatraemia within the clinical history section. I believe that she placed hyponatraemia as a clinical feature when filling in the autopsy referral form, but this is not the same as implicating it in the chain of events leading to Lucy's death. I delegated the writing of the autopsy form to her. Whilst I was aware that the deceased child was hyponatraemic for a period of time, the significance of this was not apparent to me as the sodium level in the notes of 127 having dropped from 137 did not appear to me to be a marked and significant drop in sodium. One often in clinical practice sees a sodium level at 127. At the time I did not believe that this drop in sodium level was sufficient to have caused brain oedema and coning. On reflection and given that there has been some debate over Lucy Crawford's death since the inquest and the calling of a public inquiry, I believe that the sodium levels were considerably lower than 127 when the patient coned, which in retrospect I believe occurred around 3.00 am on the 13th of April at the Erne Hospital.

D/Sgt Cross: Sorry, Doctor...would you mind reading that sentence again?

Dr Hanrahan: Ok. On reflection and given that there has been some debate over Lucy Crawford's death since the inquest and the calling of a public enquiry, I believe that the sodium levels were considerably lower than 127 when the patient coned, which in retrospect I believe occurred around 3.00 am on 13th of April at Erne Hospital.

D/Sgt Cross: Right.

Dr Hanrahan: It appears that the patient was given 500 mls of a normal saline per hour after this event and it was sometime after the drip was changed to normal saline when the sodium was retested. The resultant levels, sodium levels, shown at 127 was not the alarm bell that it would have been if it had been taken at 3.00 am when the patient coned. I would stress that this was something that I was not aware of at the time of my management of the patient and it is something that has only come recently to my attention at a recent study day at the Royal Victoria Hospital, I had a brief conversation with Doctor Jarlath O'Donohoe. I am aware and was at the time aware of the term hyponatraemia, cerebral oedema can result from hyponatraemia leading to raised intra-cranial pressure and coning. The cerebral oedema occurs when blood becomes too dilute, i.e. there is too much water relative to sodium and when this occurs fluid will run from the blood to the brain and the brain will swell up.

D/Sgt Cross: Right.

Dr Hanrahan: Essentially the system of the patient will have no time to acclimatise. At the time that I was considering the patient the drop in sodium from 137 to 127 was not in my view at that time a marked drop. I would stress that I was unsure what had caused the death of the patient and hence my differential diagnosis. I have no recollection of my conversation with the Coroner's Office. From the notes it does

appear that I discussed the matter with Doctor Curtis for his advice. The appropriate section of the notes was written by Doctor Caroline Stewart. I'm not aware if I mentioned at this point hyponatraemia along with dehydration, but I may not have, as it was not something to the forefront of my mind at this time. I was however sufficiently concerned that the cause of death be properly examined and I assumed that I did say at least to Doctor Curtis' office, this judging from the entry in the day book from within the Coroner's Office that I said at least, that I did at least say that the patient died of gastroenteritis, dehydration and brain oedema. The notes states that a Coroner's post-mortem was not

Dr Hanrahan: required, but a hospital post-mortem would be useful to establish the cause of death and rule out another diagnosis. The parents' consent was obtained for the post-mortem. It may have been felt that a paediatric post-mortem would be more helpful than that of a forensic pathologist. Indeed the paediatric pathologist very frequently carry out coroner's post-mortems on request.

D/Sgt Cross: Yes.

Dr Hanrahan: The Pathologist would have had the power to request an Inquest, if felt to be necessary by referring back to the Coroner. The note of the 4th of May 2000 is written by Doctor Dara O'Donoghue in relation to the filling out and compiling of the death certificate. The death certificate was not written until the post-mortem report was obtained.

D/Sgt Cross: I'm sorry Doctor for interrupting you, you see the, if you just go back to the power of the pathologist to consult with the coroner.

Dr Hanrahan: Yes.

D/Sgt Cross: If you just go over that again?

Dr Hanrahan: The Pathologist would have had the power to request an Inquest if felt necessary by referring back to the Coroner.

D/Sgt Cross: Right, well if you go on to discuss this then stop me, but in hospital practice is the pathologist is in possession of all the information that you have.

Dr Hanrahan: Yes.

D/Sgt Cross: Plus the post-mortem information.

Dr Hanrahan: Yes.

D/Sgt Cross: Now in normal procedural terms would you expect that if this is to become a coroner's post-mortem as opposed to a hospital post-mortem is that a call for pathology?

Dr Hanrahan: I would have thought so yes. If they suspected that there was something that needed the coroner's further advice I would have thought they could have referred back to the coroner.

D/Sgt Cross: And would it be your normal impression of proper procedure that if the pathologist has all the information both from the ward and from the post-mortem that it is not your job or Doctor Crean's, or Chisakuta's or McKaigue's to inform the Coroner, but it's pathology's job to inform the coroner?

Dr Hanrahan: I think, I think once the, once the issue has reached the pathologist yes it would be, I had already been to the Coroner and the Coroner had effectively directed to me to suggest that I get a hospital post-mortem, which I did and provided full information at that time. Whether or not the pathologist would have considered it suspicious when, maybe more than I would have done, I can't answer for him I'm afraid. The note of the 4th of May 2000 is written by Doctor Dara O'Donoghue in relation to the filling out and compiling of the death certificate. The death certificate is not written until the post-mortem report was obtained. He was the intensive care fellow. I do not recall the conversation that I had with Doctor O'Donoghue and I'm therefore relying on the notes in this regard. It would appear from the notes that Doctor O'Donoghue spoke to Doctor Stewart who suggested that he speak to me. It would

further appear that the post-mortem result was in the front of the chart according to Doctor O'Donoghue's notes. It would seem there was a conversation between Doctor O'Donoghue and myself in relation to his liaison with me to what he should put on the death certificate as the cause of death. It was not uncommon for the more junior doctors to write death certificates. On looking at the post-mortem report I noted it is dated the 13th of June 2000. This is the formal final post-mortem report, 13th of June 2000 and on the first page there is the final anatomical summary and the commentary. On looking at the hospital notes and records Doctor O'Donoghue's note is dated 4th of May 2000, which is one month before that and thereafter the funeral and undertaker was provided with a copy of the death certificate because I think the family wanted to get the funeral sorted out, a lot of pressure to get this I think. I assumed that Doctor O'Donoghue would have been in possession, therefore of the provisional anatomical summary only. This is dated 17th April 2000. I imagine that Doctor O'Donoghue would have discussed with me the content of same, the anatomical summary, where it states history of 24-36 hours of vomiting, diarrhoea, illness with dehydration and drowsiness, history of seizure with pupils fixed and dilated following the intubation, relatively little congestion with some distension of large and small intestine with gas and patchy pulmonary, that's chest congestion with pulmonary oedema, swollen brain with generalised oedema, heart given for transplantation purposes. I would have been of the opinion from that that the pulmonary oedema co-existed but was not caused by the brain oedema and I therefore assume that gastroenteritis, were put on the death certificate due to

this provisional anatomical summary and after consultation with me. I have considered the final anatomical summary, which is different in that it states extensive bilateral broncho-pneumonia. I again believe

Dr Hanrahan: this co-existed with the brain oedema, but was not part of the primary chain of events leading to death and this had not been mentioned at the time the death certificate was being compiled. So the only difference between the provisional and the final anatomical summary was the extent of the pneumonia, which I think happened at the same as Lucy coned, so it wasn't actually part of the chain of events. But I didn't have that when the death certificate was being compiled. The pathologist, Doctor O'Hara did not mention hyponatraemia despite the fact that that was placed in the clinical history by Doctor Caroline Stewart, my Specialist Registrar at the time. It was in my opinion appropriate to draw on the anatomical summary for the purposes of the compilation of the death certificate. I would advise that in the notes and records to which I have had access there is a provisional anatomical summary and it is noticed that where the copy that you have disclosed shows a total number of pages 9. The page I have access to is total number of pages 1. The content of the provisional anatomical summary is the same as page 9 of that in the post-mortem report with the exception that the page numbers are denoted to be 1 as opposed to 9 and the provisional anatomical summary is denoted from points 1-5 as opposed to points 7-11 in the final one and it is signed as well as dated. I believe that Doctor O'Donoghue would have been in possession of only this at the time that we discussed what should be placed on the death certificate. On 16th of May 2000 I wrote to Lucy's parents advising that I would be happy to meet with them. On 9th of June 2000 I had a discussion with her parents, it was stated that they had met Doctor O'Donohoe from the Erne Hospital who did not have the notes at the time. I went over the events leading to Lucy's death

with the parents and encouraged them to re-attend Doctor O'Donohoe and have him explain the events from his point of view that occurred in the Erne and I said I would see them again if required. On 14th of June 2000 I contacted Doctor O'Donohoe to make sure that he would see them again and he said he would see them again, but that he would rather wait for the post-mortem report. In summary Lucy Crawford died on 14th of April 2000 having been admitted to the Erne Hospital with gastroenteritis. She developed cerebral oedema, which is felt it had been due to hyponatraemia. I voluntarily contacted the Coroner's Office because I felt that the death in the context of a usually trivial illness was unusual. In retrospect the death may have been due to unnatural means, which I was not aware of at the time. Unnatural death would have arisen from inappropriate fluid administration causing hyponatraemia. I state that I was not in possession with the facts concerning the severity of her hyponatraemia. I believe that when she coned her sodium was considerably less than the figure of 127 that I was given. If I had been in possession of the full facts the knowledge of the profound hyponatraemia which in my view was necessary to result in cerebal oedema and death, would have led me then to suspect that her death might have been due to unnatural means. I did not consider at the time My input to the death certificate reflected the post-mortem findings. No mention was made of hyponatraemia in the summary of Doctor O'Hara's post-mortem. Although I was no way responsible I greatly regret the tragic death of Lucy Crawford. I'm particularly upset that her family may not have the same high opinion of me that they once had and they wished to be publicly expressed at the Inquest. Her family raised money for the Royal Children's Hospital and on its presentation to us I told them I would see them at anytime. I was told that an individual known, I presume was Mr Miller, was helping them and I believe that I told them I would help them in any way I could.

Very hard lessons have been learned following the deaths of Lucy and others. The hazard of hyponatraemia has become much more publicised both in Northern Ireland and in the broader medical literature. Furthermore it is proposed that a medical panel be set up to examine deaths and it is my sincere wish that a similar to death to Lucy's not occur again.

D/Sgt Cross: If I can run over just a few things that occurred to me as you read Doctor. You mentioned that the IV line went in about 2300 hours; there is a dispute there.

Dr Hanrahan: A slight dispute, yes.

D/Sgt Cross: ...You mentioned at eight o'clock the child arrived according to the notes and the Anaesthetist from the Erne rang about nine o'clock?

Dr Hanrahan: Nine o'clock yes.

D/Sgt Cross: And phoned through the figure of 127 and a 2.7 for sodium and potassium. What does that mean to you?

Dr Hanrahan: That would mean that there was certainly a drop in sodium; ...I would still consider it a mild drop in sodium, which could have been due to anything. It could have been due to basically any illness, particularly perhaps brain illnesses, can result in excessive production of a Hormone, anti-diuretic, which holds onto water and that can drop your sodium as well. So very frequently any illness you can get a mild drop in sodium, but certainly I was of the impression and still am of the opinion that it was not low enough to cause dilutional hyponatraemia. Can I further add, please, that I was quite clear about this...my first entry in the notes said that no apparent cause is evident here and nobody else criticised or disagreed...I'm afraid I just...did not attach importance to that low sodium.

D/Sgt Cross: The relationship between the cerebral oedema and the dilutional hyponatraemia - am I right in assuming that you are saying that you suspected that the cerebral oedema...had occurred?

Dr Hanrahan: Yes.

D/Sgt Cross: But there are other possible causes for that

Dr Hanrahan: Yes, yes.

D/Sgt Cross: Other than hyponatraemia?

Dr Hanrahan: I was unaware of any other possible cause, but just I wondered about a about a few. Certainly in retrospect I think dilutional hyponatraemia was responsible, but at the time I was not aware of that.

D/Sgt Cross: Yes, right and broncho-pneumonia is that a potential source of cerebral oedema.

Dr Hanrahan: Not in itself.

D/Sgt Cross: Right.

Dr Hanrahan: No, no, however broncho-pneumonia could be also a cause of low sodium around about 127 as well.

D/Sgt Cross: Right.

Dr Hanrahan: So in itself if the inappropriate ADH (anti-diuretic hormone) secretion was severe enough then presumably that could also cause dilutional hyponatraemia as well to fall, but the broncho-pneumonia was not really a major issue at this time. It was only mentioned as being mild in the provisional anatomical summary. It was not to later on that with the final anatomical summary that it was said to be more extensive. But broncho-pneumonia in children... is very common particularly those children who get acutely ill... They lose their swallow reflex so their stomach contents come up into their lungs and they develop, they are very susceptible to that... Whereas one of the tests for brain stem function was to check her gag and she didn't have any so her chest was very vulnerable.

D/Sgt Cross: And you've no recollection of informing the Coroner, but you did record that the Coroner should be informed?

Dr Hanrahan: I did, yes.

Dr Hanrahan: I thought this was unusual that a child with a trivial, basically children this part of the world don't get cerebal oedema from a trivial illness, gastroenteritis is usually trivial.

D/Sgt Cross: Yes, and again, I know I am being repetitious here, but you are involved with Lucy from 10.30 on.

Dr Hanrahan: 10.30, yeah, yes.

D/Sgt Cross: Roughly. My understanding was there's a rota of consultant paediatricians who cover intensive care.

Dr Hanrahan: Yeah.

D/Sgt Cross: Doctor McKeague was on one day.

Dr Hanrahan: Yes.

D/Sgt Cross: And then Doctor Crean followed by Doctor Chisakuta.

Dr Hanrahan: Chisakuta, I think, yeah.

D/Sgt Cross: Where do you fit into that or are you in addition to that?

Dr Hanrahan: I was really just really brought in consultation.

D/Sgt Cross: Right.

Dr Hanrahan: That's all really. There are only two Paediatric Neurologists in Northern Ireland, myself and my colleague; we do a week on and a week off. So it would have been my week on, that's why I just happened to be called in.

D/Sgt Cross: Ok.

D/Con Hall: Who is that other person?

Dr Hanrahan: [redacted]

D/Sgt Cross: Right and so at half past ten on the 13th when you're brought in there is another Consultant Paediatrician on the ward, not a specialist like yourself, but

Dr Hanrahan: There may have been Doctor Crean.

D/Sgt Cross: It might have been Doctor Crean?

Dr Hanrahan: I think Doctor Crean had probably done a round already and... he had dictated his note, then I came into the ward, I wrote my handwritten note and subsequently to that I think his typed written note had been added, so he actually saw Lucy before I did.

D/Sgt Cross: Well could I ask I mean in the event of a death there must be certain I suppose documents that must be completed, procedures followed, whose responsibility would that be, is it Doctor Crean if he's the doctor in charge or is it yourself if you're called in or do you just debate it?

Dr Hanrahan: I don't really know, I think it's just an ad hoc decision. Certainly I felt the Coroner needed to be informed about this and so I suppose because I had spontaneously written that on the notes I was the one that did it, I don't know.

D/Sgt Cross: You got Caroline Stewart to do the autopsy referral?

Dr Hanrahan: Yes.

D/Sgt Cross: That's I take it to trigger the post-mortem process?

Dr Hanrahan: Normally I think one telephones the pathologist and then a form is sent in, I don't know if it was myself or Doctor Stewart that rang the Pathologist, I can't remember. Certainly as I said in my statement I delegated, I don't have anything to do with the forms, I said Caroline you fill out the forms.

D/Sgt Cross: Right, well then you come onto something that is of interest to us, because we have been pursuing this without success. What you have said is that the sodium level of 127 - you're not convinced that that was the lowest sodium level?

Dr Hanrahan: No, no.

D/Sgt Cross: And it would appear to me and I'm not a medic that what may have happened is that... the sodium level is dropping all the time as the number 18 is put in, then at some stage the normal is put in

Dr Hanrahan: Yeah.

D/Sgt Cross: And are you suggesting then that from that point on the level begins to rise?

Dr Hanrahan: Absolutely.

D/Sgt Cross: And the one, if we'll say that's the 137 at the time the first blood is taken, the 127 level is what happened at the time the second bloods were taken?

Dr Hanrahan: Yeah. When it's on the way up.

D/Sgt Cross: When it's on the way up.

Dr Hanrahan: But that wasn't when she coned though, that wasn't when she, she coned before that.

D/Sgt Cross: Before that, yes.

Dr Hanrahan: I think so yes. Now normally and I assumed it at the time, I assumed that when normally somebody gets very sick there is a big confab of people come round and take bloods immediately. Apparently what happened is, is one of the doctors, I don't know if he is contactable at the moment changed over the drip from to, to a very fast rate of normal saline and ran that in and it was subsequent to that I believe the second sodium was taken. I was unaware of that at the time.

D/Sgt Cross: And, you said that you became aware of this as a result of a conversation?

Dr Hanrahan: Yes, there's an annual study day in the Children's Hospital, I was chatting to Doctor O'Donohoe after that. He said later on that it did occur to him that that the sequence of events...would suggest that the sodium was actually lower.

D/Sgt Cross: Lower, did Doctor Jarlath O'Donohoe eh have any opinion or was he able to tell you.

Solicitor: Well, I think we might need to be careful about conversations.

D/Sgt Cross: I appreciate that, but it's in pursuit of this because I've asked everybody this, we haven't interviewed Jarlath O'Donohoe and maybe he'll cast light on it.

Dr Hanrahan: Maybe so, yeah.

D/Sgt Cross: In forming this opinion of yours were you given any indication as to how long after the normal saline starts that the bloods were taken?

Dr Hanrahan: I would be speculating, but however the normal saline began running very fast so I think a significant amount of sodium would have run in.

Solicitor: Excuse me could I just intervene for one second, you would know that why, I think it might be appropriate for you to say that in retrospect having looked at the notes.

Dr Hanrahan: At the nursing notes yes. There is a sequence.

D/Sgt Cross: The nursing notes don't actually time when the second bloods were taken, there is a time on the first bloods.

Dr Hanrahan: No, but the sequence, the sequence in terms of the, the writing in the notes is that they changed to normal saline and then later on repeat using these orders, so that would suggest that the Us and Es were taken after that.

D/Sgt Cross: It would appear to me that the normal saline was running for half an hour at least?

Dr Hanrahan: I would say that is reasonable yes, that's speculation, but I would think if I was forced to give ...

D/Sgt Cross: Well, it's not speculation in the sense that we know, we know that the normal saline started at the time of coning, because it was Doctor Malik who directed that that was done.

Dr Hanrahan: I said that in my statement yes.

D/Sgt Cross: Yes, so he starts that at coning; now Doctor O'Donohoe was then phoned.

Dr Hanrahan: Yes and he came in.

D/Sgt Cross: He has to drive in.

Dr Hanrahan: Yeah, yes.

D/Sgt Cross: And it's after his arrival that he said take bloods, so that's all generally agreed?

Dr Hanrahan: So, you're aware of that, you've been aware already.

D/Sgt Cross: I'm aware of that.

Dr Hanrahan: Yes.

D/Sgt Cross: But it would help me, I mean, if O'Donohoe had said to you, we took the bloods at four o'clock.

Dr Hanrahan: No, no.

D/Sgt Cross: Then that would, but he didn't put a time on it.

Dr Hanrahan: No, he just said that he had taken the bloods. I mean this was four o'clock in the morning, I'm sure this is very confusing for everybody the sequence of events would easily get lost.

D/Sgt Cross: Well Doctor again would.

Dr Hanrahan: Normally, normally in normal practice once a child gets acutely very ill, which appears to have been the case here with Lucy Crawford, that the bloods are taken immediately.

D/Sgt Cross: Yes.

Dr Hanrahan: Now this was not evident to me at the time.

D/Sgt Cross: Well, could I ask for your opinion if, it appears to me that the 500 mls of normal saline was run through in one hour?

Dr Hanrahan: Well, it was run at 500 mls per hour, so if it was only for half an hour it would be going at 250 mls per hour.

D/Sgt Cross: Now, from your experience or would you have any idea what sort of an impression that would make on a sodium level, how far up would it pull it?

Dr Hanrahan: I would say it would make it down around about 116 or so.

D/Sgt Cross: 116 you think it may have been.

Dr Hanrahan: But I'm not sure.

D/Sgt Cross: No fair enough I accept that.

Dr Hanrahan: Certainly significantly lower than 127.

D/Sgt Cross: Yes and you weren't aware of that?

Dr Hanrahan: I was unaware of that.

D/Sgt Cross: Until very recently?

Dr Hanrahan: I was unaware of that until very recently until 3rd of December 04.

D/Sgt Cross: ...Right, ok. The death certificate then is written by your colleague Dara O'Donoghue

Dr Hanrahan: Yes.

D/Sgt Cross: Who would have been a junior to you?

Dr Hanrahan: He wasn't my junior I think, I believe he was the intensive care fellow.

D/Sgt Cross: Right, yeah.

Dr Hanrahan: He can probably clarify that. As I say I've no recollection of my conversation with him, I may not have even been with him, he may have telephoned me and I may have just said to him well whatever the death certificate says. He just says to me the death certificate is in front of the charts. So I may have said let the death certificate reflect what is in the charts, I don't remember. Let the death certificate reflect what's in the post-mortem summary. I beg your pardon.

D/Sgt Cross: Yes, if we just get out the post-mortem summary so that we know exactly what sections. This is difficult because there is several dates on it.

Dr Hanrahan: Yes, yes.

D/Sgt Cross: I think what happened there was a hospital post-mortem done that maybe produced some paperwork and then the coroner requested an Inquest.

Dr Hanrahan: There was more done, yeah, yes.

D/Sgt Cross: There was more done and added to it and that's part of.

Solicitor: However if I could clarify there is two post-mortem reports. I think in your statement you are referring to yet another one generated a single page. Which is encapsulated in this and which we have access to a copy of. But you didn't give it me in disclosure.

D/Sgt Cross: Did I not, if I have it.

Solicitor: I don't know if you have the particular thing we are referring to.

Dr Hanrahan: It's, it's dated the 17th of April.

Solicitor: I think it's helpful.

D/Con Hall: Is it not in the Belfast notes no?

Solicitor: It's in, yes it is but it isn't in your disclosure, but it maybe there. It may be in this further batch.

D/Sgt Cross: Right well, doctor can you flick through that. My understanding is cause we got these from the Trust; this is a full copy of your notes.

Solicitor: Well it will be there.

Dr Hanrahan: That's the final summary 13th of the 6th. It's says provisional on this side either. That's it there, yes except the summary we have is signed and dated.

Solicitor: This is really the same thing again. This is the one we are talking about because this is called provisional, this is provisional, this is a follow on from the final because it the numbers continue. This is clearly a more preliminary form because it's 1-5 and it's signed and dated 17th of April, now this one isn't actually signed there?

Dr Hanrahan: But it has been generated on the 17th of April.

Solicitor: But total number of pages 1, total number of pages 9, so this flows from the final report and you would be assuming that this is the page that would have been in front of the chart because it predates the.

Dr Hanrahan: Note by Doctor O'Donoghue in the chart.

Solicitor: And would seem to tie with.

D/Sgt Cross: So for the purpose of the tape here what we are looking here at the minute is page 27, that's my numbering of the Royal Belfast Hospital notes in relation to Lucy and Doctor what you're telling me is that it's your understanding that this is the information that was available to Doctor Dara O'Donoghue.

Dr Hanrahan: Yes.

D/Sgt Cross: At the time that the decision was made to write a death certificate.

Dr Hanrahan: In retrospect maybe we could have waited for the final death certificate but it wouldn't have made any significant difference in my part, just there was a lot of pressure from the family to get the death certificate and understandably so.

D/Sgt Cross: Do you mind just recounting again what the differences were between this and the final? I think you mentioned the pneumonia aspect.

Dr Hanrahan: Pneumonia was said to be in the final, much more severe. This is just as I have read in my statement this shows patchy pulmonary congestion and pulmonary oedema and extensive bilateral broncho-pneumonia. So I can't quite say why, I can't quite say why the difference is. I would have imagined that he, they would have seen more extensive broncho-pneumonia but that was all that was disclosed to me at the time. Certainly when Lucy Crawford was in hospital the state of her chest was not the major issue and I did not really pay much attention to it. Her little brain was the big issue for me.

D/Sgt Cross: Yes.

D/Sgt Cross: Well then, Doctor, could you explain to me...with that information in front of you, a death certificate is written with gastroenteritis, dehydration and cerebral oedema, what would have been the thinking then behind those three things in that order?

Dr Hanrahan: They are reflecting ... what's on the anatomical summary.

D/Sgt Cross: Right, and dehydration, can you explain to me how a child can be dehydrated and have cerebral oedema?

Tape Number and Tape Times:

Dr Hanrahan: Yes, it's very difficult in retrospect. I think...it would be quite unusual but it would have been my practice... just use the anatomical summary. I think in retrospect hyponatraemia was the answer, but that was not discovered by the post-mortem...So all that was put on the death certificate was what I was sure about. In retrospect perhaps the chain isn't as quite as clear-cut as might have been the case.

D/Sgt Cross: Right.

Dr Hanrahan: And if hyponatraemia had been mentioned by Doctor O'Hara...I believe it would have gone on the death certificate.

D/Sgt Cross: Right, and is it possible for a pathologist to find hyponatraemia?

Dr Hanrahan: Well, he knew it was there...there wouldn't be any particular findings on specimens but he knew it was there and he has mentioned that in his...summary, at the beginning...it's mentioned the hyponatraemia. So there is no doubt that Doctor O'Hara that the sodium had dropped from 127, 137 to 127, he was as privy to as much information as I was. I can't explain for him obviously and unfortunately he can't explain...

D/Sgt Cross: It's 1326 and we will terminate this section of the interview.