Witness Statement Ref. No. 320/1

NAME OF CHILD: RAYCHEL FERGUSON

Name: John D Orr

Title: Mr

Present position and institution:

Previous position and institution:
[As at the time of the child's death]

Membership of Advisory Panels and Committees:
[Identify by date and title all of those between January 2000 - January 2013]

Previous Statements, Depositions and Reports:
[Identify by date and title all those made in relation to the child's death]

OFFICIAL USE:
List of previous statements, depositions and reports attached:

Ref:	**Date:**	

MEDICO-LEGAL REPORT

REGARDING THE TREATMENT OF

RAYCHEL FERGUSON

DOB 04/02/1992

REPORT PREPARED ON 30 JANUARY 2013

Qualifications and Expertise – Mr John D Orr CBE FRCSEd, Paediatric Surgeon with an independent medico-legal and expert witness practice

I was a Consultant Paediatric Surgeon at the Royal Hospital for Sick Children, Edinburgh between 1984 and 2009. I graduated from the University of St Andrews with an MBChB in 1969. I became a Fellow of the Royal College of Surgeons of Edinburgh in 1975 and I have obtained Certificates of Completion of Training in both General Surgery and Paediatric Surgery. I specialised in the surgery of children and adolescents, which involved trauma, gastroenterology, neonatology, urology, thoracic surgery, and abdominal surgery. The aspects of my practice which qualifies me to comment on this case is my experience of over 30 years in the general surgery of childhood and abdominal surgery.

Statement of Instruction

I have been instructed by Wendy Beggs, Assistant Chief Legal Advisor, the Directorate of Legal Services, Health and Social Care Sector, Belfast, Northern Ireland. I have been asked as an independent Paediatric Surgeon to provide a report which addresses the surgical issues relating to the death of Raychel Ferguson. This is in relation to the "enquiry into hyponatraemia-related deaths". I have been asked to consider all the documents which are listed below and to provide a detailed and referenced report which addresses the standard of care in respect of the surgical issues. I have also been asked to address a number of specific questions and issues in the "brief for expert on general children's surgery".

Documents Consulted

1. Brief for expert on general children's surgery

2. 6 discs containing the key documentation for consideration.

   Disc 1 – Altnagelvin Area Hospital case notes – file 20
   Disc 2 – Royal Belfast Hospital for Sick Children case notes – file 63
   Disc 3 – Coroner's papers – file 12
   Disc 4 – PSNI (Police Service of Northern Ireland) witness statements – file 95
   Disc 5 – PSNI – additional papers – file 98
   Disc 6 – Witness statements – volumes 1 and 2

3.(a) An analysis of the surgical care of Raychel Ferguson at Altnagelvin Hospital from 7-10 June 2001 – Mr George Foster MD FRCS

3.(b) Supplementary Report to the above – January 2013 – Mr G Foster.

1. History

1.1 Raychel presented to the A&E Department of Altnagelvin Hospital at 2000 hours on 7.6.01. Both her temperature and blood pressure were normal and her weight was noted to be approximately 25kg. Her history was that of sudden onset of abdominal pain at 4.30 pm, increasing in severity, with nausea but no vomiting. It was also noted that she had pain on urination. On examination she was found to be tender with rebound and guarding over McBurneys point in the right iliac fossa. Bloods were taken for biochemical and haematological investigation. A urinalysis revealed 1+ of protein. The diagnosis was appendicitis? Refer to surgeons. Cyclomorphine 2mgs was prescribed intravenously – Dr B Kelly, SHO in A&E. (020-006-010)

1.2 The surgical clinical note by Dr Makar confirms Raychel's history but indicates that there were no urinary symptoms. Her abdomen was found to be tender in the RIF with guarding and mild rebound. The bowel sounds were normal. His opinion was that she had acute appendicitis/obstructed appendix and he instituted a treatment plan for fasting, IV fluids, consent for appendicectomy. The biochemical and haematological investigations were recorded in the notes at this time and were normal. (020-007-012)

1.3 **Comment**

1. It was poor practice to prescribe an opioid intravenous analgesic before the patient was reviewed by the surgical team. This has the potential effect of masking surgical signs and sedating the patient.

2. The urinalysis revealed a 1+ of protein which with the history of urinary symptoms should have prompted a request for an urgent urinalysis, i.e. microscopy and culture.

3. The time from the development of the symptoms, presentation in A&E and decision to operate appears to be short. The benefit of active observation in the paediatric age group has been recognised for many years where patients are admitted and reviewed on a regular basis until a definite diagnosis is made. (Jones 1974)

1.4 The operation note (Surgeon's report) of 7.6.01 indicates that the operation performed was an appendicectomy. The surgeon was Mr Makar and the anaesthetist, Dr Jamieson and Dr Gund. The appendix was found to be mildly congested and a faecolith identified intra luminally with clear fluid in the peritoneum. No Meckels diverticulum was identified in the last 3 feet of the small bowel. Metronidazole was prescribed – 200mg tid IV for 24 hours, followed by suppositories. (020-010-018)

1.5 The anaesthetic record contains a retrospective note dated 13.6.01 showing that the patient only received 200mls of the noted fluids when in theatre (Hartmann's solution) and that the bag was removed prior to leaving theatre. (020-009-016)

1.6 The peri-operative events sheet notes prolonged sedation due to opiods (020-009-017).

Comment - The appendicectomy operation appears to have been performed in a satisfactory manner. It is also noted that the IV infusion was to be re-commenced in the ward (020-014-022).

1.7 The pathology report shows an appendix which appeared grossly normal with a faecolith 1cm from its proximal margin. There was no mucosal or serosal inflammation. The diagnosis was that of appendix faecolith. (020-022-047)

1.8 The clinical notes of 8.6.01 show post-appendicectomy, free of pain, apyrexial, continue observations – Dr Zafar (020-007-013)

1.9 It should be noted that the next clinical note is on 9.6.01 at 0315 by Dr J Johnson, a paediatric SHO, indicating that Raychel had had a fit as a post-operative complication. ? secondary to vomiting and electrolye abnormality (020-007-013)

2. Ward Care

2.1 08.06.01 – 09.06.01 – on return to the ward Raychel was commenced on intravenous fluid therapy with solution 18, 4% dextrose with 1/5th normal saline and this was continued throughout her stay in ward 6. Mr Zafar states that in addition to the short post-operative ward round note he gave verbal advice to the nursing staff for the rate of the intravenous fluids to be reduced and that the intravenous fluids were to be stopped when Raychel was tolerating oral fluids which were to be commenced. It is unclear which regime was planned for the reduction of IV and the introduction of oral feeds (WS025-2).

2.2 The feed chart of 8.6.01 indicates that Raychel had a large vomit at 10.25 am (020-015-027).

2.3 The fluid balance chart of 8.6.01 indicated a vomit at 8.00 am, a large vomit at 10.00 am and that Raychel had passed urine, vomited ++ was noted at 1300 hours and 1500 hours and that she vomited coffee grounds++ at 2100 hours and vomited small amounts x 3 at 2200 hours. At 2300 hours a small coffee ground vomit was noted. (020-018-037)

2.4 The nursing episodic care plan (1-10) is a printed sheet of notes with specific headings which appears to be updated through the computer twice a day. It is retrospective and noted on 8.6.01 that Raychel had vomited x 3, was tolerating small amounts of water in the evening. The note for 0600 hours on 9.6.01 indicates that Raychel continued to vomit and be nauseated with coffee grounds x 3. It records treatment with IV valoid and then her fit at 3.00 am. I could find no reference to a standard nursing record for 8.6.01 in the material with which I was provided. The parental nutrition fluids prescription chart of 8.6.01 records 1,000ml solution 18, 80ml/hr via imed and 1,000ml 0.9%

NaCl at 40 ml per hour. There is no indication as to whether this was commenced nor at what time (020-019-038)

2.5 A further parental nutrition fluid prescription chart records 1 litre of 80mls per hour solution 18 ? commenced at 10.15 am ? date (020-021-040).

2.6 Mrs M Ferguson states that Raychel had a large vomit at 12 midday on 8.6.01 containing food from a meal the previous night. She was told this was normal. Later in the day she states that Raychel was listless and not her usual self and continually vomiting. She noted that Raychel was vomiting bile which later turned to blood and again was told that this was natural. At 2130 hours she noted that Raychel had vomited blood and was complaining of a really sore head. Raychel continued to throw up and then fell asleep but was very weak. (095-001-003) This is confirmed by Mr Ferguson's statement.

2.7 Mrs Ferguson's later statement confirms the above and that at 1500 hours on 8.6.01 that Raychel was going downhill with no conversation and that she had filled two kidney dishes with vomit. She continued to vomit and her mother used trays to collect the vomit and at 5.00 pm she described Raychel as being like a zombie. (WS 020-1)

2.8 Mr Ferguson again comments on the severity of the vomiting with three vomits between 11.00 am and 3.00 pm on 8.6.01 with Raychel described as 'heaving and straining' filling three kidney dishes with vomit between 1.00 pm and 3.00 pm. At 9.00 am she complained of a severe headache (wild sore) and was described as vomiting blood on two occasions onto the bed and after she was prescribed Paracetamol for the headache vomited once again. Her parents stayed until 12.40 on 9.6.01 and Raychel made no further complaints of headache during that time.

2.9 The statements from the nursing staff concerning Raychel's condition on 8.6.01 indicated that in the morning she was on good form and looked bright and alert and that when she was seen on the ward round she was happy and had taken fluids orally. In view of her continuing vomiting the nursing staff contacted the surgical team to prescribe an anti – emetic which was given at approximately 5.00 pm and following her coffee ground vomit, a further injection of Cyclizine at 2215 hours.

2.10 It would appear that the nursing staff did not consider that Raychel's vomiting was severe and was to be expected following an appendicectomy (098-017 to 098-024) (098-019 – 098-023a)

3. Review of Raychel's Fluid Balance

3.1 It would appear that Raychel was prescribed solution 18 prior to her operation. She then received 200mls of Hartmann's solution in theatre. She then, on return to ward 6, was recommenced on solution 18 (0.18 % saline with 4% dextrose). This was the IV solution used routinely on the paediatric medical unit at the time. The rate was 80ccs per hour and was prescribed by Dr Makar before Raychel went to theatre in discussion with the nursing staff.

3.2 It appears that she then continued with a prescription of solution 18 throughout 8.6.01, through to the morning of 9.6.01 when she was noted to have fitted and active management took place with changes in her fluid therapy.

3.3 Maintenance fluid requirements for children are normally calculated on the basis of the patient's weight, using one of several recognised formulae. The most widely accepted in the UK is that described by Bush in 1971 which continues to be used to the present day (Pierro A et al 2012). Raychel's weight was estimated at 25kg which would result in a maintenance fluid requirement of 1600 mls over 24 hours, (i.e. 67mls per hour). It is usual on the first post-operative day to reduce the volume of maintenance fluid because of the inappropriate secretion of anti-diuretic hormone leading to a potential increase in water retention.

3.4 Raychel vomited throughout the day. There are nine episodes of vomiting recorded on the chart and in addition the large vomit reported by Mrs Ferguson does not appear to be recorded in the chart, nor other vomits reported by other witnesses. There is only one record of Raychel having passed urine at 10.00 am on 8.6.01.

Comment

3.5 Raychel's maintenance fluids were given throughout the day with solution 18 which was the accepted, prescribed solution for post-operative patients at that time. It has now been recognised however that it is not the most appropriate solution for post-operative surgical patients.

3.6 It would appear, therefore, that the significance of Raychel's losses through vomiting was underestimated. There is no record of any replacement therapy which would normally be with normal saline, nor is there any evidence of concern regarding the lack of urine output after 10.00 am in the morning.

4. Circumstances relating to Raychel's fit, her subsequent treatment, investigation and transfer

4.1 At 0300 hours on 9.6.01, the nursing staff noted that Raychel was fitting. They alerted Dr J Johnson, the paediatric SHO, who was on the ward so that he could attend. He took urgent action, assessing Raychel's condition and treating her appropriately with Diazepam. The notes indicate that he suspected she was suffering from an electrolyte abnormality, secondary to vomiting and requested urgent investigations. (020-007-013)

4.2 He then urgently contacted the surgical PRHO, Dr M Curran, in order that Dr Curran could attend and also alert the surgical SHO and Registrar. Dr Curran attended and obtained blood sample for electrolytes, calcium, magnesium and haematology. Dr Curran contacted Dr Zafar who was in the A&E department and indicated that he was with an ill patient that he could not leave but that he would attend the ward as soon as possible. Having carried out an initial assessment and treatment, Dr Johnson then contacted his

Registrar, Dr Trainor, who then went to assess Raychel. Dr Curran, at approximately 4.00 pm had obtained the electrolyte results which showed marked abnormalities with a sodium of 119 Mmol/L and a chloride of 90, indicating severe hyponatraemia. It appears that Dr Zafar did not attend the ward until approximately 4.45 am as did Dr K Bhalla, the Surgical Registrar on call. By this time Dr McCord, Consultant Paediatrician had attended and shortly after Dr Nesbitt, Consultant Anaesthetist, also attended. There is no record in the notes that apart from Dr Curran, any member of the surgical team made a contribution to Raychel's treatment after 3.00 am, nor is there any evidence that the Consultant Surgeon on call was contacted.

4.3 By 5.00 am a CT scan had been carried out which indicated a cerebral swelling and, after consultation with the neurosurgeons in Belfast, a second CT scan was carried out with contrast enhancement. Following the scans it was decided to transfer Raychel to the Intensive Care Unit at the Royal Belfast Hospital for Sick Children.

4.4 Raychel was admitted to the Paediatric Intensive Care Unit. Her pupils were noted to remain fixed and dilated and therefore brain function tests were carried out, indicating that irreversible brain stem damage had occurred. They were then repeated and following discussion with her parents and family, ventilation was discontinued and Raychel was certified dead at 12.09 on 9.6.01.

4.5 A coroner's post mortem was carried out on 11.6.01 with the autopsy being signed on 20.11.01:

1. Infusion of low sodium fluids post operatively
2. Vomiting
3. Inappropriate secretion of anti-diuretic hormone (ADH)

4.6 In February 2003 an inquest was opened by Mr Leckey, the Coroner for Greater Belfast. His verdict on 10.2.03 was that following her appendicectomy that she had died from cerebral oedema caused by hyponatreamia. The hyponatreamic was caused by a combination of inadequate electrolyte replacement in the light of severe post-operative vomiting and water retention resulting from the inappropriate secretion of ADH (anti-diuretic hormone). (012-026)

5. Specific Questions and Issues

(a) The reasonableness of Mr Makar's decision to prescribe solution 18 following a conversation with Staff Nurse Noble, when he was told that his previous prescription of Hartmann's solution was not in keeping with ward practice.

A: I think it was reasonable for Mr Makar to prescribe solution 18 since he had been advised that this was the standard practice on the paediatric ward. It is an accepted practice in many units for the nursing and medical staff to follow the prescription of a standardised fluid regime in order to try and reduce confusion and prescribing errors.

(b) The correctness of Mr Makar's decision to permit an infusion rate of IV solution 18 at 80mls per hour. Mr Makar's original decision to prescribe fluids at 80mls per hour was made pre-operatively. He made this in relation to the prescription of Hartmann's solution which was used pre and per-operatively, Raychel receiving 200mls of Hartmann's solution in theatre and the rate of fluid delivery at 80mls per hour was continued with the solution 18 on her return to the ward. Apart from discussing the operative findings with Mr Ferguson, Mr Makar had no further involvement with Raychel.

A: I have indicated that the rate of maintenance fluids should have been 65mls per hour, however, it would be reasonable to prescribe at a rate of 80mls per hour initially when considering any potential pre-operative fluid deficit. (WS 022-1)

(c) The reasonableness of Mr Makar's decision to proceed to an appendicectomy in all of the circumstances.

A: I have already commented on this in the first part of my report. It would appear that Mr Makar focussed on the findings of tenderness and guarding with minimal rebound in the right iliac fossa making a decision to proceed to appendicectomy. At that time in the UK and Ireland it was accepted practice for children presenting with abdominal pain to admit them to the ward for a period of observation and re-assessment unless there was a concern that the patient was seriously ill, requiring urgent intervention (Youngson, 1998)

(d) The care provided to Raychel in theatre.

A: The care provided to Raychel by the surgical team in theatre was of an acceptable standard.

(e) The fact that should have been taken into account when prescribing fluids post-operatively and the extent to which Mr Makar would have contributed to the decisions about prescribing.

A: The factors which are taken into account when prescribing fluids post-operatively are as follows:

(i) The calculated daily requirements

(ii) The recognition of any potential fluid deficit pre or per operatively
(iii) Any potential third space (i.e. internal fluid losses)
(iv) The replacement of any measured losses post operatively (this latter factor could not be taken into account during the initial fluid prescribing).

The anaesthetists were responsible for the appropriate use of Hartmann's solution in the theatre, which was converted to solution 18 on Raychel's return to the ward. Mr Makar did not prescribe any fluid on the morning on 8.6.01 or at any time post operatively. He only prescribed intravenous fluids pre operatively, calculated so as to cover the third space fluid losses due to inflammation and to cover the period of fasting until the operation time. (WS – 022/1)

(f) The steps that Mr Makar should have taken to ensure that Raychel's post-operative care was appropriate.

A: Mr Makar was responsible for writing up Raychel's post-operative antibiotics (Metronidazole). Mr Makar was however not involved in Raychel's post-operative care as he went off duty on the morning of 9.6.01 (012-145)

(g) The steps that Mr Zafar ought to have taken when he saw Raychel as part of his morning ward round on 8.6.01, and whether he or anyone else ought to have re-assessed her continuing need for IV fluids.

A: On his ward round Mr Zafar saw Raychel, she was not complaining of nausea or vomiting, nor was any vomiting mentioned to him. On examination by him she appeared to be bright and alert, her temperature was normal as was her pulse rate. On examination her abdomen was found to be soft with bowel sounds. He therefore advised to start sips of fluid orally and to gradually reduce IV fluids. Mr Zafar therefore carried out an acceptable review of Raychel following her appendicectomy (WS-0245). The need to re-assess Raychel during the day would have been depedent on her condition. Mr Zafar had advised that the rate of the intravenous fluids should be reduced and that those should be stopped when Raychel tolerated oral fluids. This was verbal advice which does not appear to be recorded. It would be normal practice for the surgical team to be alerted if a patient had recurring episodes of vomiting in order that she could be assessed and any changes made to fluid therapy as required.

(h) The reasonableness of Mr Zafar's decision to permit Raychel to continue to receive IV solution 18 at an infusion rate of 80mls per hour.

A: It was reasonable at the time of the morning ward round for Mr Zafar to continue the infusion of solution 18 at 80mls per hour which was the accepted practice on ward 6. It would appear that Mr Zafar expected Raychel to make an uneventful recovery and for the rate of the intravenous fluids to be reduced as the day progressed, no doubt with the assumption that the fluids would be discontinued later in the day.

(i) Whether arrangements ought to have been made for Raychel to be seen by members of the surgical team at any point after the morning ward round on 8.6.01, to re-evaluate her fluid regime or otherwise.

A: The surgical team should have reviewed Raychel after her recorded 2+ vomits at 1300 hours. By that time she had 3 recorded vomits omitting the large vomit described by her mother (020-018-037) (095-001). I would have expected the nursing staff to contact the surgical team after a post-operative patient had vomited on 2 or 3 occasions. It would appear that the surgeons were not contacted until sometime in the afternoon. SN Rice bleeped the surgical SHO sometime in the afternoon (WS 051-1). Sister Miller, after she was alerted to Raychel's vomit at 3.00 pm, asked SN McAuley to contact the surgical JHO or SHO. This after 4.00 pm (056-1). Sister Miller then goes on to state that neither the GHO or SHO responded as they were in theatre. When Dr Devlin the paediatric SHO was on the ward he was asked to give the anti-emetic intravenously.

(j) The frequency of electrolyte results that should have been sought and in particular whether Raychel's serum electrolytes should have been checked on 8.6.01 once it became clear that she was going to require IV fluids for at least 24 hours and particularly in light of the repeated vomiting.

A: In light of Raychel's continuing vomiting, her urea and electrolyte results should have been checked during the afternoon of 8.6.01. If the surgical team had been asked to review Raychel because of her vomiting, they should have not only requested a biochemistry analysis but reviewed her IV fluids with a view to replacement of the losses.

(k) Whether the surgical team reacted appropriately to the attempts by the nursing team to contact them from, at or about 1630 hours on 8.6.01.

A: It would appear that neither Dr Devlin or Mr Zafar were aware of having been bleeped by the nursing staff (WS 027-2 and WS 025-2). If the surgical team did not respond there should have been a method of contacting them by repeat paging or other internal communication.

(l) The appropriateness (in 2001) of giving the responsibility to junior House Officers to attend with a post-surgical patient who was unwell and who was vomiting more than 12 hours after surgery.

A: It was appropriate for the JHOs to attend Raychel but JHOs from a General Surgical team would require close supervision when attending post-operative surgical patients and would require supervision and direction for emergency care.

(m) The specific steps which (i) Dr Devlin, and (ii) Dr Curran should have taken to appraise themselves of Raychel's history and condition and the source of information available to them. In particular the information they should have sought about Raychel's medical condition and her physical state before deciding to administer an anti-emetic.

A: Both of the JHOs responded to the requests of the nursing staff, i.e. Dr Devlin administered Ondansetron as prescribed and at 10.00 pm Dr Curran administered Valoid. Dr Devlin saw Raychel in the late afternoon between 5.00 pm and 6.00 pm. He spent a few minutes with her, it is usual practice when seeing a patient on the ward to look at the observation chart at the bottom of the bed. It is likely that he talked briefly to Raychel and perhaps her mother, he did not think that he had looked at Raychel's notes since the accepted practice at the time was to administer an anti-emetic if requested to do by the nurse. He understood that Raychel had one large vomit in the morning and two small vomits in the afternoon. He therefore felt the vomiting was consistent with a recent operation and anaesthetic and that the request to give an anti-emetic was reasonable. While covering a number of wards it would be reasonable for Dr Devlin to rely on the nursing staff to raise concerns regarding the amount of vomiting and Raychel's clinical condition, it is therefore not unreasonable that Dr Devlin proceeded to administer the Ondansetron. (WS-027).

Dr Curran was bleeped to attend ward 6 in order to admit an anti-emetic for Raychel, he went to the ward at 10.00 pm approximately (WS-028). At that time he appeared to be unaware that Raychel had received a previous injection of Zofran from Dr Devlin. He therefore assessed Raychel, palpated her abdomen, noted her observations and more specifically that she did not have a temperature, that her pulse and respiratory were normal and that, at that time, she was not vomiting or distressed. He then prescribed and administered Valoid 25mg IV at 2215 hours. It would appear therefore that Dr Curran was not informed that Raychel's vomit had included coffee grounds or, indeed, according to Mr Ferguson's history, blood. Given the history that he had obtained and his findings on examination, I feel it was reasonable that he proceeded to administer an anti-emetic.

(n) The adequacy and appropriateness of the care and treatment that was provided to Raychel on 8.6.01, by (i) Dr Devlin, and (ii) Dr Curran, i.e. the administration of an anti-emetic. If the care was inadequate then the reasons for the inadequacy and the respect of which it was inadequate.

A: I think that both Dr Devlin and Dr Curran acted appropriately. Both doctors were on call for a large number of wards and would be heavily reliant on information from the nursing staff regarding the condition of the patients under their care. If a critical issue such as the volume of the emesis or the issue of coffee grounds/blood in the vomit was not mentioned, then it is not unreasonable for both doctors to have prescribed accordingly.

(o) Whether (i) Dr Devlin, and (ii) Dr Curran, ought to have recognised (or considered the possibility) that Raychel was suffering from hyponatraemia. If not, whether they should at least have been more aware that Raychel had a serious medical problem requiring investigation and a review of her treatment.

A: It would be unreasonable to expect either of the PRHOs to have identified that Raychel was suffering from a serious medical problem/hyponatraemia. It

would require a doctor with some experience and knowledge of fluid balance and metabolic abnormalities to understand the potential for Raychel suffering from hyponatraemia.

(p) Whether (i) Dr Devlin, and (ii) Dr Curran should have discussed Raychel's condition with any other person or specialty after they attended to her and whether they should have sought advice.

A: It was appropriate that Dr Devlin, having attended the ward, administered the anti-emetic which had been previously prescribed. It was also appropriate that Dr Curran likewise administered an anti-emetic. He had not been alerted by the nursing staff to the coffee grounds/blood in the emesis and would therefore be unaware of the potential seriousness of Raychel's condition. At that time he was convinced that her vomiting was related to her post-operative surgical condition. While noting that she had vomited during the day, he believed that she was receiving appropriate IV fluids. This would be a reasonable assumption by a PRHO given the fluid protocol on the ward. (WS-028) It would therefore be unreasonable to expect him to seek further advice since he had not been alerted to any concerns and had assessed that at this time Raychel was stable.

(q) Whether(i) Dr Devlin, and (ii) Dr Curran should have arranged to carry out a follow up examination of Raychel after administering the anti-emetic.

A: Both doctors did not have concerns regarding Raychel's condition at the time that they saw her and administered the anti-emetic. It is therefore unreasonable to suggest that they should have arranged a follow up examination. If they had been alerted to the extent and nature of Raychel's vomiting, they then should have discussed her care with more senior colleagues.

(r) The nature of the communication that ought to have taken place between the nursing team and (i) Dr Devlin, and (ii) Dr Curran to include what either doctor might reasonably have expected to have been told by the nursing team, what they should have requested from the nursing team and whether either doctor ought to have provided any advice or directions to the nursing team with regard to Raychel's care plan.

A: I think that both Drs acted appropriately. As Junior JHOs they were reliant on the nursing staff to alert them to any concerns regarding the patient. It would therefore be unreasonable for them to be expected to provide advice and direction to the nursing team if specific issues had not been raised with them.

(s) The nature of the communications, if any, which should have taken place between the surgical team, the paediatric team and the anaesthetists, after the surgeons discovered that Raychel had suffered ongoing vomiting and before she suffered a tonic fit at or about 0300 hours on 9.6.01, and the information which should have been provided to the anaesthetic team and/or the paediatric team by the surgical team.

A: If the junior surgical HOs had been aware of the extent of Raychel's vomiting before she suffered from a tonic fit, they should have alerted the SHO/Registrar/Consultant Surgeon of their concerns. However, they were not aware of the severity of her vomiting and were therefore unable to provide that information first of all to the surgical team and thereafter to those who were involved in Raychel's immediate resuscitation.

(t) The adequacy of the steps taken by Dr Curran and other members of the surgical team after Raychel suffered a tonic fit.

A: Dr Curran acted appropriately in that he was bleeped by the paediatric SHO, Dr Johnson, at 3.19 am, who informed him that Raychel had had a seizure. He asked me to take bloods and perform an ECG and to contact the senior surgical doctor to advise him of the seizure (WS-028-2). He then contacted Dr Zafar, the surgical SHO, and advised him that Raychel had had a seizure and had been seen by the paediatric SHO and that he had taken bloods and performed an ECG. He asked him to attend the ward while he remained there. Dr Curran notes that he contacted his SHO at 3.44 am approximately. Dr Curran, therefore, acted appropriately in his response in assisting the paediatric SHO in the assessment and management of Raychel's fit.

(u) Whether electrolyte results were taken in a timely fashion after Raychel suffered her tonic fit.

A: It would appear that the results were obtained in a timely manner with blood being taken after the treatment of Raychel's seizure at approximately 0330 hours and the report being in the notes at 0430 hours (WS-029) (020-015-025).

(v) The adequacy of the note of record keeping of the following members of the surgical team: (i) Mr Makar; (ii) Mr Zafar; (iii) Dr Devlin; (iv) Dr Curran.

A: (i) Mr Makar's record keeping was adequate in that he took an admission record and also provided an operation note. (ii) Dr Zafar – there was a brief record of his morning ward round. This would be considered adequate in a patient who appeared well at that time but in retrospect would be viewed as inadequate as there were few specific details regarding his findings at the time and his instruction for post-operative care and fluid management. (iii) Dr Devlin made no entry in the clinical notes. While this is poor practice, it would appear to be consistent with the culture and practice on the ward at that time. (iv) Dr Curran made no entry in the clinical file. While this again is poor practice, it appears to reflect the standard practice on the ward at that time.

(v) The paucity of notes in relation to Raychel during 8.6.01 is a concern and reflects poor practice on behalf of the surgical team.

(w) The adequacy of the communications which took place between the surgical team and Raychel's parents.

A: It would appear that these were inadequate. A senior member of the surgical team should have attended after Raychel had suffered from her seizure and been involved, not only in her management, but in any discussions with the family.

(x) The adequacy of the system that Altnagelvin had in place for the provision of medical care for post-operative children.

A: The system in 2001 appeared loose. In particular, if PRHOs are expected to care for children they must be (i) closely supervised and have immediate access to senior advice and support, (ii) there should be an arrangement where junior surgical staff can obtain advice, support and direct intervention from the paediatric medical staff as required, (iii) the nursing staff should be aware of their responsibilities when communicating with junior doctors who are caring from children, recognising that they may need support and, on occasion, encouragement, to involve senior surgical and medical staff in the care of these patients.

PRHOs are still completing their basic medical education. PRHOs should be encouraged to seek help from a more experienced colleague and they should always be available. A more senior doctor in an appropriate specialty who can provide cover (GMC 1997).

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6. GMC The New Doctor. Recommendations on Clinical Training. GMC, London 1997

Statement of duty to the court

The content of this report is true to the best of my knowledge and belief. I am aware of my duties to the court to help within my expertise and that these duties over-ride any obligation which I have received instruction from and by whom I am paid.

I understand that my over-riding duty is to the court, both in preparing reports and in giving evidence.

I am aware of the requirements of Part 35 and practice direction 35, this protocol and the practice direction on pre-action conduct.

I have set out in my report what I understand from those instructing me to be the questions in respect of which my opinion as an expert is required.

I have done my best, in preparing this report, to be accurate and complete.

I have mentioned all matters that I regard as relevant to the opinion I have expressed. All of the matters on which I have expressed an opinion lie within my field of expertise.

I have drawn to the attention of the court all matters, of which I am aware, which might adversely affect my opinions.

Wherever I have no personal knowledge, I have indicated the source of factual information.

I have not included anything in this report which has been suggested to me by anyone, including the lawyers instructing me, without forming my own independent view of the matter. Where, in my view, there is a range of reasonable opinion, I have indicated the extent of that range in the report. At the time of signing the report, I consider it to be complete and accurate. I will notify those instructing me if, for any reason, I subsequently consider that the report requires any correction or qualification.

I understand that this report will be the evidence that I will give under oath, subject to any correction or qualification I may make before swearing to its voracity. I have attached to this report a summary of my instructions. I confirm that in so far as the facts stated in my report are within my own knowledge, I have made clear which they are, and I believe them to be true, and that opinions that I have expressed represent my true and complete professional opinion.

John D Orr FRCSEd

John D Orr CBE MBA FRCS FRCP

Contact Address:-

[redacted]

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Tel: [redacted]

Personal Notes

Born in Edinburgh. Educated at George Heriot's School and Dundee High School. Graduated in 1969 from St Andrew's University/Dundee Medical School. Postgraduate training in general and paediatric surgery – Dundee, Edinburgh, Aberdeen and London. Consultant Paediatric Surgeon, Royal Hospital for Sick Children in Edinburgh (1984 – 2009)

Organisations/Wider Responsibilities

Previously
Secretary of the Western General Hospital Medical Staff Association
Treasurer, Scottish Committee of Hospital Medical Services
Clinical Director, Surgical Services, Western General Hospital
Medical Director, Royal Hospital for Sick Children
Associate Medical Director, Lothian University Hospital Trust
Chairman, Intercollegiate Committee for Basic Surgical Training
Chairman, Specialty Advisory Committee in Paediatric Surgery
Royal College of Surgeons of Edinburgh (RCSEd) –Convener of Examinations
RCSEd - Director of Standards
RCSEd - Vice President
RCSEd – President (2006 – 2009)

Present
Retired from Clinical practice in 2009, but continue to maintain a medico-legal practice.
Experienced in medico-legal issues and Medical Negligence.
Received instructions for both Claimant and Defendant
Experience of Criminal Cases with High/Crown Court appearances.

Published Work

Surgery, Emergency Paediatric Surgery, Paediatric Urology

Essence of Practice

General Paediatric Surgery with an interest in Paediatric Urology