SUPPLEMENTARY BRIEF FOR EXPERT IN PAEDIATRIC MEDICINE
Dr Scott-Jupp
17 January 2012
RAYCHEL FERGUSON

Introduction

1.1 The Inquiry has received and considered your preliminary report dated 29 November 2011.

1.2 Having considered this report the Inquiry considers that there are a number of issues which require further consideration or clarification. Therefore, you are asked to address the questions set out below and to answer them by providing a 'compendium report'. Please fully explain your answers and in each case provide the reasons for your conclusions.

1.3 As discussed during the teleconference which took place between you and members of the Inquiry's legal team on the 13 January 2012, you have agreed that your compendium report shall also incorporate a number of additional sections.

1.4 Firstly, in order to assist with a proper understanding of the implications of the points that you make in your report and to provide a context for the conclusions which you will reach, you have agreed to include within the report, where it is germane to how Raychel was treated, an explanation of the key medical practices (eg. a ward round) and medical conditions (eg. post operative nausea and vomiting) and their significance.

1.5 Secondly, while you have received a brief from the legal team which contains its interpretation of the important developments in the care and treatment of Raychel, you have agreed that your report should describe those developments from your perspective as a Consultant Paediatrician.

1.6 Accordingly your report shall include a description of the key events in the care and treatment of Raychel in the form of a narrative which will naturally be based on your own interpretation of the material with which you have been briefed. This section shall include an analysis of the standard of care provided in Raychel's case by the clinicians who saw her having regard to the time at which they saw her in relation to other key events such as the conclusion of surgery, the commencement of intravenous fluids, and the duration of vomiting, as well as the symptoms that she was exhibiting at those particular times.

1.7 You have agreed that your analysis will endeavour to engage with any divergence of views in relation to Raychel's condition which may appear from the documentation before you, and you have indicated that it may be necessary to present a range of possible conclusions to take account of these competing accounts.

1.8 It is also important that your analysis, as well as examining the standard of care provided to Raychel, also comments upon such matters as the standard of observations/examinations that took place, record-keeping, communications and the inter-play between the nursing and medical teams, and between the various medical disciplines.

1.9 It is expected that this section of your report will highlight where, in your opinion, there is evidence of substandard practice, and you will indicate what should have occurred in order to comply with principles of good medical practice and any protocols or guidance that are the source of or reflect those principles.

1.10 Finally, we now enclose for your consideration a copy of a statement which has recently been furnished to the Inquiry by Dr. Curran (JHO, Surgery) and which wasn't available when the initial brief was sent to you.

Specific Questions Arising Out of Your Preliminary Report

Arising Out of Page 3 of Your Report

2.1 Of, "The paediatric team in most hospitals are normally only asked to become involved by the surgeons if there is a significant problem. Again the threshold for calling the paediatricians would depend very much on local policy and on the experience that the doctors involved have in dealing with children....However, just vomiting would probably not qualify in this situation. Most surgical teams should be competent to assess the situation appropriately."

It is clear that Dr. Devlin who saw Raychel on the late afternoon or early evening of the 8 June 2001, and Dr. Curran who saw her at 22.15 on that day, were relatively inexperienced members of the surgical team.

It is also clear from the medical notes and records that although Raychel's surgery ended at or about 12.45 on the 8 June 2001 (Ref: 020-014-022) she did not start vomiting until 08.00 that day (Ref: 020-

018-037) approximately 7 hours later. Also, the situation and the symptoms being experienced by Raychel had developed by 22.15 on the 8 June in that: she had already received one anti-emetic; she had continued on intravenous hypotonic fluids; she had experienced further episodes of vomiting, including 'coffee grounds'; she had developed headache.

You will note that the Coroner was told by Mr. Robert Gilliland (Consultant Surgeon) that he would have expected to have been told if a child had vomited more than twice post-operatively (Ref: 012-038-177).

(a) **If the situation did not warrant referral to a member of the paediatric team, in the absence of establishing a cause for the vomiting should Raychel's case have been referred to more senior members of the surgical team,**

  (i) **At the time Dr. Devlin saw her?**
  (ii) **At the time Dr. Curran saw her?**

(b) **In that Raychel's vomiting had continued for many hours after the conclusion of surgery, should the surgical team have liaised with a member of the anaesthetic team in order to investigate whether the use of Cyclimorph and anaesthetic agents during surgery were relevant to the cause of the vomiting?**

Arising Out of Pages 3 and 4 of Your Report

2.2 Of, "In my view, by the evening of the 8th June with persistent vomiting, and with Raychel continuing to receive nearly all intravenous fluids and very little by mouth, an assessment of her blood electrolytes status would have been appropriate. At the time she had no seizures and her conscious level was normal, so there would have been no reason to address any concerns about her brain or neurological status. Therefore, the advice would have been to clinically assess Raychel for her hydration status both in terms of clinical signs of over or under hydration, and her urine output, and her observations i.e. temperature, pulse, respirations, blood pressure. Even if this examination had not revealed any major problems, then in my view it would have been advisable to take a blood test to check her urea and electrolytes. However, it should be pointed out, as it was in several of the witness statements, that most hospitals at that time had a policy of checking blood electrolytes only when a child has been on intravenous fluids for twenty-four

hours. In the early evening the twenty-four hour deadline had not been reached. However, the continued vomiting should have prompted an assessment before that time." Emphasis added

(a) **Why did many hospitals have a policy of checking blood electrolytes when a child had been on intravenous fluids for 24 hours? In particular, state why hospitals were concerned to check blood electrolytes in these circumstances?**

(b) **In 2001 what was the understanding of the medical profession about the risks associated with the use of hypotonic fluid in post operative children in association with continuing vomiting?**

(c) **Did you use the word 'assessment' (underlined above) to indicate that there was a requirement to check blood electrolytes? If so please state, what particular factors existed in Raychel's case which might have prompted an assessment of her blood electrolytes before the expiry of 24 hours?**

(d) **When Dr. Devlin saw Raychel in the late afternoon or early evening of the 8 June 2001, did the factors exist which might have prompted him to conduct an assessment of her blood electrolytes? If so, what were those factors?**

(e) **When Dr. Curran saw Raychel at or about 22.15 on the 8 June 2001, in circumstances where there was no plan for a further medical review until the next morning, did the factors exist which might have prompted him to conduct an assessment of her blood electrolytes? If so, what were those factors?**

Arising Out of Page 5 of Your Report

2.3 Of, "I therefore do not think any criticism should be attached to Dr. Johnston for not assuming that hyponatraemia was the problem in advance of the blood result."

It is clear that shortly after he was called to Raychel's bedside Dr. Johnston considered an electrolyte abnormality: (Ref: 020-007-013). He asked for electrolytes to be checked. However, as you have noted (also at page 5) there was no alteration to the fluid management until after the second serum sodium result.

(a) **In the presence of vomiting of the nature indicated on the documents before you, and given the fact that Raychel had been managed on a hypotonic solution (for 24 hours) post**

operatively, was it more likely that low sodium rather than high sodium was the problem, whether or not Dr. Johnston could have diagnosed hyponatraemia?

(b) If so, should Dr. Johnston have taken immediate steps to lower the infusion rate and/or increase the sodium content of the intravenous fluid, rather than wait for the electrolyte results to be made available, and should he have prescribed mannitol?

Arising Out of Page 6 of Your Report

2.4 Of, "The main issue that appears to have been contentious at the internal inquiry and at the inquest, was the degree of post operative vomiting. Although with modern surgical techniques and anaesthetics, post operative vomiting is less of a problem than it used to be, it can still occur quite frequently. Some children seem to be much more susceptible to this than others and this is quite unpredictable. I therefore think it is entirely reasonable that all staff involved attributed Raychel's vomiting to normal post operative vomiting, and there would have been no reason for any of them to consider any more serious diagnosis until much later."

(a) What are the parameters of 'normal' post operative vomiting, and in particular specify

(i) when is it typical for normal post operative vomiting to commence, by reference to the time at which surgery concluded?

(ii) when vomiting might be regarded as being outside of the parameters of 'normal' post operative vomiting?

(b) Was Raychel's case properly regarded by staff as normal post operative vomiting?

(c) Regardless of any dispute about the degree of vomiting and whether or not it was reasonable to interpret it as normal post operative vomiting, basing your answer on what is recorded in the medical/nursing notes and records, should steps have been taken to check her blood electrolytes, and if so, please:

(i) Set out the factors which clinicians should have recognised as indicating a need to check her blood electrolytes.

(ii) **Specify the steps that should have been taken to investigate her blood electrolytes and why those steps should have been taken.**

(iii) **State the (approximate) time from which it should have been recognised that there was a need to check Raychel's blood electrolytes.**

(d) **Would your answer to the questions at (c) be different if based upon the accounts of vomiting, listlessness and general unresponsiveness suggested in the statements of witnesses referred to at paragraphs 42-48 of your original brief, and the account of vomiting provided by Dr. Devlin in his witness statement to the Inquiry (WS-027/1)?**

(e) **By what time should a "more serious diagnosis" (than normal post operative vomiting) have been considered?**

(f) **What factors should have prompted consideration of a "more serious diagnosis"?**

<u>Arising Out of Page 6 of Your Report</u>

2.5 Of, "Anti-emetic medications were given appropriately, and in the absence of any signs of bowel obstruction (ie. distended abdomen, absent bowel sounds, green bile or stained vomit) a naso-gastric tube would not have been obligatory."

(a) **What examinations or investigations should a doctor generally conduct before prescribing anti-emetic medication?**

(b) **In particular, is it appropriate to administer an anti-emetic in the absence of a thorough assessment of the reasons for the vomiting?**

(c) **What steps, if any, should be taken by members of nursing and medical staff if it becomes apparent that vomiting has remained troublesome even after the administration of an anti-emetic?**

(d) **In the circumstances of Raychel's case when he saw her in the late afternoon or early evening of the 8 June 2001, what examinations or investigations should Dr. Devlin have conducted before or at the time of prescribing an anti-**

emetic?

(e) **In the circumstances of Raychel's case when he saw her at 22.15 on the 8 June 2001, what examinations or investigations should Dr. Curran have conducted before or at the time of prescribing an anti-emetic?**

(f) **In particular before or at the time of prescribing an anti-emetic should (1) Dr. Devlin or (2) Dr. Curran have,**

(i) **Investigated for the causes of the vomiting;**
(ii) **Checked the blood electrolytes.**

(g) **Is there any indication in the clinical notes and associated records that you have seen that appropriate examinations or investigations were conducted by (1) Dr. Devlin or (2) Dr. Curran, before or at the time of prescribing the anti-emetic?**

(h) **What information would you have expected (1) Dr. Devlin, (2) Dr. Curran, and (3) nursing staff to have recorded in the notes in relation to the reasons for and the prescription of anti-emetic medication?**

(i) **Should (1) Dr. Devlin and (2) Dr. Curran have made arrangements for a follow-up examination after the administration of anti-emetic medication?**

<u>Arising Out of Page 6 of Your Report</u>

2.6 Of, "Very many children would have been treated exactly the same way as Raychel, and would have maintained a normal or only marginally low serum sodium level with no adverse effects."

(a) **Please clarify your position with regard to whether Raychel was provided with appropriate care and treatment, and in particular whether factors existed which ought to have prompted clinicians to check blood electrolytes.**

<u>Arising Out of Pages 6-7 of Your Report</u>

2.7 Of, "In Raychel's case, it seems that things deteriorated rapidly when she had the seizure. Although this is speculative, I would guess that the seizure itself caused a "vicious cycle" that hastened her deterioration. It is impossible to say how much vomiting that preceded the seizure was due to normal post operative vomiting

and how much was due to increasing cerebral oedema. There was no clearly diagnostic signs of raised intracranial pressure until after the seizure (ie. reduced conscious level, bradycardia and hypertension)."

(a) **Are issues relating to the impact of the seizure more properly the province of a consultant neurologist?**

(b) **Notwithstanding the absence of signs that were clearly diagnostic of raised intracranial pressure, clarify whether there were signs which ought to have prompted clinicians to check blood electrolytes, which in turn could have led to a diagnosis of hyponatraemia.**

Arising Out of Pages 7 of Your Report

2.8 Of, "In my view the other important experts to be consulted in this case are: (2) A chemical pathologist or clinical biochemist with paediatric expertise, to comment on the causative mechanisms of hyponatraemia and laboratory measurement issues [and] (4) A paediatric and/or neuropathologist, to comment on the pathogenesis and the post mortem findings."

At paragraph 96 of your initial brief you were advised that Dr. Brian Herron (Consultant Neuropathologist) obtained a report from Dr. Clodagh Loughrey (Consultant Chemical Pathologist): Ref: 014-005-014. You will note from paragraphs 96-97 of that brief that Dr. Loughrey's conclusions were incorporated within Dr. Herron's Clinical Summary where he explained that there were three factors which in combination caused the cerebral oedema which eventually led to Raychel's death: Ref: 014-005-013.

The Autopsy findings of Dr. Herron, incorporating the views of Dr. Loughrey, were not challenged at the Inquest.

You may not be aware that the Inquiry has sought expert opinion from experts in the following disciplines in addition to paediatric medicine: nursing, surgery, anaesthetics, neuroradiology and neurology.

(a) **In the circumstances please explain whether you remain of the view that the Inquiry should seek an opinion from a Chemical Pathologist or Clinical Biochemist, and if so, please explain why this is necessary.**

(b) **In the circumstances please explain whether you remain of**

the view that the Inquiry should seek an opinion from a Paediatric and/or Neuropathologist, and if so, please explain why this is necessary.

Arising Out of Pages 7-8 of Your Report

2.9 Of, "Had Raychel's electrolytes been checked in the early evening on the 8th June, it is highly likely that very low sodium would have been discovered and intervention by reducing her fluid and changing it to 0.9% Saline may well have prevented the later deterioration and her death. However, the indications for doing this were marginal and I believe in many well-run units, this would not have been done. I do not believe that the practice on the ward at the time was below the standard that one might have expected on any children's ward within the UK." Emphasis added

(a) **What time frame were you referring to when you used the phrase 'early evening' (underlined above)?**

(b) **State precisely the 'practice' which you were referring to (underlined above)?**

(c) **Clarify precisely what you meant when you said that the indications for intervention were 'marginal', taking into account the opinion expressed at pages 3-4 of your report where you stated that by the evening of the 8th June, with persistent vomiting and continuing intravenous fluids, "it would have been advisable to take a blood test to check her urea and electrolytes."**

(d) **In particular please develop and expand those clarification statements so as to clearly explain your opinion and to address what appears to be an inconsistency between your view at pages 7-8 and the view expressed at pages 3-4.**

Conclusion

3.1 It is of fundamental importance that the Inquiry receives a clear reasoned opinion on the issues you have been asked to address.

3.2 Your assistance on the Inquiry's requirements should be provided in the form of a fully referenced Report.

3.3 You are invited to contact the Inquiry's Legal Team through the Inquiry's Secretary if any further clarification is required.