HSC Business Services Organisation

Directorate of Legal Services
Practitioners in Law to the Health & Social Care Sector

2 Franklin Street, Belfast, BT2 8DQ
DX 2842 NR Belfast 3

Your Ref:	Our Ref:	Date:
BMcL-0036-12	HYPB002/01	29th January 2013

Mr Brian McLoughlin
Assistant Solicitor to the Inquiry
Inquiry into Hyponatraemia-related Deaths
Arthur House
41 Arthur Street
Belfast
BT1 4GB

Dear Sir

RE: INQUIRY INTO HYPONATRAEMIA RELATED DEATHS- RAYCHEL FERGUSON (PRELIMINARY)

I refer to the above matter and to your letter dated 11th December 2012, reference as above. My client, the Belfast Health & Social Care Trust, replies as follows:-

1. Answer to follow.
2. A redacted copy of the relevant extract from the PICU admission book relating to Lucy Crawford is attached. Only the final entry relates to Lucy Crawford- we have redacted the remainder of the document as it contains confidential information relating to other patients.
3. Dr Crean has confirmed that this is a typographical error. The Inquiry references which he intended to refer to are 006-001-295 & 296.
4. Answer to follow.
5. Please find attached a copy of the Guidelines produced by the Sick Children Liaison Group.

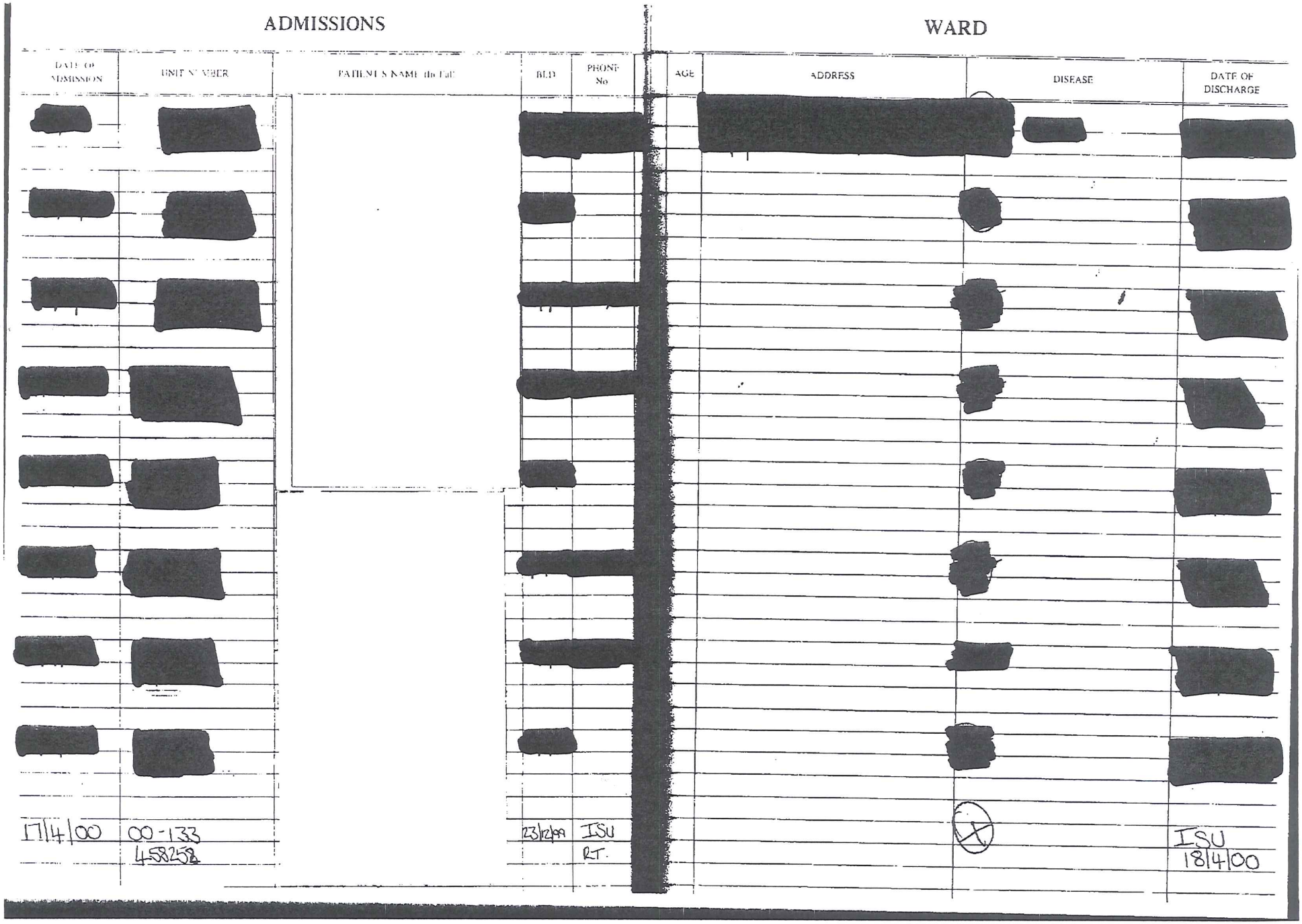
I will revert to you further once I receive further instructions from my client in relation to points 1 and 4 above.

Yours faithfully

AN Crawford

Angela Crawford
Solicitor

ADMISSIONS					WARD			
DATE OF ADMISSION	UNIT NUMBER	PATIENT'S NAME (In Full)	BED	PHONE No.	AGE	ADDRESS	DISEASE	DATE OF DISCHARGE
[redacted]	[redacted]		[redacted]				[redacted]	[redacted]
[redacted]	[redacted]		[redacted]				[redacted]	[redacted]
[redacted]	[redacted]		[redacted]				[redacted]	[redacted]
[redacted]	[redacted]		[redacted]			[redacted]	[redacted]	[redacted]
[redacted]	[redacted]		[redacted]				[redacted]	[redacted]
[redacted]	[redacted]		[redacted]				[redacted]	[redacted]
[redacted]	[redacted]		[redacted]				[redacted]	[redacted]
13/4	00-124 461358	LUCY CRAWFORD (W) [redacted]	5/11/98			Copy to GP 21/4/00.	(X)	DIED 14/4/00



GUIDELINE FOR INVESTIGATION AND TREATMENT OF MENINGOCOCCAL DISEASE IN CHILDREN

Patient Name:	.....
No. ...	.....
DOB	.....

ASK REFERRING GP TO IMMEDIATELY GIVE BENZYL PENICILLIN IV PREFERABLY/IM
(300mg < 1yr; 600mg 1-9 yrs; 1200mg ≥ 10 yrs)

AIRWAY/BREATHING Call for senior help. Paediatrician, Anaesthetist, A&E
Give high flow oxygen, ECG, SaO_2 monitor
Consider early intubation - shock/cyanosis/unconscious.

CIRCULATION Weight - ask parent. Wt (kg) = [Age (yrs) + 4] x 2 Two large bore lines (IV/IO)

* **Shock** - Assess: pulse rate and volume, capillary refill time >2s, BP, core/skin temp differential (cold peripheries), level of consciousness

FLUIDS: IF SHOCKED Give Colloid/FFP 20ml/kg stat. Repeat if necessary
NOT SHOCKED Normal Saline 2/3 maintenance, reassess later.

BLOODS (15ml approx)
BM
Coagulation
FBP
Blood cultures
PCR
Grp and hold
U&E
ABG/VBG
#1st serology virus
#1st serology men/coccus
#Mg, Ca
#LFT

STEROIDS Children >3 months old with clinical bacterial meningitis
Dexamethasone 0.15mg/kg 6 hourly for 4 days
NOT IF: Septicaemia, viral meningitis, preadmission antibiotics, symptoms > 4 days

ANTIBIOTICS Ceftriaxone 80mg/kg once daily **infused over minimum 30 mins**.
Max. 4g (x5 days)
OR Cefotaxime 50mg/kg every 6 hours (up to 12 years) **N.B. If 3 months or less: use Cefotaxime PLUS Ampicillin 50mg/kg**

ADDITIONAL TESTS

Dry throat swab - full sweep of pharyngeal wall and tonsils

Petechial rash scraping - (No skin prep; scrape lesion with needle, smear 2/3 drops directly onto slide and send in slide transport box, dry swab for culture)

Assess Glasgow Meningococcal Serverity Scale

Faecal specimen for virology

* **INTUBATION: Priority is to maintain cerebral/organ perfusion. AVOID CVS depressant agents. KETAMINE 2mg/kg, ATRACURIUM 0.5mg/kg, (ATROPINE - dependent on heart rate)**

INOTROPES: - Failure to respond to fluid Bolus x 2
ADRENALINE infusion: body Wt (kgs) x 0.3 = ...mgs in 50mls Saline. Run @ 1-5ml/hr
DOPAMINE infusion: body Wt (kgs) x 15 = ...mgs in 50mls Saline. Run @ 1-4ml/hr

Lumbar puncture - senior decision: Contraindications: possible raised ICP, shock, sepsis at site, DIC

Arrange Transfer to ward or PICU: see algorithm [PICU phone no. 028 9026 3056]

Notify Public Health Medicine

CONVALESCENT SPECIMENS 2nd serology at 10 - 28 days

Request Audiology

July 2000

DETERMINE THE DOMINANT MANIFESTATION

GLASGOW MENINGOCOCCAL SEVERITY SCORE

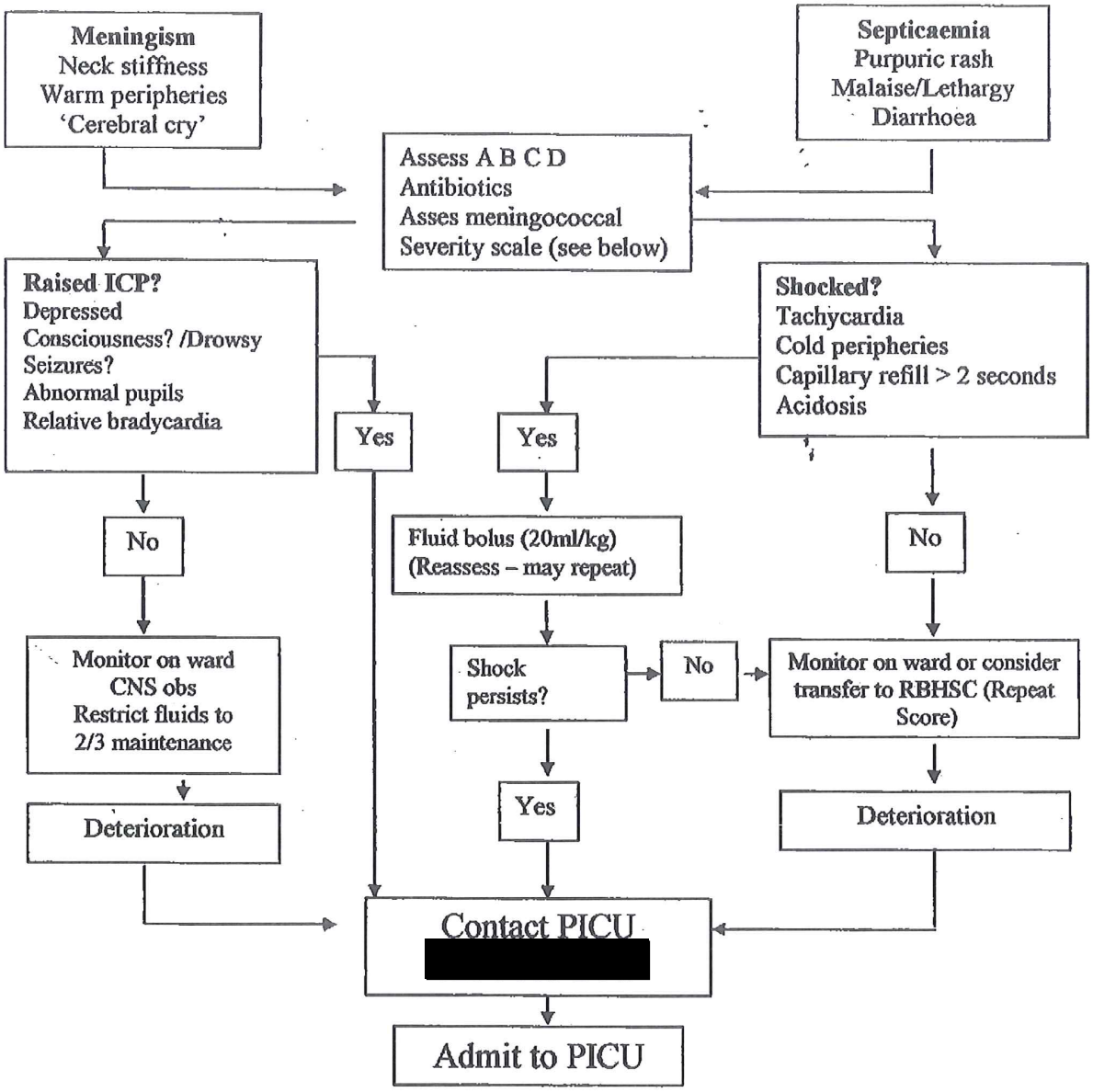
(A) A total score >8

(B) Deterioration > 3 in one hour

Criteria	Score	Admission	1 hour	2 hours
Hypotension*	3			
Cap. Refill > 3 secs	3			
Coma Scale <8 (or decrease by 3 in an hour	3			
Lack of meningisim	2			
Deterioration in condition in past hour	2			
Widespread eccymoses or extending lesions	1			
Base deficit (> 8mmol/l)	1			
TOTAL	15			

**Systolic BP <75mmHg if <4 years old, <85 if > 4 years old*

Determine the dominant manifestation



Glasgow Meningococcal Severity Score

Admit to PICU if: - (A) Total score > 8 (B) Deterioration > 3 in one hour

Score each poor prognostic criterion if present:-

Criteria	Score	Admission	30 mins	2 hours
Hypotension	3			
Capillary refill > 3 seconds	3			
Coma scale < 8 (or decrease by 3 in an hour)	3			
Lack of meningism	2			
Deterioration in condition in past hour	2			
Widespread Ecchymosis or extending lesions	1			
Base deficit (>8mmol/l)	1			
Total	15			

*** Systolic BP < 75 mmHg if < 4 years old < 85 mmHg if > 4 years old**

Northern Ireland Sick Child Liaison Group

GUIDELINE FOR THE MANAGEMENT OF SEVERE BRONCHIOLITIS

This is a guide to help in the management of the infant who has developed severe disease requiring intensive care. You may find this guideline useful as you prepare to stabilise, transfer or continue to treat such children.
Please do not hesitate to seek advice from Paediatric ICU in RBHSC on Tel: 028 9026 3056 at any time

DEFINITION OF SEVERE DISEASE
Child with <90% saturations in 60% oxygen
Or
Worsening Respiratory Acidosis
Or
Decreasing level of consciousness
Or
Repeated apnoea

INITIAL ACTION
Full monitoring should be commenced including Temp, Heart rate, respirations and O2 saturation
A trial of nebulised adrenaline should be undertaken: 1ml of 1:1000 Adrenaline diluted in 1ml normal saline
Discuss with senior and plan transfer area suitable for stabilisation

TO INTUBATE OR NOT TO INTUBATE?
Intubation may be avoided by the use of nasal prong CPAP
A trial of NP CPAP should be commenced as soon as possible and a further blood gas analyzed to assess for improvement
Intubation and IPPV is indicated if pH is < 7.0 and/or pCO2 >11

INTUBATION: Ketamine 2mg/kg, Atracurium 0.5mg/kg, Atropine 20micrograms/kg should be used if heart rate ,170/min
As big a tube as possible should be used to minimise leak

VENTILATION
The type of ventilation depends on the ChestXray appearance. This will usually show atelectasis and infiltration or hyperinflation.

CXR shows ATELECTASIS AND INFILTRATIONS – ventilate using the Open Lung Concept
Pressure Control – IPPV settings:
Use high PEEP settings with pressures around 25/7-10
Inspiratory time: 0.7sec
Rate: 30-40/min

Volume Control – settings:
Tidal Volume 10mg/kg
Inspiratory time: 0.7-0.8sec
Rate: 30-40/min

Aim to keep pH around 7.2kPa with pCO2 < 9kPa. HYPERCAPNOEA IS PERMITTED, a pCO2 of 5.0 is *too low*
Aim to keep pO2 between 8-10kPa

CXR shows HYPERINFLATION – ventilate using long expiratory time
Pressure Control – IPPV settings:
Pressures 25/5
Inspiratory time: 0.7sec
Rate: 20/min

Aim to keep pH around 7.1 with pCO2 < 10kPa. HYPERCAPNOEA IS PERMITTED. pO2 should be kept between 8-10kPa

INVESTIGATIONS
Tracheal secretions should be sent for: O&S, RSV, Adenovirus
Chest X Ray should be repeated to reassess degree of inflation and check ETtube position
Blood Cultures, U&E, FBP, CRP

ANTIBIOTICS – should be considered if there is deterioration and chest X ray signs of focal collapse
Cefotaxime 50mg/kg qid
Flucloxacillin 25mg/kg qid

FLUID BALANCE
0.18% NaCl in 4% dextrose should run at 70% of usual maintenance rate. There is a risk of hyponatraemia and Inappropriate ADH secretion therefore electrolytes should be checked twice daily

NG TUBE AND URINARY CATHETER should be placed

MAINTENANCE SEDATION
Morphine initial dose – 0.1mg/kg bolus followed by:
Morphine infusion – 0.5mg/kg in 50mls 5% dextrose should run at 1-5ml/hr – **avoid if baby has been apnoeic**