



## Course: Key Competences

### Background:

In 2007, the Royal College of Paediatrics and Child Health (RCPCH) published a new curriculum for postgraduate medical education, which has been approved by the Postgraduate Medical Education and Training Board <sup>1</sup>. In addition, the RCPCH has devised an assessment strategy that uses multisource feedback tools to map specifically to assessment standards.

By the completion of Level One training, all trainees are expected to be able to initiate therapy in a child presenting with Prolonged Seizure. This scenario/workshop has been designed to assess competence in management of this key condition of childhood.

### Curriculum Elements Addressed:

The management of Status Epilepticus can be separated into five distinct phases:

- **Assessment**
- **Recognition of the condition**
- **Formulation of differential diagnoses**
- **Investigation**
- **Definitive therapy**

#### Assessment (Expected)

Brief history should be obtained (key features – poor feeding, difficult to settle). Baby should be examined thoroughly.

Key features of examination:

- Very quiet, raised fontanel; hypotonic
- HR 130bpm, CRT 3-4 sec, NIBP 68/34
- During examination child starts seizing.

#### Recognition of condition (Expected)

Lethargic, hypotonic child who develops Status Epilepticus.

#### Formulation of differential diagnosis (Expected)

Diagnostic possibilities include Hypoglycaemia, Sepsis, Non-Accidental Injury and Metabolic Disorder.

#### Investigations (Expected)

Cardiovascular monitoring

Pulse oximetry

Septic screen (partial) [LP should not be performed in this under-resuscitated child]

<sup>1</sup> A Framework of Competences for Level 1 Training in Paediatrics.  
<http://www.rcpch.ac.uk/Training/Competency-Frameworks>





**Bloods:**

- BM stix
- Blood gas
- U&Es, FBC, Coagulation screen, Amino Acids, Ammonia, Blood cultures

**Urine**

- Cultures
- Amino and Organic Acids

**Radiology:**

- Ultrasound Head
- CT Head
- Chest X-ray
- Skeletal Survey

**Definitive Therapy (Expected)**

Rectal Diazepam 2.5mg if no IV Access

Gain intravenous / intraosseous access

Give intravenous Lorazepam 100micrograms/kg can repeat every 10 min

Give intravenous Phenytoin 12mg/kg

Call for senior/Anaesthetic help

Consider Rapid Sequence Induction using Thiopentone 5mg/kg and Suxamethonium 2mg/kg and Intubation.

**Assessment Domains:**

RCPCH Standards	Level of Achievement		
	Good	Adequate	Poor
Effective skills in paediatric assessment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Knowledge of common and serious paediatric conditions and their management	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Effective initial management of ill-health and clinical conditions in paediatrics, seeking additional advice and opinion as appropriate	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Safe practical skills in paediatrics	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Advanced Neonatal and Paediatric Life Support Skills	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Effective communication and interpersonal skills with colleagues	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>





## Scenario: Prolonged Seizure

**Learning Objectives:** At the end of the session candidates should be able to:

1. Able to initiate and continue anticonvulsant treatment for acute status epilepticus
2. Understand principles of anticonvulsant treatment
3. Knowledge of common causes of seizures in babies and children
4. Form differential diagnosis for status epilepticus
5. Refer to intensive care team whilst maintaining patient safety until they take over.
6. Multidisciplinary team management

### Faculty Script:

A two-month-old infant is referred to the Paediatric Assessment Unit by her GP. She has a one day history of poor feeding and is noted to be pale and irritable. There is no fever, but the GP wishes to rule out an intercurrent infection.

Blood results reveal raised inflammatory markers and baby starts seizing due to hypoglycaemia. If not identified and corrected develops Status Epilepticus.

### Patient Demographics:

**Name:** Daisy Mallone

**Gender:** F      **Age:** 2 months      **Weight:** 5 kg

### Candidate Brief:

#### Presenting History (Candidate Storyboard):

A two-month-old infant is referred to the Paediatric Assessment Unit by her GP. She has a one day history of poor feeding and is noted to be pale and irritable. There is no fever, but the GP wishes to rule out an intercurrent infection.

#### Previous Medical History:

Nil of note. Full term. No antenatal complications.

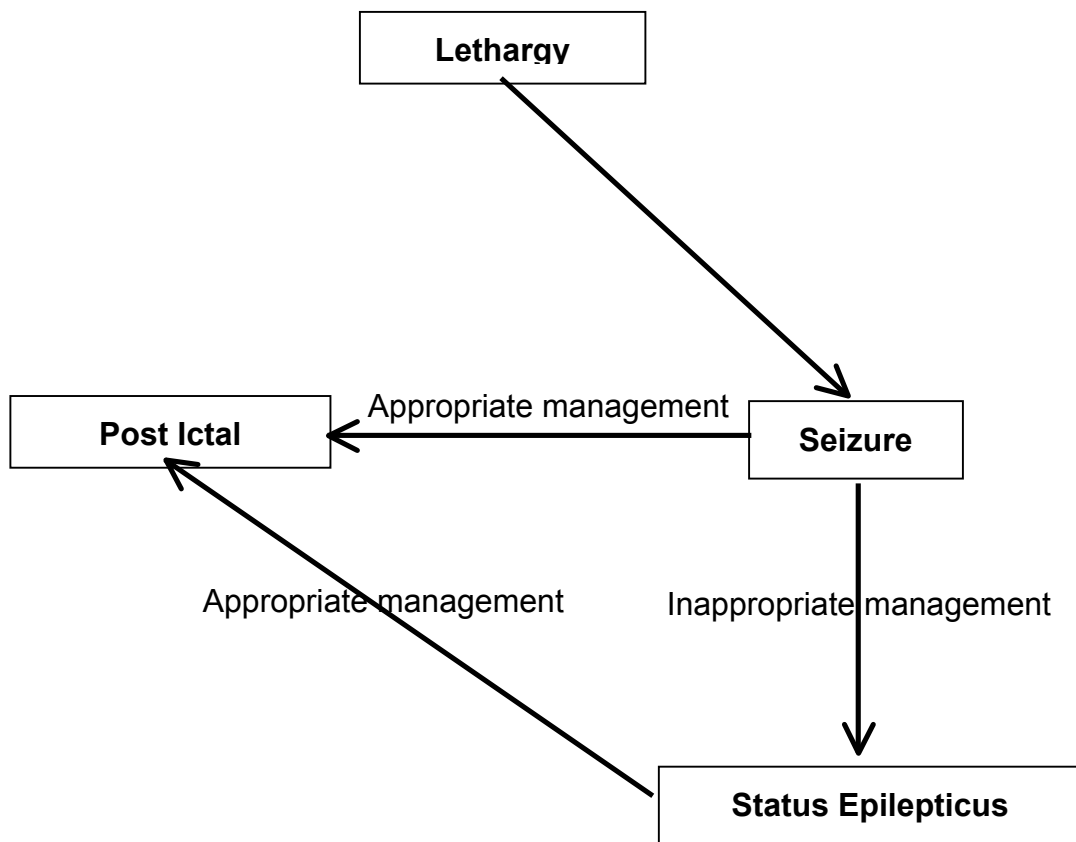
#### Family Medical History:

Nil of note





### Flowchart of Scenario Progression:



### Scenario setup and preparation:

**Faculty Recommended:** Director  **Control**

Actor/Confederate(s)

**Roles:** Parent

Nursing Staff

If you have a multiprofessional group of candidate then you should have a multiprofessional faculty.

### Participants:

**Medical Roles**

**Nursing Roles**

**AHP Roles**

Paediatric SHO

**Location:** Children's Assessment Unit

**Simulator:** Sim Baby or Newborn Hal

**Monitor Setup:** 3 wave format

### Monitor Parameters Required:

ECG <input checked="" type="checkbox"/>	S <sub>a</sub> O <sub>2</sub> <input checked="" type="checkbox"/>	RR <input checked="" type="checkbox"/>	EtCO <sub>2</sub> <input type="checkbox"/>	NIBP <input checked="" type="checkbox"/>	ABP <input type="checkbox"/>
CVP <input type="checkbox"/>	PAP <input type="checkbox"/>	ICP <input type="checkbox"/>	CPP <input type="checkbox"/>	Temp (P) <input checked="" type="checkbox"/>	Temp (C) <input type="checkbox"/>
Other:					



## Equipment Checklist:

### Respiratory:

Nasal Cannula	<input type="checkbox"/>	O <sub>2</sub> Facemask	<input checked="" type="checkbox"/>	O <sub>2</sub> Reservoir Facemask	<input type="checkbox"/>
Headbox	<input type="checkbox"/>	Wafting O <sub>2</sub>	<input type="checkbox"/>	Nebuliser	<input type="checkbox"/>
Suction	<input type="checkbox"/>	Yankuer	<input type="checkbox"/>	Suction Catheter	<input type="checkbox"/> size FG
Self inflating Bag	<input type="checkbox"/>	Ayers T piece	<input type="checkbox"/>	Nasopharyngeal airway	<input type="checkbox"/>
Oropharyngeal Airway	<input type="checkbox"/>	LMA	<input type="checkbox"/>		
Intubated?	<input type="checkbox"/>	ETT position		length	0.00cm at
Respiratory Support		Non Invasive			
				➔ Settings:	
				Flow	l/min
				Insp O <sub>2</sub>	%
				PIP	
				PEEP	
		Invasive			
				➔ Settings:	
				iTime	sec
				Insp O <sub>2</sub>	%
				Rate	bpm
				PIP	
				PEEP	

### Vascular Access:

Line Type	Site
Peripheral (1)	R hand if placed
Peripheral (2)	
Central Venous	
Arterial	
Intraosseous	R Tibia if placed

### Other Medical Equipment:

Drug Chart	<input checked="" type="checkbox"/>	Emergency Drug Sheet	<input checked="" type="checkbox"/>	Blood gas	Venous
Blood Results Sheet	<input checked="" type="checkbox"/>	X Rays	CXR	Imaging	CT Head
Other Props:					
Us Head Report					
BM Machine					





**IV Fluids:**

Setup	Fluid Type
Fluids Running	
Fluids Available (1)	0.45% Saline + 5% Dextrose
Fluids Available (2)	0.45% Saline + 10% Dextrose
Fluids Available (3)	10% Dextrose
Other Fluids	

**Medications:** (route, dose/rate)

Infusions (Running)	Dose	Running Rate (ml/hr)
Nil		

Infusions (Available)	Dose	Running Rate (ml/hr)

Bolus Drugs (Available)	Dose
Diazepam	2.5mg PR
Lorazepam	0.5mg IV
Phenytoin	75mg IV over 30 min
Phenobarbitone	100mgIV over 1 hour
Thiopentone	25mg IV
Suxamethonium	10mg IV
Atropine	120mcg IV

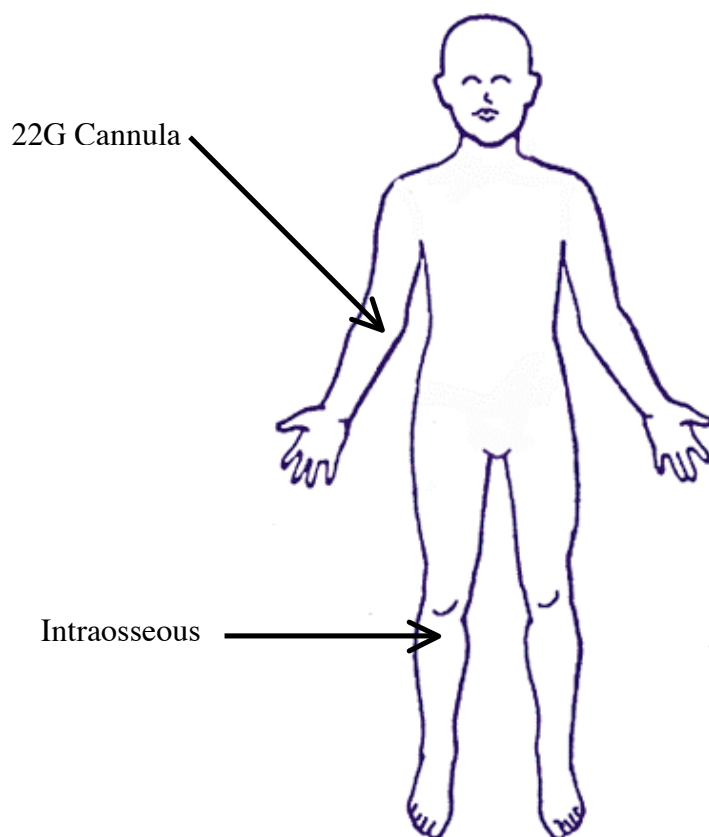




## Moulage:

<b>Effect needed</b>
System to administer Iv Fluid and drugs
Intraosseous delivery system

Draw relevant equipment needed on diagram e.g. cannula, wounds etc.





## Scenario States:

<b>Name of State</b>		<b>Lethargy</b>				<b>Duration</b>		5 min	
<b>Vital Signs</b>									
<b>Rhythm</b>	SR	<b>HR</b>	130	<b>SBP</b>	68	<b>DBP</b>	34	<b>CVP</b>	
<b>Resp Rate</b>	30	<b>SaO<sub>2</sub></b>	95	<b>ETCO<sub>2</sub></b>		<b>Temp</b>	35.7	<b>Other</b>	
<b>AVPU</b>	V	<b>GCS</b>		<b>Pupils</b>	3 ERL	<b>ICP</b>		<b>NIRS</b>	
<b>Assessment</b>									
<b>Periph Pulses</b>	good		<b>Cap refill</b>	2 sec		<b>Skin</b>			
<b>ECG/Heart</b>	normal heart sounds								
<b>Airway</b>	unobstructed			<b>Breathing</b>	Normal				
<b>Air entry</b>	Normal			<b>Breath sounds</b>	Normal				
<b>WOB</b>	none			<b>Recession</b>	none				
<b>Neuro</b>	Bulging fontanel			<b>Renal</b>			<b>Hepatic</b>		
<b>Other</b>	Baby very quiet, hypotonic								
<b>Results</b>									
<b>Hb</b>	12.8	<b>WCC</b>	20.7	<b>PLT</b>	60	<b>HCT</b>	0.34	<b>CRP</b>	115
<b>PH/ H+</b>		<b>PaCO<sub>2</sub></b>		<b>PaO<sub>2</sub></b>		<b>HCO<sub>3</sub></b>		<b>BE</b>	<b>Lactate</b>
<b>Na<sup>2+</sup></b>		<b>K<sup>+</sup></b>		<b>Cl<sup>-</sup></b>		<b>Ur</b>		<b>Cr</b>	<b>Glucose</b>
<b>Ca<sup>2+</sup></b>		<b>Mg<sup>2+</sup></b>		<b>PO<sub>4</sub><sup>-</sup></b>					
<b>Expected Outcomes:</b>									
<b>Participants should:</b>	<p>Brief history should be obtained (key features – poor feeding, difficult to settle). Baby should be examined thoroughly.</p> <p>Key features of examination:</p> <ul style="list-style-type: none"> <li>• Very quiet, raised fontanel; hypotonic</li> <li>• HR 130bpm, CRT 3-4 sec, NIBP 68/34</li> <li>• During examination child starts seizing.</li> </ul>								
<b>Facilitators should:</b>	<p>After 5min:</p> <ol style="list-style-type: none"> <li>1. Activate measures put in place to simulate seizures. <ul style="list-style-type: none"> <li>• SimBaby – alternate bladders on back</li> <li>• Newborn Hal - seizures</li> </ul> </li> <li>2. Move to <b>Seizure State</b></li> </ol>								





<b>Name of State</b>		Seizure				<b>Duration</b>					
<b>Vital Signs</b>											
<b>Rhythm</b>	SR	<b>HR</b>	170	<b>SBP</b>		<b>DBP</b>		<b>CVP</b>			
<b>Resp Rate</b>	30	<b>SaO<sub>2</sub></b>	poor signal	<b>ETCO<sub>2</sub></b>		<b>Temp</b>	35.7	<b>Other</b>			
<b>AVPU</b>	U	<b>GCS</b>		<b>Pupils</b>	4 ERL	<b>ICP</b>		<b>NIRS</b>			
<b>Assessment</b>											
<b>Periph Pulses</b>	Good		<b>Cap refill</b>	2 - 3		<b>Skin</b>	warm well perfused				
<b>ECG/Heart</b>	Normal heart sounds										
<b>Airway</b>	clear			<b>Breathing</b>	irratric pattern						
<b>Air entry</b>	poor			<b>Breath sounds</b>	reduced						
<b>WOB</b>	normal			<b>Recession</b>	none						
<b>Neuro</b>	Unresponsive			<b>Renal</b>			<b>Hepatic</b>				
<b>Other</b>	BP difficult to read whist seizing; Fontanel bulging										
<b>Results</b>											
<b>Hb</b>	12.8	<b>WCC</b>	20.7	<b>PLT</b>	60	<b>HCT</b>	0.37	<b>CRP</b>	115		
<b>PH/ H+</b>	7.19	<b>PaCO<sub>2</sub></b>	61 / 8.1	<b>PaO<sub>2</sub></b>	43 / 6	<b>HCO<sub>3</sub></b>	21.6	<b>BE</b>	- 5.9	<b>Lactate</b>	6.7
<b>Na<sup>2+</sup></b>	134	<b>K<sup>+</sup></b>	5	<b>Cl<sup>-</sup></b>	94	<b>Ur</b>	2.7	<b>Cr</b>	37	<b>Glucose</b>	1.6
<b>Ca<sup>2+</sup></b>	2.8	<b>Mg<sup>2+</sup></b>	0.83	<b>PO<sub>4</sub><sup>-</sup></b>	2.0						
<b>Expected Outcomes:</b>											
<b>Participants should:</b>	<ul style="list-style-type: none"> <li>• Rectal Diazepam 2.5mg if no IV Access</li> <li>• Gain intravenous / intraosseous access</li> <li>• Give intravenous Lorazepam 100micrograms/kg can repeat every 10 min</li> <li>• Give intravenous Phenytoin 12mg/kg</li> <li>• Call for senior/Anaesthetic help</li> <li>• Consider Rapid Sequence Induction using Thiopentone 5mg/kg and Suxamethonium 2mg/kg and Intubation.</li> </ul>										
<b>Facilitators should:</b>	<p>If management not followed or hypoglycaemia not addressed continue seizing – Status Epilepticus</p> <p>If No progression after 10min – Pause and Perfert</p>										





<b>Name of State</b>		<b>Post Ictal</b>				<b>Duration</b>					
<b>Vital Signs</b>											
<b>Rhythm</b>	SR	<b>HR</b>	130	<b>SBP</b>	74	<b>DBP</b>	38	<b>CVP</b>			
<b>Resp Rate</b>	30	<b>SaO<sub>2</sub></b>	95	<b>ETCO<sub>2</sub></b>		<b>Temp</b>	36	<b>Other</b>			
<b>AVPU</b>	P	<b>GCS</b>		<b>Pupils</b>	3 ERL	<b>ICP</b>		<b>NIRS</b>			
<b>Assessment</b>											
<b>Periph Pulses</b>	palpable		<b>Cap refill</b>	2 – 3 sec		<b>Skin</b>					
<b>ECG/Heart</b>	normal heart sounds										
<b>Airway</b>	clear			<b>Breathing</b>	slow						
<b>Air entry</b>	good			<b>Breath sounds</b>	normal						
<b>WOB</b>	normal			<b>Recession</b>	nil						
<b>Neuro</b>	Pain responsive			<b>Renal</b>			<b>Hepatic</b>				
<b>Other</b>	Bulging fontanel										
<b>Results</b>											
<b>Hb</b>		<b>WCC</b>		<b>PLT</b>		<b>HCT</b>		<b>CRP</b>			
<b>PH/ H+</b>	7.29	<b>PaCO<sub>2</sub></b>	40/5.3	<b>PaO<sub>2</sub></b>	44/5.8	<b>HCO<sub>3</sub></b>	21.6	<b>BE</b>	-5.9	<b>Lactate</b>	6.7
<b>Na<sup>2+</sup></b>	137	<b>K<sup>+</sup></b>	4.4	<b>Cl<sup>-</sup></b>	97	<b>Ur</b>		<b>Cr</b>		<b>Glucose</b>	6.6
<b>Ca<sup>2+</sup></b>		<b>Mg<sup>2+</sup></b>		<b>PO<sub>4</sub><sup>-</sup></b>							
<b>Expected Outcomes:</b>											
<b>Participants should:</b>	<p>Investigations:</p> <ol style="list-style-type: none"> <li>Septic screen (partial) [LP should <u>not</u> be performed in this under-resuscitated child]</li> <li>Bloods: <ul style="list-style-type: none"> <li>BM stix</li> <li>Blood gas</li> <li>U&amp;Es, FBC, Coagulation screen, Amino Acids, Ammonia, Blood cultures</li> </ul> </li> <li>Urin <ul style="list-style-type: none"> <li>Cultures</li> <li>Amino and Organic Acids</li> </ul> </li> <li>Radiology: <ul style="list-style-type: none"> <li>Ultrasound Head</li> <li>CT Head</li> <li>Chest X-ray</li> <li>Skeletal Survey</li> </ul> </li> <li>Arrange transfer to ward</li> </ol>										
<b>Facilitators should:</b>											





## Educational Material:





**ICS-2290810 Mallone, Mollie**  
**Request: 09-1109808**

Serum/plasma

Magnesium	0.83	mmol/L	(0.70-1.00)
Calcium	2.51	mmol/L	(2.25-2.80)
Calcium (corrected)	2.80	mmol/L	(2.25-2.80)
Phosphate	2.00	mmol/L	(1.30-2.00)
Bilirubin	14	umol/L	(< 17)
Alkaline phosphatase	179	IU/L	(70-250)
Alanine aminotransferase	18	IU/L	(5-40)
Total protein	<b>47</b>	g/L	(62-80)
Albumin	<b>27</b>	g/L	(29-55)
Globulin	<b>20</b>	g/L	(22-36)

Serum/plasma

Creatinine	37	umol/L	(28-60)
Urea	2.7	mmol/L	(1.4-5.4)
Sodium	134	mmol/L	(133-143)
Potassium	5.0	mmol/L	(3.7-5.2)
Chloride	<b>94</b>	mmol/L	(95-105)
Bicarbonate	<b>15</b>	mmol/L	(21-34)
Anion gap	<b>25</b>	mmol/L	(6-14)
C-reactive protein	<b>115</b>	mg/L	(< 10)

COAGULATION SCREEN

Prothrombin time	10.5	s	(9.5-12.0)
INR	1.0		
Aptt time	31.9	s	(20.0-45.0)
Aptt ratio	1.0		

Hb:	12.8 g/dL	Plt:	<b>60</b> 10 <sup>9</sup> /L	Wbc:	20.07 10 <sup>9</sup> /L
	(11.5-16.5)		(150-400)		(5.00-19.00)

Rbc	10 <sup>12</sup> /L :	3.11	(3.00-5.40)	Neut	10 <sup>9</sup> /L :	<b>13.88</b>	(3.00-9.00)
Hct	l/l :	0.34	(0.33-0.53)	Lymp	10 <sup>9</sup> /L :	3.25	(3.00-16.00)
MCV	fL :	<b>89.3</b>	(92.0-116.0)	Mono	10 <sup>9</sup> /L :	1.00	(0.30-1.00)
MCH	pg :	31.6	(30.0-36.0)	Eosi	10 <sup>9</sup> /L :	0.51	(0.20-1.00)
MCHC	g/dL :	35.4	(29.0-37.0)	Baso	10 <sup>9</sup> /L :	0.03	(< 0.11)
Hypo	% :	3.7					

# Rapidsystems™

## VENOUS SAMPLE

System Name Emergency Dept  
System ID 2376-25327  
Patient ID 1483564N  
Lst Name Mallone  
Operator JONESR

ACID/BASE 37.0 °C  
pH 7.19  
 $p\text{CO}_2$  61.3 mmHg  
 $p\text{O}_2$  43.7 mmHg  
 $\text{HCO}_3^-$  - act 22.7 mmol / L  
 $\text{HCO}_3^-$  - std 21.6 mmol / L  
BE (B) -5.9 mmol / L  
BE (ecf) -6.2 mmol / L

## CO-OXIMETRY

Hct 38.3 %  
tHb 12.4 g / dL  
 $\text{sO}_2$  60.7 %  
 $\text{FO}_2\text{Hb}$  80.3 %  
 $\text{FCOHb}$  17.7 %  
 $\text{FMetHb}$  1.2 %  
 $\text{FHHb}$  %

OXYGEN STATUS 37.0 °C  
ctO2(a) mL/dL

## ELECTROLYTES

$\text{Na}^+$  137.0 mmol / L  
 $\text{K}^+$  4.4 mmol / L  
 $\text{Ca}^{++}$  1.1 mmol / L  
 $\text{Cl}^-$  97.0 mmol / L

## METABOLITES

Glu 1.6 mmol / L  
Lac 6.7 mmol / L

$p\text{Atm}$  754 mmHg

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System ID 2376-25327  
Patient ID 1483564N  
Lst Name Mallone  
Operator JONESR

ACID/BASE 37.0 °C  
pH 7.19  
 $p\text{CO}_2$  8.1 kPa  
 $p\text{O}_2$  5.8 kPa  
 $\text{HCO}_3^-$  - act 22.7 mmol / L  
 $\text{HCO}_3^-$  - std 21.6 mmol / L  
BE (B) -5.9 mmol / L  
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## CO-OXIMETRY

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 $\text{FHb}$  %

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## CO-OXIMETRY

Hct 38.3 %  
tHb 12.4 g / dL  
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 $\text{FCOHb}$  17.7 %  
 $\text{FMetHb}$  1.2 %  
 $\text{FHhb}$  %

OXYGEN STATUS 37.0 °C  
ctO2(a) mL/dL

## ELECTROLYTES

$\text{Na}^+$  137.0 mmol / L  
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 $\text{Ca}^{++}$  1.1 mmol / L  
 $\text{Cl}^-$  97.0 mmol / L

## METABOLITES

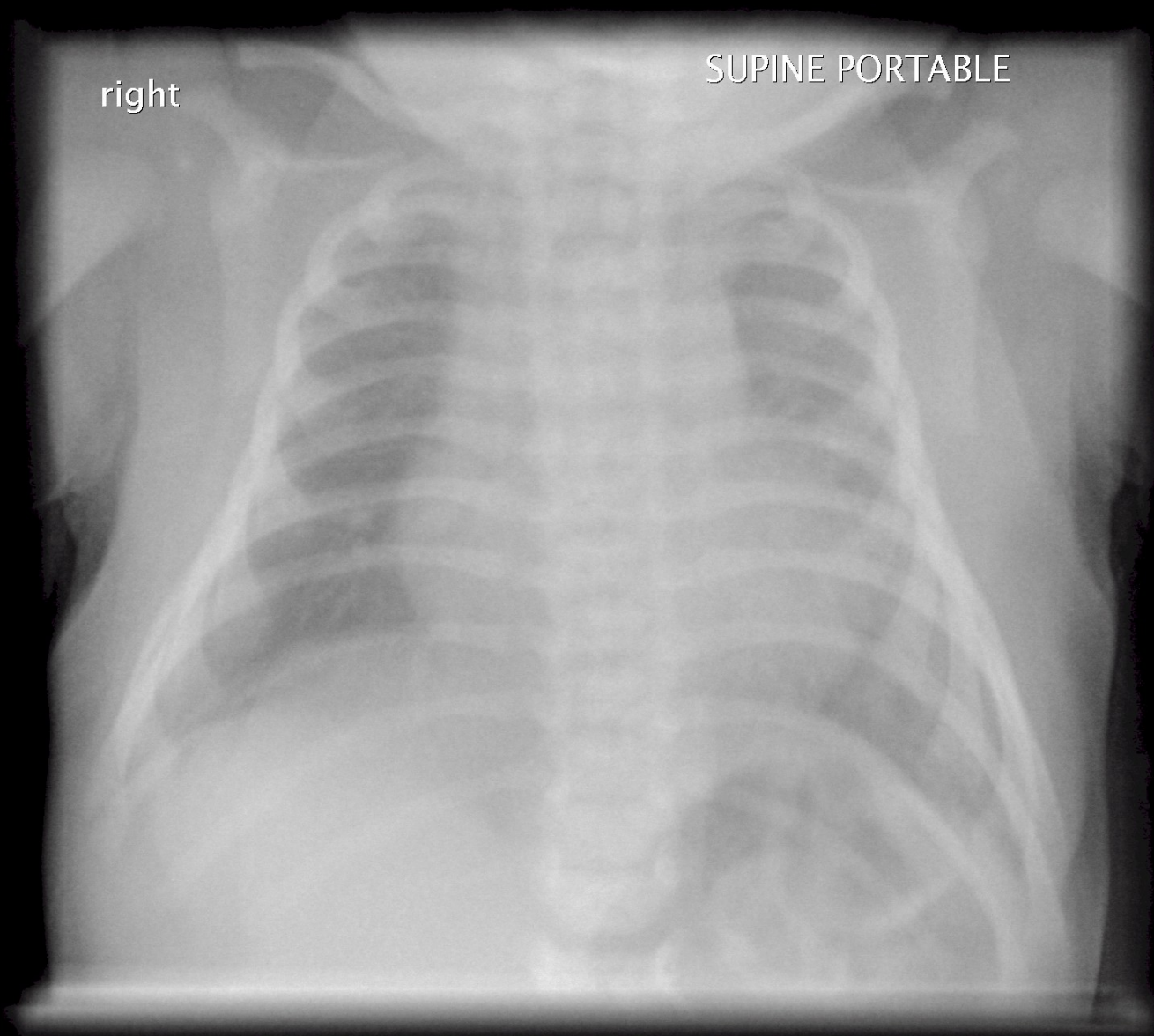
Glu 6.6 mmol / L  
Lac 6.7 mmol / L

$p\text{Atm}$  754 mmHg

[H]

right

SUPINE PORTABLE



[F]

=====REPORT=====

Exam Requested: US Skull  
Requesting Physician: DAVIS PJ,

Patient Name: MALLONE, MOLLIE  
Hospital No: RA77364460  
Birth Date:  
Sex: F  
Date of Exam:  
Case No.: RA714488878

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Radiological Report :  
Clinical History : A two-month-old infant is referred to the Paediatric Assessment Unit by her GP with one day history of poor feeding and is pale and irritable.

US Skull : 03.02.09:  
Normal study. No ischemia or oedema noted. No collections seen.

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Report Author: Dr Manigandan S. Thyagarajan, Cons

Verified by: Dr Manigandan S. Thyagarajan, Cons

Se:2  
Im:12

[AH]

Y.LILY  
Study Date:29/01/2009  
Study Time:10:04:16  
MRN:

[R]

[L]



[PF]

C40  
W120

# Bristol PICU Drug Sheet

Name	Mollie Mallone		
Date of Birth		August	
Weight	5 kg	Height	
Age	2 months		(SA estimated from weight alone. Enter height for accurate SA)



Resuscitation Doses	
Adenosine	0.17 ml (100 mcg/kg). Can use up to 0.42ml (250mcg/kg)
Adrenaline	0.5 ml 1:10000 (subsequent doses 1:10000)
Atropine	100 mcg (20 mcg/kg) = 0.17 ml (600mcg/ml)
Bicarb 8.4%	5 mmol - give and reassess (5 ml of 8.4%)
Ca Gluc 10%	2.5 ml - give and reassess
Lignocaine	5 mg (1mg/kg) = 0.5 ml of 1%
Naloxone	50 mcg (10 mcg/kg) = 0.13 ml (400mcg/ml)

100% fluid requirement = 20 ml/hr

Sedation Infusions	Standard Regime	Calculation	1 ml/hr =
Morphine	1mg/kg made up to 50ml with Dex 5% / Saline 0.9%	5 mg/50ml	20 mcg/kg/hr
Midazolam	5mg/kg made up to 50ml with Dex 5% / Saline 0.9%	25 mg/50ml	100 mcg/kg/hr
Vecuronium	3mg/kg made up to 50ml with Dex 5% / Saline 0.9%	15 mg/50ml	60 mcg/kg/hr
Atracurium	15mg/kg made up to 50ml with Dex 5% / Saline 0.9%	75 mg/50ml	300 mcg/kg/hr
Fent/Vec	Mix 10 mg Vecuronium in 20ml Fentanyl (50 mcg/ml)	0.5 to 1 ml/hr	
Fentanyl	neat (50mcg/ml)	0.5 to 1 ml/hr (5 to 10 mcg/kg/hr)	
Thiopentone	neat (25mg/ml) Bolus: 5mg/kg = 1 ml	Infusion: 0.2 to 1.2 ml/hr (1 to 6 mg/kg/hr)	

Cardiac Infusions	Standard Regime	Calculation	1 ml/hr =
Dopamine	15mg/kg made up to 50ml with Dex 5% / Saline 0.9%	75 mg/50ml	5 mcg/kg/min
Dobutamine	15mg/kg made up to 50ml with Dex 5% / Saline 0.9%	75 mg/50ml	5 mcg/kg/min
Adrenaline	0.3mg/kg made up to 50ml with Dex 5% / Saline 0.9%	1.5 mg/50ml	0.1 mcg/kg/min
Noradrenaline	0.3mg/kg made up to 50ml with Dex 5% / Saline 0.9%	1.5 mg/50ml	0.1 mcg/kg/min
Argipressin	3 Units/kg made up to 50ml with Dex 5% / Saline 0.9%	15.0 U/50ml	0.001 U/kg/min
Milrinone	1.5mg/kg made up to 50ml with Dex 5% / Saline 0.9%	7.5 mg/50ml	0.5 mcg/kg/min
Dinoprostone (PGE2 / Prostaglandin)	30mcg/kg made up to 50ml with Dex 5% / Saline 0.9%	150 mcg/50ml	10 ng/kg/min
Epoprostenol (Prostacyclin)	30mcg/kg made up to 50ml with Saline 0.9%	150 mcg/50ml	10 ng/kg/min
SNP	3mg/kg made up to 50ml with Dex 5%	15 mg/50ml	1.0 mcg/kg/min
GTN	3mg/kg made up to 50ml with Dex 5% / Saline 0.9%	15 mg/50ml	1.0 mcg/kg/min
Amiodarone	30mg/kg made up to 50ml with Dex 5% only	150 mg/50ml	10 mcg/kg/min
Lignocaine	neat 1% Lignocaine	0.3 to 1.5 ml/hr	(0.5 - 3.0 mg/kg/hr)
High K+	20mmol made up to 40ml with Saline 0.9%	1 to 2.5 ml/hr	(0.1 - 0.25 mmol/kg/hr)

Bronchodilators	Standard Regime	Calculation
<b>Peripheral</b>		
Salbutamol	10 mg made up to 50ml with Dex 5% / Saline 0.9%	0.3 ml/kg/hr = 1mcg/kg/min Run at 1ml/kg/hr
Aminophylline	500 mg made up to 500ml with Dex 5% / Saline 0.9%	
<b>Central</b>		
Salbutamol	3mg/kg made up to 50ml with Dex 5% / Saline 0.9%	15 mg/50ml
Aminophylline	50mg/kg made up to 50ml with Dex 5% / Saline 0.9%	250 mg/50ml

Bolus Drugs	Intubation Drugs
Aciclovir	50 mg (10mg/kg, 8h)
Adenosine	0.25 mg, to max 1.25mg
Ceftriaxone	400 mg (80mg/kg, 12h)
Dex 10%	25 ml bolus for hypoglycaemia
Lorazepam	0.5 mg
Mannitol	13 ml of 20% = 0.5g/kg
Mg SO4 50%	1.0 ml, slow iv
Phenobarb	#NUM! mg, iv over 30 mins
Phenytoin	90 mg, iv over 30 mins
	Atropine
	100 mcg (20 mcg/kg) (0.17 ml)
	Fentanyl
	25 mcg (5 mcg/kg) (0.5 ml)
	Ketamine
	10 mg (2mg/kg) (1 ml)
	Midazolam
	0.5 mg (100mcg/kg) (0.1 ml)
	Pancuronium
	0.5 mg (100mcg/kg) (0.25 ml)
	Propofol
	0.5 ml of 1% = 1mg/kg
	Suxamethonium
	10 mg (2mg/kg) (0.2 ml)
	Thiopentone
	1 ml = 5 mg/kg
	Vecuronium
	0.5 mg (100mcg/kg) (0.3 ml)

Drug sheet developed by Bristol PICU 1997-2008: This Version 10.2 (queries to: stephen.marriage@ubht.nhs.uk)