Clinical Guidelines

Management of critically ill children at local DGH

Document Control Information

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<tr>
<td>First Introduced</td>
<td>January 2016</td>
<td>Review Schedule</td>
<td>2 Yearly</td>
</tr>
<tr>
<td>Active Date</td>
<td>January 2016</td>
<td>Next Review</td>
<td>January 2018</td>
</tr>
<tr>
<td>CATS Document Number</td>
<td>1120092015</td>
<td>Applicable to</td>
<td>All CATS employees</td>
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Purpose
It is important that in the event that there is a delay in retrieval team availability due to workload that the DGH have a contingency plan to temporarily care for a child with guidance from the CATS consultant. There should be a designated area to take the child to in the DGH (e.g. Theatre Recovery, SCBU and/or AICU)
Adequate and ongoing dialogue between the CATS consultant and the consultants involved in the child’s care is the key to delivering quality care and preventing errors from occurring.

Assessment
Ensure plan agreed and instigated in conjunction with the CATS consultant
Do not delay urgent treatment or interventions whilst awaiting the PCC transport team.

If clinical condition warrants immediate transfer (e.g. emergency neurosurgery required) refer to CATS clinical guidelines and ‘Transport considerations when transfer is undertaken by local DGH team’.

Initial management priorities
Preparation is the key to minimising clinical instability

<table>
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<tr>
<th>AIRWAY</th>
<th>BREATHING</th>
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| **DO NOT use pre cut tubes**  
If cuffed tubes available consider using them (may not need to inflate cuff)  
Secure airway ensuring good position with no significant leak  
Add PEEP as soon as possible to ventilation circuit  
Add appropriate HME to circuit  
Gastric tube on free drainage (all ventilated children)  
Discuss induction agent with CATS consultant  
Anticipate CVS instability with induction (If septic/cardiac)  
Prepare fluid bolus and possible dopamine infusion  
Chest X ray post intubation (ideal Position at base of T2) with copy requested for transport team |
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<th>BREATHING</th>
<th>Possible Ventilation problems:</th>
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| Ensure adequate ventilation  
Is the chest wall moving?  
Is air entry equal?  
Have you good saturation readings?  
Transport ventilator if available otherwise utilise other ventilation resources from SCBU/AICU  
Always monitor end tidal carbon dioxide (ETCO<sub>2</sub>)  
Exclude ETT related problems urgently if ventilation difficult  
Discuss ventilation strategies with CATS consultant  
Consider appropriate blood gas targets dependent on clinical condition |
| Inadequate sedation/paralysis  
Large leak around ETT in child requiring high ventilator pressures (need to upsize tube)  
Unintended endobronchial intubation  
Consider physiotherapy and suction  
Tension pneumorhorax (must be drained) |

Children’s Acute Transport Service provides paediatric intensive care retrieval for Great Ormond Street, The Royal Brompton and St Mary’s NHS Trusts. Funded and accountable to the North Thames Paediatric Intensive Care Commissioning Group through Great Ormond Street NHS Trust.
**CIRCULATION**

**Continuous cuff BP readings whilst awaiting arterial line placement**
- 2 good intravenous access points are a priority
- In a life threatening situation consider peripheral or IO inotrope infusion until central line access can be established.
- Arterial line attempted but can run on peripheral blood gases
- In neonatal shock consider cardiac anomaly (femoral pulses/ 4 limb BP)

| Anticipate CVS instability at induction |
| Discuss circulatory support measures with CATS consultant (most appropriate inotrope) |
| Early aggressive fluid resuscitation + inotropes may be required |
| Avoid propofol if CVS instability |

**Unable to get BP reading from cuff**
- **Check:** Cuff size (2/3 upper arm width)
- Check femoral pulses and peripheral pulses
- Check ETCO₂ tracing (poor cardiac output)

| Give more fluid and titrate inotropes constantly reassessing until either arterial line placed or successful BP cuff readings recorded at frequent intervals. |

**DISABILITY**

**Commence adequate sedation & paralysis (see CATS prescription sheet for drug infusion doses)**
- Monitor Blood Glucose
- Consider urinary catheter (monitoring of output/avoid retention)
- Pupils
- Temperature control aim for normothermia unless cooling indicated
- Maintenance fluids commenced

| Discuss specific concerns re sedation with CATS consultant |
| Consider specific antibiotic cover |
| Consider further tests such as CT scan, blood film |
| Copy all notes for team |
| Transfer x-rays/scans to receiving unit |

On going management/contingency plan

Appropriate staff identified to support care whilst awaiting next available CATS team.
Care area identified to assist with resource management within the DGH.
(Child moved to NICU/AICU/Theatre Recovery).
Ongoing dialogue continues between DGH team and CATS consultant in relation to the clinical management.
Plan agreed and updated according to clinical condition.

Detailed clinical guidelines are available on the CATS website: [http://www.cats.nhs.uk](http://www.cats.nhs.uk)