Standard operating procedure for the management of critically ill children presenting at University Hospital Wishaw

NHS Lanarkshire

Background

University Hospital Wishaw is the regional center for paediatric care within NHS Lanarkshire. A number of these patients are either admitted or become critically ill during their stay. The purpose of this document is to improve their care by defining roles, developing pathways and optimising communication within the team. Management of this small group of patients remains a Consultant delivered service. Copies this document should be visible in all relevant clinical areas.

Personnel

Working knowledge of this document is aimed at:

Medical staff	Nursing Staff	Others
Paediatrics	Wards 19 and 20	Scotstar retrieval
Adult Intensive Care Medicine	Emergency Department	PICU
Neonatology	Theatre	
Emergency Medicine	Neonatal nurse practitioners	

Team Leadership

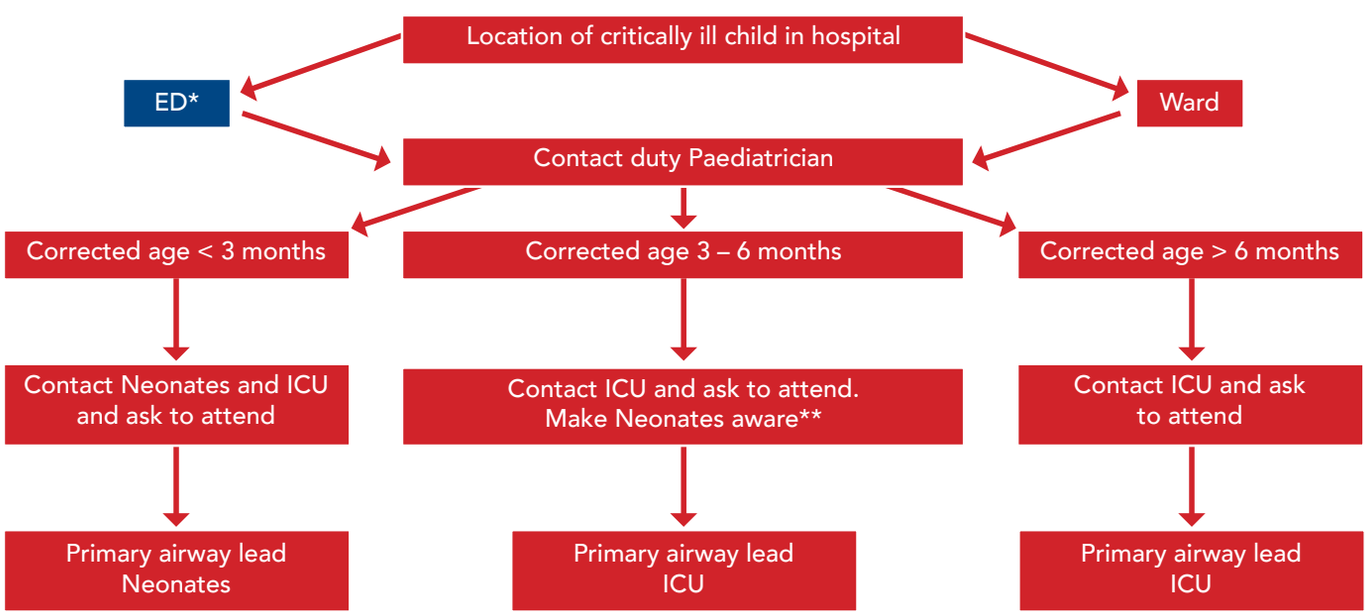
Leadership and co-ordination of care will at all times rest with the Consultant Paediatrician with clinical responsibility. Roles include:

- Overall clinical management of the patient.
- Delegation within the multi-disciplinary team.
- Communication with Scotstar/PICU.
- Communication with family.
- Documentation.

Location

The location for acute stabilisation of a child will largely be driven by the clinical scenario. In time critical situations, this will likely be the child's current location (ward or ED in the main). In the event of a less urgent situation where transfer to another location is deemed safe, the location will be decided by the clinician with primary responsibility for securing the airway. This may be ward, ED or operating theatre. This primary airway lead should be established at the earliest opportunity.

Flowchart for Patient Management



ED may decide at the outset that contacting the duty paediatrician occurs simultaneously with contacting ICU and/or Neonates.
***ICU may request Neonates attend following assessment of the clinical situation.*

Choice of induction agents

The document acknowledges that there is variation in practice between Neonatal and Anesthetic approaches to induction agents. Standardisation of care however represents good practice.

In line with Scotstar/PICU recommendations, standard induction should usually be with fentanyl, ketamine and rocuronium. These will be weight based and appropriate for the clinical situation. At all times, they will be administered by ICU who will also be responsible for the management of any drug related side effects or complications. Where the primary airway lead is Neonatology, it should be communicated that the time to intubation with rocuronium is longer than suxamethonium (60 versus 30 seconds) and that hand ventilation will likely be required in the intervening period.

In the event of ICU being unable to attend a child with a corrected age of less than 3 months, choice of drug should default to the preference of Neontaology.

Monitoring

Monitoring should be in line with national guidelines. In all cases this should include non-invasive blood pressure, oxygen saturation, continuous ECG and end tidal CO2. In circumstances where induction is taking place in ward 19/20, end tidal CO2 should be sourced. Intellivue X2 modules with linked battery for remote site end tidal CO2 monitoring are readily available in ACCU, Theatres and ED.

Check listing

Check listing is now embedded in critical care practice. Its main role is to improve safety through communication and planning. Check listing should be encouraged as a means of team introduction, drug and equipment readiness, role allocation, conduct of rapid sequence induction and post-intubation care.

Thermal control

Thermal control should be considered at the earliest opportunity. Techniques available include:

- Reducing exposure time.
- Increasing ambient temperature.
- Use of warmed intravenous fluids.
- Passive warming – blankets/hats.
- Active warming – Bair Hugger or similar device.
- Bespoke solutions – overhead heater (ED), Resuscitaire

Audit of practice

Audit of transfer from UHW to regional PICU is already in place. Opportunities to promote and enhance shared, reflective learning amongst the multidisciplinary group should be regularly reviewed.

Authors:
- Dr Iain Lang – Consultant ICM
- Dr Caroline Delahunty – Consultant Neonatology
- Dr Keir Greenhalgh – Consultant Paediatrician
- Dr Heather MacColl – Consultant Emergency Medicine

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