MODIFIED 'CART' (Child At Risk of Transfer) ALGORITHM

Patient Details (sticker)

Date/Time assessment

AIRWAY risk factors
- Patient cannot maintain their own airway without assistance
- GCS <9, fluctuation in neurology, on 'P' or 'U' of AVPU?
- Concerns re: stridor and/or foreign body?
- Airway or facial burns, smoke or gas inhalation?
- Risk of cardiovascular collapse

BREATHING risk factors
- Significantly increased work of breathing
- Abnormally increased or decreased respiratory rate
- Severe asthma on intravenous therapy; normal or raised pCO_2 on gas
- Low oxygen saturations despite supplemental oxygen or high oxygen requirement
- Requires high flow humidified O_2 or on non-invasive ventilation or LTV
- Drowsiness/agitation/altered sensorium
- Risk of cardiovascular collapse

CIRCULATION risk factors
- Inotrope +/- significant fluid bolus requirements to maintain adequate blood pressure (ie $\geq$ 40 ml/kg bolus in last 4 hours)
- Raised lactate >2 +/- significant metabolic acidosis not improving with treatment
- Abnormal heart rhythm
- Inappropriate initial fluid resuscitation (too little or too much eg in heart failure)

DISABILITY/NEUROLOGICAL risk factors
- Low, falling or fluctuating GCS/AVPU
- Progressive intracranial event
- Uncontrolled seizures
- Raised intracranial pressure (bradycardia, hypertension, abN breathing pattern)
- New abnormalities in pupil responses
- Prolonged hypoxia and/or hypoglycaemia and/or hypotension
- Newly diagnosed inborn error of metabolism

EXPOSURE & OTHER risk factors
- Unrecognised injury/trauma eg. laceration/punctures
- Inadequate protection against heat/cold
- Safeguarding (if concerns share these with receiving team)

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If any of these ABCDE risk factors apply to patient, the risk of transfer (& potential need for stabilisation pre-transfer) is increased ie to intermediate or high risk.
The consultant & senior nurse must decide and agree how, when, where and by whom the patient should be moved. NWTS can help with this decision-making process

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DECISION: (to be made by most senior team members after patient review)

REASON FOR TRANSFER:

CLEAR BENEFITS FOR PATIENT: YES NO UNCERTAIN

DESTINATION

RISK LEVEL: LOW INTERMEDIATE HIGH

IS RISK JUSTIFIABLE?

PARENTS/FAMILY AWARE & IN AGREEMENT?

TRANSFER TEAM? DGH PAEDS/DGH ANAESTH/DGH HYBRID PAEDS+ANAESTH/NWTS/OTHER

Signed (designation/GMC number)

Transfer team

The make-up of the team who undertake any transfer must be determined primarily by the clinical requirements of the patient. This decision should be made with the consensus of **all** relevant members of the team. Ideally the staff undertaking the transfer (nurse, anaesthetist or paediatrician and the ambulance crew) should all agree regarding the mode and nature of transfer. If there is any uncertainty in this regard, the opinion of either the consultant anaesthetist or NWTS consultant should be sought. The following are suggested guidelines and are based on the standard levels of dependency care for paediatric patients.

Low Risk - Most **non-high dependency** patients can be transferred by a senior children's nurse and a paramedic ambulance crew. Some low risk patients may require special transfer conditions, for example, children who are immuno-suppressed.

Intermediate Risk - **Level 1** critical care patients and some **non-high dependency** patients can be difficult to categorize in terms of potential risk. **It is these patients particularly that require the consensus of the medical and nursing staff as outlined above.** The principle should always be one of safety first. Some of these patients may be transferred by paramedic crew and children's nurse alone. Critical care level 1 patients (aka HDU patients) will require the attendance of an anaesthetist or paediatrician in addition to a senior nurse depending on the clinical problem.

High Risk - **Requiring intensive care.** An anaesthetist or senior doctor competent in maintaining the airway and dealing with any likely deterioration during transfer should transfer all **time critical paediatric intensive care** patients along with a senior children's nurse. Most non-time critical paediatric critical care patients will be transferred by regional transport team ie NWTS.

Mode of Transfer: road ambulance

a) It is essential that the ambulance control room is made aware of the specific requirements for paediatric transport purposes as there are a variety of vehicle types available. **It is especially important to specify the number of people in a transfer team (medical and nursing) and if a parent is to transfer as some vehicles may have insufficient seating.**

b) A **Paramedic** ambulance is preferable when a low-risk category patient is transferred by a nurse only. These transfers are not urgent and can await the availability of the paramedic crew who will provide an extra measure of support for the nurse in the unlikely event of a complication during transfer.

c) Major trauma transfers require an emergency ambulance to arrive within 10 minute of request. State **'TRAUMA BLUE'** to ambulance control when requesting an ambulance. Most of these patients will be intubated and ventilated, and must be transferred by an appropriate senior doctor (usually an anaesthetist) and an appropriately trained children's nurse or ODP.

d) An emergency ambulance is required for transfers of critically ill children who are moving to a high dependency unit, and the response time needs to be determined by the senior responsible clinician and agreed with the ambulance provider. If both a doctor/advanced practitioner and a senior nurse are part of the team transferring the patient a paramedic crew is not required.

NWST will provide advice on patient management for all critical care level patients, especially those who require inter-hospital transfers. NWTS can help to clarify any uncertainty around who should transfer a child

For all referrals to NWTS please complete the CART assessment and the NWTS referral form to ensure all clinical information and any clinical/logistic questions can be answered promptly.