

# GNAAS HOT Retrieval Service



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## Background

The Hot Retrieval Service exists in North Cumbria to rapidly retrieve patients with time critical emergencies where the immediately life saving intervention is not available in the hospital in which the patient is currently located .

Data from 2014 - 2018 : 186 MT positive patients, 113 at weekend. 18% transferred to RVI MTC, 46% admitted locally, 10% theatre for DCS, 7% ICU.

Data from Jan 2020 - July 2022: 406 MTC positive patients. 66 patients transferred to MTC-average ISS 20; primarily Thurs - Sun.

The team consists of a Senior HEMS Doctor & Critical Care Paramedic. The aim is to be at hospital within 30-45 minutes of activation. Available 2000 - 0800 Fri/Sat night. This service is providing quality assured safe clinical care to patients with clinical governance for all missions.



## Tasking

- Polytrauma patients who need immediate transfer with ongoing resuscitation
- Severe traumatic brain injury requiring neurosurgical intervention
- Penetrating trauma requiring MTC input
- Post cardiac arrest STEMI, ventilated, requiring transfer for PPCI (WCH to CIC)
- Paediatric cases with time critical interventions - following discussion with NECTAR

### Condition + Clinical + Intervention

Condition	Clinical	Intervention
<ul style="list-style-type: none"> <li>• Blunt multisystem trauma</li> <li>• Penetrating truncal trauma</li> <li>• Traumatic brain injury</li> <li>• Blunt chest injury</li> <li>• Pelvic ring disruption</li> <li>• Post cardiac arrest</li> <li>• Time-critical medical emergency</li> </ul>	<p>A Actual or impending airway compromise</p> <p>B Actual or impending ventilatory failure</p> <p>C Uncontrollable haemorrhage / CVS instability</p> <p>D Neurological coma</p> <p>E Major burns</p>	<ul style="list-style-type: none"> <li>• Intubation/Surgical airway</li> <li>• Mechanical ventilation</li> <li>• Tube thoracostomy</li> <li>• Ongoing transfusion</li> <li>• Vasoactive infusion</li> <li>• Transcutaneous pacing</li> <li>• Escharotomy</li> <li>• Need for surgery en route</li> </ul>

For activation, all 3 criteria should be met = condition + clinical + intervention

#### Exclusion criteria

- \* Obstetric patients
- \* ICU - ICU transfers

#### Paediatric patients

- \* NECTAR conference call required - see SOP

## Equipment & Medications



To carry out this service further equipment and medications are required. These patients who have been seen in an emergency department but whose hospital does not have the ability to manage their immediate ongoing care may have the patient's stabilised. This may be done with the use of sedation and vasoactive infusions as well as additional monitoring such as an invasive blood pressure through arterial lines.

Infusions used by GNAAS to deliver this service:

- Ketalam
- Propofol
- Metaraminol
- Adrenaline
- Noradrenaline

As a lot of these hot retrieval cases will be during the hours of darkness and without the aircraft flying a transfer trolley to fit the ground ambulances and bridge to secure the monitoring and infusions are also required. The Northern Trauma Network have helped to support this process through supplying funding for some of the equipment.

## Training

To best prepare the Doctors and Paramedics carrying out this service the training programme looks to provide them with the knowledge and skills to cover these 4 topics:

- Understand the concept of Hot Retrieval vs Critical Care Transfer
- Prepare a hot retrieval casualty for transfer
- Optimising a critical care casualty for transfer
- Manage the hot retrieval transfer emergencies

This training involves input from specialists in the area of retrieval from other services as well as input from NECTAR. The Northern Trauma Network have helped to facilitate this service through providing grant funding for the necessary training kit to practice some of the more practical skills such as arterial line placement and management. These practical skills are consolidated with in-hospital placements. This allows the team to get some hands on experience of the skills required to manage these patients effectively through trouble shooting arterial lines and managing infusions to ensure the safe and stable transfer of these critically unwell patients.



Training Equipment



Training Course



NECTAR