



DHART (Dartmouth-Hitchcock Advanced Response Team)



Activation Guidelines

Interhospital

Scene

Purpose

This policy is a reference for DHART and referral agencies considering the activation of the DHART helicopter for a patient transport. These guidelines are not meant to be all-inclusive. There are situations where a specific condition not listed in the guidelines would meet the general principles of the guidelines and air transport would be appropriate. Also, the list below is not a mandate that requires air transport for all patients with the conditions that appear on the list. The guidelines are merely a list of conditions for which air transport should be considered.

Guidelines

1) INTERHOSPITAL TRANSPORTS

In general, for helicopter transport to be justified, the time saved by using the helicopter should be significant enough to allow a potentially beneficial intervention to take place at the receiving facility. The time savings should take into account the time required to arrange for ground transport including the time to allow an ambulance and crew to arrive at the sending hospital, the time to package the patient, and the time to arrange for an appropriate critical care attendant to be available. In some cases, a patient going by ground may require more extensive stabilization than if going by air because of the increased out of hospital time and the skills of the transporting crew.

All of these factors should be taken into account when considering the request for air transport. Helicopter transport has the potential of reducing time to definitive care and time out of hospital, and provides an expert crew during transport. However, depending on the distance to be traveled, the ground transport resource availability, and the condition of the patient, none of these benefits may be relevant. The following list is a recommendation for those patients that may benefit from air transport:

A) TRAUMA

Severe head injuries

Potential emergent surgical intervention

*Craniotomy

*Ventriculostomy

Multisystem trauma with potential hemodynamic deterioration Examples of this would include:

- *Unstable vital signs
- *Evidence of ongoing severe hemorrhage
- *Major liver injury
- *Major vascular injury of the abdomen or retroperitoneum

Chest

- *Potential or suspected major vascular hemorrhage
- *Suspected Cardiac injury
- *Suspected or potential airway disruption

Pelvis Fracture with ongoing severe hemorrhage

- *Open fracture -

Major extremity injuries

- *Open fracture with significant potential time delay to definitive treatment (arrival at institution providing definitive care within 6 hours)
- Ischemic extremity (arrival at institution providing revascularization within 2 hours)

B) CARDIAC

Cardiogenic shock

AMI unresponsive to thrombolytic agents

AMI with contraindications to thrombolysis

Ongoing ischemic symptoms despite maximal medical therapy

Life threatening refractory arrhythmia

Rapidly decompensating valvular lesions

Unstable acute VSD

Unstable cardiac tamponade

Suspected aortic dissection

Need for other emergent interventions not available at referring institution

C) CRITICAL CARE PATIENTS

Leaking / ruptured aortic aneurysm

Acute CVA with potential need for thrombolytic therapy not available at referring facility

Gastrointestinal hemorrhage not controlled at referring institution - Severe overdose requiring hemodialysis

Severe hypothermia requiring cardiac bypass

Decompression illness or carbon monoxide poisoning with coma or focal neurologic deficit requiring hyperbaric oxygen

Transfer of time-sensitive transplant organ

Intracranial hemorrhage requiring emergent surgical intervention

D) HIGH RISK OBSTETRICS

In general, mothers requiring transport to a high risk OB unit should be considered for transport by air if the length of time for ground transport places the patient at higher risk of delivery during transport. Patients who are likely to deliver during the time it takes for air transport should deliver at the referring institution. This includes multiparous patients with cervical dilation of 3 cm or more who are in active labor, contractions less than 5 minutes apart, or a history of rapidly progressing labor. For primiparous patients the cervix should not be dilated more than 5cm.

Specific indications:

Mothers predicted to deliver infants requiring high level neonatal care

Active labor at less than 34 weeks

Abruptio placenta or placenta previa

Third trimester bleeding

Severe heart disease in the mother

E) NEONATAL/PEDIATRIC

Patients requiring lifesaving interventions which are beyond the capabilities of the local institution

Acute **airway** needs

Systolic BP less than 65 in a child less than 2

Systolic BP less than 70 in a child 2-5

Systolic BP less than 80 in a child 6-12

Acute surgical interventions

*Cardiac

*Neurosurgical

*Intrabdominal Trauma

Pediatric/neonatal cardiac emergencies

*Cardiac or respiratory arrest within 24 hours

Need for emergent septostomy

Need for maintenance of a patent ductus

Severe hypothermia

Severe hyperthermia

Overdoses with unstable vital signs/coma/need for dialysis

2) SCENE TRANSPORTS

In general, for scene transport to be efficacious, the helicopter response should take less time than it takes to travel by ground to the closest appropriate facility. If this is not the case, strong consideration should be given to activating the helicopter from the scene, and meeting at the local hospital. This decision should be made in conjunction with local medical control. This is particularly important for head injured and hypotensive patients. Also, patients should always be transported to the closest appropriate facility whether by air or ground. The destination should be determined by local medical control. Helicopter transport is recommended for the following:

Head injured patients with one of the following:

- *GCS less than 12 or deteriorating
- *Focal neuro findings

Penetrating injury or open fracture

Patients with the following chest injuries:

- *Possible tension pneumothorax
- *Major chest wall injury
- *Potential cardiac injury
- *Penetrating chest wound

Patients with unstable vital signs including hypotension, tachypnea, severe respiratory failure

Burn patients with potential airway involvement

Patients with spine injuries with neurologic involvement and potential airway/breathing compromise

3) Exceptions (patients who may require transport but do not meet the above indications):

Long distance transports of critical patients (more than 2 hours by ground)

Situations where resources at the sending facility are severely limited:

Mass casualty situations

Lack of availability of ground transport

Lack of availability of critical care personnel to accompany patient

Weather conditions that ground transport dangerous (e.g. icy roads but clear skies)

4) Exclusions (patients who do not meet criteria for air transport):

Traumatic/Cardiac arrest prior to activation of DHART helicopter

[[top](#)]

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