



GUIDELINES FOR ACTIVATING INTER-FACILITY AIR MEDICAL TRANSPORT - V1.1

Instructions: Contact your respective receiving facility / transfer center to arrange for patient transfer and acceptance. Most transfer centers will contact SkyHealth directly to arrange for air medical transport if deemed appropriate. To activate SkyHealth directly for an air medical transport after receiving facility acceptance, call **1-844-SKY-HLTH (1-844-759-4584)**.

PROMPT TRANSPORT

Do not delay transport while awaiting laboratory or radiology results. These can be communicated electronically or by phone as they become available.

Air medical transport should be considered for inter-facility transfer of patients for whom time is critical. An air ambulance is best used when a patient requires time-critical interventions or when it is important to minimize time out of an acute care hospital setting. Air medical based inter-facility transfers are appropriate when:

1. Patients require either time sensitive diagnostic and/or treatment needs that are not available at the referring hospital AND ONE OF THE FOLLOWING CIRCUMSTANCES EXIST:
 - a. Response time to the sending facility and the return transport time to the destination facility are prolonged due to distance, traffic, road conditions, etc.
 - b. The local region's EMS system is unable to perform the transport due to the stress it would place on the local resource's ability to provide primary EMS coverage to the community
 - c. Local EMS provider cannot provide the level of clinical care necessary to meet the patient's needs

Note: A ground transport time of greater than or equal to twenty (20) minutes is typically the minimum time justification for the use of air medical services, unless extenuating circumstances exist.

Time to Intervention & Care

Patients may need rapid evaluation(s) and treatment(s) that are not available at the sending hospital. In these cases, reducing the time to clinical intervention is clinically important and air medical transport may be utilized in order to minimize the time to intervention. Examples of the type of patients that would benefit from air medical transport include, but are not limited to:

- Traumatic injury requiring emergent diagnosis and/or operative intervention
- STEMI

- Stroke requiring emergency intervention
- Intracranial hemorrhage
- Sub-arachnoid Hemorrhage (AVM or suspected cerebral aneurysm)Aortic / vascular catastrophe (leaking aneurysm, dissection or disruption)
- Tenuous airways unable to be secured at the sending hospital
- Patients with unstable blood pressure
- Patients with unstable cardiac rhythm
- Patients with severe sepsis requiring tertiary care
- Perinatal patients with eclampsia
- Burn patients

Reduction of Out-Of-Hospital Time

Frequently, patients transferred to tertiary care facilities require a high level of care and it is critical to minimize the time they are away from the acute care hospital setting. Examples of the type of patients that would benefit from air medical transport include, but are not limited to:

- Patients on mechanical ventilation with poor oxygenation
- Intra-aortic balloon pumps
- Ventricular assist devices
- Critical neonatal and pediatric patients
- Perinatal patients receiving tocolysis

ADULT TRAUMA GUIDELINES FOR TRANSFER

Indications for Transfer

Adults with one or more of the following and where the sending hospital does not have the resources to definitively manage the patient, utilizing an ATLS approach, the sending hospital should perform only the necessary procedures that are required to make the patient more stable for transfer. Examples of the type of patients that would benefit from air medical transport include, but are not limited to:

1. Severe multiple injuries (2 or more systems) or severe single system injury
2. Cardiac or major vessel injuries
3. Injuries with complications (e.g., shock, sepsis, respiratory failure, cardiac failure)
4. Severe facial injuries
5. Severe orthopedic injuries
6. Intra-abdominal hemorrhage
7. Open globe (penetrating or rupture)
8. Comorbid factors (e.g., age>55 years, cardiac or respiratory disease, insulin-dependent diabetes, morbid obesity)
9. Hemodynamic instability, SBP < 90 mmhg
10. Paraplegia or quadriplegia
11. Patients with open body cavity injuries or with evisceration of internal organs
12. Head injury (closed or open)

BURN INJURY

The regional Burn Center for the state of Connecticut is located at Bridgeport Hospital. If a patient meets the requirements for transfer, please call the Y-Access Center at 1-888-964-4233.

One of the Regional Burn Centers for New York City and Long Island is Staten Island University Hospital. If the patient meets the requirements for burn transfer, please contact Staten Island University Hospital at 718-226-1506.

Burn Center Referral Criteria

1. Partial thickness burns greater than 10% total body surface area (TBSA) in all age groups
2. Burns that involve the face, hands, feet, genitalia, perineum or major joints
3. Third degree (full thickness) burns of any size in all age groups
4. Electrical burns, including lightning injuries
5. Chemical burn injuries
6. Inhalation injuries
7. Burn injuries in patients with pre-existing medical conditions that may complicate management, prolong recovery or affect mortality
8. Any patient with burns and coinciding trauma in which the burn injury poses the greatest risk of morbidity and mortality
9. Burned children in hospitals without qualified personnel or equipment to care for children
10. Burned patients who require special social, emotional, or long-term burn rehabilitation

NEUROSURGICAL TRANSFER GUIDELINES

Indications for Head Injury Transfer

Presence of any one symptom below:

1. Patients with deterioration in level of consciousness
2. Moderately and severely head-injured patients (Glasgow Coma Scale score ≤ 12)
3. Patients with focal or lateralizing signs, such as hemiparesis
4. Patients with penetrating cranial injury, including gunshot wounds or depressed skull fractures
5. Patients with cerebrospinal fluid leak: rhinorrhea or otorrhea
6. Seizures within 48 hours of trauma
7. Inability to perform immediate rapid neurosurgical pre-operative studies, intracranial monitoring, or neurosurgical operation that is or is likely to be necessary in management of the patient

Indications for Spine Injury Transfer

Presence of any one symptom below:

1. Adult spinal cord injuries
2. Patients with suspected spinal injury, whose level of consciousness is deteriorating
3. Patients with possible spinal fractures or dislocations that are unstable or need stability evaluation

4. Patients with neurological deficits
5. Patients with penetrating spinal injury, including gunshot or stab wounds
6. Patients with documented stable or unstable spinal column injuries with or without neurologic deficit
7. Inability to rapidly reduce fractures compressing the spinal cord by closed and/or surgical techniques

Indications for General Neurosurgery Transfer

Presence of any one symptom below:

1. Symptomatic brain tumor
2. Acute Hydrocephalus
3. Spinal cord tumor or vascular malformation

Note: Disposition to trauma/surgery versus neurosurgical services are at the discretion of the receiving facility

STROKE AND/OR CEREBROVASCULAR SURGERY GUIDELINES FOR TRANSFER

Because of the potential for rapid clinical deterioration, patients who present with severe disease or who have the high likelihood of clinical deterioration based on the pathophysiology and prognosis of their disease process or imaging profile should be considered for timely transfer. Examples of the type of patients that would benefit from air medical transport include, but are not limited to:

Indications for Stroke and/or Cerebrovascular Surgery Transfer

1. Non-traumatic subarachnoid hemorrhage with or without acute hydrocephalus.
2. Intracerebral hemorrhage
 - Cerebellar / intracerebral hemorrhage
 - Brain Stem intracerebral hemorrhage
 - Midline shift
 - Need to manage mass effect/elevated intracranial pressure
 - Suspected underlying lesion by imaging (e.g. CT angiogram reveals a possible AVM)
 - Intraventricular hemorrhage suspect need for further intervention or surgery
 - Pts with hemorrhage on anticoagulants or antiplatelet agents with potential risk for expansion.
3. Suspected cerebral aneurysm or arterio-venous malformation
4. Status post IV tPA with concerns
 - Young patient with potential for malignant cerebral edema
 - Perceived higher risk for symptomatic intracranial hemorrhage(i.e.: difficult to control hypertension; malignant hypertension)
5. Need for hemicraniectomy
6. Evolving ischemic stroke
 - Potential candidate for lytic therapy
7. Consideration for endovascular treatment (interventional neuroradiology)

CARDIAC GUIDELINES FOR TRANSFER

Because of the potential for rapid clinical deterioration, patients who present with severe disease or who have the high likelihood of clinical deterioration and have extensive monitoring or treatment modalities, air medical transfer for tertiary care should be considered. Examples of the type of patients that would benefit from air medical transport include, but are not limited to:

Indications for Cardiac Transfer

1. Acute coronary syndrome with time-critical need for urgent intervention therapy
 - a. Cardiac catheterization
 - b. Status post lytic therapy
 - c. Intra-aortic balloon pump placement
 - d. Emergent cardiac surgery
2. Cardiogenic Shock
 - a. Need for emergent placement of Left Ventricular Assist Device (LVAD)
 - b. LVAD failure
 - c. Intra- aortic balloon pump
3. Cardiac tamponade with impending hemodynamic compromise
4. Mechanical cardiac disease
 - a. Acute cardiac rupture
 - b. Decompensating valvular heart disease

OBSTETRIC GUIDELINES FOR TRANSPORT

Careful consideration must be determined when possibly transferring a gravid patient. The advantage of air transport reduction of out-of-hospital time should be measured against the risks of delivery during transport. If the sending physician determines delivery to be imminent, then ground transport is preferred. Examples of the type of patients that would benefit from air medical transport include, but are not limited to:

Indications for Obstetric Transfer

1. Maternal status does not improve.
 - a. Preterm labor
 - b. Premature rupture of membranes (PROM)
 - c. Hypertensive disorders- Severe pre-eclampsia, HELLP, eclampsia
 - d. Second trimester incompetent cervix
 - e. Third trimester bleeding
 - f. Fetal hydrops
2. Delivery will occur prior to 34 weeks of gestation.
 - a. Preterm labor, or estimated fetal weight < 2,000 grams
 - b. PROM
3. Newborn facilities are inadequate to support the infant should delivery occur within 24 hours.
 - a. Suspected or known fetal anomalies
 - b. Intrauterine growth retardation
 - c. Severe predicted fetal heart disease

4. Pregnancies complicated by medical disorder that may cause premature birth
 - a. Diabetes
 - b. cardiac disease
 - c. sickle cell disease
 - d. thromboembolic disease
 - e. Drug overdose
 - f. Metabolic disorders
5. Acute abdominal emergencies likely to require surgery when estimated gestational age < 34 weeks or estimated fetal weight <2,000 grams

CRITICAL MEDICAL OR SURGICAL CARE GUIDELINES

These patients generally require a higher level of care during transport, often requiring multiple medication drips and ventilatory assistance, and may benefit from the reduction of out-of-hospital time. These patients may also have time-critical need for diagnostic or therapeutic intervention at the receiving facility. Examples of the type of patients that would benefit from air medical transport include, but are not limited to:

Indications for Medical or Surgical Transfer:

1. Pre-transport cardiac or respiratory arrest
2. Requirement for continuous intravenous vasoactive medications or mechanical ventricular assist to maintain stable cardiac output.
3. Risk for airway deterioration
 - a. Epiglottitis
 - b. Angioedema
 - c. Ludwig angina
 - d. Peri-tonsillar abscess
4. Acute pulmonary failure and/ or requirement for sophisticated pulmonary intensive care
 - a. Inverse ratio ventilation
 - b. ARDS
 - c. Severe asthma/ obstructive pulmonary disease
 - d. Severe restrictive disease
5. Severe poisoning or overdose requiring specialized toxicology services
 - a. **IF CONCERNED FOR POSSIBLE TOXIC POISONING CALL POISON CONTROL CENTER FOR A TOXICOLOGY CONSULT 1-800-220-1222**
6. Gastrointestinal hemorrhage with hemodynamic compromise
7. Surgical emergencies
 - a. Fasciitis
 - b. Aortic dissection
 - c. Aortic aneurysm, rapidly expanding or ruptured
 - d. Extremity ischemia

VENOMOUS BITE GUIDELINES FOR TRANSPORT

Venomous Bites represent a rare but devastating type of environmental injury. Although many injurious animals exist in nature, many of these are kept as pets. Snakes, marine fish, stingrays, invertebrates and insects are all known to harm humans through envenomations. Most cases are self-limited but there are

situations that require specific treatment. These include the major types of venomous snakes: crotalids & elapids. Crotalids are local to the US, possess hemotoxins and typically cause local wound damage. Elapids (including sea snakes) are non-local but exist through illegal trade and pet stores, possess neurotoxins, and are especially lethal. In addition to supportive care, antivenoms exist that can save lives if given early in treatment course. There are antivenoms for poisonous fish injuries as well. Ultimately, resuscitation and critical care management is paramount with wound management a highlight of long-term care.

The NSLIJ Toxicology Fellow should be contacted at 516-975-1300 immediately for any patient that meets the below criteria. The Toxicology Team will decide if transport to a Venomous Bite Center is appropriate. Examples of the type of patients that would benefit from air medical transport include, but are not limited to:

Indications for Venomous Bite Transfer:

1. Patient complaint of any clinically significant envenomation, including but not limited to:
 - Snakes (crotalids, elapids, sea snakes)
 - Marine fauna (poisonous fish, jellyfish, stingrays, starfish, sea urchins)
 - Insects (spiders, scorpions)

2. Patient with suspected envenomation and have clinical sequel
 - Wound(s)
 - Involvement of end-organ (symptoms, physical exam, lab test abnormalities)