TECHNICAL RESCUER

TR General

Air Transportation

Objectives

- Identify considerations for requesting aeromedical transportation according to local medical protocol.
- Packaging requirements for aero-medical transports
- List the criteria for requesting a NC National Guard hoist-equipped helicopter for rescue.
- List the capabilities of a NCNG winch equipped UH-60 Blackhawk helicopter, and criteria for packaging a patient for extraction by air.

Objectives

- Demonstrate setting up a safe landing zone (LZ) for day and night landings
- Demonstrate the proper hand signaling techniques, that are used to assist the helicopter pilot with making a safe landing and take-off.

Criteria for determining if a patient is a candidate for aero-medical transport.

- Conduct a good triage.
- What is the mechanism of injury?
- Local hospital equipped and staffed to treat major trauma?
- Time and distance to a trauma center via ground
- Time of day, anticipated traffic conditions, weather conditions.

Criteria For Trauma Center Candidates.

- Transport Time Greater Than 20 Minutes?
- Ratio Between The Number Of Patients And The Number Of Ground Transport Vehicles.

Candidates for transport by aero-medical helicopter:

- Falls from heights greater than 15'.
- Vehicle rollovers with unbelted passengers.
- Motor vehicle accident with death of another passenger in vehicle.
- Extrication time is greater than 20 minutes.
- Patient is ejected from vehicle.
- Pedestrian is struck by a vehicle at a speed greater than 10 mph.
- Motorcyclist or bicyclist is struck by motor vehicle.

The Indications For Aero-medical Transport

- Patient unresponsive resulting from injury?
- Patient has penetrating injuries with possible neurovascular compromise?
- Impaled object?
- Multiple fractures?
- Blood pressure of less than 90 after initial volume resuscitation?
- Inhalation injuries?
- Severe burns?
- Problems that may delay transport?

The Indications For Aero-medical Transport

- Pediatric multiple trauma?
- Penetrating trauma to head, neck, torso,
- Groin / pelvis or femur area?
- Blunt trauma to chest?
- Traumatic paralysis?
- Amputation near or of the upper or lower extremities?

- Helicopter evacuation requires a coordinated effort between ground crews and flight crews to insure the safety of everyone involved.
- Safety must be the overall goal of any aero-medical transport or helicopter rescue operation.

- All the trauma centers in North Carolina have developed their own (SOGs) for aero-medical helicopter transport.
- Eight (8) trauma centers providing aeromedical transport across the state.
- Review your local Aero-medical helo SOG's.

Requesting Aero-medical Transportation

- Which agencies that have the authority to request aero-medical transport ?
- Emergency communications centers.
- Emergency Medical Service personnel.
- Rescue Squad personnel.
- Fire Department personnel.
- Law Enforcement personnel.

Information That Will Be Requested By The Flight Communications Center

- Name of requesting agency or personnel.
- Patient's name, age and weight.
- Location of incident scene and nearest landing zone (LZ).
- Street, intersection, a landmark, or map grid coordinates.
- Radio frequencies and Unit ID numbers for contact of on-scene units.

Information that will be requested by the flight communications center

- Description Of The Incident
- Number Of Pt.'S
- Condition Of Patients.
- Scene Hazards
  - Power Lines
  - Weather
  - Elevated Structures
  - Terrain Features
- Need For Specialized Equipment Or Physician

Packaging A Patient; Prior to Transport

- The patient will be packaged in accordance with guidelines established by the responding agency.
  - Stabilize by using the ABCs.
  - Control major bleeding.
  - Stabilize spinal injuries.
  - Splint fractures.
  - Restrain as needed.
  - Maintain body temperature.
- Use of MAST trousers and the protocols of the aero-medical units reference their use. (Pressure changes with altitude.

LANDING ZONES

Sizes of Landing Zones

- Vary widely with the area of the state that this program is being taught in.
- Requirements are dependent upon the type and size of the helicopter being used at a particular time.
- One LZ can be used for multiple aircraft.

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- 100'x 100' for aeromedical Daytime
- 100'x 200' for aeromedical Nighttime
- 200' x 200' for NCNG Blackhawks Day & Night

Setting Up A Safe Landing Zone

- NO ROAD FLARES or CONES!!!!
- Location of LZ.
- Aeromedical LZ's:
- Surface conditions of LZ.
- Type of terrain.
- Lighting requirements.
- Degree of slope for type of helicopter
  No more than 10 degree slope.
- Proper clearance for approach and departure routes.

Approach Zones & Safety

- Safety rules for working around a helicopter.
  - Always remain in the pilots view.
  - Never approach a helicopter from the rear.
  - No hats or ball caps unless secured by strap.
  - Never hold IV bags above head with rotors turning.
  - Always approach and depart from the downhill side.
  - No smoking within 100 feet of the helicopter.
  - Always provide victim's face with cover when rotors are turning.

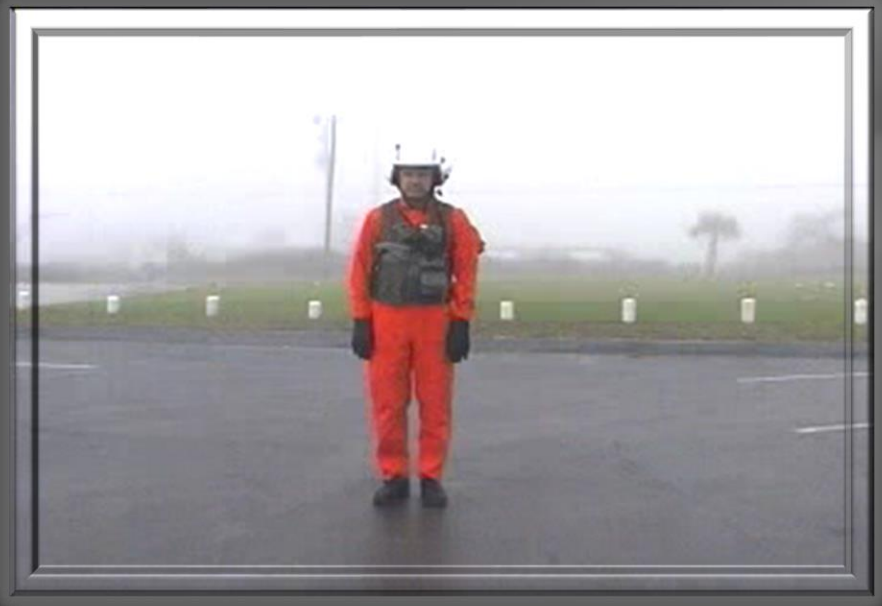
Safety Rules For Helicopter Landings

- Proper placement of lighting for nighttime operations.
- Proper placement of emergency equipment and personnel.
- Establish communications with helicopter by hand or radio if possible.

- NEVER ALLOW ANY LIGHTS TO SHINE TOWARD AN OPERATING HELICOPTER, ON THE GROUND OR IN THE AIR.

- Size of a landing zone will be dependent upon the size and type of helicopter.
- This makes it imperative that the local aeromedical and NCNG units be consulted to see what the minimums are for their craft.

- Generic hand signals used for assisting helicopters to land. (Least Preferred Method)
- Land here, my back is into the wind.
- Wave off, do not land.



- Most pilots flying hospital-based helicopters prefer not to depend on hand signals for landings and take-offs.
- Instead they depend on radio communications.
- There are times when hand signals may be the only alternative.
- During military aircraft use, hand signals should be discussed with the aircrew during a pre-incident briefing.

Landing Zone Needs

- A flat, preferably paved surface.
- Four vehicles equipped with emergency beacons positioned at each corner of the LZ.
- The use of low-beam headlights by two of the vehicles on the downwind side of the LZ, positioned so that the beams intersect in the middle of the LZ.

- Landing lights positioned at each corner of the LZ.
- Road flares positioned at each corner of the LZ. This is not a recommended practice and should only be considered as a last resort, due to the possibility of fire in brushy terrain.