

TECHNICAL RESCUER

TR Water Rescue

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.

Aero-medical Criteria

- 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.

Aero-medical Transportation Criteria

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

Aero-medical Transportation

- 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.

Aero-medical Transportation

- **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.**

Aero-medical Transportation Requesting

- *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.*

Aero-medical Transportation Information requested

- 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.

Aero-medical Transportation Information requested

- 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

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

Landing Zones

- 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.



Setting Up A Safe Landing Zone

- Landing zone requirements.
- Location of LZ.
- Size for day and night operations. 100'x200' 200'x200'
- Surface conditions of LZ.
- Type of terrain.
- Lighting requirements.
- Degree of slope for type of helicopter.
- Proper clearance for approach and departure routes.
- Long Axis on the LZ should be oriented upwind since helicopters land and take-off into the wind.

Landing Zones

- 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 Zones

- 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.

Safety Rules For Helicopter Landings

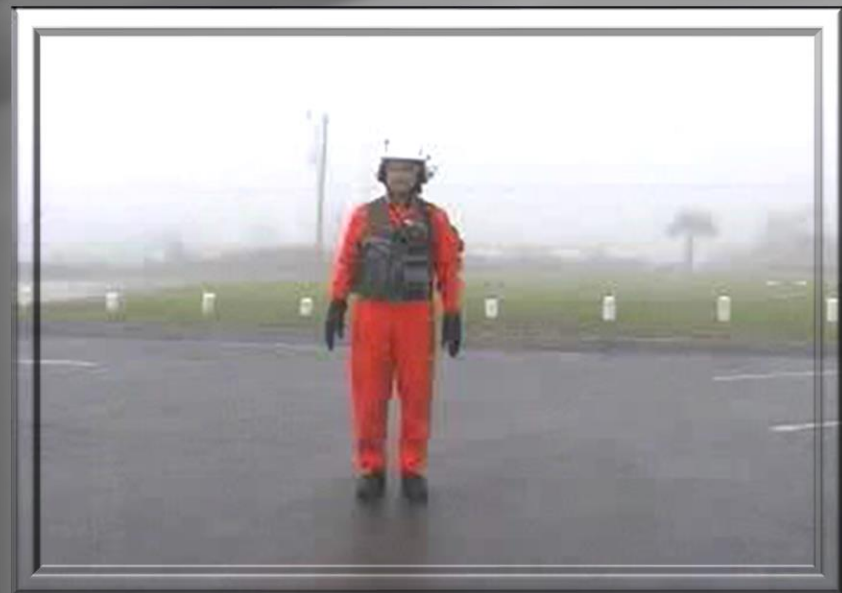
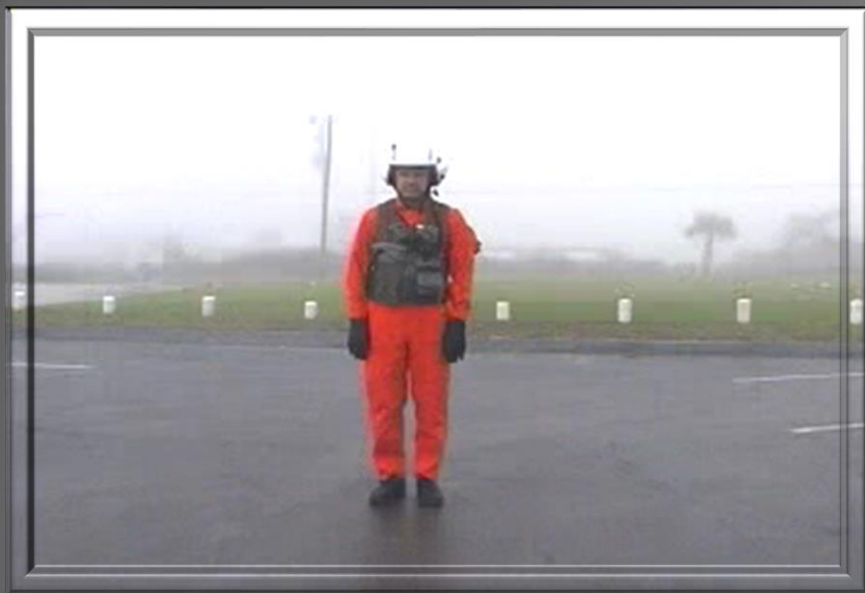
- Proper placement of lighting for nighttime operations.
- Proper placement of emergency equipment and personnel.
- Establish communications with helicopter by hand or radio if possible.

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.

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

- Generic hand signals used for assisting helicopters to land.
- 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.

- Military helicopters may or may not have communications capabilities based on established your frequencies.
- Some military aircraft have the “Wolfsburg” radio systems and are able to communicate through civilian channels.

