

3.3.3.4 Helicopter Operations



YOUR ORGANIZATION
STANDARD OPERATING PROCEDURES/GUIDELINES

TITLE: Helicopter Operations

SECTION/TOPIC: Patient Disposition and Transportation

NUMBER: 3.3.3.4

ISSUE DATE:

REVISED DATE:

PREPARED BY:

APPROVED BY:

X

Preparer

X

Approver

These SOPs/SOGs are based on FEMA guidelines FA-197

1.0 POLICY REFERENCE

CFR	
NFPA	
NIMS	

2.0 PURPOSE

This standard operating procedure/guideline addresses choosing and marking a landing zone, arm signals, crowd control, protective gear, approaching a helicopter, behavior and etiquette during transport, standard safety devices and techniques, use of hazardous equipment during transport.

3.0 SCOPE

This SOP/SOG pertains to all personnel in this organization.

Several public and private helicopter services are available for various purposes, including emergency medical transportation, rescue from inaccessible locations, aerial reconnaissance of emergency scenes, brush firefighting, and emergency transportation of personnel and/or equipment. The agencies involved in these services and available for emergencies are:

Air Evac
Life Net
City Police Department
Native Air

Department of Public Safety
City2 Police Department
Sheriff's Department
State Army National Guard
Television Stations Channels 3, 5, 10, 12, 15
Air Services International

4.0 DEFINITIONS

These definitions are pertinent to this SOP/SOG.

5.0 PROCEDURES/GUIDELINES & INFORMATION

5.1 Choosing and Marking a Landing Zone:

EMERGENCY MEDICAL TRANSPORTATION

Helicopter transportation is available for patients within city areas, when time and distance affect ground transportation time. When sufficient ambulances are unavailable, or when patients are in locations inaccessible to ground units, helicopter transportation should be considered.

Med-Evac helicopters are capable of carrying; only one Immediate patient. Additional helicopters should be requested for incidents involving multiple Immediate patients. These aircraft are not approved for Technical Rescue air operations.

DPS helicopters are capable of carrying one patient only. DPS helicopter pilots must be advised of a litter patient prior to taking off or landing so that the interior of the helicopter can be put in proper configuration to accommodate the patient.

Helicopter medical transportation should be considered for -- Immediate trauma patients requiring urgent surgery, patients requiring specialized treatment (OB, pediatric, burns, neurological.) or any other patient Medical Control deems necessary.

LANDING ZONES

The selection of an appropriate landing zone is of critical importance in all field situations. A suitable landing area must be located and identified for the pilot. **Should anything become unsafe during the approach of any helicopter during landing operations instruct the pilot to GO AROUND three times.**

Command will assign personnel to select and identify a landing zone. The assigned personnel shall have a portable radio, eye protection, ear protection, high-visibility safety vests. All personnel assigned to the landing zone operation shall be on the designated landing zone radio frequency. Engine companies are more suitable for this assignment.

The landing zone must be relatively flat and free of obstructions for an area of at least 100' x 100' for each helicopter. All spectators, vehicle traffic (including emergency vehicles) and animals must be kept a minimum of 200' away from the landing zone. In the center of the landing zone, a 60' x 60' "touch down" area shall be identified with appropriate visual markers. The individual communicating with the pilot shall stand at the front right corner (as seen by the pilot) of the touch down area. A visual check should be made for overhead wires, poles, towers, and similar obstructions. Any obstructions noted must be communicated to the pilot before he/she is committed. The pilot can then assess the obstruction.

“Special Use” landing zones are defined as any landing zone where the pilot cannot land and shut down power to the aircraft. “Special Use” landing zones are technical by nature and shall be staffed by members of the Technical Rescue Team at both the base and off-site landing zones.

The approach and departure paths (into the wind) must be free of obstructions. For heavily loaded helicopters (i.e., water drop), the clear path should extend at least 100 yards in each direction.

Approach and departure paths should not pass over a treatment area, Command Post, or other activity areas where noise and rotor wash will cause problems.

The landing zone should be located at least 100 yards from other activity areas.

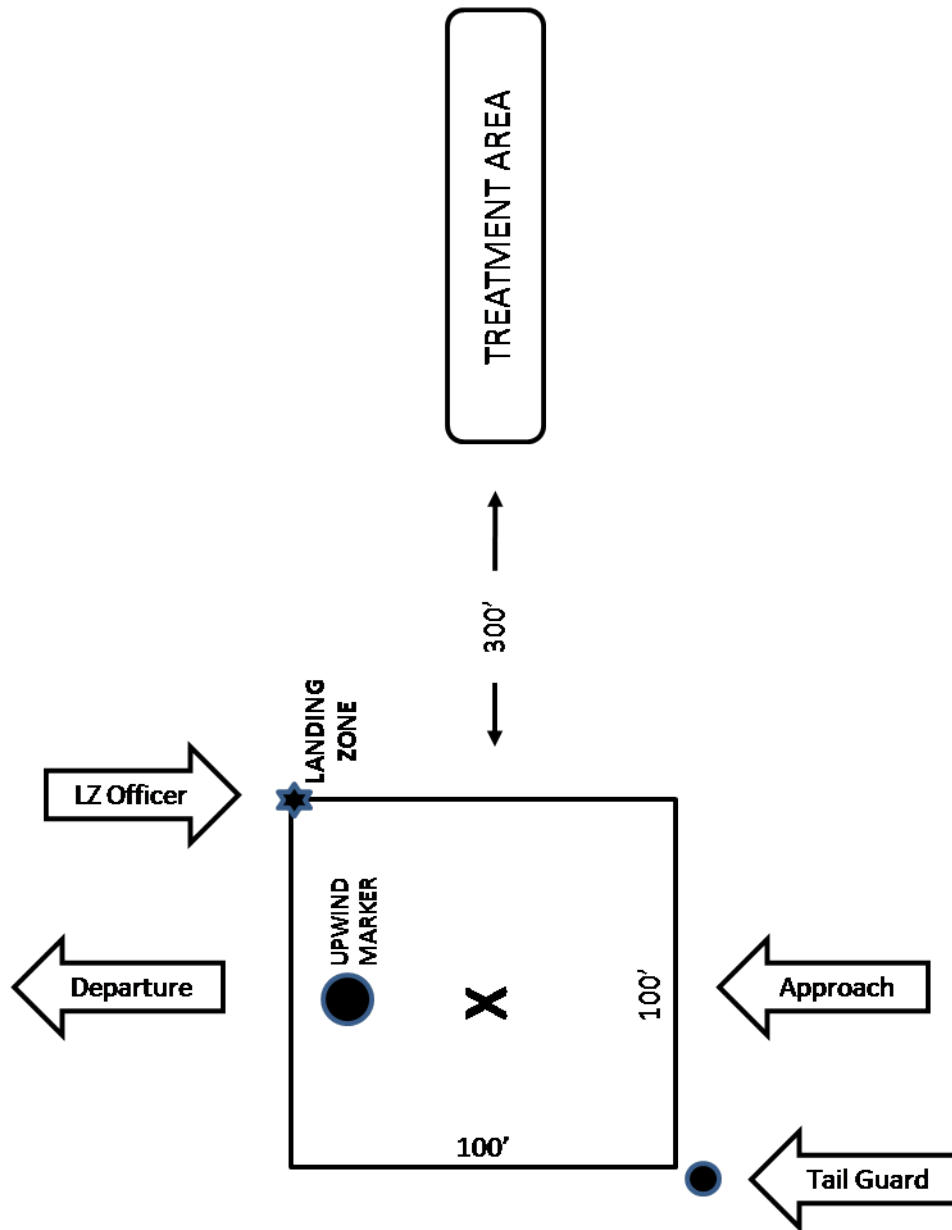
The landing zone and surrounding area must be free of small objects which can be blown around by rotor wash. Check for metal objects and secure loose clothing or blankets.

Avoid dusty locations if possible. If the landing area is dusty, wet down the area with a hose line before landing.

Once a helicopter has landed the pilot may elect to shut down for added safety in the landing zone.

While the helicopter is on the ground, whether running or not, a "tail guard" shall be stationed 50 to 100 feet from the tail rotor to keep the area secured. **At no time shall personnel pass behind the body of the helicopter and the tail rotor.**

Radio contact and the landing zone shall be maintained for two to three minutes after departure of the helicopter in case an in-flight emergency is experienced and the helicopter needs to return to the landing zone.



5.2 Arm Signals:



**Clear To
Start Engine**



Take-off
Right hand
behind back,
left hand
pointing up.



Hold-Hover
Place arms over
head with
clenched fists.



Move Upward
Arms extended,
sweeping up.



**Move
Downward**
Arms extended,
palms down,
arms sweeping
down.



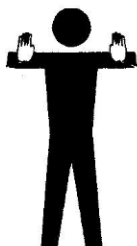
Move Right
Left arm
horizontal
right arm sweeps
upward to position
over head.



Move Left
Right arm
horizontal,
left arm sweeps
upward to position
over head.



**Move
Forward**
Combination of
arm and hand
movement in a
collecting
motion pulling
toward body.



**Move
Backward**
Hands above
arm, palms out
using a shoving
motion.



Land
Arms crossed
in front of body
and pointing
downward with
back to wind.



**Shut-off
Engine**
Slash across
throat.

5.3 Crowd Control :

5.4 Protective Gear:

PERSONAL PROTECTIVE EQUIPMENT (PPE)

PPE consists of clothing and equipment that provide protection to an individual in a hazardous environment.

All fire personnel and crew members will wear the following PPE when operating in or on the helicopter.

Flight Helmet: Must provide protection for the head.

Exceptions: TRT helmets or helicopter headsets may be used when a flight helmet is not necessary. (Flight helmets must be worn during long-line operations.) Fire helmets may be used by brush firefighters being transported to and from sites and firefighters in full protective clothing.

Fire Resistant Clothing: Nomex jumpsuit with length sufficient to eliminate exposure between boots and gloves, or structural firefighting coat and pants.

Exception: Brush firefighters may wear FR pants and Nomex brush jacket.

Leather Boots: Should extend above ankle.

Exception: Working in an environment not conducive to wearing leather boots.

Gloves: Should be leather or Nomex and leather.

5.5 Approaching a Helicopter:

HELICOPTER SAFETY FACTORS

- Approach and depart helicopter from the front or 45 degrees from the front, in a crouching position; remain in view of the pilot.
- Establish eye contact with pilot or observer before approaching if rotors are moving.
- Do not approach helicopter after landing until pilot or observer signals approval to approach aircraft.
- Approach and depart in pilot's or observer's field of vision (never towards the tail rotor).
- At no time will personnel approach the tail area of any helicopter.
- Landing zone personnel shall use eye protection or helmet face shields and ear protection. Helmet chinstraps shall be tightened securely.
- Use a chinstrap or secure hardhat when working around main rotor.
- Keep landing areas clear of loose articles that may "fly" in the rotor down wash.

- Provide wind indicators for take-off and landings; back to the wind, arms extended in front of body.
- Beware of rotor wash. Small objects and clothing (caps, jackets, etc.) can be blown around easily. Do not grab or chase articles blown off by the rotor wash.
- Be aware the spotlights used to illuminate obstructions can blind the pilot. Extreme caution should be used. Only use spotlights to illuminate the bottom of poles. Do not shine upward.
- Fasten seat belt upon entering helicopter and leave buckled until pilot signals to exit. Fasten seat belt behind you before leaving.
- Use the door latches as instructed; caution should be exercised around moving parts or Plexiglas.
- Do not throw items from the helicopter.
- Carry tools horizontally and below waist level, never upright or over shoulder.
- Secure items internally and externally on the helicopter.
- Provide pilot with accurate weights and types of baggage.
- Stage patients waiting to be loaded at least 150 feet away. Secure sheets and blankets and cover eyes during landing.

5.6 Behavior and Etiquette during Transport:

5.7 Standard Safety Devices and Techniques:

5.8 Use of Hazardous Equipment during Transport: