I. POLICY

Under select circumstances, it may be in the patient's best interest to be transported by an aeromedical service. Initial arrangements for aeromedical transport in the NWC EMSS may be made by EMS or by base station personnel following consultation with, and approval by, medical control. The helicopter service should be selected based on scene response times, the type of mission to be performed, the desired medical credentials of the crew, and special drugs or equipment that may be needed.

II. Circumstances potentially requiring helicopters – See SOP page 33

A. High acuity patients when time is critical for survival and/or distances are long, i.e., need for expeditious transport when helicopter response time to scene and flight time to tertiary center is faster than ground transport.

B. Patients inaccessible due to weather, disasters, or mass-casualty situations, i.e., where there is a potential for delays, including road obstacles and traffic conditions which might allow patient deterioration. Examples: Following heavy rains, snow or other severe weather, a helicopter may be the only mode of transportation available.

C. Patients requiring transport to a trauma center involving circumstances in which scene and ground transport time will be greater than 25 minutes.

D. Special skills or equipment are needed at the scene (e.g., blood products, chest tubes, paralytics for RSI) that are not allowed or otherwise available.

E. Special rescue operations exist where the patient may be in an inaccessible location (rooftop, rough terrain, or water); or help is needed to search for a (potential) patient; and in certain incidents where overhead lighting is needed for ground rescue operation.

F. Fire: Used for air observation of scene (command post); rooftop evacuation in a high rise fire; rooftop insertion of fire fighters and equipment; and/or rapid transport of specialty teams or equipment.

III. Indications for air transport per SOP: Patients requiring direct transport to one of the following when ground transport would take longer than air response plus transportation time.

A. Level I Trauma Center (see criteria) after prolonged extrication in a critical patient.

B. Replantation center (LGH, ABMC) or injuries above the ankle and wrist.

C. Hyperbaric center for an unconscious patient with CO/smoke inhalation or a diver with nitrogen narcosis.

D. Need for access to a more distant trauma center, i.e., disaster/mass casualty situation.

IV. Scene personnel responsibilities

A. Scene survey: Rapidly analyze MOI; # of victims, nature and severity of injuries. Perform initial assessments and triage as necessary. Determine need for air transport.

B. Initiate care per SOP.

C. Questions to answer before calling a helicopter

1. What is the ground transport time from scene to the specialty referral center? If 20 minutes or less, it is generally more appropriate to transport by land.

2. What is the traffic like right now? Known to anticipated congestion may tip the scales in favor of air transport.

3. Does the patient require extrication? Call the helicopter early so it can be at the scene before the patient is packaged.
4. How many critical patients are present?
   With multiple patients, the most critical may be better served by air transport while
   the less injured are transported by land.

5. What skill level, based on scope of practice, is available at the scene?
   Does the patient require care that cannot be provided by scene personnel?

V. HELICOPTER CONTACT OPTIONS

A. OPTION 1: Field personnel initiate flight arrangements
   1. Contact the aeromedical service closest to the incident site (see map) or the one
      that best meets patient care needs.
      - Flight for Life (McHenry) (1 RN, 1 EMT-P): 1-815-344-1000
      - Life Star (Aurora) (1 RN; 1 EMT-P): 1-866-480-6030
      - Air Angels (West Chicago) (1 RN, 1 EMT-P): 1-877-AIR-LIFT (247-5438)
      - REACT (Rockford) (2 RNs): 1-800-63-REACT (7-3228)
      - UCAN (Chicago) (1 MD, 1 RN): 1-800-621-7827
   2. Provide the dispatcher with information listed in Section VI.
   3. Determine their ability to take the flight. If aircraft is available, ask them to initiate
      flight response or standby status. If aircraft is not available, call an alternate
      service.
   4. Immediately contact the nearest system Resource or Associate hospital with
      patient information and request authorization to transport by helicopter. If the
      on-line medical control physician determines that aeromedical transport is not
      medically indicated for the patient, recontact the aeromedical service and cancel
      the request.
   5. As the flight crew prepares for lift-off, the communications technician will give an
      estimated time of arrival and ask for any other specific patient information the flight
      crew may require. RADIO FREQUENCY TO USE: I-REACH 155.055
   6. After the helicopter lands and a receiving hospital determination is made, recontact
      the nearest System Resource or Associate hospital with the hospital destination
      and approximate ETA. Ask medical control to call report to the receiving hospital.

B. OPTION 2: Hospital personnel initiate flight arrangements
   1. Scene resources may limit the ability to call for an air transport service. EMS
      personnel may call the nearest System Resource or Associate hospital to make
      arrangements.
   2. Relay patient condition, vital signs, and circumstances favoring air transport and
      request authorization to transport the patient by air.
   3. If approved, convey the information listed in Section VI.
   4. An ECRN shall contact the appropriate aeromedical service to make initial
      arrangements. See contact information above.
   5. Contact the aeromedical service closest to the incident site or the one that best
      meets patient care needs. See V.A.1. for numbers.
   6. Provide the dispatcher with information listed in Section VI.
   7. Determine their ability to take the flight. If aircraft is available, ask them to initiate
flight response or standby status. If aircraft is not available, call an alternate service.

8. If a later decision is made not to use the helicopter, cancel the request ASAP.

9. Call patient report to the receiving hospital based on scene report.

10. Once the authorization for lift-off has been given by the hospital, all further communication will take place directly between scene and helicopter personnel to coordinate a landing zone.

VI. INFORMATION NEEDED BY HELICOPTER DISPATCHER (See helicopter request worksheet)

A. Name of requesting agency, your name, and call back number or frequency (PL).

B. **Number of patients requiring air transport.** Name and age, if available.

C. Type of incident; mechanism, and/or acuity of illness/injuries.

D. Brief description of patient's condition; VS and pertinent medical history.

E. Care already performed.

F. **Landing site location:** Use highways or road names (not streets), major landmarks (water towers, lakes, cities or towns) and identify hazards. Describe the landing zone.

G. **Ground contact person and radio frequency** and PL number preference or call sign.

H. When the patient is to be picked up.

I. Desired receiving hospital; accepting physician's name (interhospital transfer).

J. Referring physician (interhospital transfers).

K. Special devices and/or personnel required to transport patient.

L. Ambulance transporting to and from landing site, if indicated.

M. Weather conditions at scene, if adverse.

VII. **Transfer of care:** Give patient report to the helicopter crew upon their arrival. Complete a CARS report to the extent of your involvement as soon as possible after the call indicating your participation as treat, no transport. Fax a copy of your report to the receiving hospital ASAP.

VIII. **Quality improvement monitoring:** All EMS runs using helicopters shall be reviewed to measure compliance with system standards and seek opportunities for improvement.

IX. **Landing zone safety**

A. Site should have a 100 sq. ft. diameter. (150 sq. ft. at night or in high winds).

B. Site should be clear of trees, wires, debris, emergency vehicles, signs, other obstacles, or presence of any hazards i.e., fires.

C. Should be far enough away from patients to provide safety from rotor winds.

D. Site should be as smooth and flat as possible, no more than a nominal (8°) slope.

E. **Mark landing zone for helicopter pilot**

1. **DAY:** Hand signal. When signaling, stand with your back to the wind. Depart when the helicopter is on final approach.

2. **NIGHT:** One light (anchored flare) or headlight at each corner; 5th light upwind. Helpful to place a vehicle at two of the corners with their headlights crossing in the center of the area. Keep lights out of pilot's eyes.

F. Emergency vehicle(s) present with overhead revolving lights flashing.

G. If roadway is used, have traffic stopped in both directions.

H. **Security:** Use rope, barricades or vehicles to secure area. Keep bystanders at least 150 ft.
from landing area. Request police assistance for crowd control if necessary. Pilot may refuse to land if too many people in landing zone.

I. If two or more rescuers are at the landing site, one should be toward the front and the other to the side, within the pilot's view. If you can see the pilot, he can see you.

J. Engine company to stand by during landings/take offs, if possible. At minimum, provide one dry chemical and one CO₂ fire extinguisher.

K. Protect yourself and the patient from dust and debris whipped up by rotor wash. The highest winds and the greatest amount of flying debris are produced just before the helicopter touches the ground. Wear protective eye covering.

L. No vehicles, smoking or running within 50 feet of aircraft.

X. Approaching/Loading the aircraft

A. Do not approach a helicopter until it has settled firmly on the landing site and the rotor blades have completely stopped, unless the pilot signals you to approach.

B. Approach aircraft within a 30°-45° angle from the front. One assertive team member should be assigned to ensure that all responders stay clear of the tail rotor - it may be invisible when rotating.

C. Approach and depart helicopter from the downhill side if a sloped terrain.

D. When approaching aircraft with patient while engines are running: secure straps on cot over top of blanket covering the patient. Secure all loose objects such as long hair, hats, stethoscopes, clothing and equipment.

E. Carry all equipment below the waist and walk in a crouched position. Never raise anything above your head near the helicopter, since the main rotor dips lowest at the very front of the aircraft.

F. Allow flight crew to open and close helicopter doors.

G. Flight personnel will direct loading and unloading of patients. Do not assist unless asked to do so. Do not assist crew members with opening or closing doors.

XI. Time savers

A. Call the helicopter early in the incident.

B. Direct the helicopter to land as close as is safely possible to the scene. If impossible, get the patient to the landing site as soon as possible.

C. Perform full spine immobilization on those patients who require it. The patient must be immobilized before moving to the aircraft.

D. Leave the patient's arms free and chest exposed if possible. This makes it easier for the flight crew to attach monitors and assess the patient enroute.

E. Explain to the conscious patient that he or she will be transported by air and the reasons why. Help reduce flight anxiety.

F. Search patients for possible weapons.

G. Total ground scene time for helicopter should be no more than 10 minutes, including the load time if the ground crew is ready to assist the flight crew, no critical interventions are necessary, and the aircraft is able to land at the scene.

H. If weather appears to be poor, call for the helicopter if needed, but have a back-up plan of
ground transportation available. Helicopters cannot safely operate in fog, hail storms, heavy snow, zero visibility or strong, gusty winds over 40 miles per hour.

XII. Special patient considerations

A. Femur or lower extremity fractures: Most medical helicopters have a limited amount of interior space and access to lower extremities may be limited. Traction splints should not extend beyond the end of the backboard in most instances.

B. Obese patients: Most medical helicopters have a weight limit, especially when transporting more than one patient. If presented with a morbidly obese patient, contact the helicopter with the patient's estimated weight ASAP.

C. Combative patients: Most medical helicopters will transport combative patients but they may need to be adequately restrained and/or sedated before flight.

D. Patients contaminated with hazardous materials: These patients cannot be transported by air if there is any possibility that the flight crew may become contaminated.

E. Patients in cardiac arrest: Can be transported by air and given ALS care in flight but a risk/benefit analysis should be done by medical control.
<table>
<thead>
<tr>
<th>Information needed by helicopter dispatcher</th>
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</thead>
<tbody>
<tr>
<td><strong>Name of requesting agency:</strong></td>
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<tr>
<td><strong># patients requiring air transport:</strong></td>
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<tr>
<td><strong>Patient name:</strong></td>
</tr>
<tr>
<td><strong>Patient condition/acuity:</strong></td>
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<tr>
<td><strong>VS:</strong></td>
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<tr>
<td><strong>Care already performed</strong></td>
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<tr>
<td><strong>Landing site location/description:</strong></td>
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<tr>
<td><strong>Ground contact person:</strong></td>
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<tr>
<td><strong>When needed:</strong></td>
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<tr>
<td><strong>Special needs or personnel requirements:</strong></td>
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<tr>
<td><strong>Weather conditions at site if adverse:</strong></td>
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