Resources:

IDPH EMS Rules Section 515.900 – 515.963 Licensure and Operation of SEMSV Programs

Lyng, J.W., Braithwaite, S., Abraham, H., Brent, C. M. et al. (2021) Appropriate air medical services utilization and recommendations for integration of air medical services resources into the EMS system of care: A Joint Position Statement and Resource Document of NAEMSP, ACEP, and AMPA, Prehospital Emergency Care, 25(6), 854-873, DOI: 10.1080/10903127.2021.1967534. To link to this article: https://doi.org/10.1080/10903127.2021.1967534

Loyd JW, Larsen T, Kuhl EA, et al. Aeromedical Transport. [Updated 2024 May 1]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2025 Jan-. Available from: https://www.ncbi.nlm.nih.gov/sites/books/NBK518986/

I. POLICY

The NWC EMSS strongly encourages ground transport. The approval to transport a patient by an Aeromedical transport service is a medical decision that should be made by a physician after a risk benefit analysis.

Under select circumstances, it may be in the patient's best interest to be transported by an aeromedical service after consultation with, and approval by, the OLMC physician at NCH (System Resource hospital). Arrangements will be made by scene/ground personnel. The helicopter service should be selected based on response times and proximity to the scene.

II. Circumstances potentially requiring a helicopter

A. High acuity patient when time is critical for survival and/or distances are long, i.e., need expeditious transport when helicopter scene response time + flight time to the desired facility is faster than ground transport.

B. Patient is inaccessible due to severe weather, disaster, multiple patient incident (MPI), road obstacles and/or traffic conditions allowing for deterioration. A helicopter may be the only mode of transportation available.

C. Patient requires transport to a more distant facility involving circumstances in which scene + ground transport time will be significantly greater than 40 minutes (10-minute scene + 30-minute transport time).

D. Special skills or equipment are needed at the scene (blood products, chest tubes, paralytics for RSI) that exceed EMS scope of practice or are otherwise unavailable.

III. Possible indications for air transport per SOP

Patient require transport to one of these when ground transport >30 minutes and would take longer than air response + transport time.

A. Hyperbaric oxygen center for a severely confused patient (GCS ≤13) with suspected CO/smoke inhalation (SOP p. 29) or a diver with decompression illness (SOP p. 31).

B. Need for transport to a more distant trauma center, i.e., MPI.

IV. System Resource Hospital (NCH) Responsibilities

A. Use of ACEP's "Appropriate Utilization of Air Medical Transport in the Out-of-Hospital Setting" decision tree is encouraged (p. 5).

B. Questions to answer before authorizing a helicopter (use worksheet p. 6)

1. Do circumstances require transport to a more distant facility?
   Refer to SOP or worksheet for confirmation.
2. What is the ground transport time from scene to the desired destination?
   If ≤30 minutes, it is generally more appropriate to transport by land.
3. Current traffic patterns right now? Known or anticipated congestion may tip the scales in favor of air transport.
4. Does the patient require extrication? What is the anticipated extrication time?
   Call the helicopter early so it can be at the scene before the patient is packaged.
5. 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.

6. What skill level, based on scope of practice, is available at the scene?

V. Does the patient require care that cannot be provided by personnel on scene? **Scene personnel responsibilities**

A. **Scene size up**: Rapidly assess MOI; # of pts, nature and severity of injuries. Perform primary triage as necessary. Determine need for air transport.
B. Perform primary assessment and initiate care per SOP.
C. If flight appears indicated: Contact OLMC physician at NCH (Resource hospital) ASAP. Request authorization to use air transport. Document name of physician on PCR.

D. **HELICOPTER CONTACT INFORMATION:**

Life Net (Air Methods) aircraft 31	McHenry	1 RN, 1 PM	800– 995 -5862
SUPERIOR	DuPage	1 RN, 1 PM	877- 727- 6867
REACT	Rockford	2 RNs	800- 637- 3228
UCAN	Chicago	2 RNs	800- 621- 7827

1. Determine their ability to take the flight. If an aircraft is available and the pilot agrees that conditions allow for safe flight, ask them to initiate their flight response. If an aircraft is not available, call an alternate service.
2. Provide the dispatcher with the ground EMS Agency name and contact numbers and information listed in section V.C.
3. 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 and communicate updated patient information.
4. If a later decision is made not to use the helicopter, cancel the request ASAP.
5. Call patient report to the receiving hospital based on the scene report.

VI. **Information needed by Helicopter Dispatcher to complete flight arrangements (See helicopter request worksheet)**

A. Name of requesting agency, your name, ground contact person, and call back number or radio frequency (PL number) and call sign
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, pt weight
E. Care already performed
F. Landing site location: Describe the landing zone. Use highways or road names (not streets), major landmarks (water towers, lakes, cities or towns) and/or GPS coordinates (latitude/longitude) and identify hazards
G. When the patient is to be picked up
H. Special devices and/or personnel required to transport patient
I. Ambulance transporting to and from landing site, if indicated
J. Weather conditions at scene, if adverse
K. Inter-hospital transfer: Desired receiving facility; referring & accepting physician's names

VII. **Landing zone safety**

A. Site should be a 100ft by 100ft square. At night or in high winds, the site should be 150ft by 150ft square.

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. **Fire department personnel to stand by** during landings/take-offs, if possible. At minimum, provide one dry chemical and one CO_2 fire extinguisher.
K. Protect yourself and the patient from dust and debris whipped up by rotor wash. The highest winds and the greatest number 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.
M. Departments are strongly encouraged to assess for, and establish, predetermined safe landing zones.

VIII. **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 front. One assertive team member should be assigned to ensure responders stay clear of tail rotor - 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 waist and walk in a crouched position. Never raise anything above head near helicopter, since 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.

IX. **Time savers**

A. Request authorization to transport by 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. Apply spine motion restriction if indicated prior to loading the patient on 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 a conscious patient that they 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, a helicopter response may be requested, 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.

X. **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.

XI. **Transfer of care:** Complete an ePCR to the extent of your involvement as soon as possible after the call indicating your participation as treat and transferred care. Fax a copy of your report to the receiving hospital ASAP.

XII. **Quality improvement monitoring**: All EMS runs using helicopters shall be reviewed for quality management purposes. NCH OLMC shall forward the “NWC EMSS Helicopter Request Worksheet” (page 6) to the EMSS office within 24 hours of all requests (approved and denied).

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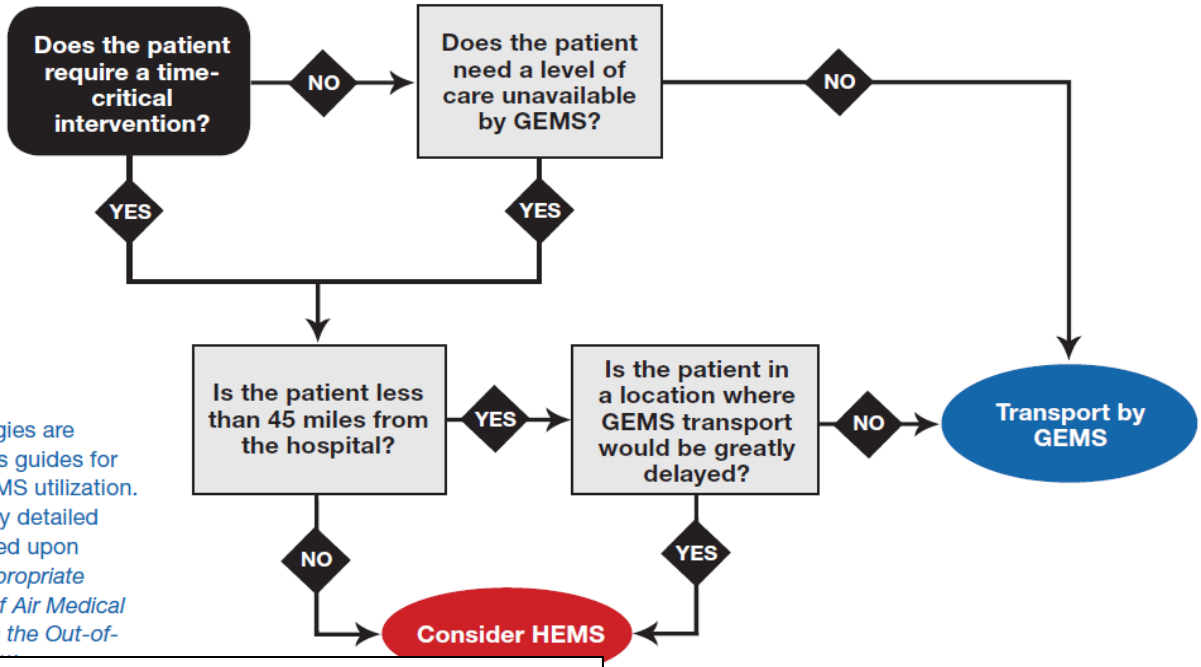
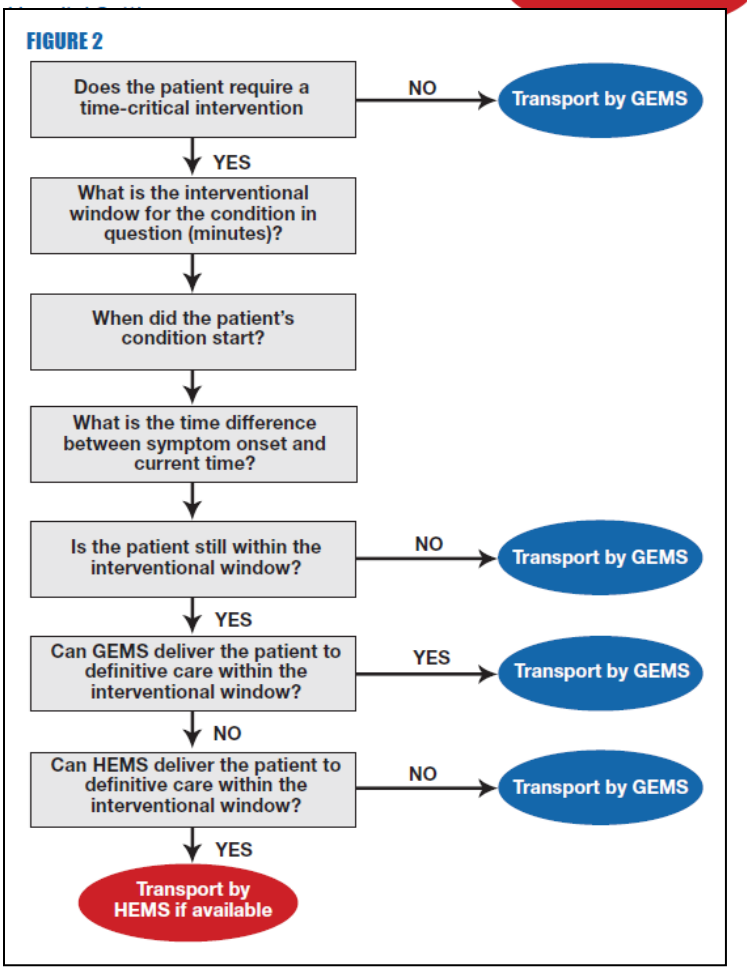


FIGURE 1

New strategies are emerging as guides for limiting HEMS utilization. The strategy detailed here is based upon ACEP's *Appropriate Utilization of Air Medical Transport in the Out-of-*

FIGURE 2



GEMS = Ground EMS
HEMS = Helicopter EMS

NWC EMSS Helicopter Request - Worksheet

Information Needed by OLMC & Helicopter Dispatcher

Completed by OLMC at Resource Hospital (NCH):

Date	Time	Requesting Agency
Type of Incident Mechanism		# pts requiring air transport

LEVEL I: HIGH RISK for SEVERE INJURY – Transport to the highest-level trauma center available within the geographical constraints of the regional trauma system*

☐ Penetrating inj. to head, neck, torso, proximal extremities ☐ Skull deformity, suspected skull fracture ☐ Suspected SCI with new motor or sensory loss ☐ Chest wall instability, deformity, or suspected flail chest ☐ Suspected pelvic fracture ☐ Suspected fracture of two or more proximal long bones ☐ Crushed, degloved, mangled or pulseless extremity ☐ Amputation proximal to wrist or ankle ☐ Active bleeding requiring a tourniquet or wound packing with continuous pressure	All patients ☐ Unable to follow commands (Motor GCS < 6) ☐ RR < 10 or > 29 ☐ Resp distress or need for ventilatory support ☐ RA SpO2 < 90%	☐ Age 0-9 years: SBP < 70 + (2 X age) ☐ Age 10-64 years: SBP < 90 mmHg HR > SBP ☐ Age ≥ 65 years: SBP < 110 mmHg HR > SBP

What is the estimated ground transport time to a Level I Trauma Center?

Is extrication required? ☐ NO ☐ YES Anticipated extrication time:

Need for specialized skills/equip not available on scene?
☐ NO ☐ YES Explain:

Age (DOB)	Gender	Weight

Patient condition
Acuity/Injuries

BP	P	R	SpO2	ETCO2	ECG

EMS care:

Desired receiving hospital

Order for Aeromedical Transport: ☐ Approved ☐ Denied

Physician (signature) *X*

Scene/Ground contact person	

Life Net (Air Methods) **McHenry** (1 RN, 1 PM) 800– 995 -5862
SUPERIOR DuPage (1 RN, 1 PM) 877- 727- 6867
REACT Rockford (2 RNs) 800- 637- 3228
UCAN Chicago (2 RNs) 800- 621- 7827

NCH OLMC – Fax worksheet to EMS office (x4489) within 24 hrs