Regional EMS Helicopter Resource Guide

Contact your primary dispatch center to request a helicopter

This Helicopter Resource Guide was developed by the EMS Aircraft Utilization/Quality Improvement Committee of the Sierra-Sacramento Valley Emergency Medical Services (S-SV EMS) Agency

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SIERRA – SACRAMENTO VALLEY
EMERGENCY MEDICAL SERVICES
AGENCY

- Butte County
- Colusa County
- Nevada County
- Placer County
- Shasta County
- Siskiyou County
- Sutter County
- Tehama County
- Yuba County

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PURPOSE

EMS helicopters are a specialized resource for prehospital response, transport, and care of patients. The purpose of this handbook is to provide all EMS ground providers standardized guidelines for the integration of the request, dispatch and utilization of EMS aircraft, within the S-SV EMS region. The primary goal is to minimize loss of life, disability, pain and suffering by ensuring the timely availability of air medical resources in the S-SV EMS Region.

UTILIZATION

A. AIR RESOURCES

EMS aircraft classifications:

1. ***Air Ambulance*:** Specially configured for transporting critically ill. Minimum of (2) ALS licensed attendants. Generally have an expanded scope of practice.

2. ***ALS Rescue Aircraft:*** Primary function is not prehospital emergency medical transport and may be used when appropriate. Minimum of (1) ALS licensed medical attendant.

3. ***BLS Rescue Aircraft:*** Primary function is not prehospital emergency medical transport and may be used when appropriate. Minimum of (1) attendant certified as an EMT-I.

4. ***Auxiliary Aircraft:*** Primary function is not prehospital emergency medical transport and may be used when appropriate. Medical attendant has no BLS certification in the aero medical transport of patients.

B. AIR AMBULANCES

1. Based in S-SV EMS Region

Calstar: RN/RN, Night Vision, VFR, IFR

Calstar 3 (Auburn), skids, 2 patient capability, rear load
Calstar 6 (South Lake Tahoe) skids, 1 patient capability, rear load
Calstar 8 (Vacaville), skids, 2 patient capability, rear load
Calstar 10 (Jackson), skids, 2 patient capability, rear load
Calstar 11 (McClellan), skids, 2 patient capability, right side load

Care Flight: RN/CCEMTP, Night Vision, VFR, TAWS, NVG

Care Flight 3 (Truckee), skids, 1 patient capability, L side load
Care Flight 1 (Reno), skids, 1 patient capability, L side load
Care Flight 2 (Gardnerville), skids, 1 Patient capability, L side load

Enloe Flightcare: CFRN/FP-C, Night Vision, VFR,

Skids (with skis for snow landing – winter), 1 patient capability, L side load.

PHI Air Medical: CFRN/FP-C, Night Vision, VFR, IFR

MED 4-3 (Redding), skids, 1 patient capability, VFR, rear load.
Med 4-2 (Sonora), skids, 1 patient capability, VFR, side load.
Med 4-1 (Modesto), skids, 1 patient capability, IFR, rear load.

REACH: RN/EMT-P, Night Vision

REACH 7 (Marysville), wheels, 1 patient capability, IFR, R side load.
REACH 5 (Redding), skids, 1 patient capability, VFR, L side load
REACH 6 (Lakeport) skids, 1 patient capability, VFR, L side load.
REACH 2 (Stockton) skids, 1 patient capability, VFR, L side load

2. Based outside S-SV EMS Region

Mercy Flights: CFRN, Night Vision

Mercy Flight 105 (Medford, OR), skids, 1 patient capability, rear load.

Mountain Lifeflight: CFRN/Paramedic, Night Vision, TAWS, VFR

Mercy Flight 5 (Susanville, CA), skids, 1 patient capability, L side load.

C. ALS AIR RESCUE

CHP: EMT-P, Night Vision, VFR, FLIR, Search

Short Haul (1660 Lbs.), External Hoist (450 Lbs.) and technical rescue capable. Skids, can reconfigure for 1 patient capability, L side load,

H-20 & H-24 (Auburn)
H-14 & H-16 (Redding)
H-30 & H-32 (Napa)

Metro Fire Copter 1: Hoist, SAR, can reconfigure for 1 patient capability (does not require landing). (Sacramento) external hoist with 600 lb. payload.

D. AUXILIARY RESCUE AIRCRAFT

CAL FIRE: Available during Fire Season Only, Short Haul
Vina: Short haul, 1 patient capability
Columbia: Short Haul, 1 patient capability

ACTIVATION

A. EMS aircraft shall be requested by the Incident Commander (IC), or designee. The request for EMS Aircraft shall be made through the Incident Commander or designee's primary dispatch.

B. The S-SV EMS Agency designated Emergency Communications Center (ECC) shall be utilized as the helicopter coordination center for initial response emergency incidents.

C. If more than one critical patient is identified as needing helicopter transport request multiple EMS helicopters.

D. If needed as a resource on scene, request an EMS Aircraft early; or anticipate need of additional resources early to allow sufficient time for response; you may cancel that request at any time.

E. If public agencies are not available for Search and Rescue (SAR), consider air ambulance. Air ambulances will maintain availability for other EMS calls and their SAR time is limited.

F. Based upon the best available evidence, the Greater Sacramento Area Trauma Quality Improvement Committee recommends that patients undergoing active CPR should not be transported by air ambulance to a receiving facility.

G. Patients with partial or complete amputation requiring re-implantation or patients requiring hyperbaric treatment must be evaluated at the local hospital prior to being transported to a specialty center.

SAFETY

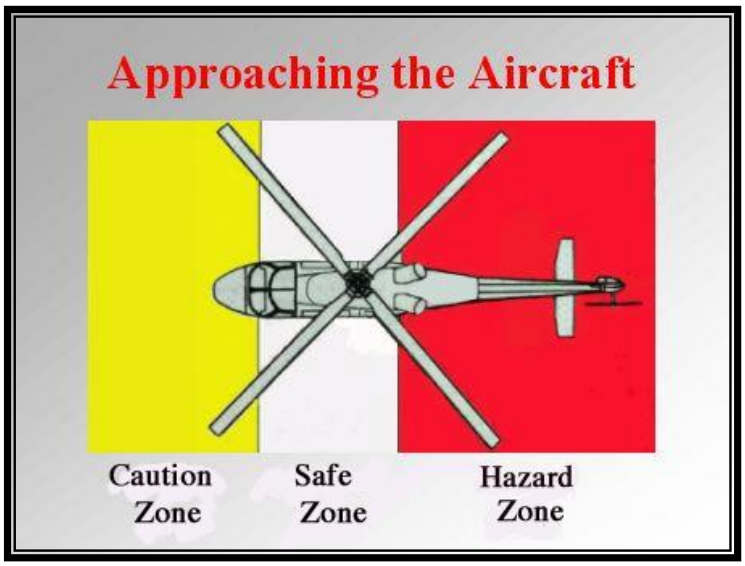
NEVER APPROACH THE AIRCRAFT WITHOUT THE SIGNAL FROM THE PILOT OR FLIGHT CREW TO COME FORWARD.

A. SAFETY ZONES

Safe Zone – The two areas at each side of the helicopter's main body - **the area in full view of the pilot and flight crew.**

Caution Zone -- The area that extends from the pilot forward.

Hazard Zone – The area extending rearward from the main body to the tail rotor. This area should always be avoided and be clear of people, obstacles, and debris.



B. EMERGENCY LANDING ZONE (ELZ) REQUIREMENTS

Setting up a **SAFE** landing zone will insure the safety of the critical care crew as well as all individuals on the ground.

1. Emergency Landing Zone (ELZ) Day and Night: 100 ft x 100 ft or 100 ft in diameter.

2. ELZ area should be a firm, flat landing surface free of obstacles, hazards, and debris. Be prepared for 60-80 mph winds from rotor wash that would cause debris to be blown around. Consider FIRE POTENTIAL! Always coordinate landing efforts with pilot.

3. If watering a site is required, attempt to use as little as possible to achieve the task. If the ELZ is too slippery to walk in comfortably, it is too slippery to operate in safely.

4. If sloped, the site should NEVER exceed ten (10) degrees.

5. When choosing an ELZ, remember that the aircraft will land and take-off **INTO** the wind. These flight paths should be clear of wires, trees, towers, poles, and signs.

6. All vehicle lights will be used by the pilot to locate the ELZ. Be prepared to shut off lights as requested by the pilot. Some areas may use ELZ kits.

7. Never direct lights toward the aircraft, unless requested specifically by the pilot through the Designated ELZ Officer.

8. Consideration should be given to ground resources.

9. **The pilot remains the final authority on the acceptance of the ELZ.**

C. OBSERVE AND REPORT TO THE HELICOPTER CREW

1. Wires, poles, trees, towers, antennae and their relation to the ELZ. When identifying the hazard, use the "clock position" in reference to the aircraft. ("Fence line to your nine o'clock")
2. Terrain features.
3. Surface conditions with the slope angle.
4. Wind speed and direction, including gusts.
5. Hazards such as wellheads, ditches, fence posts, snow stakes, rocks, etc.
6. Animals or livestock
7. Flight path hazards
8. Consider utilizing the pneumonic: HOTSAW: (**H**azards, **O**bstructions, **T**errain, **S**urface, **A**nimals, **W**ind / **W**eather)

D. APPROACHING THE AIRCRAFT

DO

1. Approach the aircraft as directed by the flight crew or upon receiving the "Come Forward" signal from the pilot or crew.
2. Maintain eye contact with the pilot upon approach to the aircraft.
3. Be prepared for 60-80 mph winds. Secure and protect. Protect yourself, other personnel, and your patient from blowing debris.
4. Be mindful of fire danger when using smoke or flares.
5. Communicate freely any hazards you think may be a threat to safe operation. Remain vigilant to hazards during all phases of scene operation.
6. Use the command **"STOP-STOP-STOP"** or **"ABORT-ABORT-ABORT"** when communicating an unsafe condition to the pilot. Once you have his attention, inform him of your concern or observation.
7. Think WIRES! WIRES! WIRES!
8. Follow all directions from the flight crew and pilot.
9. Stay out of the **Hazard Zone** and away from the tail rotor.
10. Use head, eye, and hearing protection.
11. Approach the aircraft on the downhill side of uneven terrain.
12. Always be mindful of the main rotor and the tail rotor.
13. Allow *only* the flight crew to secure all doors and latches in preparation for take-off.
14. Stay clear of the entire ELZ perimeter when aircraft is landing and departing.

NEVER

1. Approach the aircraft without the signal from the pilot or flight crew to come forward.
2. Run in the landing zone, or behave erratically.
3. Chase items that may be blown by the rotor wash.
4. Approach the tail rotor. Contact with a spinning tail rotor is FATAL.
5. Carry items such as IV poles, skis, poles, etc over your head. All items should be at waist level or below, or secured to the patient stretcher. No items should be above waist level.
6. Allow loose blankets, ball caps, or clothes to be a hazard when the aircraft is running.
7. Approach the aircraft during start-up or shut-down. The blades may dip down, reducing ground clearance and creating a strike hazard.
8. Walk under the tail boom, unless directed by the crew to assist with rear patient loading.
9. Approach the aircraft from the uphill side of uneven terrain.
10. Remain within the ELZ perimeter during aircraft landing and departure.

E. DESIGNATED ELZ COORDINATOR — *The roles and responsibilities*

1. Is responsible for all ground-to-air communications with helicopter.
2. Communicates other frequency when CALCORD is unavailable. Standard frequency is CALCORD (156.075 MHz). **Line of sight frequency**.
3. Selects landing zone site and is responsible for all hazard identification to aircraft.
4. Communicates latitude and longitude coordinates to identify ELZ to incoming aircraft (lat/long).
5. Identifies visual references easily seen from the air to assist the pilot in locating the landing zone.
6. Walks a "Z" or "N" pattern through entire zone, covering all corners, middle, and perimeter to identify slope and possible hazards.
7. Considers the use of water to "settle" snow or dust, or help distinguish ELZ.
8. Understands using the "STOP-STOP-STOP" or "ABORT-ABORT-ABORT" command to identify hazards to the pilot during approach or departure.
9. Maintains "radio silence" on final approach and take-off unless a safety issue arises.
10. Directs the use of emergency lighting to mark obstacles such as wires or identify ELZ location **day or night.**
11. Considers the use of additional lighting at night as directed by the pilot. Prepares to have lights turned off including strobes if requested by pilot during NVG operations.
12. Prepares for communication with other members of the ground staff by radio before arrival of the helicopter.
13. Reports having visual contact or hearing the helicopter. Use clock directions as seen by the pilot when identifying your position. "We are at **your** 2 o'clock position next to the grey house in the driveway".
14. Ensures that the entire ELZ is secure from traffic, pedestrians, and livestock. No scene personnel should get closer than 50 feet to the perimeter of the ELZ unless approved and directed by a flight crew member. Bystanders need to be kept at least 100 – 200 feet from the ELZ perimeter.
15. Maintains the security of the ELZ until the pilot clears the aircraft of the ELZ (in the event the departing helicopter must emergently return due to mechanical or other safety issues).

16. Always expects the unexpected.

17. **ALWAYS RELAYS THE PRESENCE OF ADDITIONAL AIRCRAFT IN THE AREA – EITHER REQUESTED OR ON THE GROUND.**

18. **ASSIGNS ADDITIONAL PERSONNEL AS NEEDED TO SECURE ELZ PERIMETER, AND MAINTAIN ELZ SECURITY UNTIL INCIDENT IS COMPLETE AND AIRCRAFT HAS DEPARTED SCENE.**

If a "hard landing" or crash occurs during operations, NEVER approach the aircraft until all machinery movement has stopped.

If a fire ensues, use standard methods of extinguishment utilizing foam whenever possible.

LOOK AT LEAST 300 FEET BEYOND ELZ PERIMETER WHEN IDENTIFYING HAZARDS WHENEVER POSSIBLE. COMMUNICATE ALL OBSERVATIONS THAT YOU THINK MAY AFFECT SAFE HELICOPTER OPERATIONS TO THE PILOT DURING YOUR ELZ REPORT.

MULTI-CASUALTY INCIDENT (MCI)

A. Consider early request of multiple aircraft if incident scope indicates need.
   1. Aircraft will only take one critical patient at a time.
   2. Additional responders from adjoining regions may be available.

B. Consider need for specialized aircraft:
   1. Water rescue
   2. High angle rescue (Hoist or Short Haul capable)

C. Consider staging at closest appropriate airport or pre-designated large ELZ.

D. Follow NIMS and ICS procedures:
   1. Establish ELZ Coordinator.
   2. Consider establishing Air Operations Branch if size of incident warrants.

E. Establish air-to-ground communication frequency early on.
   1. Normally Cal-Cord (156.075 MHz Simplex)

F. Ensure safety coordination if landing / loading multiple aircraft.

G. Ensure loading safety practices are adhered to.
   1. Don't rush loading – Safety First!

H. Consider use of available aircraft to transport patients, regardless of injuries, if ground resources are exhausted, overtaxed or if access to scene by ground is limited or difficult.

HAZARDOUS MATERIALS (HAZMAT) INCIDENT

A. The use of EMS helicopters for the transport of potentially contaminated Haz Mat patient(s), or WMD, is generally NOT APPROPRIATE. Patient transport by helicopter shall occur only by direction of the IC or designee. EMS helicopters may be utilized at the discretion of the IC, or designee, to transport immediate radiation contaminated patients under the same criteria as ground based transportation units.

B. Consider decontamination prior to transporting by air.

C. If an aircraft is requested, recognize that rotor wash of the aircraft may introduce an element into the HAZMAT incident, which is not in the best interest of scene safety.

    1. Always strongly consider a rendezvous landing strip 3 – 5 miles away and up wind from the incident site.

S-SV EMS AIRCRAFT CONTACT NUMBERS

AIR AMBULANCES

CalStar	1-800-252-5050 or 1-916-565-7720
Care Flight	1-776-858-5700 1-800-648-4888 (dispatch)
Emergency Airlift (No Bend, Or)	1-800-804-4911
Enloe Flightcare	1-800-344-1863
Mercy Flights (Medford, Or)	1-800-903-9000
Mountain Life Flight	(530) 257-0249 1-800-926-0801 (dispatch)
PHI	1-800-576-7828
REACH	1-800-338-4045

ALS AIR RESCUE

CHP: Sacramento Communications Center	(916) 861-1300
CHP: Redding Communications Center	(530) 242-3210
H-20 & H-24 (Auburn)	(530) 823-4535
H-14 & H-16 (Redding)	(530) 225-2040
H-30 & H-32 (Napa)	(707) 257-0103
Sacramento Metropolitan Fire Department Metro Fire Copter	1-800-660-0290

AUXILIARY RESCUE AIRCRAFT

CAL FIRE Emergency Command Center – Grass Valley (530) 477-0641

SHASCOM	1-530-245-6540
GRASS VALLEY EMERGENCY COMMAND CENTER	1-530-477-0641