S-SV EMS AGENCY

Regional EMS Aircraft Resource Guide

AirLink Critical Care Transport

CALSTAR

CHP

Care Flight 1981 Critical Care Transport

FlightCare

Life Net Northern California

Mercy Flights

PHI Air Medical

REACH Air Medical Services

Contact your primary dispatch center to request an EMS aircraft

This Helicopter Resource Guide was developed by the EMS Aircraft Committee of the Sierra-Sacramento Valley EMS Agency

REVISED APRIL 2017

SIERRA – SACRAMENTO VALLEY EMS AGENCY

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

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PURPOSE

The purpose of this handbook is to provide all EMS ground providers standardized guidelines for requesting and utilizing 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. EMS AIRCRAFT CLASSIFICATIONS:

- ***Air Ambulance*:** Minimum of (2) ALS licensed attendants (normally Paramedic/RN configuration). Generally have an expanded scope of practice.
- ***ALS Rescue Aircraft:*** Primary function is not prehospital emergency medical transport. Minimum of (1) ALS licensed attendant (Paramedic).
- ***BLS Rescue Aircraft:*** Primary function is not prehospital emergency medical transport. Minimum of (1) BLS attendant (EMT).
- ***Auxiliary Aircraft:*** Primary function is not prehospital emergency medical transport. Attendant may or may not have a medical license/certification.

B. AIR AMBULANCE:

AirLink: CCRN/Paramedic or RRT, Night Vision, VFR

AirLink 3 (Klamath Falls), skids, 1 patient capability, side load.

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

Calstar 3 (Auburn), skids, 2 patient capability, rear load.
Calstar 6 (South Lake Tahoe), skids, 2 patient capability, rear load.
Calstar 1 (Concord), skids, 2 patient capability, rear load.
Calstar 12 (Modesto), skids, 2 patient capability, right side load.

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

Care Flight 1 (Reno), skids, 1 patient capability, left side load.
Care Flight 2 (Gardnerville), skids, 1 patient capability, left side load.
Care Flight 3 (Truckee), skids, 1 patient capability, left side load.
Care Flight 4 (Beckwourth), skids, 1 patient capability, left side load.

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

(Chico), skids (with skis for snow landing), 1 patient capability, right side load (primary aircraft), left side load (back-up aircraft).

LifeNet: RN/Paramedic Night Vision, VFR

LifeNet 3-4 (Montague), skids, 1 patient capability, left side load

Mercy Flights: CFRN/FP-C, Night Vision, VFR

Mercy 105 (Medford, OR), skids, 1 patient capability, left side load.

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

Med 4-5 (Susanville), skids, 1 patient capability, left side load.
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/Paramedic, Night Vision

REACH 7 (Marysville), skids, 1 patient capability, IFR, rear load.
REACH 5 (Redding), skids, 1 patient capability, VFR, L side load.
REACH 6 (Lakeport), skids, 1 patient capability, VFR, L side load.
REACH 17 (Sacramento), skids, 1 patient capability, IFR, rear load.
REACH 2 (Stockton), skids, 1 patient capability, VFR, L side load.

SEMSA Air 1: CFRN/FP-C, Night Vision, VFR

Air 1 (Susanville), skids, 1 patient capability, left side load.

C. AIR RESCUE:

CHP: Paramedic, Night Vision, VFR, FLIR, Search, Short Haul (1660 Lbs.), External Hoist (450 Lbs.) and technical rescue capable

H-20/24 (Auburn), skids, can reconfigure for 1 patient capability, L side load.
H-14/16 (Redding), skids, can reconfigure for 1 patient capability, L side load.
H-30/32 (Napa), skids, can reconfigure for 1 patient capability, L side load.

D. AUXILIARY RESCUE AIRCRAFT:

Butte County SO: Regularly staffed May – October, otherwise on call 24/7

H-1 and Bravo-1: Short haul, NVG, day & night rescue, 1 patient capability.

CAL FIRE: Available during fire season only

Vina and Columbia: Short haul, 1 patient capability.

Sacramento Metro Fire Department: SAR, external hoist (600 lb.)

Fire Copter 1 (Sacramento), 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 IC or designee's primary dispatch.

B. An S-SV EMS designated EMS air ambulance coordination center shall be utilized as the coordination center for emergency 911 incidents.

C. If more than one (1) patient is identified as needing EMS aircraft transport, multiple EMS aircraft may be requested.

D. If needed, request EMS aircraft early or anticipate need for additional EMS aircraft resources to allow sufficient time for response. Requests for EMS aircraft resources may be canceled at any time.

E. If public agencies are not available for Search and Rescue (SAR), consider requesting/utilizing an 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

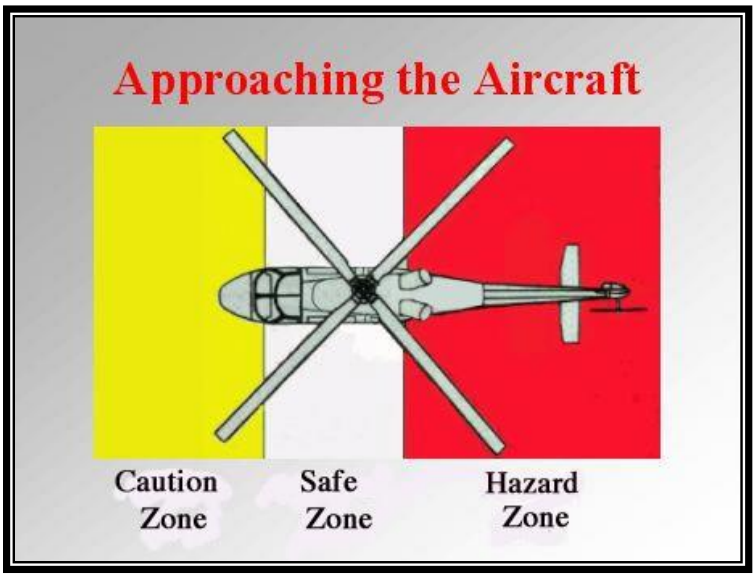
NEVER APPROACH THE AIRCRAFT WITHOUT THE SIGNAL FROM THE PILOT OR FLIGHT CREW TO COME FORWARD.

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. EMERGENCY LANDING ZONE (ELZ) REQUIREMENTS:

DESIGNATED ELZ COORDINATOR 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 ELZ latitude and longitude coordinates to incoming aircraft.
5. Identifies visual references seen from the air to assist the pilot in locating the ELZ.
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: Water rescue, 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 – **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 aircraft for the transport of potentially contaminated Haz Mat patient(s), or WMD, is generally NOT APPROPRIATE. Patient transport by EMS aircraft shall occur only by direction of the IC or designee. EMS aircraft 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. Ensure decontamination prior to transporting by EMS aircraft.

C. If an EMS 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. 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 AMBULANCE PROVIDERS

Airlink	1-800-621-5433
CalStar	1-800-252-5050 or 916-565-7720
Care Flight	1-800-648-4888 or 776-858-5700
Enloe Flightcare	1-800-344-1863
LifeNet	1-855-833-9111
Mercy Flights	1-800-786-3729 or 541-858-2600
PHI	1-800-576-7828
REACH	1-800-338-4045
SEMSA	1-209-725-7011

ALS AIR RESCUE PROVIDERS

CHP: Sacramento Comm. Center (Auburn)	916-861-1300
CHP: Redding Comm. Center (Redding)	530-242-3210
CHP: Golden Gate Comm. Center (Napa)	510-286-6923
H-20 & H-24 (Auburn)	530-823-4535
H-14 & H-16 (Redding)	530-225-2040
H-30 & H-32 (Napa)	707-257-0103

AUXILIARY RESCUE AIRCRAFT

Butte County Sheriff's Office	530-538-7322
CAL FIRE Grass Valley ECC	530-477-0641
Sacramento Metropolitan FD	1-800-660-0290

CAL FIRE EMS AIRCRAFT COORDINATION CENTERS

Grass Valley ECC (Colusa, Nevada, Placer, Sutter and Yuba)	530-477-0641
Oroville ECC (Butte Shasta and Tehama)	530-538-6840
CAL FIRE Yreka ECC (Siskiyou)	530-842-7066

Northern California EMS Aircraft General Base Location Map (Air Ambulance and Air Rescue)