Sierra-Sacramento Valley
Emergency Medical Services Agency

Regional EMS Helicopter Resource Guide

SIERRA-SACRAMENTO VALLEY
EMERGENCY MEDICAL SERVICES
AGENCY

To request for a helicopter, call 1-888-692-6692

MAY 2007

The Helicopter Resource Guide was developed by the Aircraft Advisory Committee of the Sierra-Sacramento Valley Emergency Medical Services (S-SV EMS) Agency .

SIERRA – SACRAMENTO VALLEY
EMERGENCY MEDICAL SERVICES AGENCY

- Placer County
- Yolo County
- Yuba County
- Sutter County
- Nevada 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.

UTILIZATION

B. AIR AMBULANCES

Calstar: RN/RN, Night Vision, VFR

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

Care Flight: RN/EMT-P, Night Vision, VFR

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

REACH: RN/EMT-P, Night Vision

REACH 7 (Marysville), **wheels**, 1 patient capability, IFR, R side load.
REACH 6 (Lakeport) skids, 1 patient capability, VFR, L side load.
REACH 2 (Lodi) skids, 1 patient capability, VFR, 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: EMT-P, 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. It may be appropriate to utilize an EMS helicopter for patients under CPR.

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

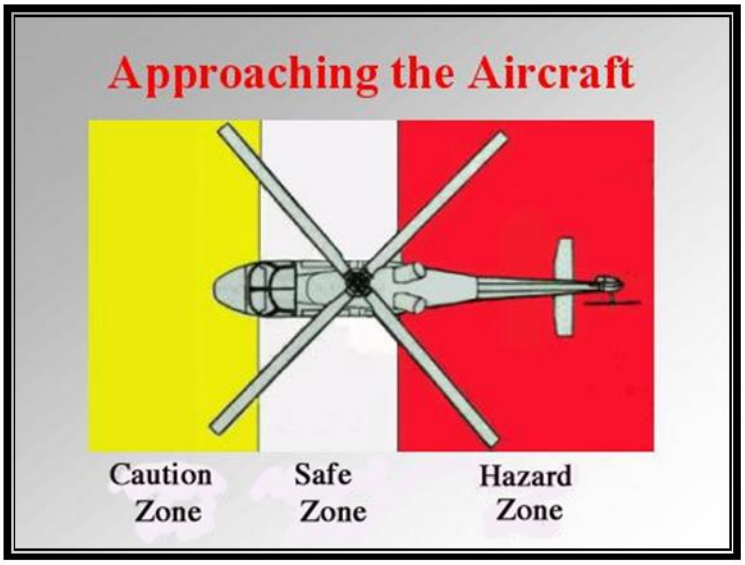
NEVER APPROACH THE AIRCRAFT WITHOUT THE SIGNAL FROM THE PILOT OR FLIGHT CREW TO COME FORWARD.

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.



SAFETY

B. LANDING ZONE (LZ) 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. Landing Zone (LZ) --75'x75' Daytime -- 125'x125' Night
2. LZ may be marked with weighted strobes, smoke, flares, or vehicles. Communicate any marker for hazards. Be prepared for 60-80mph winds from rotor wash. Prepare and respond accordingly. Consider FIRE POTENTIAL!
3. Select a firm, flat landing surface free of obstacles, hazards, and debris.
4. If watering a site is required, attempt to use as little as possible to achieve the task. If the LZ is too slippery to walk in comfortably, it is too slippery to operate in safely.
5. If sloped, the site should NEVER exceed eight (8) degrees.
6. When choosing an LZ, 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.
7. All vehicle headlights used for night landings should be directed towards the center of the LZ. **Be prepared to shut off lights that may blind the pilot when asked.**
8. Never direct lights toward the aircraft, unless requested specifically by the pilot through the Designated LZ Officer.
9. **The pilot remains the final authority on the acceptance of the LZ.**

SAFETY

C. OBSERVE AND REPORT TO THE HELICOPTER CREW

1. Wires, poles, trees, towers, antennae and their relation to the LZ. 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

SAFETY

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.
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.
6. Use the command **"STOP"** 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. Protect yourself, other personnel, and your patient from blowing debris.
9. Follow all directions from the flight crew and pilot.
10. Stay out of the **Hazard Zone** and away from the tail rotor.
11. Use hearing protection.
12. Approach the aircraft on the downhill side of uneven terrain.
13. Always be mindful of the main rotor.
14. Remain vigilant to hazards during all phases of scene operation.
15. Allow the flight crew to secure all doors and latches in preparation for take-off.
16. Stay clear of the entire LZ perimeter when aircraft is landing and departing.

SAFETY

D. APPROACHING THE AIRCRAFT

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 height or below, or secured to the patient stretcher.
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 LZ perimeter during aircraft landing and departure.

SAFETY

E. DESIGNATED LZ OFFICER — *The roles and responsibilities*

1. Is responsible for all ground-to-air communications with helicopter.

2. Standard frequency is CALCORD (156.075 Mhz). **Line of sight frequency**. Communicate other frequency when CALCORD is unavailable.

3. Selects landing zone site and is responsible for all hazard identification to aircraft.

4. Uses properly communicated latitude and longitude coordinates to identify LZ 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 LZ.

8. Understands using the "STOP" command to identify hazards to the pilot during approach or departure.

9. Directs the use of emergency lighting to mark obstacles such as wires or identify LZ location **day or night.**

10. Considers the use of additional lighting at night. Headlights faced **into** the wind.

11. Is prepared to have lights turned off including strobes if requested by pilot during NVG operations. (**Red** lights are blinding white when viewed under Night Vision Goggles.)

SAFETY

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 LZ is secure from traffic, pedestrians, and livestock.

15. During night operations, utilize spotlight to illuminate tail rotor when helicopter is on the ground.

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 LZ PERIMETER, ACT AS "TAIL ROTOR GUARD", OR MAINTAIN 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 LZ PERIMETER WHEN IDENTIFYING HAZARDS WHENEVER POSSIBLE. COMMUNICATE ALL OBSERVATIONS THAT YOU THINK MAY AFFECT SAFE HELICOPTER OPERATIONS TO THE PILOT DURING YOUR LZ 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 LZ.

D. Follow NIMS and ICS procedures:
   1. Establish LZ 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. An EMS Aircraft will not transport any patient contaminated, confirmed or suspected with any hazardous material.

B. Consider transport only after the patient has been completely decontaminated.

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

S-SV EMS AIRCRAFT RESOURCE PHONE GUIDE –
Non-Emergency Numbers

AIR AMBULANCES

Calstar: Head Quarters **(916) 921-4000**
Calstar 3 (Auburn)
Calstar 6 (South Lake Tahoe)
Calstar 8 (Vacaville)

Care Flight: **1 (800) 648-4888**
Care Flight 3 (Truckee)
Care Flight 1 (Reno)
Care Flight 2 (Gardnerville)

REACH: Corporate Office **(707) 324-2400**
REACH 7 (Marysville) **(707) 324-2503**
REACH 6 (Lakeport) **(707) 324-2444**
REACH 2 (Lodi) **(707) 324-2499**

ALS AIR RESCUE

CHP: Sacramento Communications Center **(916) 861-1300**
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 Interagency Dispatch Center – Grass Valley
(530) 477-0641