

**SECTION: G-5**

**TITLE: Air Medical Response**

**REVISED: January 27, 2010**

---

Any licensed EMS provider or law enforcement agency within the Ada County EMS system may request an air ambulance. All air medical requests shall go through Ada County Dispatch Center. While a valuable tool in reducing morbidity and mortality in both medical and trauma patients, air medical transport is both expensive and also carries with it inherent safety risks that are often underestimated.

The use of air medical resources should be carefully considered and done on a case-by-case basis. Many situations that may call for an air ambulance in one case may be better handled by ground transport in another. This protocol is a supplement to, not a replacement for, good judgment.

**Indications**

Use of an air medical transport is based on many considerations including but not limited to:

**Physiologic Criteria**

- GCS <13 (does not follow commands)
- S/S of shock (e.g., rapid HR; altered mental status; cool, clammy, pale skin)—remember that hypotension is a late sign of shock
- Pediatric trauma (may not see s/s of shock until late)
- Geriatric trauma (may not see s/s of shock until late)
- Hypothermia
- Airway compromise, actual or potential
- Prolonged transport or delayed ALS response/transport that will have a reasonable likelihood of affecting patient mortality/morbidity
- Patients with signs of Acute Coronary Syndrome in which ground ALS response is significantly delayed
- Current or post-cardiac or respiratory arrest situations in which ground ALS response is significantly delayed

**Anatomic Criteria**

- Penetrating injuries to the head, neck, chest, abdomen, or thighs
- Two or more long bone fractures
- Limb paralysis
- Limb amputation proximal to the wrist or ankle in which bleeding cannot be controlled
- Trauma combined with burns of >20%, particularly those involving the face or airway
- Signs of a rupturing aortic aneurism

### **Mechanism of Injury**

Mechanism of injury criteria should accompany physiologic and/or anatomic criteria.

- High-speed MVC
- Prolonged extrication
- Fatality within the same vehicle
- Ejection from vehicle
- Passenger compartment intrusion of >12 inches
- Fall greater than 2x patient's height

### **Other Criteria**

- Areas where access by EMS vehicles or crews is difficult or impossible

### **“Stand-By” vs. “Launch”**

At times, air medical response may seem unnecessary based on initial dispatch information, location of call, or capabilities of the responding EMS units. While not prohibited, it is generally not prudent to cancel an air ambulance prior to arriving on scene. When the need for air medical transport is suspected but unclear, the air ambulance agency may be placed on “stand-by” (the exact meaning of “stand-by” is usually defined by the air ambulance agency and may or may not include aircraft lift-off).

- In most cases, an air ambulance should only be cancelled by EMS personnel who have completed an on-scene patient assessment
- All cancellations of air transport will be brought to the Medical Directorate by the provider for review of the decision

### **Landing Zones and Safety**

In Ada County, landing zones are often handled by law enforcement or the fire service. In some cases, field personnel may be required to establish their own landing zones. In an effort to standardize safe scene operations, Idaho's air ambulance agencies have developed the following basic landing zone (LZ) and safety guidelines.

### **Types of Landing Zones**

Landing zones fall into three basic categories, listed here in order of safety preference.

- Established helipads. Usually located at airports or hospitals, heliports are generally constructed with consideration to size, slope, and surface, as well as approach and departure paths
- Pre-established (or designated) landing areas (PELA). These are essentially pre-arranged rendezvous locations. By pre-planning specific LZ sites with the air medical provider, the pilots are given the opportunity to survey the area ahead of time to identify potential hazards

- On-scene landing zones. Having the aircraft land at the scene typically offers the most expedient evacuation of the patient. Care must be taken to ensure a suitable and safe LZ

### **Landing Zone Officer**

The most important component of safe scene operations is the LZ Officer. S/he is responsible for the safety of the responding aircraft(s), the LZ set up, and basic communication between flight and ground crews. The LZ Officer should be someone not directly involved in patient care. This position may have a different title in the National Incident Management System (NIMS).

### **Landing Zone Preparation**

The following criteria are generally considered “ideal.” If local conditions necessitate deviation, consult the pilot as soon as possible.

- Size – The preferred size of landing zone is 100 ft. x 100 ft. (60 ft. absolute minimum)
- Slope – The slope of the ground should be no more than 5 degrees (gentle slope)
- Surface – The ground must be a firm surface preferably, with no loose dirt or snow. If necessary and available, consider wetting down dirt surfaces. Loose snow can be compacted with snowmobiles
- Hazards/Obstructions – Poles, wires, fences, towers, trees, and unstable ground are all hazards to report to the pilot.
  - Hazardous Materials – The presence of hazardous materials MUST be relayed prior to their approach to the scene
  - Clear Area – The area is clear of loose debris, large rocks, posts, stumps, vehicles, people, animals, and other hazards. Caps and hats should be secured
  - Overhead – Free of overhead obstructions such as wires, antennas, and poles
- Marking/Lighting
  - The four corners of the landing zone should be marked. During the daytime, this can be done with traffic cones. At night, flashlights, “LZ lights” or low-beam headlights can be used. Flares, if used at all, must be used with extreme caution as they present a fire hazard and should be secured to the ground
  - Identified hazards should be illuminated if possible.
  - NEVER direct any lights up at the aircraft or use high-beam headlights

**The pilot always has the final say** regarding landing zones. He/she may request an alternate site.

## Landing Zone Communications

The Landing Zone Officer is responsible for radio communications with the responding air ambulance. Responsibilities include:

- Assisting the pilot in locating the LZ with simple directions and easily identifiable landmarks. Avoid using directions such as right and left unless the aircraft is directly in sight
- Advising the pilot of LZ conditions, wind speed and direction, and hazards.
- Primary communications between ground and aircraft should be on “State F2,” 155.280 MHz, although local “F3” (Saint Alphonsus channel) is available to most services and is a good back-up channel. Other channels or methods may be used as the situation demands
- Hand signals and gestures are discouraged

## Landing Zone Safety

- Ensure no one approaches the aircraft **until specifically directed by the pilot or crew**
- **Unless otherwise directed**, always approach from the front half of the aircraft (9 o'clock to 3 o'clock), in view of the pilot, and while maintaining eye contact. Approach from the downhill side if landed on a slope. When in doubt, wait for a member of the crew to escort you
- The tail rotor is an especially dangerous area because, due to its speed, the blades may be nearly impossible to see. **NEVER** go near the tail of the aircraft while it is running
- Rotor wash is the air forced down by the main blades, creating “winds” near 100 mph. All loose objects such as hats, sheets, and blankets must be secured
- Consider dirt and small rocks as potential airborne hazards and wear appropriate personal protective equipment
- If you drop something, do not chase it

## Patient Care

Appropriate patient care should continue until the flight crew arrives **at the patient's side**. Patient care should not be delayed “because the air ambulance is coming.” After the flight crew arrives, EMS personnel should assist as needed within their respective scope of practice.