


<b>SCOTTS VALLEY FIRE PROTECTION DISTRICT</b>			
<b>STANDARD OPERATING PROCEDURES DATE APPROVED: APPROVED:</b>	<b>ARTICLE: II</b>	<b>SOP: 2125</b>	
	<b>SECTION: 2100 Safety</b>		
	<b>SUBJECT: PPE for Loading of Medical Helicopter</b>		
	5/12/15 <i>Daniel J. Hall</i>		

**Personal Protective Equipment Guidelines**  
**Patient Loading Operations – Helicopters**

**Purpose**


Santa Cruz County Fire/EMS personnel are routinely required to work in close proximity to running helicopters as part of the patient loading process. There are a number of hazards present when involved in transferring a patient from a ground ambulance to a rotary wing aircraft, (helicopter). These hazards can be divided into two main categories: (landing zone hazards and aircraft hazards). The purpose of this guideline is to help identify the actual and potential hazards present, and the required protective equipment that shall be utilized for maximum personal protection. Careful consideration must be given to, not only the acute hazards present but also the potential for chronic conditions, which may result from exposure to those hazards.

**Landing Zone Hazards**

Landing zones (LZ), around Santa Cruz County can vary dramatically, so the ability to properly assess the landing zone for actual and potential hazards is crucial.

**The (LZ) assessment should include:**

- Properly sized (LZ)
- Weather conditions: wind direction, wind speed, visibility, potentially changing conditions
- Site security, (keep people and vehicles away)
- Vehicle access to the (LZ)
- Civilian access to the (LZ)
- Tall objects surrounding the (LZ); trees, fences, light/power poles, structures, etc.
- Objects that could become airborne once the helicopter is on site; rocks, debris, traffic cones, flares, EMS gear, etc.
- What type of ground will the helicopter be landing on: asphalt/concrete, grass/lawn, dirt, sand (beach), gravel, etc.
- Uneven terrain/footing

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- Lighting conditions: day/night, poor or nonexistent lighting
- Fire/Crash/Rescue capabilities: Engine company vs. Security guard

### **Aircraft Hazards (Helicopter)**

Helicopters can present a number of hazards to the personnel who are working in, and around them. Each individual aircraft will have a unique set of hazards due to the model, type and use of the aircraft. Personnel should consider the following hazards prior to determining what personal protective clothing would be most beneficial for their maximum personal protection.

#### **The aircraft assessment should include:**

- Main rotor; height, length, number, proximity, visibility, air disturbance
- Tail rotor; open/enclosed, location, height, proximity, visibility
- Patient loading area; rear load, side load, improvised loading (Military, CHP)
- Jet engine exhaust hazards: temperature, velocity, toxicity, carbon particulates, oils
- Exposure to jet engine exhaust; minimal, moderate, severe
- Jet A fuel
- Aircraft electrical systems
- Low clearances; patient loading bay, boom height, doors, lights, antennas
- Ergonomic positioning; lifting, loading

### **Personal Protective Equipment**

The following personal protective equipment (PPE), ensemble will be the minimum required for all personnel who are directly involved with approaching the aircraft for patient loading activities:

#### **Minimum Required PPE**

- Helmet with a chin strap
- Eye protection (glasses)
- Hearing protection
- Leather boots
- EMS gloves

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When it is anticipated that there will be a moderate to severe exposure to jet engine exhaust (Euro Copter 135), the following PPE will be required in addition to the minimum required PPE ensemble:

**Additional Required PPE for Jet Engine Exhaust Exposure**

- 3M Tyvek long sleeve shirt
- R 95 particulate respirator or P100 particulate respirator
- Goggles

**PPE Details 12/14/2014**

DuPont TY212S Tyvek Lab Coat  
3M 8247 R95 Oil-Resistant Respirator