

Required Ground and Air Ambulance Equipment and Supplies

[Correction]

An error occurred in this document which appeared at 39 Pa.B. 6172 (October 17, 2009). The correct version is as follows:

Under 28 Pa. Code §§ 1005.10(c) and 1007.7(c) (relating to licensure and general operating standards; and licensure and general operating requirements), the following equipment and supplies shall be carried and readily available in working order for use on basic life support (BLS) and advanced life support (ALS) ambulances, which also includes air (rotorcraft) ambulances.

A. Ground Ambulance Requirements

Ground Ambulances: Basic Life Support/ALS Mobile Care Unit /ALS Squad Unit

1. The ambulance must meet the requirements of Federal Specifications KKK 1822 and AMD Standards in effect at the time of the vehicles manufacture. (Does not apply to an ALS squad unit.)

2. The ambulance must meet the Pennsylvania Vehicle Code requirements for vehicle registration and liability insurance, and the requirements of all Pennsylvania Department of Transportation regulations relating to flashing and revolving lights, including intersection lights.

3. Emblems and markings must be affixed to the ambulance exterior as follows:

a. The word "AMBULANCE" shall be mirror imaged in letters not less than 4" high, centered above the grill. The placement of the word "AMBULANCE" shall be on the rear of the vehicle and the curved surface of the hood or can be placed on a flat bug screen.

b. "Star of Life" shall appear on the ambulance in the following sizes and numbers:

- Two 3" size "Stars of Life" on each side of the word "AMBULANCE" on the hood of the vehicle or on a bug screen.
- Two 16" size "Stars of Life" on the right and left side panels.
- Two 12" size "Stars of Life" on the rear of the vehicle.
- One 32" size "Star of Life" on the vehicle rooftop.

Note: An ALS squad unit must have at least 3" size "Stars of Life," one on each side, and two in front and two on the rear of the vehicle.

c. The Department issued licensure decal must be applied to right and left exterior sides of the vehicle in a conspicuous place.

d. A reflective chevron is not required. If used, a reflective chevron may be placed on the rear vertical surface of the exterior of the vehicle. The chevron pattern shall slant downward on both sides of the vehicle at an angle of 45°, pointing in the direction of the bottom rear corner of the tailboard. The pattern

shall resemble an inverted V with the point at the top center of the vehicle. The Chevron shall use an alternating color pattern. The vertical panels shall be: 8" to 12" wide and at least 24" in height, and consist of alternating color retro-reflective stripes at least 4" in width. If the panel height is greater than 36" the stripes shall be 6" wide, shall slope down at 45°, and have a minimum of 270 square inches of retro-reflective area facing traffic.

4. The name of the ambulance service or its registered fictitious name in letters at least 3" in size must appear on both the right and left exterior sides of the ambulance. The name must be the dominant lettering. The word "Ambulance" or words such as Emergency Medical Services, EMS, and Rescue must also appear on both exterior sides and rear of the vehicle.
5. The ambulance must be equipped with an electronically operated audible warning device with a 100-watt or higher watt speaker.
6. The ambulance must have overhead interior lighting that illuminates the entire top surface of the patient litter, stair-well lighting and courtesy lights that must illuminate the ambulance's controls. (Does not apply to an ALS squad unit.)
7. The ambulance must have a dual battery system. (Does not apply to an ALS squad unit.)
8. Effective January 1, 2011, the ambulance must have two minimum 5 lb. unit fire extinguishers (ABC dry chemical or carbon dioxide) in a quick-release bracket, one in the driver/cab compartment or in the body of the ambulance reachable from outside the vehicle and one in the patient compartment. When located in either the driver or patient compartment the mounting bracket shall be of a stable design. Each fire extinguisher must be intact with a safety seal, have been inspected within the previous 12 calendar months and have the appropriate completed inspection tag attached.
9. The ambulance must have a power supply to generate sufficient current to operate all accessories without excessive demand on the generating system. All exterior and interior lighting and onboard equipment shall be able to run for at least 5 minutes without placing a demand on the engine.
10. The ambulance must have a nonskid floor that is flat, reasonably unencumbered, free of equipment in the walk-through areas, and well maintained. (Does not apply to an ALS squad unit.)
11. The ambulance must have minimum interior dimensions of 60" from floor to ceiling. (Does not apply to an ALS squad unit.)
12. The ambulance must have a patient partition to separate the patient area from the driver area. (Does not apply to an ALS squad unit.)
13. The ambulance must have storage cabinets with sliding doors or with latches, or have a cargo-type netting or other means to ensure against opening during vehicle movement. (Does not apply to an ALS squad unit.)
14. Bulky items such as portable radios and AEDs, oxygen equipment and jump bags must be secured at all times during patient transport to prevent them from falling on patients or crew or becoming projectiles if the vehicle is involved in an accident. Equipment on an ALS squad unit must be in cabinets or otherwise secured at all times.
15. The ambulance must have two IV hangers mounted flush with the ceiling. (Does not apply to an ALS squad unit.)
16. The ambulance must have a litter for transporting a patient and at least three patient restraint straps in good operating condition that are secured to the litter. (Does not apply to an ALS squad unit.)

17. The ambulance must have doors that function properly with door seals that are not cracked, broken or missing pieces, and are otherwise in good condition.
18. The ambulance must have both "No Smoking Oxygen Equipped" and "Fasten Seat Belts" signs (in English) in both the driver and the patient compartment. (GSA KKK-1822F) (3/15.2). An ALS squad unit is required to have these signs in the driver compartment.
19. The ambulance must have operational heating, cooling and ventilation equipment meeting GSA KKK-1822 Standard 3.13.
20. The ambulance must have current vehicle inspection validation issued by the state where the vehicle is registered.
21. The ambulance must have communication equipment that is in compliance with the regional communication plan. This equipment shall allow for direct communication with a public safety answering point (PSAP) and hospitals in the ambulance response/service areas. A cellular phone may be used as a backup means of communication and not as the primary means of communication.
22. The ambulance must have an installed, onboard oxygen system with the following (Does not apply to an ALS squad unit.):
 - a. At least 122 cubic feet supply of oxygen in a cylinder that is secured to provide maximum safety for patients and personnel. The oxygen cylinders shall be mounted with restraining devices, as required for the crashworthiness tests of AMD Standard 003, Oxygen Tank Retention System. A liquid oxygen system that provides the same volume of oxygen and meets AMD Standard 003 is also acceptable.
 - b. The cylinder must have more than 500 liters of oxygen at all times and be secured with at least three metal or nylon brackets while in the compartment.
 - c. The unit must be equipped with a reducing valve (from 2,000 psi to 50 psi line pressure).
 - d. The unit must be equipped with one flow meter with a range of 0-25 lpm delivery.
23. The ambulance must have an installed onboard suctioning system with the following components and/or capabilities (Does not apply to an ALS squad unit.):
 - a. It is fitted with a large bore, nonkinking tubing.
 - b. It has power enough to provide within 4 seconds a vacuum of over 300 mm/Hg or 11.8 inches of water when the tube is clamped.
 - c. It is controllable for use on children and intubated patients. The vacuum gauge, when attached to the tubing, must be adjustable to the amount of vacuum needed to ensure that the unit can maintain vacuum levels without requiring continuous increase in control.
 - d. It is equipped with a lateral opening between the suction tube and the suction source.
 - e. The tubing must be able to reach airways of patients regardless of the patient's position in the ambulance and must be able to reach the head and foot of the litter.
24. The ambulance must have onboard proof of current motor vehicle insurance.

B. Air (Rotorcraft) Ambulance Requirements

The following will apply to all air ambulances. The air ambulance must have:

1. The name of the air ambulance service or its registered fictitious name prominently displayed on the exterior of the aircraft.
2. Exterior lighting that illuminates the tail rotor and pilot controllable search/spot/landing lights.
3. An "Air Worthiness Certificate" from the Federal Aviation Administration (FAA).
4. A patient litter capable of carrying one adult in the supine position and capable of being secured according to FAA requirements.
5. An FAA Form 337 with items 1 (which identifies the aircraft), 2 (which identifies the aircraft owner) and 7 (which shows that the aircraft is approved to "Return to Service") completed and signed by the appropriate FAA official.
6. Climate controls for maintaining an ambient cabin temperature of between 60-85° during flight.
7. Sufficient interior lighting to allow for close observation of patients.
8. A pilot partition to prevent patient interference with flight controls.
9. A barrier or an FAA approved mechanism for securing a patient's chest, pelvis, legs, wrists and ankles.
10. A 110-volt electrical outlet for each patient transported.
11. Two-way radio communications for the pilot to be able to communicate with hospitals, PSAPs and ground ambulances in areas to which the air ambulance routinely provides service.
12. At least three headsets to allow for voice communication among the crew when the aircraft is operating and noise levels prevent normal conversation.
13. One fully charged fire extinguisher rated at least 5 B:C, securely mounted where it can be reached by the pilot or crewmembers. The fire extinguisher must be intact with safety seal, have been inspected within the previous 12 calendar months and have the appropriate inspection tag attached.
14. Installed onboard suctioning equipment that meets the same requirements as a transporting ground ambulance. (See requirements under Ground Ambulances.)
15. An onboard oxygen system with the following:
 - a. Cylinders with a capacity of 1,200 liters.
 - b. The cylinders must have at least 1,650 psi at the time of inspection.
 - c. If a liquid oxygen system is used, manufacturer documentation must be provided that the system has at least a 1,200-liter capacity.
 - d. A flow meter with a range of 0-25 lpm delivery.

Required Equipment and Supplies

Approved equipment and supplies shall be carried and readily available in working order for use on both ground and air ambulances. Some patients and crewmembers of an ambulance service may have allergies to latex. Latex free supplies are recommended, where possible. The following equipment and supplies must be carried on each ground and air ambulance, as indicated.

EQUIPMENT/ SUPPLIES

AMBULANCE TYPE

	ALS			
	BLS	MOBILE CARE	ALS SQUAD	AIR
1. Portable Suction Unit with wide-bore tubing. Must achieve 300 mm/Hg or 11.8" in 4 sec.	X	X	X	X
2. Suction catheters, pharyngeal: Rigid (2) Flexible: 6 and 8 (1 ea) 10 or 12 (2) 14 or 16 (2) Total of 6 (Must be sterile) Size is FR for each	X	X	X	X
3. Airways: Nasopharyngeal (5 different sizes) Oropharyngeal (6 different sizes)	X	X	X	X
4. Sphygmomanometer: Child, Adult and Thigh (large) (1 each) Interchangeable gauges are permitted	X	X	X	X
5. Stethoscope (1) Adult and (1) Pediatric	X	X	X	X
6. Stethoscope Doppler (1)				X
7. Penlight (1)	X	X	X	X
8. Portable Oxygen Unit (1): Cylinder capacity of at least 300 Liters, (D Size), with 500 psi Yoke Cylinder with a minimum total pressure of 500 psi. Nonsparking wrench/tank opening device. Gauge/flow meter not gravity dependent and can deliver 0-25 liter per minute Full spare cylinder with at least 300 liter capacity Cylinders must be secured in the vehicle at all times.	X	X	X	X
9. Folding Litter/Collapsible Device (1)	X	X		
10. Oxygen Delivery Devices: Nasal Cannulae—adult/pediatric 1 ea. High concentration mask capable of providing 80% or greater concentration adult, pediatric, infant—1 each. Pocket mask with one way valve and oxygen port	X	X	X	X
11. Humidifier bottle (1)	X	X		
12. Adhesive Tape (4 rolls assorted) 1 roll must be hypoallergenic.	X	X	X	X
13. Dressings: Multi Trauma (10" by 30") (4) Occlusive (3" by 4") (4) Sterile Gauze Pads (3" by 3") (25) Soft self-adhering (6 rolls)	X	X	X	X
14. Bandage Shears (1)	X	X	X	X
15. Immobilization Devices: Lateral cervical spine device (1) Long spine board (1) Short spine board (1) Rigid/Semirigid neck immobilizer S, M, L, pediatric (1 each)	X	X	X	X (Short board not required)

Multi-size are permitted and will suffice for the S, M, L (3)

16. Bag-Valve-Mask Devices: Hand operated adult (1) Hand operated infant/pediatric (450-700cc) (1) Must be capable of high concentration oxygen delivery with adult and pediatric masks	X	X	X	X
17. Pediatric length-based Drug Dosing/Equipment Sizing Tape (Equipment Sizing Tape/Chart)	X	X	X	X
18. Straps—9` (5) (may substitute spider straps or speed clips for 3 straps)	X	X	X	X
19. Splinting Devices: Lower extremity mechanical traction splint adult and pediatric (1 each or combination) Upper and Lower extremity splints (2 ea)	X	X		
20. Sterile Water/Normal Saline (2 liters)	X	X	X	X
21. Sterile Burn Sheet (4` by 4`) (2)	X	X	X	
22. Cold Packs, Chemical (4)	X	X	X	X
23. Heat Packs, Chemical (4)	X	X	X	X
24. Triangular Bandages (8)	X	X	X	
25. Sterile OB Kits (2)	X	X	X	X (Only 1 required)
26. Separate Bulb Syringe (1) Sterile	X	X	X	X
27. Sterile Thermal Blanket (Silver Swaddler) (1), or 1 roll of sterile aluminum foil for use on infants/newborns	X	X	X	X
28. Blankets (2)	X	X	X	X
29. Sheets (4)	X	X		X
30. Pillowcases (2)	X	X		
31. Pillow (1)	X	X		
32. Towels (4)	X	X		
33. Disposable Tissues (1 box)	X	X		
34. Emesis Container (1)	X	X		
35. Urinal (1)	X	X		
36. Bed Pan (1)	X	X		
37. Disposable Paper Drinking Cups (3 oz) (4)	X	X		
38. Regional Approved Triage Tags (20)	X	X	X	
39. Hand-lights (6 volts) (2)	X	X	X	X
40. Hazard Warning Device (3)	X	X	X	
41. Emergency Jump Kit (1)	X	X	X	X
42. Survival Bag (1)				X
43. Emergency Response Guidebook (1) (current edition)	X	X	X	
44. Thermometer—electronic, digital, non- tympanic	X	X	X	X
45. Sharps Receptacle—Secured	X	X	X	X
46. Instant Glucose (40% dextrose-d-glucose gel) 45 grams	X	X	X	

47. Personal Protective Equipment (PPE) Helmet, eye protection, gloves and high-visibility safety apparel (1 per provider)	X	X	X	
48. Flight Helmet (1 per crewmember)				X
49. Personal Infection Control Kit, which includes the following: Eye protection, clear, disposable (1 per crew member) Face Mask, disposable (1 per crew member) Gown/coat (1 per crew member) Surgical Cap/Foot Coverings, disposable (1 set per crew member) Double Barrier Gloves (1 set per crew member) Sharps Containers and Red Bags per Infectious Control Plan Fit-tested disposable N95 respirator (1 per crew members) Hand Disinfectant—Nonwater hand cleaner/disinfectant (1 container)	X	X	X	X
50. Sponges, Alcohol, Prep (10)		X	X	X
51. Endotracheal Tubes Sizes/Quantities: 2.5 mm or 3.0 mm (2 uncuffed) 3.5 mm or 4.0 mm (2 uncuffed) 4.5 mm or 5.0 mm (2) 5.5 mm or 6.0 mm (2) 6.5 mm or 7.0 mm (2) 7.5 mm or 8.0 mm (2) 8.5 mm or 9.0 mm (2) Must be sterile and individually wrapped		X	X	X
52. Nonsurgical Alternative/Rescue Airways. Either 2 Combitubes, TM small and adult, or 3 King, ^{LT} 3, 4 and 5.		X	X	X
53. Electronic Wave-Form Capnography		X	X	X
54. Laryngoscope handle with batteries and spare batteries and bulbs and the following blades: Straight Curved #1 (S) #3 #2 (M) ?#4 #3 (L) (1 each of the blades)		X	X	X
55. Meconium Aspirator (1)		X	X	X
56. Lubrication (2cc or larger tubes) sterile water soluble (2)	X	X	X	X
57. Forceps, Magill (adult/pediatric 1 ea)		X	X	X
58. Medication and Supplies: Emergency Drugs—(per regional protocols and within state rules and regulations and within exp. date) Nebulizer System (1) Hypodermic needles: 16-18 gauge (4), 20-22 gauge (4), 23-25 gauge, (4) Total of 12 and each Must be individually wrapped and sterile.		X	X	X
59. Defibrillator/Monitor: (FDA approved) (battery powered, monophasic or biphasic, energy dose range capable of treating adult and pediatric patients, paper readout), ECG cables with 3 lead capability and pediatric and adult paddles with pacing		X	X	X

capabilities or separate stand-alone pacer.

60. Defibrillator/Monitor Supplies: Paddle pads (4) or electric gel (2 tubes), electrodes, (ECG, adult and pediatric sizes 6 each)	X	X	X
61. Automated External Defibrillator (required for all BLS service as of January 1, 2011)	X		
62. CPAP Ventilation-portable equipment	X	X	X
63. Stylette, Malleable—pediatric (2)/adult (1). must be sterile.	X	X	X
64. Cricothyrotomy Set (Surgical or Needle) must be sterile.			X
65. Phlebotomy Equipment (per regional protocols)	X	X	
66. Flutter valve (1) Must be sterile.			X
67. Pulse Oximetry (for authorized BLS services) (Not required for licensure)	X	X	X
68. Electronic Glucose Meter	X	X	X
69. "IV" fluid Therapy Supplies Catheters over the Needle sized (per regional requirements): 14, 16, 18, 20, 22 (4 ea) and 24 (2) Micro drip 50-60 drops/ml(2) Macro drip 10-20 drops/ml (2) I.V. solutions (2,250) ml total Tourniquets (2) Intraosseus Needle 14-18 gauge (2)	X	X	X

Equipment that may be used in direct contact with patients must be reasonably clean and easily cleaned of blood and body fluids. No drug and/or medication may be carried beyond an expiration date assigned to it.

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EVERETTE JAMES,
Secretary

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