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Advisory Circular

Subject: AIR CARRIER FIRST AID
PROGRAMS

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1. **PURPOSE.** This advisory circular provides guidance about first aid program resources, subjects, equipment, and pertinent regulations.
2. **RELATED FEDERAL AVIATION REGULATIONS (FAR) SECTIONS.** Sections 91.3, 91.185, 121.133, 121.135, 121.137, 121.309, 121.327, 121.329, 121.331, 121.383, 121.415, 121.417, 121.427, 121.574, 121 Appendix A, 135.91, 135.157, 135.177, 135.331.
3. **BACKGROUND.** Information about possible first aid resources including curriculum for first aid training and complete first aid training programs may be obtained by contacting various organizations including the American Medical Association, American Red Cross chapters, American Heart Association chapters, and hospitals. Nevertheless, many people have requested advice regarding first aid information which could be specific to air carrier operations. This advisory circular provides information to assist air carriers in developing first aid programs which meet the needs of that air carrier's operations and may provide one means of complying with existing regulations.
4. **DISCUSSION.** Air carrier crewmember first aid programs should include first aid information in the manual and in any required emergency training. When addressing various aspects of first aid, the limited space on aircraft and the necessity for crew coordination throughout an occurrence should be stressed. First aid programs should include:
 - a. **First Aid and Emergency Medical Equipment.** First aid programs should provide information about the locations, function, and operation of first aid and emergency medical equipment. It should also include methods to ensure that contents of the first aid kit and emergency medical kit are complete and that procedures to follow when items in the first aid and medical kits have been used are given. The items which must be in the first aid and medical kits are listed in Appendix A to FAR Part 121 and in FAR Section 135.177(a)(1)(iii). These regulations follow the minimum, kind, and quantity of items specified by Federal Specification GG-K-391A. However, FAA-approved items may be substituted if the principal operations inspector assigned to the air carrier obtains the written concurrence from the Administrator of the Federal Aviation Administration.
 - b. **Use of Emergency and Medicinal Oxygen.** Air carrier training programs and manuals should include the location, function, and operation of emergency and medicinal oxygen. This should include methods to tell

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when supplemental and first aid oxygen is ready for use, locations of all oxygen equipment, procedures for administering oxygen, the air carrier's policy and the FAR that prohibit smoking in the vicinity of oxygen use, and proper restraint of oxygen equipment when in use. Air carriers which use chemically-generated passenger supplemental-oxygen systems should include in their manuals and training programs information which is specific for these types of oxygen systems. This should include the heat-generating properties and the correct handling of the oxygen canisters.

c. The Handling of Illness and Injury. An air carrier's first aid program should provide information regarding familiarization with the medical kit and the assessment of the severity and possible treatment for the medical problems contained in the list below. This list also provides some suggestions pertinent to each problem. However, neither the list nor the suggestions are intended to include everything that should be covered. Each air carrier should develop first aid programs which are appropriate to that air carrier's operations, equipment, and personnel. These programs should include information on the following:

(1) Assessment and History which includes an assessment of, and obtaining a history from, individuals who are ill or injured. This information should be communicated to the flight crewmembers, any on-board medical assistants, and anyone offering medical assistance to the flight from the ground, and should be given to medical assistants who meet the flight.

(2) Possible Heart Attack which includes any adjunct airways equipment provided by the carrier for cardiopulmonary resuscitation (CPR). Material regarding CPR should address the problem of giving CPR on board the aircraft and the moving of patients.

(3) Lack of Breathing.

(4) Stroke.

(5) Profuse Bleeding which includes information about arterial, venous, and capillary blood loss.

(6) Shock.

(7) Environmental Factors which include the management of common injury situations such as minor burns caused by the spillage of hot liquids, inflight fire/smoke situations, and situations where passengers and crew could be exposed to extreme cold such as in a water landing. The treatment of chemical burns, smoke inhalation, and excessive heat should be included.

- (8) Injuries to Extremities.
- (9) Injuries to the Skull, Spine, and Chest.
- (10) Seizures.
- (11) Drug and Alcohol Abuse which includes the different ways this may be manifested depending on the type of drug that has been abused.
- (12) Abdominal Distress.
- (13) Childbirth.
- (14) Diabetic Emergencies.
- (15) Special Communications Cases which include people such as the elderly, non-English speaking, the blind, the deaf, and those with behavioral problems.
- (16) Airsickness.
- (17) Ear Distress.
- (18) Eye Injury.
- (19) Hyperventilation.
- (20) Nosebleed which includes recommended precautions and treatment.
- (21) Any anemia which should include the fact that it may have become aggravated by presence at high cabin altitude for a long period of time and may require the administering of oxygen.


d. Assistance During the Flight.

(1) From Persons on Board. Each first aid program should provide a procedure for locating medically qualified persons on board the aircraft. This procedure should include a list of those persons who would be considered medically qualified. These could be medical doctors, nurses, emergency medical technicians, or first aid instructors.

(2) From Persons on the Ground. Many airlines have procedures which allow crewmembers on board the flight to consult with medical personnel on the ground. This procedure is highly desirable. The information obtained through the medical assessment and history should be passed on to these medical personnel.

(3) Following the Flight. The pilot in command should use all the information available to determine the level of medical assistance needed when the flight arrives. Some of the information will be obtained through the medical assessment and history. The crewmembers on board the flight are the only people who have direct knowledge of the nature and severity of the medical problem and, therefore, while the decision regarding the level of assistance needed may be made by consulting ground personnel, no one on the ground should downgrade the level of assistance requested by the pilot in command.

e. Medical Emergency Landing. First aid programs should provide specific guidelines which give information about when a medical emergency landing may be needed. This information should be covered during emergency training, should be included in the manual, and should also be provided in a "checklist" or some other easily-read format. It should be carried on the airplane either in the first aid kit or some other area easily accessible to the crewmembers. The guidelines should be fairly specific and include medical emergencies such as suspected heart attacks, diabetic comas, unconsciousness which continues for a long period, and profuse bleeding. It should be emphasized, however, that the decision to make a medical emergency landing rests with the pilot in command who will also have to consider the overall safety of the flight and operational requirements.


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