



Airlines, Defibrillators, and Medical Kits: Is There a Doctor on Board?

The rapid advance of commercial US airlines carrying automatic external defibrillators (AEDs) and enhanced medical kits containing a wide variety of “physician only” drugs has created an unusual environment for physicians on board aircraft. The Aviation Medical Assistance Act was passed by Congress in 1998. This action mandated the reporting of flight emergencies to the FAA. It also attempted to specify protection under a liability clause. The lecturer will review the contents of medical kits and the current state of AEDs on board commercial airlines, as well as the legal ramifications of their use.

- Describe the contents of airline medical kits.
- Describe the current state of AED availability and use on commercial aircraft.
- Describe the expectations of the airlines and physicians with regard to providing emergency care on airplanes.
- Discuss the medico-legal aspects of the use of these devices.
- Discuss the problems associated with providing emergency medical care on board a commercial aircraft.

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11:00 AM - 11:55 AM
Room # N236
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FACULTY

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Airlines, Defibrillators, and Medical Kits: Is There a Doctor on Board?

Larry L. Alexander, MD, FACEP

I. Course Description

- A.** The rapid advance of commercial US airlines in carrying automatic external defibrillators (AED's) and enhanced medical kits containing a wide variety of "physician only" drugs has created an unusual environment for physicians on board aircraft.

- B.** The Aviation Medical Assistance Act of 1998 (see page 8) passed by Congress mandated the reporting of flight emergencies to the FAA and attempted to specify protection under a liability clause. This lecture will review the contents of medical kits and the current state of AED's on board commercial airlines, as well as the legal ramifications of their use.

II. Objectives

- A.** At the conclusion of the course, participants will be able to:
 - 1.** Describe the contents of airline medical kits.
 - 2.** Describe the current state of AED availability and use on commercial aircraft.
 - 3.** Describe the expectations of the airlines and physicians with regard to providing emergency care on airplanes.
 - 4.** Discuss the medico-legal aspects of the use AED's.
 - 5.** Discuss the problems associated with providing emergency medical care on board a commercial aircraft.

- B.** Participants will be given the opportunity to ask questions and discuss implications of the information presented.

III. Course Outline

- A. History of the Airline Medical Kit**
 - 1.** 1924---First kit, Federal Specification GG-K-391a.
 - 2.** 1956---First revision of kit, no significant changes.
 - 3.** 1996---Second revision of kit, took off burn ointment and added latex gloves.
 - 4.** 1998---Aviation Medical Assistance Act, defined minimal standards for equipment in a medical kit.

B. Airline Kits

1. First Aid Kits

| <i>Contents</i> | <i>Quantity</i> |
|--|-----------------|
| Adhesive bandage compresses, 1” | 16 |
| Antiseptic swabs | 20 |
| Ammonia inhalants | 10 |
| Bandages compresses, 4” | 8 |
| Bandages, triangular compresses, 40” | 5 |
| Burn compound, 1/8 ounce or an equivalent of other burn remedy | 6 |
| Arm splint, non-inflatable | 1 |
| Leg splint, non-inflatable | 1 |
| Roller bandage, 4” | 4 |
| Adhesive tape, 1” standard roll | 2 |
| Bandage scissors | 1 |

2. Medical Kits

| <i>Contents</i> | <i>Quantity</i> |
|---|-----------------|
| Sphygmonanometer | 1 |
| Stethoscope | 1 |
| Oropharyngeal airways (3 sizes) | 3 |
| Syringes (sizes necessary to administer Required drugs) | 4 |
| Needles (sizes necessary to administer required drugs) | 6 |
| 50 percent Dextrose injection, 50cc | 1 |
| Epinephrine 1:1000, single dose ampule or equivalent | 2 |
| Diphenhydramine HCl injection, single-dose ampule or equivalent | 2 |
| Nitroglycerin tablets | 10 |

Basic instructions for use of the drugs in the kit.

3. Enhanced Medical Kit

Standard Medical Kit plus any/all of the following:

- ACLS drugs
- Intravenous fluids
- Intravenous lines and equipment
- Airways and/or intubation equipment

All of these are to be used only by physician.

4. Distribution of Kits

a. First Aid Kit

| | |
|--------------------|--------|
| 0-50 passengers | 1 kit |
| 51-150 passengers | 2 kits |
| 151-250 passengers | 3 kits |
| >250 passengers | 4 kits |

Kits placed strategically about aircraft.

b. Medical Kit/Enhanced Medical Kit

- (1) 1 kit per aircraft
- (2) Kit located in the cockpit of the aircraft. If kit is opened, aircraft cannot fly again until the kit has been replaced.

C. History of AED's on Aircraft

1. Quantas 1992
2. Virgin Atlantic 1994
3. Air Zimbabwe 1995
4. British Airways 1997
British Caledonian 1997
Varig 1997
Lufthansa 1997
5. American Airlines 1998
6. Delta Airlines 1999
United Airlines 1999

D. AED Use on Aircraft

1. Information on AED use and all in-flight emergencies prior to 1998 are restricted information and not to be given out by the airlines
2. The Aviation Medical Assistance Act of 1998 (page 8) mandates that all in-flight emergencies be reported to the FAA, who can release information once sufficient data has been obtained.

E. Expectations of airlines for physicians providing emergency care on aircraft.

1. Most airlines try to take care of minor emergencies with flight attendants referring to guidelines in the first aid kit/medical kit manuals.
2. Most airlines, domestic and foreign, expect/hope that physicians traveling on their aircraft will come forward at the announcement of an emergency to render aid.

3. British Airlines feels that a physician or other health provider is a paying customer and will not bother the customer until all other means have been explored.

F. Expectations of physicians in providing emergency care on aircraft.

1. Many physicians willingly offer their services to the best of their ability during true emergency situations.
2. There is no data to illustrate the numbers of physicians who do not offer their services.
3. Many physicians are unsure of the medical-legal implications (Good Samaritan Laws) for air travel.
4. Most physicians offer services at no charge for the situation.
5. One physician did not like the “thank you” gift offered by the airline and billed the airline for services rendered.
6. Many physicians expect more/better equipment than is provided by the airlines.
7. Many physicians expect better training by flight attendants in medical emergencies.

G. Medico-legal aspects of using AED’s on aircraft.

1. Aviation Medical Assistance Act 1998 (see page 8 for summary of this Act).
2. Federal/state airspace
3. Use of AED’s on aircraft
4. Medical/civil liability of physician “volunteers”
5. Good Samaritan laws (see pages 5-7 for table summarizing state laws governing use of defibrillators.)

State laws Governing the Use of Automatic External Defibrillators

User Codes:

A=allows lay persons to use AEDs

L=provides limited immunity for trained lay persons

| State | Law/Year | User Code | Comments |
|-------|---|-----------|---|
| AK | H.395/1998 | A/L | |
| AL | S.5 + S351/1999 | A/L | |
| AR | Act 101 of '99 HB.1006/1999 | A/L | |
| AZ | H.2475/1999 | A/L | Signed as Chapter 217 of 1999 |
| CA | Statute: Health & Safety Code 1797.190 | A | “Only those individuals who meet the training and competency standards established by the authority shall be approved for, and issued a prescription authorizing them to use AED.” |
| | SB.911/1999 | L | SB.911 added exemption from liability |
| CO | H.1283/1999 | A/L | “Expected AED users receive training...through a course approved by the department of public health and environment” |
| CT | S.318/1998 | A/L | User must be trained |
| DE | H.332/1999 | A/L | Effective date 7/12/99. Requires the Office of EMS to coordinate a statewide effort to promote and implement widespread use of semi-automatic external defibrillators (SAEDs) and to maintain a minimum number of individuals trained to use SAEDs. |
| FL | H.411(signed as Chapter 34 of 1997) | A/L | Use by any person who has had appropriate training; must complete basic AED course; must activate EMS system upon use. |
| GA | S.566/1998 | A/L | Use by “any appropriately trained person”; owners must be subject to direct supervision of a physician. |
| HI | H.2598/1998 | A/L | User who completes training by physician is immune from civil liability |
| IA | Reg:Public Health 641- 132.1(147A) | A/L | Public Health Administrative Regulation |

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| State | Law/Year | User Code | Comments |
|-------|--|-----------|---|
| ID | S.1185/1999 | A/L | Chapter 351 of 1999 |
| IL | Public Act 90-746 HB.1217/1998 SB.458/1999 | A/L | SB.458 expands AED; passed both houses 5/18/99 |
| IN | S.171/1998 | A/L | Owners shall ensure that “expected users” complete a training course. |
| KS | SB.586/1998 | A/L | AED “may be used by any person who has...obtained training and demonstrated proficiency in use...” |
| LA | S.100/1999 | A/L | |
| MA | S.2164 Chapter 137/1998 | A/L | Any person trained in AED or BCLS is immune from civil liability. |
| MD | S.294/1999 | A/L | |
| MN | S.2861/1998 Chapter 329 | A/L | Non-professional user is exempt from civil liability. |
| MS | H.954/1999 | A/L | Appropriate training “required”; A Mississippi licensed physician must exercise medical control authority. |
| MO | H.1668/1998 | A/L | Use by emergency personnel or any person who has completed a course certified by the American Red Cross or American Heart Association that includes CPR |
| MT | H.126/1999 | A/L | |
| NE | L.498/1999 | A/L | |
| NH | S.87/1999 | A/L | |
| NJ | A.2321 signed as Chapter 34 of 1999 | A | A person shall not use a defibrillator unless trained. |
| NM | H.375/1999 | A/L | |
| NV | AB.147; Chapter 474 of 1997 AB.409/1999 | A/L | Use by “any person who has successfully completed the training requirements." Encourages employers to hire a person trained in CPR and AED use. |
| NY | S.5477 [Public Health, Art 30, sec 3000-a;-b]/1998 | A/L | Only a person who has completed training in CPR and AED operation may use. Authorizes possession and use after obtaining written agreement with emergency health care provider. |

State laws Governing the Use of Automatic External Defibrillators

User Codes:

A=allows lay persons to use AEDs

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| State | Law/Year | User Code | Comments |
|-------|--|-----------|--|
| ND | H.1242/1999 | A/L | |
| OH | HB.717/1998 | A/L | |
| OK | HB.1190/1999 | A/L | |
| OR | S.313/1999 | A/L | States use of AED is “medical care.” |
| PA | H.1897/1998 | A/L | Provides AED civil immunity. |
| RI | S.2239; Chapter 82 of 1998 | A | S.239 mandates distribution of AED devices to every city, town and public college in RI. |
| | S.920, Chapter 185 of 1999 | | S.920 funds 35 AEDs to State Police |
| SC | S.728/1999 | A/L | |
| TN | H.2970; Chapter 963 of 1998 H.1218/1999 | A/L | Expected users shall complete AED course; maintain and test device; users also must activate emergency services. |
| TX | H.580/1999 | A/L | |
| UT | HB.98/1998 | A | Allows use by trained persons w/o a license. |
| | HB.50/1999 | L | Now Chapter 285 of 1999; expands Good Samaritan liability exemption. |
| VA | HB.2097 | A/L | |
| WA | Text of H.2998/1998 | A/L | Owners shall ensure “expected users” complete a training course. |
| WI | AB.239/1999 | A/L | |
| WV | H.2269 | A | |

Bill Summary & Status for the 105th Congress H.R.2843 Public Law: 105-170 (04/24/98)

SPONSOR: ||Rep Duncan

SUMMARY: (REVISED AS OF 03/24/98--Passed House, amended)

Aviation Medical Assistance Act of 1998 - Directs the Administrator of the Federal Aviation Administration to reevaluate regulations regarding:

- 1) The equipment required to be carried in medical kits of aircraft operated by air carriers; and
 - (2) The training required of flight attendants in the use of such equipment.
- Requires the Administrator to issue a notice of proposed rulemaking to make any modifications to such regulations as a result of such reevaluation.
 - Requires major air carriers to make a good faith effort to report quarterly to the Administrator, over the course of a year, regarding deaths on aircrafts.
 - Requires the Administrator to decide whether or not to require automatic external defibrillators on passenger aircraft and at airports.
 - Prohibits the Administrator from requiring them on helicopters and on aircraft with a maximum payload capacity of 7,500 pounds or less.
 - States that, if the Administrator decides that automatic external defibrillators should be required at airports, the proposed rulemaking or recommendation shall provide that the airports are responsible for providing the defibrillators.
 - Declares that an air carrier shall not be liable for damages in any action brought in a Federal or State court arising out of the carrier's performance in obtaining or attempting to obtain the assistance of a passenger in an in-flight medical emergency, or out of the passenger's acts or omissions while rendering such assistance, if the passenger is not an employee or agent of the carrier and the carrier in good faith believes that the passenger is medically qualified.
 - Declares that an individual shall not be liable for damages in any such action arising out of acts or omissions in providing or attempting to provide such assistance, except for gross negligence or willful misconduct.

H. Problems providing emergency care on board a commercial aircraft.

1. Cramped, noisy work environment.
2. Limited capability for high flow (100%) oxygen for prolonged periods of time.
3. Limited/variable medical supplies on board.
4. Many airlines will not/do not provide pediatric supplies.
5. AEDs vary in capabilities---some provide monitors allowing 3 second rhythm strips, some are simply AEDs.
6. Death pronouncements---many social, cultural, legal implications.
7. Concerns regarding transmission of infectious diseases such as Hepatitis C and HIV.

IV. To contact Dr. Alexander:

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