

Aerospace Medical Association

Medical Guidelines for Airline Travel

In-flight Medical Care

Paulo M. Alves, MD
Anthony D. Evans, MBChB
Frank S. Pettyjohn, MD
Claude Thibeault, MD

All airlines are required to provide first aid training for cabin crew, (1) and the crew are responsible for managing any in-flight medical events. There are also regulatory requirements for the carriage of first aid and medical kits, (2) although detailed policies regarding contents of the kits, training of the crew, and treatment of passengers are at the discretion of each nation and its airline(s). AsMA has developed recommendations for first aid kits, emergency medical kits, and universal precaution kits. These are shown in Tables 1, 2 and 3 below. The AsMA recommendations for these kit contents are currently identical to the recommendations of the International Academy of Aviation and Space Medicine (IAASM) and IATA, (3) and will hopefully be adopted by many other international bodies. The aircraft medical kits are carried for emergency use only and physicians should not consider them available for routine treatment in-flight.

Commercial carriers train their cabin crew to recognize common symptoms of distress and to respond to medical events with first-aid, basic resuscitation techniques, and the use of emergency medical oxygen. The cabin crews might ask for assistance from onboard health professionals and will release the medical kit to volunteers with appropriate credentials. Many health professionals are concerned about liability. Although there are no known cases of physicians having been prosecuted, some countries, such as the United States of America, have introduced laws that limit Federal and State liability for individuals and airlines providing a medical response to in-flight medical events. (4)

As a result of internal initiatives and/or new national laws, many of the world's airlines have greatly increased their capacity for providing in-flight medical care to passengers by enhancing their onboard emergency medical kits (EMKs) and by adding automated external defibrillators (AEDs) to the existing medical equipment. A few companies have also introduced more sophisticated medical devices.

Many airlines augment these services with in-flight medical consultation by ground-based physicians. Some airlines provide these consultations with company physicians while others employ contract medical services.

TABLE 1: FIRST-AID KITS

The first-aid kit contents that follow are recommended by the Aerospace Medical Association. *(The recommendation has been coordinated and approved by the International Air Transport Association (IATA), International Academy of Aviation and Space Medicine (IAASM), American Osteopathic Association (AOA), American College of Emergency Physicians (ACEP), in collaboration with the American Medical Association (AMA). It has also been coordinated with and agreed to by the Chief, ICAO Aviation Medicine Section, subject to approval of the Council in due course.)*

The contents of an aircraft first-aid kit would typically include:

- Antiseptic swabs (10/packs)
- Bandage adhesive strips
- Bandage, gauze 7.5 cm x 4.5 cm
- Bandage Triangular 100cm folded and safety pins
- Dressing, Burn 10 cm x 10 cm
- Dressing, compress, sterile 7.5 cm x 12 cm approximately
- Dressing, gauze, sterile 10.4 cm x 10.4 cm approximately
- Adhesive tape, 2.5 cm standard roll
- Skin closure strips
- Hand cleanser or cleaning towelettes
- Pad with shield or tape for eye
- Scissors, 10 cm (if permitted by applicable regulations)
- Adhesive tape, surgical 1.2 cm x 4.6 m
- Tweezers, splinter
- Disposable gloves (several pairs)
- Thermometer (non-mercury)
- Resuscitation mask with one-way valve
- First-aid manual (an operator may decide to have one manual per aircraft in an easily accessible location)
- Incident record form

Note: First aid kit should not include ammonia inhalants

TABLE 2: EMERGENCY MEDICAL KIT

The emergency medical kit contents that follow are recommended by the Aerospace Medical Association.

(The recommendation has been coordinated and approved by the International Air Transport Association (IATA), International Academy of Aviation and Space Medicine (IAASM), American Osteopathic Association (AOA), American College of Emergency Physicians (ACEP), in collaboration with the American Medical Association (AMA). It has also been coordinated with and agreed to by the Chief, ICAO Aviation Medicine Section, subject to approval of the Council in due course.)

The equipment contents of an aircraft emergency medical kit would typically include:

- Sphygmomanometer (electronic preferred)
- Stethoscope
- Airways, oropharyngeal (appropriate range of sizes)
- Syringes (appropriate range of sizes)
- Needles (appropriate range of sizes)
- Intravenous catheters (appropriate range of sizes)
- System for delivering intravenous fluids
- Antiseptic wipes
- Venous tourniquet
- Sharp disposal box
- Gloves (disposable)
- Urinary catheter with sterile lubricating gel
- Sponge gauze
- Tape adhesive
- Surgical mask
- Emergency tracheal catheter (or large gauge intravenous cannula)
- Umbilical cord clamp
- Thermometer (non-mercury)
- Torch (flashlight) and batteries (operator may choose to have one per aircraft in an easily accessible location)
- Bag-valve mask
- Basic life support cards

Note: The carriage of AEDs would be determined by an operator on the basis of a risk assessment, taking account the particular nature of the operation.

The drug contents of an aircraft medical kit would typically include:

- Epinephrine 1:1000
- Epinephrine 1:10000 (can be a dilution of epinephrine 1:1000)

- Antihistamine injectable
- Anti-psychotic drug (e.g., haloperidol)
- Dextrose, 50% injectable, 50 ml (single dose ampule or equivalent)
- Nitroglycerin tablets or spray
- Major analgesic inj. or oral
- Sedative anticonvulsant inj.
- Antiemetic inj. or oral dissolvable (e.g. ondansetron)
- Bronchial dilator inhaler with disposable collapsible spacer
- Atropine inj.
- Adrenocortical steroid inj. or similar oral absorption equivalent
- Diuretic inj.
- Sodium Chloride 0.9% (1000 ml recommended)
- Acetyl salicylic acid (aspirin) for oral use
- Oral beta blocker

Note: When available and cost effective, auto-injectors are easier to use and can be used by cabin crew of some airlines under order from ground medical advisor if there are no health professional on board

Note: Where possible, legally and economically, and where technically available and effective, alternative methods of administration (i.e.: nasal spray, sub-lingual spray, oral-dissolving, etc) may replace injections in order to facilitate treatment by any assisting volunteer, including personnel who are not trained to use this method e.g. cabin crew, under direction from ground based medical services or airline's standing orders as necessary.

- Example: Sedative anticonvulsant injectable or intra-nasal

Note: Since some countries do not allow any medication in the first aid kit, some airlines will carry an extra kit containing over the counter medication to be used passively, i.e. only given to passenger on specific request by the passenger. This kit typically includes items such as:

- Mild to moderate analgesic for adults and children
- Antiemetic
- Nasal decongestant
- Antacid
- Antihistaminic
- Antidiarrheal

TABLE 3: UNIVERSAL PRECAUTION KITS

The universal precaution kit contents that follow are recommended by the Aerospace Medical Association.

(The recommendation has been coordinated and approved by the International Air Transport Association (IATA), International Academy of Aviation and Space Medicine (IAASM), American Osteopathic Association (AOA), American College of Emergency Physicians (ACEP), in collaboration with the American Medical Association (AMA). It has also been coordinated with and agreed to by the Chief, ICAO Aviation Medicine Section, subject to approval of the Council in due course.)

The contents of an aircraft universal precaution kit would typically include:

- Dry powder that can convert small liquid spill into a granulated gel
- Germicidal disinfectant for surface cleaning
- Skin wipes
- Face/eye mask (separate or combined)
- Gloves (disposable)
- Impermeable full length long sleeved gown that fastens at the back
- Large absorbent towel
- Pick-up scoop with scraper
- Bio-hazard disposal waste bag
- Instructions

REFERENCES:

1. International Civil Aviation Organization, Montreal, Canada: Annex 6, – Operation of Aircraft 2010, Chapter 12
2. International Civil Aviation Organization, Montreal, Canada: Annex 6, – Operation of Aircraft 2010, Chapter 6
3. IATA, Air Transport and Communicable Diseases, Universal Precaution Kit
<http://www.iata.org/whatwedo/safety/health/Pages/diseases.aspx>
4. USA Aviation Medical Assistance Act of 1998, Pub.L. 105-170, 112 Stat. 47 (1998)