



AIRCREW ROLE IN AEROMEDICAL EVENTS

Prepared and presented by

Mirghani Mahmoud Mirghani

Flight Purser and IOSA Expert
Head of Systems & Quality Audits Section
Sudan Airways



AIRCREW ROLE IN AEROMEDICAL EVENTS

As millions of passengers continue to fly year after year, the number of on board medical incidents increases . There is a significant role for ***aircrew*** in **Managing Medical Events** to minimize the risk of spreading pandemic diseases .

All operators are required to :

- Evaluate Safety Risks associated with aero medical event ;
- Train cabin crew in the first aid and aviation medicine ;
- Furnish the aircraft with recommended first aid equipment and supply;
- Screen passengers before the flight;
- Develop procedures to effectively manage on board medical events.



Carriage of Passengers with Communicable Diseases

Although the risk of any communicable disease being transmitted on board aircraft is limited, however, passengers and crew can be exposed, with or without their knowledge, to communicable diseases that are normally spread through close contact. Examples of such diseases include chicken pox, tuberculosis and influenza.

For this reason, it is important for airlines to ensure that they receive up-to-date information regarding countries where there is a greater risk of exposure to communicable diseases. It is recommended that airlines take into account the information, and follow the recommendations, published by the WHO closely.

Airlines should make this information /recommendations available to cabin crew travelling to the countries concerned.



Medical Clearance Required

A medical clearance by the medical department/advisor of the airline shall be required whenever the airline has received information that any passengers:

- May be suffering from any disease that is believed to be actively contagious and communicable;
- Who, because of certain diseases or incapacitation, may have or develop an unusual behavior or physical condition that could have an adverse effect on the welfare and comfort of other passengers and/or crew (keep in mind that some countries may question or challenge this approach);
- Can be considered to be a potential hazard to the safety or punctuality of the flight (including the possibility of diversion and unscheduled landing of the flight);
- Would require medical attention and/or special equipment to maintain their health during the flight;



Medical Clearance Required

Such passengers shall be subject to prior clearance for air travel by the medical departments/advisors of all carrying airlines prior to travel. The airline's advisors will obtain relevant information from a licensed physician who is familiar with the passenger's physical or mental condition.

Subject to local laws on medical confidentiality, the information must be provided to another airline when seats are requested on a connecting flight. Also, when an airline receives a request for travel and has reasonable grounds for doubt about the passenger's incapacitation, such airline is free to require additional medical information for clearance purposes.



Cabin Insect Extermination

Airlines should ensure that their crew members are informed about:

- ❖ Proper insect extermination procedures;
- ❖ The safety of insecticides;



WHO recommendations on cabin insect extermination

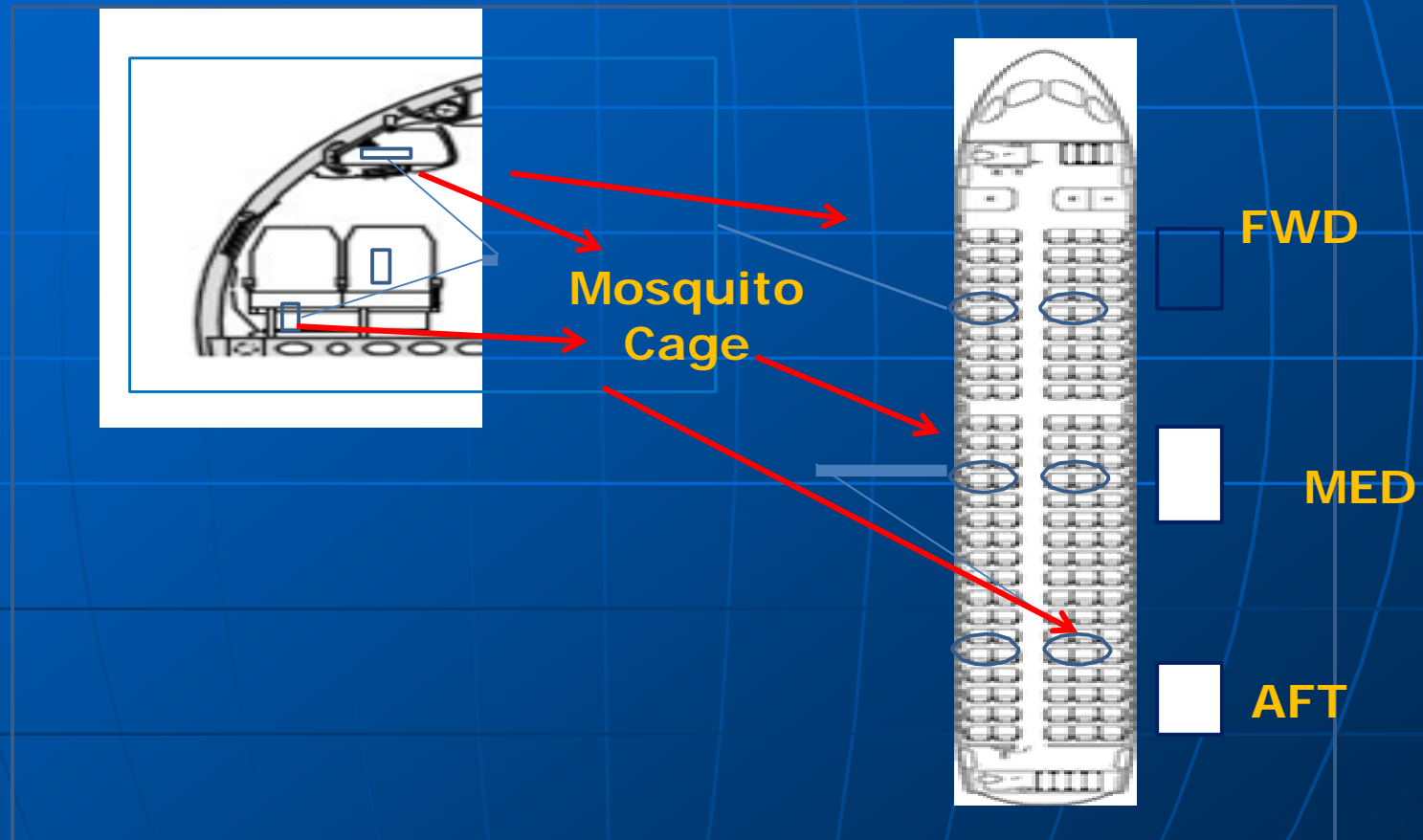
When establishing a policy, airlines should try to obtain the most reliable information (e.g., from national control authorities) regarding the risks involved and any imposed insect extermination requirements. Cabin crew should be aware of how to expel the insect extermination spray from the cabin. They should ensure that passengers are informed as early as possible, preferably prior to boarding, that insect extermination has been or will be conducted. It is important for cabin crew to deliver a positive message to passengers when making announcements that cabin spraying has to be carried out.



Aviation measures in regard to VECTOR-BORNE

According to (WHO IHR Annex 5) Every conveyance leaving a point of entry situated in an area where vector control is recommended should be disinfested and kept free of vectors. The presence of vectors on board conveyances and the control measures used to eradicate them shall be included in the case of aircraft, in the Health Part of the Aircraft General Declaration, unless this part of the Declaration is waived by the competent authority at the airport of arrival;

Aviation measures in regard to VECTOR-BORNE





Aircraft Disinsecting Measures

The World Health Organization and the International Civil Aviation Organization stipulate **two approaches for aircraft disinsecting** :

- either spray the aircraft cabin, with an aerosolized insecticide, while passengers are on board or
- treat the aircraft's interior surfaces with a residual insecticide (residual method) while passengers are not on board.



Aircraft Disinsecting Measures

- The following are recommended methods:
- • **Pre-flight spraying**, which involves the aircraft cabin being sprayed with an aerosol containing a residual insecticide while the aircraft is on **the ground** but **before passengers embark**. Pre-flight spraying may be combined with blocks-away or top of-descent spraying.
- • **Residual spraying**, which involves **the regular application** of a residual insecticide to internal surfaces of the aircraft, **except in food preparation** areas, at intervals based on the duration of effectiveness. In addition, **spot applications** are made to surfaces that are frequently cleaned.
- • **Blocks-away spraying**, which involves aerosol spraying of the passenger cabin **after the doors** have been locked **following embarkation** but before take-off.
- • **Top-of-descent spraying**, which is in-flight spraying carried out as the aircraft starts its **descent to the destination** airport.



Aircraft Disinsecting Measures

- The spraying is to be applied **as near as possible to the ceiling** by two members of the cabin crew, one walking along each aisle holding 2 x 100g cans at arms length and at a slow walking pace of not more than one step or one row per second starting at the rear of the aircraft.

The upper deck of 747 can be disinfected by one of the two crew members with the remaining crew member completing disinsection of the main cabin at the front of the aircraft.



Aircraft Disinsecting Measures

- **Pre-flight and top-of-descent spraying;**
- **a two-part process.**
- **The pre-flight spray** is carried out before the passengers board and is usually performed in conjunction with a pre-flight disinsection of the hold. The timing of this spray allows lockers to be open and causes minimum inconvenience to passengers. A subsequent in-flight spraying is carried out at "**top-of-descent**", i.e. as the aircraft starts its descent to the destination airport.



Aircraft Disinsecting Measures

- **Blocks away Disinsection ;**
- Takes place **before take-off but after passengers have boarded and the doors have been closed**. The aircraft is treated by cabin crew members walking through the cabins from back to front on both aisles, discharging aerosols at the prescribed dosage (spray cans).
- Crew must treat all possible insect harbourages, including toilets, galleys, wardrobes and lockers.
- **Holds and the flight deck are sprayed before departure**
 - the flight deck before boarding by the crew.

Aircraft Disinsecting Measures

VERIFICATION :

- **All empty or partly used** Top of Descent cans (along with cans used for the pre-embarkation, prespraying and cans used for the hold spraying) must be kept for inspection and removal by **the Quarantine Officer** boarding the aircraft **at the first port of entry into the requesting country**, when other quarantine formalities will be undertaken





Aircraft Disinsecting Measures



- 8 cans for B 747, A 340, 6 cans for B 767, A 330, 4 cans for B 737 and A320 families, B757. Equally space through the aircraft with exterior doors closed, working from the rear, activate the cans, finally closing the front door and leaving closed for 4 hours.
- •The same procedure can be used in the aircraft hold 737 and 757 - 1 can per hold, 747 and 767 - 2 cans per hold.



In-flight public health emergency procedures

In-Flight Services

- Ensure that all relevant information concerning the emergency has been communicated to all concerned.
- For an international public health emergency (e.g. Avian Flu), review procedure relating to onboard medical emergencies and advise cabin crew accordingly.
- Ensure that cabin crew laying over in affected areas have been provided with necessary guidance and have access to any assistance required.
- Ensure that the catering function is not interrupted.
- When required, discuss the need for medical examinations with the medical representative and have arrangements made as required.



In-flight public health emergency procedures

- If it is necessary to quarantine any equipment involved in the incident (O2 bottles, medical kits, galley equipment), ensure that the appropriate parties have been notified and arrangements have been made.



In-flight public health emergency procedures

- There are three medical equipments onboard the aircrafts :
 - - First Aid Kit
 - - Medical\Doctor Kit
 - - **Universal Precaution Kit**

All of them are useful for any in-flight health event



In-flight public health emergency procedures

■ FIRST AID KIT

The First Aid Kit is provided to administer basic first aid to crew members or passengers, when required

■ CONTENTS:

Adhesive bandage compresses, 1-inch.....	16
Antiseptic swabs.....	20
Ammonia inhalants.....	10
Bandage compresses, 4-inch...safety pin.....	8
Triangular bandage compresses, 40-inch.....	5
Arm splint, non inflatable (wire splint).....	1
Leg splint, non inflatable (wire splint).....	1
Roller bandage, 4-inch.....	4
Adhesive tape, 1-inch roll.....	2
Scissors.....	1
Latex gloves (pair).....	1
Acreflex..cream.....	1
Savlon..cream.....	1
Gauze..Absorbent.....	1
Lint..Dress..8",9",12",13".....	2



In-flight public health emergency procedures

- **Doctor medical kit**
- Doctor Medical kit contains restricted / controlled drugs and equipments . only a medically certified person can use the its contents. Cabin Crew shall check the ID before allowing any person to use MK. The kit may only be opened with the permission of the captain. Details of used items must be reported by the captain in the technical log and reported on the cabin crew voyage report. Each A/C of more than 100 pax shall be supplied with one medical kit and shall be sealed and easily accessible for cabin crew



Doctor medical kit contents

- - stethoscope;
- - sphygmomanometer .
- - airways, or pharyngeal syringes .
- - needles .
- - intravenous catheters .
- - antiseptic wipes;
- - gloves (disposable);
- - sharps disposal box;
- - urinary catheter;
- - system for delivering intravenous fluids;
- - venous tourniquet;
- - sponge gauze;
- - tape adhesive;



Doctor medical kit contents

- - surgical mask;
- - emergency tracheal catheter (or large gauge intravenous cannula);
- - umbilical cord clamp;
- - thermometers (non-mercury);
- - basic or advanced life support cards;
- - bag-valve mask;
- - torch (flashlight) and batteries
- The drug contents
 - - epinephrine 1:1000;
 - - antihistaminic injectable (inj);
 - - dextrose 50% inj. 50 ml (or equivalent);
 - - nitro-glycerine tablet or spray;
 - - major analgesic;
 - - sedative anticonvulsant inj.;
 - - antiemetic inj.;



Doctor medical kit contents

- - bronchial dilator inhaler;
- - atropine inj.;
- - adrenocortical steroid inj.;
- - diuretic inj.;
- - medication for postpartum bleeding;
- - sodium chloride 0.9% (minimum 250 ml);
- - acetyl salicylic acid (aspirin) for oral use;
- - oral beta blocker;
- If a cardiac monitor is available, (with or without an AED), the following would normally be added to the above list:
 - - epinephrine 1:10000



Universal Precaution Kit

- For managing episodes of illness involving contact with body fluids or case of suspected communicable disease an Operator should equip all passenger aircraft with one or more universal precaution kits. One or two universal precaution kits per aircraft would typically be adequate for normal operations; additional kits would be carried at times of increased public health risk (e.g. an outbreak of a serious communicable disease with pandemic potential).



Universal Precaution Kit

- 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)
 - Protective full length long sleeved gown that fasten at the back
 - Large absorbent towel
 - Pick-up scoop with scraper
 - Bio-hazard disposal waste bag
 - Instructions



First Aid Sample Scenario - Suspected communicable disease:

- The Cabin Crew could be presented with the following scenario:
- *A female passenger is travelling with a 2 years old child. 4 hours into the flight the Cabin Crew realise that the 2-year-old child is crying since 15 minutes. They approach the mother to inquire about the child and realise that the mother is not feeling well. She complains of fever and persistent coughing. She tells the Cabin Crew that she had vomited before boarding the aircraft*
- *And has diarrhea.*



First Aid Sample Scenario - Suspected communicable disease:

- Cabin Crew shall :
- 1. Assess the casualty;
- 2. Inform Pilot in-command
- 3. Call medical ground provider if available and seek medical assistance on-board;
- 4. Inform Pilot in Command;
- 5. Use medical equipment as recommended by medical ground provider and/or medical assistance on-board.
- 6. Never touch passengers fluids and treat passenger carefully . It is better to designate one crew to deal with the case .
- 6. Keep PIC updated .



First Aid Sample Scenario - Suspected communicable disease:

- **Additional information:** No medical personnel on-board. Medical ground provider recommend using anti-diarrheal and observing the passenger. After 30 minutes, the passenger continues to have diarrhoea, has started vomiting again and now has bloodshot eyes and a skin eruption
- Cabin Crew:
-
- 8. Call Medical Ground provider again if available, keep the Pilot in Command informed.
- **Additional information:** Medical ground provider recommend to isolate the passenger if possible and diversion if possible
-



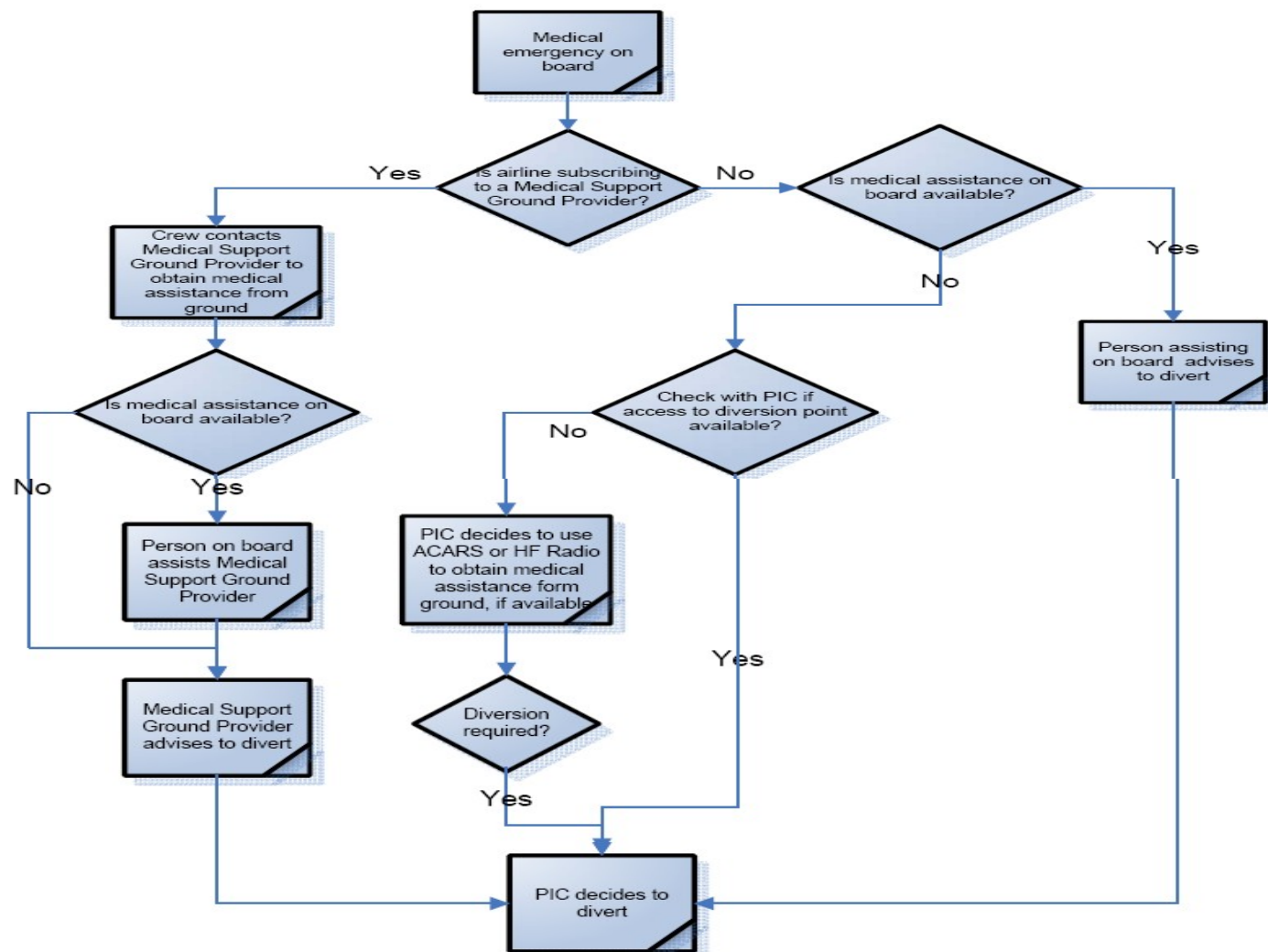
First Aid Sample Scenario - Suspected communicable disease:

Additional information: Medical ground provider recommend to isolate the passenger if possible and diversion if possible

- Cabin Crew:
- 9. Relocate sick passenger in a more isolated area if space is available, designate a specific lavatory if possible, protection against infectious disease, use medical equipment and Bio hazard waste disposal if required;
- 10. Remind the Pilot in Command to report the illness to the destination station before arrival and to ask the station manager to prepare for aircraft cleaning after a suspected case of communicable disease.



Suspected communicable disease onboard Flow chart:





PREVENTION STRATEGIES

The following prevention strategies should be combined and considered to maintain safety margins and to manage medical emergencies:

- Contract a medical support through ATC or OCC (24H, 7/7) with adequate communication (HF)
- Pre-flight screening of passengers
- Passive passenger screening
- Adequate cabin crew first aid training
- Aircraft first aid equipment and supplies
- - Guidelines for managing on board medical emergencies



PREVENTION STRATEGIES

- **Crew Immunization**
- It is required by many Airlines that aircrew be immunized in accordance with the recommendations of the World Health Organization (WHO) and the airline's national public health Authority.
- During pre-flight routine briefing, Vaccination certificate shall be checked available and valid. It is part of the mandatory items that shall be carried by aircrew in each flight .



Thanks a lot