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## Guidelines

# Air Transport of COVID 19 Positive Dead Body

### Objective

To provide guidance to air crew, funeral directors, airport authorities, aircraft operators, and other individuals regarding preparation and handling of the COVID 19 positive deceased for repatriation through air transport.

### Rationale

The rapidly increasing fatality toll attributed to the COVID-19 pandemic has resulted in rising concerns regarding the repatriation of deceased. For the individuals dying overseas due to COVID 19, either the burial is performed at the death location under the cultural and religious followings or the repatriation is requested by next-of-kin to the homeland. The air transport of such deceased therefore warrants for specific arrangements to be made for avoiding any infection spread.

Evidence yet do not support the transmission of disease through corpse. The risk of transmission of COVID-19 is associated with direct contact to the body surfaces, tissues, fluids or their aspirates where the virus is present, or by direct contact with contaminated surfaces, clothing and other personal effects. However, cadavers of those died from contagious diseases pose little to no risk of transmission than from those alive, except for viral hemorrhagic fever and prion diseases.

### Options for Air Transfer

Deciding an appropriate method for air transfer requires keen thinking in light of several factors. These include awareness of the applicable regulations and / or rules of the departure and destination states, relevant documentation required by health department and/ or the airline, cultural and religious practices of the home state of the deceased.

- The dead body could be embalmed and enclosed in a sealed coffin. This option must be chosen in coherence with the state regulations of the departure and destination countries in addition to the requirements of the aircraft operators as some accept only the embalmed corpse.
- The dead body that has not been embalmed and enclosed in sealed coffin. Repatriation of such bodies vary by country, as some do not allow the export or import of non-embalmed remains, as applicable
- The cremated remains of the deceased contained in a funeral urn. This is usually the least complicated option but largely depends on the cultural and religious beliefs of the bereaved and the national laws of State.



[Note: At the time of issue of these guidelines, WHO does not provide standard protocol the practice of embalming for COVID-19 remains]

## **Mode of Air Transport**

The transfer of the deceased sealed in coffin is done either as a cargo on the passenger aircraft or through the cargo-aircraft.

## **Instructions for Staff Dealing with Cadaver Transfer**

- Anyone coming in contact with the dead body, must ensure the standard preventive measures including hand washing and disinfection pre and post interaction with the body.
- Minimum number of staff with appropriate PPEs i.e. scrub suit, long sleeved fluid-resistant gown, gloves, face shield or goggles, N95 mask (or FFP2/FFP3) for aerosol-generating procedures and boots should be involved in the handling and transfer of the deceased
- Keep minimum movement of the body/ coffin and safe handling during the transfer
- Environmental surfaces or waiting rooms where body is kept before transferring to the aircraft and after taking off from the aircraft should be disinfected and cleaned properly with a 70% ethanol or minimum 0.1% concentration (1000 ppm) of sodium hypochlorite (bleach) for at least 1 minute
- After the transfer, disinfect the PPEs and carefully remove them ensuring no contamination or touching of soiled masks or clothing surfaces.
- Before and after the transfer, wash hands with soap and water for 40-60 seconds. If soap and water are not available, rub your hands for 20-30 seconds with an alcohol-based hand sanitizer that contains 60-80% alcohol.

## **Requirements for Air Transport**

### **Preparation of the body**

- As mentioned above, the staff involved in the handling and transfer of the dead body must wear appropriate PPEs i.e. scrub suit, long sleeved fluid-resistant gown, gloves, face shield or goggles, N95 mask (or FFP2/FFP3) for aerosol-generating procedures and boots
- Any puncture holes or wounds (resulting from removal of catheter, drains, tubes, or otherwise) should be disinfected with 1% hypochlorite and dressed in impermeable material
- The body must be wrapped in two cloths soaked in 10% formalin solution.
- Body bags are not necessary unless there is any leakage of body fluids from orifices. Make sure the leakage is contained before transfer. Body bags used must be able to carry up to 125kg of weight.



- The body should then be placed in a hermetically sealed inner containment. Disinfect the exterior of the inner containment with disinfectant formulations such as sodium hypochlorite with concentration of 5000-6150 ppm to 500-615 ppm free chlorine or 70% ethanol solution
- The sealed and disinfected containment then needs to be placed into a second hermetically sealed inner containment; the exterior of this inner containment also needs to be disinfected with the disinfectant formulation
- Disinfect the exterior of the sealed coffin
- The record must be maintained through a certificate detailing the date, time and manner of disinfection must be issued by the undertaker or funeral director and submitted to the freight forwarder / aircraft operator
- The coffin may then be covered in tarpaulin so that the nature of its content is not apparent
- The coffin is transferred to the aircraft after clearance from the aircraft operators depending on the type of aircraft, requirements of entry and prior approval of the countries of origin, transit and destination

#### **Embalming of dead body**

- The requirement of embalming of the dead body must be checked with the country of departure and destination and the aircraft operator carrying the human remains.

#### **Document Requirement**

- The documentary requirements must be confirmed with both the country of departure and of destination prior to arrangement of transport with the aircraft operator and be submitted to the freight forwarder / aircraft operator for arrangement of transport. This might include a death certificate including cause of death, certificate of embalming, import permit or any other certificate required by national legislation.
- The person requesting transfer of the remains should obtain a certificate from the mortuary regarding the procedures that have been followed and submit them to the aircraft operator who would be required to submit it to the Public Health Office at the destination country.
- A certificate confirming disinfection of the coffin must be issued by the mortuary and submitted to the aircraft operator.

#### **Instruction for Flight Operators**

- PCAA must be informed about the transportation of the dead body at least 48 hours prior to the flight operations
- Copy of the above-mentioned documents must be sent to the relevant officials in PCAA prior to the operation via email/ system
- After the flight operation, the aircraft must be thoroughly disinfected. Cleaning personnel should use hospital disinfectants active against viruses. In case of non-availability of the hospital disinfectants, disinfectant formulations such as sodium hypochlorite with



concentration of 5000-6150 ppm to 500-615 ppm free chlorine (dilution 1:50 if household bleach at an initial concentration of 5% is used) should be used. If a surface is likely to be damaged by sodium hypochlorite, an alternative is to use a neutral detergent, followed by a 70% concentration of ethanol. The disinfectant used must be logged into the aircraft documents in detail.

- The disinfection certificate shall be counter signed/ verified by the relevant PCAA officials.

## Management on Arrival at Destination

- The body shall be handed over to the relevant authorities with information communication to the relevant health department, following the guidelines provided by the Ministry of National Health Services, Regulations and Coordination (NHSR&C)
- Formal identification of the deceased's remains is obligatory. The requirements for confirming the identity of a deceased person vary depending on the country or jurisdiction involved.
- The checking of the completion of required documentation is compulsory, confirming that all the medical, health, administrative and legal requirements of the regulations in force in the country of departure relating to the transfer of human remains have been complied with

*Note: The above recommendations are being regularly reviewed by the Ministry of National Health Services, Regulations & Coordination and will be updated based on the international & national recommendations and best practices.*

*The Ministry acknowledges the contribution of Syeda Shehirbano Akhtar and HSA/ HPSIU/ NIH team to compile these guidelines.*

### References:

1. World Health Organization. WHO interim guidance on Infection Prevention and Control for the safe management of a dead body in the context of COVID-19, March 24, 2020
2. Precautions for Handling and Disposal of Dead Bodies, Department of Health, Hospital Authority, Food and Environmental Hygiene Department, Hongkong

**For more information, please contact:**

HSA/ HPSIU/ NIH, PM National Health Complex, Islamabad

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