

**COVID-19 INTERIM GUIDANCE
FOR THE MANAGEMENT OF THE DEAD
IN HUMANITARIAN SETTINGS**

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Authors (in alphabetical order)

- April Baller, World Health Organization
- Rudi Coninx, World Health Organization
- Gwendolen Eamer, International Federation of Red Cross and Red Crescent Societies
- Joao Toledo, Pan American Health Organisation
- Oran Finegan, International Committee of the Red Cross
- Pierre Guyomarc'h, International Committee of the Red Cross
- Kazunobu Kojima, World Health Organization
- Maria Dolores Morcillo Méndez, International Committee of the Red Cross
- Maria Clara Padoveze Fonseca Barbosa, World Health Organization
- Morris Tidball-Binz, International Committee of the Red Cross
- Dana van Alphen, Pan American Health Organisation
- Vicky Willet, World Health Organization
- Kristy A. Winter, International Committee of the Red Cross

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Objectives

The present guidance is targeted towards humanitarian settings. It aims to complement other guidance on the management of the dead with a stronger focus on the practical realities faced when dealing with the dead in humanitarian settings, and offers practical recommendations for the management of the bodies or human remains of persons who died from COVID-19, with the following objectives:

1. Ensuring the safety and wellbeing of those involved in managing and handling the dead from COVID-19.
2. Ensuring the proper and dignified management of all COVID-19 fatalities, with respect for their families and communities.
3. Ensuring the reliable documentation, identification and traceability of COVID-19 fatalities to prevent them from becoming missing persons.
4. Ensuring that the management of COVID-19 fatalities does not impede medico legal investigations where required by the authorities (e.g. suspicious deaths, deaths in custody, etc.), albeit with the additional health and safety precautions necessary for carrying out post-mortem procedures.

Key Considerations: Risk of Infection

The primary pathway of transmission of COVID-19 is by inhalation and absorption of respiratory droplets that are expelled through coughs and sneezes of an infected person. These virus-filled droplets may be absorbed via the mucous membranes of the nose, mouth and possibly the eye. Contact transmission is also theoretically possible. Cadavers of persons who have died from contagious diseases may pose risk of transmission.

General Principles for Management of the Dead Related to COVID-19

The management of dead bodies should be part of the continuum of care of individuals with COVID-19. As part of the continuum of care, it is fundamental to implement during the process of management, standard precautions to protect concerned workers and respect the deceased.

The planning and implementation of activities for the management of the dead related to COVID-19 should be guided by the following general principles:

- Every emergency response to the COVID-19 pandemic should include considerations for those who die from the disease. The measures required for effectively managing large numbers of dead from COVID-19 should be included in the preparedness and implementation of plans for responding to the COVID-19 pandemic.
- The physical and mental health and safety of all those directly involved in the management and handling of the dead is a priority.
- Staff responsible for handling the bodies of people who have or may have died from COVID-19 must be trained in managing the dead and using Personal Protective Equipment (PPE). The procedures adopted must limit staff's exposure to COVID-19 and avoid further spreading COVID-19. Every effort should be made to ensure the timely and reliable identification, documentation and traceability of the dead, including the process for relatives to obtain all related documents, such as death certificates, death

registration and burial permits. All measures must respect the dignity of the dead at all times, including avoiding hasty disposal of the dead and stigmatization as a result of the COVID-19 status.

- The highest authorities and decision makers should adopt coordinated measures to prevent, control or mitigate the humanitarian consequences that the COVID-19 pandemic may have, including with regards to the dead, their families and the community. This includes potential deaths of high risk groups such as those housed in aged-care facilities, those held in places of detention, those living in refugee and IDP camps, and displaced communities amongst others. Permanent and effective communication and coordination between all agencies involved is essential and should be ensured throughout. The respective medico-legal services should be consulted for advice on the proper, safe and dignified management, documentation, identification and burial of the dead.
- All measures taken need to recognize the interests and rights of families and communities ensuring the utmost respect for families to mourn their deceased relatives in accordance with their cultural and religious needs, while at the same time ensuring their safety and that of the community. For the supporting burials at the community level, it is important to ensure that the formal agreement of the family has been given before proceeding with the final disposition of the body of their deceased relative.
- Transparent and regular communication between concerned authorities and the community on matters related to the management of COVID-19 fatalities is essential to sustain trust, for which a communication strategy should be included.
- Families of the deceased must be given a clear explanation of the process, including the methods used and timeframes for any additional procedures such as medico-legal investigation, if needed.
- Special consideration should be given to psychosocial needs of the families and procedures adapted accordingly.

Technical Recommendations for Body Handlers

“Body handler” refers to any individual involved in physically handling human remains. This includes, among others: health-care practitioners and health-care assistant personnel; and death-care workers, e.g. forensic doctors, and other forensic experts, autopsy technicians, non-forensic personnel involved in transporting, preparing bodies for disposal, funerals or other commemorative events. Body handlers should use appropriate personal protective equipment (i.e. gloves, gown and medical mask), based upon the level of interaction with handling the body and perform hand hygiene before and after procedures when handling individuals that have died from COVID-19, including the following:

Use standard PPE:

- Gloves – ensure that gloves are not damaged; depending on the activity durable or more resistant gloves are recommended (i.e. nitrile gloves, rubber gloves). In the mortuary setting, if there is a risk of cuts, puncture wounds or other injuries that break the skin, wear heavy-duty gloves over disposable gloves.
- Aprons/long-sleeved gowns (or overalls) to protect skin and clothing from contamination by infected material.
- Eye protection – goggles/face shields.
- Face masks should be worn by body-handlers and in cases of aerosol production, such as from autopsies, FFP2, FFP3 masks or N95 respirators are currently considered the best choice for preventing inhalation of aerosols and shielding the nose and mouth from splashes during the body-handling process in health and death-care facilities.
- Where there is a risk of splash or exposure to body fluids, eye protection (goggles/face shield) and a medical mask should be worn.
- Appropriate (or protective) foot wear to protect body handlers from punctures and potential exposure to body fluids should be worn, such as closed toe shoes or rubber boots.

- Body bags are needed for post-autopsy procedures, temporary storage and during mass fatality management. If a body bag is required, use solid bags non-biodegradable and optimized against leaks, or double bag the body if the pouch/bag is thin and may leak.
- For handling bodies at community level if culturally appropriate, cover the body with a sheet before handling, turning or rolling it. Plastic or cloth sheeting can be used. A body bag can be used if culturally appropriate and available.
- Disinfect any non-disposable equipment used while handling remains as per standard practice.
- Dispose of used PPE. Used PPE should be properly disposed of so as to avoid contact with people, food, drink, or eating and drinking utensils. Biohazardous waste incineration is best.
- Avoid contact with your face and mouth, as well as food, drink, or eating and drinking utensils, when handling bodies.
- Do not engage in any other activity during the body-handling or preparation process.
- Following the body-handling or preparation process, wash hands for 20 seconds with soap and water.
- Be aware of any hazards, in addition to COVID-19, which may be present in the environment and at the location of the dead body.
- Deceased's clothing and personal effects may also continue to pose a cross-contamination hazard. Similarly, documentation created during the recovery, transport, examination, storage and burial processes may become contaminated with the virus and should be disinfected accordingly.

Environmental cleaning and control

- Like other coronaviruses, SARS-CoV-2 is an enveloped virus with a fragile outer lipid envelope that makes it more susceptible to disinfectants¹.
- In health care facilities, routine cleaning and disinfection policies should be followed. Environmental surfaces, where the body was prepared, should first be cleaned with soap and water, or a commercially prepared detergent solution².
- After cleaning, a disinfectant with a minimum concentration of 0.1% (1000 ppm) sodium hypochlorite (bleach), or 70% ethanol should be placed on surfaces for at least 1 minute.
- Hospital-grade disinfectants may also be used as long as they have a label claim against emerging viruses and they remain on the surface according to manufacturer's recommendations.
- Personnel should use appropriate PPE, including medical masks and eye protection, when preparing and using the disinfecting solutions.
- The belongings of the deceased person do not need to be burned or otherwise disposed of. However, they should be handled with gloves and cleaned with a detergent followed by disinfection with a solution of at least 70% ethanol or 0.1% (1000 ppm) bleach.

Considerations for Autopsies

Deaths known to be caused by COVID-19 are natural deaths and in general would not require a full post-mortem examination. However, medico-legal examinations may be necessary in certain circumstances (e.g. accidents, suicide or homicide, deaths in custody, etc.) regardless of whether the deceased had COVID-19.

¹ World Health Organisation. (2020a). [Infection Prevention and Control for the safe management of a dead body in the context of COVID-19](#); World Health Organisation. (2020b). [Cleaning and disinfection of environmental surfaces in the context of COVID-19](#).

² World Health Organisation. (2020b). [Cleaning and disinfection of environmental surfaces in the context of COVID-19](#).

The following recommendations apply for autopsies in cases with known or suspected COVID-19:

- Safety procedures for the medico-legal examination of deceased persons infected with COVID-19 should be consistent with those used for performing autopsies of decedents infected with a Hazard Group 3 (HG3) pathogen such as those causing Rabies or tuberculosis.
- If a person died during the infectious period of COVID-19, the lungs, other tissues and fluids are likely to contain live virus, and therefore special respiratory protection, in the form of respirators (see below), is required due to the risk of aerosol-generating procedures (e.g. procedures that generate small-particle aerosols, such as the use of power saws or washing of organs) or from inadvertent splashing of fluids;
- Nasal retropharyngeal swabs are the preferred method for confirming COVID-19 infection in deceased individuals. They may be contaminated by blood and tissue autolysis.
- If a body with suspected or confirmed COVID-19 is selected for autopsy, health care facilities must ensure that safety measures are in place to protect those performing the autopsy;
- Autopsies should be performed in adequately ventilated rooms, e.g. natural ventilation with at least 160L/s/patient air flow; controlled direction of air flow when using mechanical ventilation or, ideally, negative pressure rooms with at least 12 air changes per hour;
- The number of staff involved in the autopsy should be kept to a minimum and they should be experienced;
- Appropriate PPE must be available, including a scrub suit, long sleeved fluid-resistant gown, gloves (either two pairs or one pair autopsy gloves), and face shield (preferably) or goggles, and boots. A particulate respirator (N95 mask, FFP2 or FFP3 respirator, or its equivalent) should be used in the case of aerosol-generating procedures;
- In cases where visual recognition by next of kin is necessary to assist in the identification of the deceased person, the procedure should be strictly controlled and follow the necessary precautions, including the wearing of PPE by all those involved. Families should be informed about what to expect if they are going to view the body of the deceased.

Special Considerations for Temporary Holding Areas

A temporary holding area is a place where recovered bodies with COVID-19 can be safely stored until arrangements are made for their disposal.

- Where recovered remains continue to pose a risk of cross-contamination, staff working in the temporary holding area must always wear appropriate PPE and strictly adhere to health and safety protocols.
- Particular attention must be paid to contamination control within the temporary holding area. It is important to be attentive to the documentation of the reception and release of human remains (e.g. proper labelling of bodies and body bags with unique identifiers); all movement of bodies within the area should be recorded.
- The following measures may be necessary
 - Disinfecting body bags upon their arrival at the temporary holding area (disinfectant with a minimum concentration of 0.1% sodium hypochlorite, i.e. bleach, or 70% ethanol);
 - Placing body bags containing bodies inside second bags;
 - Disinfecting the outer bag following additional manipulation of the bag (e.g. after moving the bag, after opening/closing for examination procedures, etc.).
- The entity in charge of the emergency response (e.g. crisis committee) should oversee monitoring the storage capacities of the areas, and additional body storage must be addressed in advance.
- It is advised to establish a mechanism to coordinate the procurement and staffing of the emergency storage areas, to identify potential facilities and premises suitable for temporary holding (e.g. hospitals, public and private funeral homes, forensic services, military assets, etc.).

- Specific requirements should ensure a proper storage of bodies, even if it is temporary (e.g. maintain the environment temperature around 2-4°C as much as possible, use racks to avoid piling up bodies).
- Operating procedures in temporary holding areas must follow the general recommendations on the management of the dead³.

Funeral home / mortuary care

The handling and mortuary care of the dead related to COVID-19 (confirmed or suspected case) should follow standard routine procedures, including the protection of the staff (i.e. infection prevention and control). Death-care workers must understand the necessary health and safety precautions, and efforts should be made to respect the families' needs and right to mourn their loss.

PREPARING THE BODY

- Individuals at higher risk of serious COVID-19 infection and vulnerable populations - including people over 60 years of age and those with medical conditions such as heart or lung disease, diabetes, or compromised immune systems - should not be directly involved in preparing the body for burial.
- Block the natural openings of the body (nose and mouth, i.e. with cotton), avoid changing the clothes of the deceased (to avoid handling the body).
- Clothing worn to prepare the body should be immediately removed and washed after the procedure, or an apron or gown should be worn.
- Only personnel who have been trained and have the required materials should touch the body of someone who has died of COVID-19 to prepare it for burial.
- Clearly label confirmed and suspected infectious cases.
- If the medical examiner/coroner has not performed his or her examination/investigation and the funeral home is delivering the deceased to their office, do not apply disinfectant or any other chemicals to the body. Doing so could interfere with the official investigation into the death.

EMBALMING:

- Note: All existing guidelines advise against embalming unless carried out by experienced staff and utilizing appropriate PPE. Health and safety procedures equal to autopsy requirements. Consideration for partial embalming (i.e. injection only).
- If a decision is made to proceed with embalming this should be carried out by trained, experienced staff. Follow standard precautions including the use of PPE if splashing is expected (fluid resistant disposable gown, gloves, face shield or goggles and medical mask). respirator (N95 or FFP2, FFP3) may be required if aerosol generating procedures are performed.
- Perform hand hygiene by washing hands with soap and water for at least 20 seconds or using an alcohol-based hand sanitizer that contains at least 60% alcohol if soap and water is not available. Soap and water should be used if the hands are visibly soiled.
- Prepare and embalm as normal (e.g., washing, setting features, arterial and aspiration/cavity embalming, etc.), taking care to minimize splashing and aerosolization of fluids.
- Fresh PPE should be donned for other preparation and for cleaning the prep room after embalming has taken place.

³ World Health Organization, Pan American Health Organization, International Committee of the Red Cross & International Federation of Red Cross and Red Crescent Societies.(2016). [Management of Dead Bodies after Disasters. A Field Manual for First Responders \(2nd Edition\)](#) Geneva.

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- For other preparation (e.g., dressing, styling hair, applying cosmetics and casketing), appropriate PPE should be used.

AFTER PREPARING BODY:

- Perform hand hygiene by washing hands with soap and water for at least 20 seconds or using an alcohol-based hand sanitizer that contains at least 60% alcohol if soap and water is not available. Soap and water should be used if the hands are visibly soiled.
- Follow standard precautions⁴, including donning fresh PPE⁵ (mask, gloves, disposable gown).
- Carefully place the body into a body bag, taking care to prevent splashing or aerosolization of fluids, and close it.
- Disinfect the area and the outside of the bag with a product with EPA-approved emerging viral pathogens claims⁶.
- The deceased can be moved out of the facility using disposable gloves
- After the deceased is in the prep room, remove gloves and dispose of them immediately.

TRANSPORT:

- If you are conducting a removal from a hospital, healthcare facility, nursing home or other healthcare facility, ask about any specific precautions, guidelines or procedures you need to follow beyond what may be outlined below when you arrive.
- When making a removal in a home, If the deceased died of a confirmed or suspected case of COVID-19, any staff entering the home should don proper PPE.
- Regardless of the location of the removal, you may wish to let the family know that, for your protection and theirs during this pandemic, that your staff will be wearing appropriate personal protective equipment. This will set their expectations and awareness.
- Where transportation of the body is required and if disposal is to take place off-site, place the body in a body bag and disinfect it prior to release of the body.
- After the body is placed in the removal vehicle, remove your gloves and dispose of immediately. Wash your hands with soap and water for at least 20 seconds or use hand sanitizer.
- Use gloves to transfer the decedent from the removal vehicle into the funeral home.

FUNERAL:

- A funeral or visitation service can be held for a person who has died of COVID-19
- Limit the numbers of people who are allowed to visit at one time. Ensure appropriate social distance measures.
- Funeral home workers should follow their routine infection prevention and control precautions when handling a deceased who died of COVID-19.
- If it is necessary to transfer a body to a bag, including additional PPE if splashing of fluids is expected.
- Wear disposable gloves when handling the body bag.

⁴ Centre for Disease Control and Prevention. (2020). [Standard Precautions for All Patient Care](#).

⁵ Centre for Disease Control and Prevention. (2020). [Sequence for Putting on Personal Protective Equipment](#).

⁶ United States Environmental Protection Agency. (2020). [List N: Disinfectants for use Against SARS-CoV-2 \(COVID-19\)](#).

Repatriation of human remains

Repatriation is defined as human remains being transported from one country to another for burial purposes at the request of the next-of-kin. The process is complex and does require careful arrangement and proper coordination with concerned authorities in both countries. Formal identification of the deceased's remains is obligatory, this includes a death certificate, certificate of "freedom from infection", and possibly a certificate of embalming / cremation certificate. The destination country also might have specific requirements. Repatriation in the case of Covid-19 may present additional challenges. Please also refer to International Civil Aviation Organization and the International Air Transport Association guidance⁷ for more details and appropriate procedures for disinfection and containment of human remains for air transport.

Cremated remains contained in a funeral urn is often the least complex option as long as this is not in conflict with the cultural and religious preferences of the family, and a crematory exists opportunely. They can be transported in either carry-on or checked baggage even without advance arrangements in many instances.

Another option is to transport embalmed human remains enclosed in a sealed coffin. However, embalming for COVID-19 remains is not recommended, to avoid excessive manipulation of the body and in some states, embalming is prohibited for the cases related to COVID-19. However, some aircraft operators and destination countries will only accept embalmed human remains, which may present moral and logistical challenges for families and funeral directors and legal challenges for States. When divergent requirements exist, further bilateral discussions would be needed, seeking for acceptance on a case-by-case basis.

Burials

A person who has died from COVID-19 may be buried in an existing public cemetery or community burial ground. However, where mortality is expected to be high, local authorities and affected communities may assign specific areas in which to bury those who die. Mass graves are highly discouraged, they are often a demonstration of poor planning by authorities, and they show a disregard for the wishes, customs and religious rites of families and communities. Single graves are respectful and dignified, and they facilitate locating human remains and honouring those buried there.

Appropriate burial and proper documentation of cemeteries is important to ensure that all bodies are traceable and accounted for, allowing families and relatives to mourn and access the burial location of their relatives. It also facilitates, if, and when required proper medico legal investigation of death and identification of bodies. This becomes more relevant in mass fatality incidents and especially for bodies not identified and / or unclaimed. Adequate burial procedures ensure safe disposal of bodies by prioritizing, health and safety measures and precautions for workers and communities.

- All burials should be registered, and the graves physically identified with a reference marker specific to each body.
- Dealing with the bodies of migrants or any foreigners should include provision for their repatriation to their home country. (See above)

⁷ International Air Transport Association. (2020). [Guidance Information on the Transport of COVID-19 Human Remains by Air: Collaborative document by WHO, CDC, IATA and ICAO](#). ; International Civil Aviation Organization. (2020). [Electronic Bulletin EB2020/27 \(May 2020\) Repatriation of COVID-19 Human Remains by Air](#).

- In cases where authorities decide to temporarily bury the bodies, burials must be arranged according to the rites of the religion to which the deceased belong to. The process must be clearly documented to provide information to families.
- Unidentified human remains should not be cremated. Burial in single marked graves is the recommended method of disposal. Bodies should be buried in their respective body bags, regardless of whether coffins are used. This serves both to aid future recovery and examination of the remains if necessary (e.g. for identification) and to dispose of the body bags safely.
- Check for any additional state and local requirements that may dictate the handling and disposition of the remains of individuals who have died of certain infectious diseases.

Burial by lay people in the community

In many contexts, mortuary services are not standard or reliably available, it is usual for ill people to die at home, or for their bodies to be prepared and transported for burial by lay people such as family members or community or religious leaders. In these contexts, family members and traditional burial attendants can be equipped and advised to safely bury loved ones who have died of suspected or confirmed COVID-19. Any modifications should be made jointly with affected communities in order to ensure that management of the dead in times of COVID-19 continues to meet all necessary formalities (death certificate and registration) as well as families' cultural, social, and religious needs.

Guiding principles for community burials:

- Protect burial providers and the community: To reduce the risk of transmission related to burials and funerals, support and equip family members, traditional and religious leaders and others typically involved in burials at the community level to carry out safe burials.
- Family members should be allowed to participate in burials for suspect and confirmed COVID-19 cases, providing their participation does not compromise infection control. Support communities to modify traditional funeral practices to facilitate physical distancing and advise family members to refrain from kissing or touching the deceased.
- Involve and engage the community: To be successful, any strategy to adapt traditional burials must be nested within a wider community engagement strategy because understanding the community and effective communication are vital for community acceptance and success.
- Create conditions and processes that respect humanity and dignity and allow for compassion and mourning.
- Coordinate and communicate with other actors supporting the response at all levels (national, district, provincial).

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