

## **Interim guidance: Death care services and handling of dead bodies during the coronavirus disease (COVID-19) pandemic**

The Public Health Agency of Canada, in collaboration with Canadian public health, infection prevention and control (IPC) experts, and the Funeral Service Association of Canada has developed this document to provide guidance on IPC and public health measures in relation to death care services in the context of the COVID-19 pandemic. This guidance is intended for death care providers including funeral homes, cemeteries and crematorium operators, medical examiners, coroners, medical personnel, and any other personnel, or community members in remote and isolated communities, who will be handling dead bodies of deceased persons confirmed or suspected to have been infected with COVID-19, or in regions with high levels of community transmission.

The guidance outlined in this document reflects the latest scientific evidence and current expert opinion. As such, the advice in this document is subject to change as new information on the disease becomes available.

Based on experiences with COVID-19 in other countries, it is important to be prepared for an increase in the number of COVID-19 related deaths in Canada that may overwhelm traditional capacity for funeral services. Deaths from other causes may also increase due to pressures on health system capacity. The management of human remains is an important part of pandemic mitigation measures in Canada. Importantly, we can also anticipate psychosocial impacts from an increase in deaths due to COVID-19 and due to necessary precautions related to mortuary services that may impact the grieving process. The current pandemic may be difficult for Indigenous Peoples of Canada who have been impacted by previous trauma, such as the Tuberculosis epidemic in the 1950s wherein evacuation split families, sometimes for years, with some dying and buried without their families' knowledge.

### **Funerals and other ceremonies**

The Public Health Agency of Canada has recommended and all provinces and territories (P/T) have implemented community-based public health measures to contain the spread of COVID-19 and to mitigate the societal and health care system impact of the disease (e.g. physical distancing). These restrictions may affect funerals, as well as cemetery and crematorium operations, even when the death was unrelated to COVID-19; therefore, check local public health advice prior to holding a funeral or other visitation service to ensure the safety of service-goers and funeral service workers. The current situation is extremely fluid and epidemiological circumstances may dictate what essential services are required for the handling of human remains, as well as what non-essential services may need to be deferred to a later date.

Regardless of the cause of death, death care providers should consider the use of virtual technologies (e.g. telephone, video conference, video recordings) in place of in-person services and gatherings. These technologies allow for broader inclusion and participation and are currently being practiced in many areas of the country.

### **Physical distancing**

Public health recommendations on physical distancing, including avoiding common greeting practices such as hugging and handshakes, apply during funerals and visitation services. When possible, services should be arranged such that attendees are 2 metres away from each other at all times. Some activities can increase the chance of COVID-19 spreading among funeral attendees even at a distance; these activities, such as group singing and self-serve buffets, should not be included in ceremonies. Non-medical masks can be considered by the attendees, as these may mitigate pre-symptomatic or asymptomatic transmission of the virus among attendees if clean and properly fitted. Medical masks should be reserved for use by professionals due to supply constraints. People should also continue to comply with the public health advice dependent on their current situation:

- **Individuals under isolation or quarantine (self-isolation):** In the case of death relating to COVID-19, it is possible that close contacts (e.g. shared same household) of the decedent will be in isolation or quarantine. These individuals should not attend ceremonies in-person. Other people may also be in quarantine due to a [high risk of exposure](#) through other contacts or travel. Therefore there may be a desire to postpone the funeral until after the isolation or quarantine periods are over. However, deferral of the funeral may not always be possible if storage capacity is severely exacerbated and becomes constrained during the pandemic. Meaningful commemorative events, memorial services, and life celebrations can be held after the pandemic.
- **Protective self-separation:** It is recommended that a person who is at [high risk for severe illness](#) from COVID-19 (e.g. older adults, those with chronic underlying medical conditions, or immunocompromised) should take measures to ensure they are physically distancing and staying home as much as possible for their own protection when public health authorities confirm that the virus is circulating in their community. This also applies to funeral workers with underlying medical conditions etc. who are at high risk for severe illness. These workers could be re-assigned to activities that carry no risk of exposure to the virus, or could continue work in higher exposure settings if deemed essential due to staffing requirements and appropriate infection prevention and control precautions are being taken at their workplace with personal protective equipment (PPE) etc. A person who is at high risk of severe illness should not attend a funeral or visitation while COVID-19 is circulating in their community, but funeral homes may consider scheduling dedicated times for those at risk for severe illness to visit the body alone.

### **Physical contact with the recently deceased**

It is currently thought that SARS-CoV-2, the virus causing COVID-19, is spread primarily from person-to-person through respiratory droplets (e.g. coughing, sneezing). Transmission may also occur via contact with contaminated surfaces, as the virus is estimated to survive for hours to days on different materials (1). It is not yet known how long the virus will survive on human tissue.

Immediately after death, before the body has been prepared by funeral services, and during the funeral service, family and friends should be advised not to kiss or touch the body if it

was known or suspected that the deceased was infected with COVID-19 based on testing, fever, or respiratory symptoms. In jurisdictions where there are known to be high levels of community transmission, it would be prudent to avoid touching or kissing the body of any recently deceased person because of the risk of pre-symptomatic or asymptomatic transmission. [Proper hand hygiene](#) should be performed if the body is touched.

When a death occurs in a remote and isolated community, bodies may sometimes be kept in family homes immediately following death. If untouched, these bodies are not a transmission risk to others. In some cases, the body will later be moved by community members in situations where other funeral service personnel are not available. Direct contact should be avoided unless absolutely necessary, and communities should refer to this document for information on best practices for safely transporting and handling dead bodies. Further advice on burial by family members or for deaths at home can be found in the World Health Organization's [Infection Prevention and Control for the safe management of a dead body in the context of COVID-19](#). Note that the Public Health Agency of Canada recommends a 2 metre distance for those observing the preparation of the body, greater than the minimum suggested by the World Health Organization. However, if the deceased was not suspected to have COVID-19, and was not at a [high risk of exposure](#) to COVID-19, such precautions are not necessary unless local public health advises that there are high levels of community transmission.

## **Cultural or religious considerations**

A number of religious and ethnic groups have specific directives about how bodies are managed after death. Indigenous Peoples, and people of the Jewish, Hindu, and Muslim faiths all have specific directives for the treatment of bodies and for funerals, and these needs should be accommodated as much as possible if the health and safety of the community can be assured. Religious leaders should be involved in planning for funeral management to ensure that funeral ceremonies continue to be culturally and religiously appropriate. Religious or cultural leaders should also be engaged for bereavement counselling and communications, particularly in ethnic communities with large numbers of people who may speak a variety of languages. Advice on burial by family members or for deaths at home, found in the World Health Organization's [Infection Prevention and Control for the safe management of a dead body in the context of COVID-19](#), contains guidance that would be useful in this context. Note that the Public Health Agency of Canada recommends a 2 metre distance for those observing the preparation of the body, greater than the minimum suggested by the World Health Organization.

## **Repatriation of dead bodies**

### **International**

If a Canadian citizen or permanent resident dies due to COVID-19 while outside of Canada, the decedent's next of kin should notify Government of Canada consular services. Global Affairs Canada is providing 24/7 consular support to Canadians affected by COVID-19 through the [Emergency Watch and Response Centre](#) and through consular staff at its

network of missions abroad. Canadian funeral providers have regularly contacted counterparts in other countries to provide assistance for international deaths and needs, and may be able to assist with arrangements. In light of the global public health response to COVID-19, there are very few flights available for transport of human remains to Canada.

Human remains that have been identified as those that have died with COVID-19 can be safely repatriated to Canada. In all cases, appropriate documentation must be received with the remains. Two options for repatriation of remains exist for people who were suspected or confirmed to have had COVID-19:

- The body is cremated, OR
- The body is transported in a hermetically sealed container.

If the remains have been cremated or are transported in a hermetically sealed container, no additional infection prevention and control measures (including PPE is required by the transportation staff). A screening officer must inform a quarantine officer if there are reasonable grounds to suspect that the human remains arrive in a damaged state (e.g. the hermetic seal appears broken, the container has been damaged, or appears to have been compromised). Quarantine officers and screening officers should follow standard procedures for handling repatriated remains of a person that had a communicable disease.

General information on what to do if someone dies while abroad is available on the Government of Canada website at: <https://travel.gc.ca/assistance/emergency-info/death-abroad> or through funeral providers in your community.

## **Within Canada**

For transportation within Canada, check provincial and territorial regulations. The body may not be required to be hermetically sealed, and a normal transportation casket or container may suffice as per routine practice for deaths associated with communicable diseases. The death must be registered in the province or territory where the death occurred. Embalming might be a suitable option to preserve the remains during transport or while waiting for delayed transport, if it can be performed with appropriate low-risk procedures and the necessary infection prevention and control precautions (including, PPE). This may be particularly important for communities where burial of the body is an integral part of cultural traditions.

## **Psychosocial considerations**

### **Bereavement and grief support**

Although in general people will find their own ways to mark the loss of family and friends, some may need some specific psychosocial support to manage their grief, particularly in the face of multiple losses and the uncertainty of more, the absence or disruption of social support networks and, potentially the loss of a primary caregiver for a child or aging adult. Further, some survivors of COVID-19 may be faced with long-term physical health, employment, and other social issues that give rise to a grief reaction.

Psychosocial teams should work closely with those engaged in the planning for and delivery of coroners' and funeral related death care service providers to establish an integrated response to the needs of bereaved individuals and families. Particular attention should be paid to the potentially unusual arrangements that may need to be employed to address a lack of adequate resources (human or material) to deal with the volume of human remains and the increased need for coroners' mortuary and burial services that may occur during the COVID-19 pandemic. The extent of the demand may interfere at times with the burial and service wishes of the bereaved, which in turn may generate complications in the grieving process. Psychosocial teams should include or partner with those involved in the delivery of spiritual and religious care and support.

The bereavement process may be improved by encouraging the use of technology when making funeral arrangements or holding bereavement rights and ceremonies. Phone, email, video or alternatives to a physical meeting and e-signature applications to sign required paperwork (documentation). Webcasting or other virtual technology can be used during services. This is currently being done and funeral associations are assisting to educate and facilitate these options.

Publicly orchestrated events (commemorations, public memorial ceremonies) can provide citizens an opportunity to mourn collectively, and these events recognize both the shared individual and collective or social impacts of the pandemic. Such events can enhance the psychosocial healing process for individuals, organizations and communities, and should be considered once the pandemic has become manageable and mass gatherings are no longer a high risk activity. The psychosocial importance of saying goodbye one last time in a safe non-medical environment is important for grieving families and their mental health.

Given the possibility of a surge in deaths or mass fatalities stemming from COVID-19, funeral service personnel and others who handle dead bodies may be at increased risk of mental health challenges such as post-traumatic stress disorder. Psychological assistance should be considered for these sectors.

## **Handling of dead bodies**

The work of funeral service personnel, medical examiners, and coroners is an essential part of the response infrastructure to the COVID-19 pandemic, and their safety should be prioritized. In some cases of remote and isolated communities, community members may also perform these functions out of necessity.

The risk of transmitting SARS-CoV-2, the virus causing COVID-19, from dead bodies is not yet known, but transmission may occur via contact with contaminated surfaces. Human coronaviruses can remain infectious on surfaces for up to 9 days (2), while the SARS-CoV-2 virus is estimated to survive for hours to days on different materials in experimental settings, and approximately 1-3 days on common materials used in death services such as cardboard and polypropylene (1). Routine infection prevention and control practices (i.e. [proper hand hygiene](#), environmental cleaning, use of PPE) that are used when handling any dead body with a communicable disease should be followed when transporting bodies or preparing bodies if the decedent is suspected or confirmed to have been infected with COVID-19, or in jurisdictions where there are known to be high levels of community transmission. Certain

procedures or actions, specifically those that may involve the generation of aerosols or splashing of liquids, (e.g., spraying dead bodies with power hoses,) should be avoided unless essential. If these cannot be avoided, additional PPE as outlined below would be required.

As with other communicable diseases, the cause of death should be communicated to all those who will be handling the body via the medical certificate of death. Environmental and equipment cleaning, as well as personal hygiene, are crucial elements of mortuary worker safety at all times and during the Pandemic. Equipment, and facilities used in the care and handling of a COVID-19 deceased should be disinfected and sanitized in a consistent and comprehensive protocol for cleaning and personal hygiene.

### **Transportation of dead bodies**

Routine infection prevention and control practices (including the use of PPE) for transporting a body with a communicable disease should be followed. Body bags are not always necessary, although they may be used for other reasons (e.g. excessive body fluid leakage) (3). In most areas of Canada, body bags or pouches are used as standard equipment. In some cases these may not be available and cloth can be used (3). If the deceased has been placed in a body pouch or bag, the outside of the body pouch or bag should be cleaned and disinfected as per usual standard operating procedures. As always, the remains should be unwrapped slowly from a body pouch or bag, or carefully lowered, and general practices for handling remains with respiratory infectious diseases (e.g. tuberculosis) should be followed. When accessing the body from the body bag or pouch, oral and nasal cavities should be covered or packed prior to movement of the remains to make sure there is no further evacuation of lung contents. A non-medical face mask or cotton can be placed over the nasal and oral cavities to prevent any potential escape of virus from the lungs. If the body pouch or bag is not reusable, it should be disposed of after use and treated as biohazardous waste. Hospital grade disinfectants and sanitizers should be utilized in the cleaning of all equipment during the handling of those remains of persons that have died as a result of contracting COVID-19.

Once the deceased has been cremated or placed in a casket, standard protocols are acceptable for transport. Specialized caskets, vehicles, or driver's licenses are not necessary. Compliance with all laws, regulations, and requirements continue to require adherence during a Pandemic.

### **Preparation of dead bodies by mortuary personnel**

PPE should be worn when preparing the deceased according to routine infection prevention and control procedures for preparing a body with a communicable disease. Where supplies are available, oral and nasal cavities should be covered or packed prior to movement of the remains to make sure there is no further evacuation of lung contents. A non-medical face mask or cotton can be placed over the nasal and oral cavities to prevent any escape of virus from the lungs. When turning and moving deceased bodies, care should be taken to exert minimal pressure on the abdomen and chest to prevent expulsion of waste material from oral, nasal and other orifices. Additionally, when washing the remains, bathing is preferred. If running water is essential, the water pressure should be kept low to avoid splashing as is

standard practice. Splashing of water should be avoided at all times when handling remains of persons that have died as a result of contracting COVID-19.

If washing the body or shrouding are important religious or cultural practices, families are encouraged to work with their community cultural and religious leaders and funeral home staff on how to reduce their exposure as much as possible. People conducting these activities should wear appropriate PPE (Table 1).

The risk of embalming bodies infected with COVID-19 is not entirely known, and international guidance is evolving on this issue. The World Health Organization states that embalming is not recommended to avoid excessive manipulation of the body, while some jurisdictions have identified that it can be accomplished with the appropriate use of infection prevention and control precautions (including PPE) (3,4,5,6). Embalming carries the potential for exposure to splashing, necessitating additional PPE (Table 1). Embalming may be appropriate to delay decomposition where immediate disposition (i.e. burial or cremation) is not possible, but careful consideration must be given to the procedures and availability of PPE. [Proper hand hygiene](#) should be performed once the procedures are complete. Removing fluid from the deceased during the embalming operation may create additional splash-related risk. Every effort must be made to reduce splashing resulting from either washing the deceased or cavity aspiration. Standard hydro aspirators used during the embalming operation often create water splashing and could create an aerosol with the virus. Aerosol-generating procedures should be avoided at all times during the embalming process. An N95 respirator, facial/eye protection, and disposable impermeable gowns should be worn by all individuals in the room if an aerosol-generating procedure is occurring. N95 respirators must be fit-tested and anyone using them should be trained in the proper method for putting on and taking off this and other PPE. In addition, the aspirator exit port should be extended by plastic or rubber tube to extend beneath the surface of the water into which it is discharged.

Jurisdictions may have specific guidance and directives on the allowance of embalming and autopsies during the COVID-19 pandemic (4). Check the local jurisdiction's recommendations prior to conducting these procedures.

Environmental surfaces, instruments and transport trolleys should be properly decontaminated. Single-use disposable equipment should be discarded into a no-touch waste receptacle after use. All reusable instruments should be disinfected before reuse. SARS-CoV-2 is currently assumed to survive for 1-3 days on materials commonly used in the management of human remains (e.g. cardboard, stainless steel, polypropylene) (1). The use of rental caskets should be avoided as part of best practices for COVID-19. It is challenging to properly disinfect reusable parts of rental caskets, and this presents an unnecessary risk for the spread of COVID-19.

**Table 1. WHO guidance on the use of Personal Protective Equipment in the mortuary management of COVID-19 bodies.**

Procedure	Hand hygiene	Disposable gloves	Medical Mask	Respirator (N-95 or similar)	Long sleeved gown	Face shield (preferred) or antifog goggles	Rubber Apron gloves
-----------	--------------	-------------------	--------------	------------------------------	-------------------	--	---------------------

Packing and transport of the body	Yes	Yes	Only if risk of splashing		Yes	Only if risk of splashing		
Mortuary care	Yes	Yes	Yes	Only with aerosol-generating procedure	Yes	Yes		
Autopsy	Yes	Yes		Yes <sup>a</sup>	Yes	Yes	Yes	Yes
Religious observation – care of body by family member	Yes	Yes			Yes OR Apron			Yes

<sup>a</sup> Assuming risk of aerosol-generating procedure

**Source:** Reproduced with minor modifications from the World Health Organization [Infection Prevention and Control for the safe management of a dead body in the context of COVID-19](#) (WHO reference number: WHO/2019-nCoV/IPC\_DBMgmt/2020.1)

## Autopsies

If a physician requires an autopsy to be performed, normal protocols will be followed, e.g. obtaining permission from the next of kin. In cases in which the death is reportable to and accepted for investigation by a medical examiner or coroner, the usual protocols prevail according to provincial/territorial legislation.

Standard safety and infection prevention and control precautions (including use of PPE) for bodies confirmed or suspected to have been infected with a communicable disease should be followed. If splashing is likely, additional PPE should be worn (e.g. impermeable gown, face shield/goggles, medical mask). Aerosol-generating procedures, such as lung excision, use of power saws, or washing of intestines, may increase the risk of infection; therefore, contact, droplet, eye and respiratory protection (i.e. N95 respirator) should be worn if an aerosol-generating procedure will be performed, and the generation of aerosols in the autopsy room should be minimized whenever possible. Autopsies for COVID-19 deaths should only be performed in adequately ventilated rooms; or if aerosol-generating procedures are anticipated, negative pressure rooms. Examinations may be limited to sample collection; therefore, the extent of the examination should be limited and equipment that reduces potential aerosol-generating procedures should be used, i.e. hand shears as opposed to oscillating saw to cut ribs if intrathoracic examination is required.

Any changes to regular practices pertaining to the management of human remains and autopsy requirements during this pandemic would require the authorization of the Chief Medical Examiner or Coroner.

## Environmental cleaning



Use only [approved hard-surface disinfectants](#) that have a Drug Identification Number (DIN). A DIN is an 8-digit number given by Health Canada that confirms the disinfectant product is approved and safe for use in Canada.

All cleaning products should be used in accordance with manufacturer's instructions. A diluted bleach solution (0.1% sodium hypochlorite, i.e. a ratio of 5 millilitres (mL) of bleach per 250 mL of water OR 20 mL of bleach per litre of water, assuming bleach containing 5% sodium hypochlorite) or 70% alcohol may also be used to disinfect, as these solutions are expected to significantly reduce coronavirus infectivity on surfaces within 1 minute (2). Regular household cleaning products are not sufficient to disinfect surfaces contaminated with SARS-CoV-2 in a mortuary care setting. Please refer to instructions on [Hard-surface disinfectants for use against coronavirus \(COVID-19\)](#), and Health Canada's approved [List of hard-surface disinfectants for use against coronavirus \(COVID-19\)](#).

## References

1. van Doremalen N, Bushmaker T, Morris D, Holbrook M, Gamble A, Williamson B, et al. Aerosol and surface stability of HCoV-19 (SARS-CoV-2) compared to SARS-CoV-1. medRxiv. 2020.
2. Kampf G, Todt D, Pfaender S, Steinmann E. Persistence of coronaviruses on inanimate surfaces and their inactivation with biocidal agents. Journal of Hospital Infection. 2020;104(3):246-51.
3. World Health Organization [Internet]. [Infection Prevention and Control for the safe management of a dead body in the context of COVID-19](#) (WHO reference number: WHO/2019-nCoV/IPC\_DBMgmt/2020.1)
4. Ontario Ministry of Health. COVID-19 Guidance: Funeral and Bereavement Services [Internet]. Toronto: Ontario Ministry of Health; 2020 March 29. Available at: [http://www.health.gov.on.ca/en/pro/programs/publichealth/coronavirus/docs/funeral\\_bereavement\\_guidance.pdf](http://www.health.gov.on.ca/en/pro/programs/publichealth/coronavirus/docs/funeral_bereavement_guidance.pdf)
5. United States Centers for Disease Prevention and Control. Coronavirus Disease 2019 (COVID-19): Frequently Asked Questions [Internet]. US CDC; 2020 [updated 2020 March 28; cited 2020 April 2]. Available at: [https://www.cdc.gov/coronavirus/2019-ncov/faq.html#anchor\\_1584390222777](https://www.cdc.gov/coronavirus/2019-ncov/faq.html#anchor_1584390222777)
6. Public Health England. COVID-19: guidance for care of the deceased [Internet]. London: PHE; 2020 March 31. Available at: <https://www.gov.uk/government/publications/covid-19-guidance-for-care-of-the-deceased>