

COVID - 19

GUIDELINES FOR HANDLING DEAD BODY OF A COVID-19 PATIENT

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Abstract: *As the number of positive cases for the novel Coronavirus continues to increase, so do the deaths associated with it. There exists a theoretical risk of infection during handling of the dead bodies and standard infection control practices should be followed when handling such bodies. The government has allowed both the burial and cremation as per the faith. However there is a standard procedure that all health workers and family members need to adhere to. This article highlights some of the guidelines recommended for managing dead bodies of COVID-19 patients.*

Keywords: *Handling dead body, COVID-19, Children.*

There is likely to be a continuing risk of infection from the body fluids and tissues of patients who have died of severe acute respiratory syndrome-Corona virus2 (SARS-CoV-2) infection. After death, their bodies should be treated with sensitivity, dignity and respect, at the same time taking due precautions to protect persons in proximity from infection. Unzipping the body bag by mortuary staff using standard precautions may be allowed for the relatives to see the deceased for one last time.

In actuality, there is little residual hazard of transmission of SARS-CoV-2 from the deceased apart from potential droplet generation from artificial air movement during the initial care of the deceased and post-mortem examination where power tools are used, posing a risk for aerosol generation.

It is estimated that viable virus could be present for up to 48 to 72 hours on environmental surfaces in 'room air' conditioners. In dead bodies, particularly those retained at refrigeration conditions, infectious virus may persist for

Box 1. Handling dead bodies of COVID-19 Standard precautions

- i. Hand hygiene.
- ii. Use of personal protective equipment (e.g. water resistant apron, gloves, masks, eyewear, shoe covers).
- iii. Safe handling of sharps.
- iv. Disinfect the instruments and devices used on the patient, after disposing the dead body.
- v. Disinfect linen, clean and disinfect environmental surfaces

longer. Due to the congealing of respiratory secretions and rapid destruction of the virus when not sustained by live tissues, residual hazard from body fluid spillage will not present a risk. However WHO recommends transporting a body with acute respiratory infection by applying a face mask and sealing in an impermeable body bag before being removed from the isolation area to avoid leakage of body fluid.

Standard precautions are to be followed by health care workers while handling dead bodies of COVID-19 (Box 1).

Removal of the body from the isolation room or area

- The health worker attending to the dead body should perform hand hygiene, ensure proper use of PPE (water resistant apron, goggles, N95 mask, gloves).
- All tubes, drains and catheters on the dead body should be removed. After use, the disposable items such as gloves and protective clothing should be disposed of in a plastic bag.
- Any puncture holes or wounds (resulting from removal of catheter, drains, tubes, or otherwise) should be disinfected with 1% hypochlorite and dressed with impermeable material.
- Caution recommended while handling sharps such as intravenous catheters and other sharp devices. They should be disposed into a sharps container.
- Plug oral, nasal orifices of the dead body to prevent leakage of body fluids.

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- If the family of the patient wishes to view the body at the time of removal from the isolation room or area, they may be allowed to do so following the standard precautions.
- Place the dead body in leak-proof plastic body bag. The exterior of the body bag can be decontaminated with 1% hypochlorite. The body bag can be wrapped with a mortuary sheet or sheet provided by the family members.
- The body may be taken to mortuary.
- All used/ soiled linen should be handled with standard precautions, put in a bio-hazard bag and the outer surface of the bag disinfected with hypochlorite solution.
- Used equipment should be autoclaved or decontaminated with disinfectant solutions in accordance with established infection prevention control practices.
- All medical waste must be handled and disposed of in accordance with bio-medical waste management rules.
- The health care worker who handled the body should remove personal protective equipment and perform hand hygiene.
- Provide counselling to the family members and respect their sentiments.

Autopsies on COVID-19 dead bodies

Autopsies should be avoided. If autopsy is to be performed for special reasons, the following infection control practices should be adopted:

- The team should be their heavy duty blades with blunt points to be used to reduce needle stick injuries.
- Only one body cavity at a time should be dissected
- Unfixed organs must be held firm on the table and sliced with a sponge – care should be taken to protect the hand
- Autopsies should be performed in an adequately ventilated room, i.e. natural ventilation with at least 160 L/s/patient air flow or negative pressure rooms with at least 12 air changes per hour.
- An oscillator saw with suction extraction of the bone aerosol into a removable chamber should be used for sawing skull, otherwise a hand saw with a chain-mail glove may be used
- Needles should not be re-sheathed after fluid sampling - needles and syringes should be placed in a sharps bucket.

- Reduce aerosol generation during autopsy using appropriate techniques especially while handling lung tissue.
- Autopsy table to be disinfected as per standard protocol.

Transportation

- The body, secured in a body bag, exterior of which has been decontaminated, poses no additional risk to the staff transporting the dead body.
- The personnel handling the body may follow standard precautions (surgical mask, gloves).
- The vehicle, after the transfer of the body to cremation/ burial staff, should be decontaminated with 1% sodium hypochlorite.

Disinfection of isolation room / Mortuary

All surfaces of the isolation area (floors, bed, railings, side tables, IV stand, etc.,) should be wiped with 1% sodium hypochlorite solution and allowed to air dry allowing a contact time of 30 minutes.

Mortuary staff handling the dead body of COVID-19 patients must observe standard precautions like storing them in cold chambers maintained at approximately 4°C, disinfecting environmental surfaces, instruments and transport trolleys with 1% hypochlorite solution and cleaning the chamber door, handles and floor with 1% sodium hypochlorite solution after removing the body.

Embalming: Embalming of the dead body should not be allowed.

Burial

People who have died from COVID-19 may be buried or cremated but always conform to national and local requirements that may dictate the handling and disposal of the remains. Family and friends may view the body after it has been prepared for burial, in accordance with customs. They should not touch or kiss the body and should wash hands thoroughly with soap and water after the viewing. Mourners should not take part in any rituals or practices that bring them into close contact with the body of the deceased.

Those tasked with placing the body in the grave, on the funeral pyre etc., should wear gloves and wash hands with soap and water after removal of the gloves once the process is complete.

Funeral rites

Religious rituals such as reading from religious scripts, sprinkling holy water and any other last rites that do not require touching of the body can be allowed. Large gathering at the crematorium/ burial ground should be avoided. A maximum of 20 people with masks may be allowed to attend the funeral rites (may vary according to local guidelines). The ash does not pose any risk and can be collected to perform the last rites.

Conclusion

There remains a theoretical risk of infection from spread of virus from the body of the deceased. Nevertheless, the usual precautions and principles of standard infection control apply for bodies that are suspected or confirmed to be infected with coronavirus. Precautions should be taken at every level, starting from health care workers, mortuary staff, body handlers and mourners alike.

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CLIPPINGS

COVID-19 plasma therapy safe, without adverse side effects: Study done in Houston, USA in March 2020.

The clinical administration of the blood component plasma from recovered COVID-19 patients to those severely affected by the disease could be a safe option without adverse side effects, according to a study which may lead to better treatment protocols against novel coronavirus infection.

On March 28, researchers from the Houston Methodist Hospital in the US, began clinical trials to transfuse plasma from recovered COVID-19 patients into critically ill patients, they noted in a statement. In the study, published in *The American Journal of Pathology*, the scientists described the clinical outcomes of the convalescent plasma transfusion trial, showing 19 out of 25 patients improving with the treatment and 11 discharged from the hospital.

However, the study noted that a randomised clinical trial, with a large control group, is needed to validate the findings. According to the researchers, this is the largest cohort worldwide assessed for outcomes pertaining to convalescent plasma transfusion for COVID-19 and is the first peer-reviewed publication on convalescent plasma use in the US.

While physician scientists around the world scrambled to test new drugs and treatments against the COVID-19 virus, convalescent serum therapy has emerged as potentially one of the most promising strategies. The scientists noted that the century-old therapeutic approach dates back to at least as early as 1918 to fight the Spanish Flu.

Convalescent plasma therapy was used with some success during the 2003 SARS pandemic, the 2009 influenza H1N1 pandemic and the 2015 Ebola outbreak in Africa. According to the study, the observed complications were consistent with findings reported for COVID-19 disease progression, and did not result from the plasma transfusions. The researchers said the study's findings were consistent with several other small case studies of convalescent plasma use for severe COVID-19 that have been recently reported. The limitations of the research as a small case series and no control group was included. It is not clear if the 25 patients given convalescent plasma would have improved without the treatment, as all patients were treated with multiple other medications, including antiviral and anti-inflammatory agents.

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