

## MANAGEMENT OF DEAD BODIES IN CASES WITH COVID-19

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### ABSTRACT

*In December 2109, a respiratory illness known as COVID-19 surfaced from Wuhan, China's seafood market. It quickly expanded to other regions of the world, and on January 30, 2020, it was deemed a public health emergency of global concern. It is necessary to remove any catheters, drains, and tubes from the body. Any puncture holes or wounds (from the removal of the catheter, drains, tubes, or anything else) are covered with an impermeable material and disinfected with 1% hypochlorite. To stop bodily fluids from leaking out of the mouth and nose, block these orifices. With the proper standard measures, the relatives of the deceased may be permitted to visit the body at the moment of removal from the isolation room or area.*

**KEYWORDS:** *COVID-19, China's Seafood Market, Varieties of Coronaviruses in Humans*

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### INTRODUCTION

The 1930s saw the discovery of coronaviruses in chickens, and the 1960s saw the first reports of them in humans<sup>1</sup>. Present day, There are several recognized varieties of coronaviruses in humans, four of HKU, NL63, 229E, and OC43 are the ones accountable for it. comprises about 30% of flu episodes during the seasonality and are recognized like SHCV2 The remaining three are SARS COVID, SARS COVI and MERS; they put humans at the risk of illness. 1 Coralvirinae subfamily is made up of four genera. Gamma, delta, beta, and alpha coronaviruses, including SARS, MERS, and SARS COV; all new CoVs Betacoronaviruses . Coronaviruses have a single-layered envelope. stranded RNA viruses that possess the most extensive genome among RNA viruses four Coronaviruses are spherical in form and contain clubs.. similar to "spikes," which are protrusion on the surface of the virus. 2-3

In December 2109, a respiratory illness known as COVID-19 surfaced from Wuhan, China's seafood market. It quickly expanded to other regions of the world, and on January 30, 2020, it was deemed a public health emergency of global concern. The WHO designated it to be a pandemic on March 11, 2020. The novel virus was given the moniker COVID-19, which stands for "coronavirus disease 2019." Because of its resemblance to SARS, it was also known as SARSCoV-2. According to the COVID-19 dashboard, it has so far impacted about 188 nations, with over 21 million illnesses and 77,462 deaths recorded globally. 4-5 This figure could be deceptive since different countries administer different amounts of tests; some conduct far less tests than others.

According to the International Committee of the Red Cross, the number of deaths brought on by COVID-19 may exceed the ability of the local community to appropriately dispose of corpses. It was proposed that in order to mitigate this risk and preserve the honor of the departed and the living family, careful planning and preparation are necessary. 6-7 A key consideration when managing the dead bodies of COVID-19 patients is striking a balance between the family's rights and infection prevention and control protocols. Based on our current understanding of the condition, this article provides a narrative analysis of the guidelines that are currently available for the proper handling and treatment of deceased bodies in cases involving COVID-19. 8

## **METHODS**

A systematic literature search of PubMed and Embase (Elsevier) databases was performed on 8 August 2020 and updated on 9 August 2020 using the keywords “coronavirus, Dead bodies , CoV-19, 2019-nCorona, and COVID-19” The search was also performed using the same keywords on Google Scholar, web of science to include the most recently published articles. Studies about the prevalence of COVID-19, MERS, SARS, handling of dead bodies studies were included in this review. All studies and news related to our objective published/ unpublished were included in the study.

### **Essential Guidelines for COVID-19-Related Death Management**

- The personnel's health and safety when handling the COVID-19 dead should be the top priority. Thus, protocols that are put into place should go by the guidance and most recent recommendations provided by international health organizations, including the WHO, and national health authorities.9-10
- To guarantee the family of the deceased's safety and respect.
- All high-risk groups, including medical and paramedical personnel and those with IgG antibodies who should work as front-line corona fighters, should undergo the IgG test.
- When the authorities demand it, the medicolegal examination of death shouldn't be hampered by the handling of the deceased from COVID-19.

### **Handling of Bodies with Suspected or Confirmed COVID-19 Poses a Risk of Transmission**

Thus yet, there is no proof that handling deceased people's remains can spread SARS-CoV-2. There is no scientific evidence that the corpse's remains transmitted the COVID-19 virus, despite a forensic professional in Bangkok, Thailand, reporting a case of the virus. The COVID-19 virus is mainly spread between individuals through respiratory droplets and contact routes, based on the evidence available at this time. An examination of 75,465 COVID-19 cases in China revealed no reports of airborne transmission. Unlike droplet transmission, which is defined as particles less than 5 µm in diameter that may stay in the air for extended periods of time and spread to other people, airborne transmission is caused by the presence of germs within droplet nuclei. 11-12

### **GUIDELINES ON THE USE OF PERSONAL PROTECTIVE EQUIPMENT (PPE)**

PPE is protective equipment designed to reduce exposure to biological agents in order to protect health. Goggles, face shields, masks, gloves, coveralls or gowns (with or without aprons), head coverings, and shoe covers are examples of PPE components. While providing care for a group of patients with COVID-19, medical masks/respirators such as FFP2, FFP3, or N95 can be worn for up to 6 hours without being taken off; however, prolonged usage may raise the chance of infection

with the virus and other diseases. If they are damp, dirty, or broken, or if breathing becomes difficult through them, they must be changed. The mask needs to be replaced if it comes into contact with chemicals, infectious materials, bodily fluids, gets dislodged from the face, or is touched on the front to be adjusted. 8-12

When doing procedures that produce aerosols, it is not advisable to wear disposable laboratory coats or plastic aprons. After cleaning with soap or detergent and water and disinfecting with either 70% alcohol wipes or 0.1% sodium hypochlorite, goggles and face shields can be reused.

### **Recommendations for the Packaging and Moving of the Body in Non-Autopsy Situations from the Ward, Isolation Room, or Other Locations to a Mortuary, Crematorium, or Burial Ground**

When working with bodies, personnel such as healthcare or mortuary professionals or the burial team must follow conventional measures, such as washing their hands before and after handling the body or the environment, and wear personal protective equipment (PPE) appropriate for the level of contact with the body.

It is necessary to remove any catheters, drains, and tubes from the body. Any puncture holes or wounds (from the removal of the catheter, drains, tubes, or anything else) are covered with an impermeable material and disinfected with 1% hypochlorite. To stop bodily fluids from leaking out of the mouth and nose, block these orifices. With the proper standard measures, the relatives of the deceased may be permitted to visit the body at the moment of removal from the isolation room or area. 13-15

Every used or soiled piece of linen needs to be placed in a biohazard bag, and the bag's exterior needs to be cleaned using a hypochlorite solution. Used equipment should be decontaminated using disinfectant solutions or autoclaved in accordance with accepted infection prevention control procedures. Biomedical waste management regulations must be followed while handling and disposing of any medical waste. 16

### **Guidelines in the Context of Unidentified Bodies Infected with COVID-19**

Wearing the proper PPE is needed for anybody participating in the examination and identification of human remains that are known or suspected to be COVID-19 contaminated. Remains infected with COVID-19 may present a risk of cross-contamination to unprotected individuals; therefore, visual identification by relatives should be closely monitored and adhere to the required safety measures, such as wearing personal protective equipment (PPE). 17

Samples, such as face and numerous body photos, both hands' fingerprints, and scalp hair extracted with forceps, including the hair bulb for DNA analysis, should be saved for future identification in cases of unidentified and unknown dead bodies.

### **Embalming COVID-19-Infected Bodies**

According to the WHO, embalming is not advised in order to prevent undue handling of the body.<sup>10</sup> However, some jurisdictions have found that it is possible to achieve this by using PPE and other suitable infection prevention and control measures, as well as by avoiding aerosol-generating operations throughout the embalming process. 18

### **Cleaning and Disinfecting the Environment**

The surfaces in question, where the COVID-19-infected body was prepared, should be cleansed initially with soap and water or a detergent solution that has been commercially manufactured. Within a minute of exposure, surfaces disinfected with 0.1% sodium hypochlorite for 30 minutes of contact time or 62–71% ethanol considerably decrease corona virus infectivity. It is anticipated to function similarly against SARS-CoV-2. 12-13

### **Psychosocial Factors Related to COVID-19-Related Deaths**

The illness can have a significant psychological impact on bereaved families because it limits the amount of time before cremation and the number of family members who can attend the funeral. Victims and their families have been stigmatized to such an extent that there has been documented opposition to the burial of COVID-19 victims due to a lack of awareness about how the disease is spread and how infection can be prevented. 1-3

### **Repatriation of Deceased COVID-19-Infected Remains**

Due to travel restriction laws in place in the pandemic-affected nations, there are now relatively few flights available for the transportation of human remains, given the global public health reaction to COVID-19. Human remains recognized as having perished from COVID-19 can be safely repatriated to Canada in accordance with Canadian rules. Under all circumstances, the remains must be received with the necessary paperwork. For those who were suspected or confirmed to have had COVID-19, there are two possibilities for returning remains to their families: either the body is burned, or it is moved in a container that is hermetically sealed. 12

### **In Suspected COVID-19 Cases, Autopsy**

The Advisory Committee on Dangerous Pathogens (ACDP) divides microorganisms into four hazard classes according to their pathogenicity to humans, risk to laboratory workers, transmissibility to the community, and availability of effective prophylaxis. The bacterium known as 22SARS-CoV-2 is classified as a member of Hazard Group 3 (HG3). Additional viruses found in HG3 comprise poliovirus, dengue virus, hepatitis B, C, D, and E, as well as HIV 1 and 2. 1-3

Wherever HG3 autopsies are conducted, there must be sufficient ventilation and space between the area and the rest of the morgue. It is necessary to have either negative pressure rooms with at least 12 air changes per hour (ACH) or natural ventilation with at least 160 l/s/patient airflow with controlled direction of airflow when employing mechanical ventilation. 4-5

Therefore, unless there are exceptional circumstances, full medicolegal autopsies are not being conducted. Instead, focused dissection and percutaneous fluid samples are often used, as outlined in various international protocols.

### **In Summary**

To assist those who handle bodies and are likely to come into touch with infected ones, this article has examined the guidelines that are currently available for the safe management of COVID-19-infected bodies. The recommendations covered are predicated on our present knowledge of COVID-19 and could be modified in light of new discoveries regarding the illness. The general public's knowledge of safe handling procedures will be crucial in preventing and eliminating the social stigma attached to COVID-19.

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