GUIDELINES FOR THE HANDLING OF DEAD BODIES FOR HEALTH CARE WORKERS

Introduction

All dead bodies are potentially infectious and “STANDARD PRECAUTIONS” should be implemented for every case. Infectious agents can be transmitted when persons are in contact with blood, body fluids or tissues of dead body of a person with infectious diseases.

To minimize the risks of transmission of known and unsuspected infectious diseases, dead bodies should be handled in a manner that will prevent direct exposure of workers to blood, body fluids and tissues.

A rational approach is needed and should include:

- staff training and education,
- safe working environment,
- appropriate safe work practices,
- the provision and proper use of recommended personal protective equipment (PPE)
- and vaccination against hepatitis B.

It is imperative that the operator and workers in these facilities be informed of the risk of infection that is associated with this service so that appropriate measures may be taken to safe-guard against infection. The use of labels such as “Danger of Infection” on the dead body is considered appropriate.

The objectives of these guidelines are to protect the health of health care workers in handling bodies with infectious disease, including COVID-19.

The management staff of hospitals and healthcare workers involved in the handling of dead bodies are urged to adopt these guidelines. These should be widely disseminated to all staff involved.
Categorization of Dead Body according to Risk of Infection

Based on the mode of transmission and the risk of infection of different diseases, the following categories are assigned due to the level of precaution that is required for handling and disposal of dead bodies:

**Category 1:** Standard precautions are recommended for all dead bodies other than those with infectious diseases.

**Category 2:** In addition to standard precautions, additional precautions are recommended for dead bodies with known:

- (a) Human Immunodeficiency Virus infection (HIV)
- (b) Hepatitis C
- (c) Creutzfeldt-Jacob disease (CJD) without necropsy (Mad Cow)
- (d) Severe Acute Respiratory Syndrome (SARS)
- (e) Avian influenza
- (f) Middle East Respiratory Syndrome (MERS)
- (g) Coronavirus disease (COVID-19), and
- (h) Other infectious diseases as advised

**Category 3:** In addition to standard precautions, stringent precautions are recommended for dead bodies with known: (a) Anthrax (b) Plague (c) Rabies (d) Viral hemorrhagic fevers (e) Creutzfeldt-Jacob disease (CJD) with necropsy, and (f) Other infectious diseases as advised by the physician

**General Recommendations**

**A. Vaccination**

Hepatitis B vaccination is required for all personnel who are likely to come into contact with dead bodies, such as health care worker, mortuary staff, funeral workers, etc.

**B. Personal hygiene measures and Protective Equipment**

1. All staff should be trained in the prevention and control procedures. A high standard of personal hygiene should be adopted.
2. When handling dead bodies:
- Avoid direct contact with blood or body fluids from the dead body.
- Put on personal protective equipment (PPE) including:
  - Gloves
  - Water repellent gown
  - Surgical mask
  - Goggles or face shield to protect eyes
  - Appropriate foot wear

3. Make sure any wounds, cuts and abrasions, are covered with waterproof bandages or dressings.
4. Do NOT smoke, drink or eat. Do NOT touch your eyes, mouth or nose whilst working with the dead body.
5. Observe strict personal hygiene
6. Hands should be washed with liquid soap and running water
7. The use of alcohol-based (at least 62% alcohol content) hand sanitizers should be limited and same used on hands that are not visibly soiled rub.
8. Avoid sharps injury, both during examination of dead body and afterwards in dealing with waste disposal and decontamination.
9. Remove and store or dispose of personal protective equipment properly after handling of the dead body.
10. Wash hands with liquid soap and water immediately after handling the body.

**Accidental exposure to blood or body fluids**

1) In case of accidental exposure to blood or body fluids, the injured or exposed areas should be washed with copious amounts of water.
2) All incidents of exposure should be reported to the supervisor. The injured or exposed person should immediately seek medical advice for proper wound care and post-exposure management.

**Environmental Control**

1) All surfaces which may be contaminated should be rinsed with water, cleaned with water and detergent and then disinfected with “1 in 10 diluted household bleach”
(mixing 1 part of 5.25% bleach with 9 parts of water), leave it for 15-30 minutes, or until air dried.

2) Surfaces visibly contaminated with blood and body fluids should be rinsed with “1 in 4 diluted household bleach” (mixing 1 part of 5.25% bleach with 3 parts of water), leave it for 10 minutes, and then rinse with water.

3) There should be wash cloths and mops that are dedicated for these purposes.

Precautions for Specific Groups

Health Care Worker

Tags for classification of categories of dead bodies should be attached to the dead body and the body bag or mortuary sheet.

Staff should put on appropriate personal protective equipment before handling the dead body. Personal protective equipment (PPE) includes:

- gloves
- water repellent gown
- surgical mask
- goggles or face shield to protect eyes
- appropriate foot wear

The following should be noted:

- All tubes and catheters on the dead body should be removed. Extreme caution should be exercised when removing intravenous catheters and other sharp devices. They should be directly disposed into a sharp’s container.
- Wound drainage and needle puncture holes should be disinfected and dressed with impermeable material.
- Secretions in oral and nasal orifices can be cleared by gentle suction if needed.
- Oral, nasal and rectal orifices of the dead body have to be plugged to prevent leakage of body fluids.
- The body should be cleaned and dried.
Dead bodies under Category 1:

- The dead body can be either wrapped with a mortuary sheet or placed in an opaque body bag.

Dead bodies under Category 2 or Category 3

- The dead body should be first placed in a robust and leak-proof bag.

Environmental Control

- Items classified as clinical waste must be handled and disposed of properly according to the legal requirements.
- All used linen should be handled with standard precautions. Used linen should be handled as little as possible with minimum shaking to prevent possible contamination of the person handling the linen and generation of potentially contaminated lint aerosols in the areas.
- Laundry bag should be securely tied up. Staff should follow their hospital guidelines on handling of soiled linen.
- Used equipment should be autoclaved or decontaminated with disinfectant solutions in accordance with established disinfectant policy.
- All surfaces which may be contaminated should be cleaned with soap and detergent, rinsed and then disinfected using a “1 in 10 diluted household bleach” (mixing 1 part of 5.25% bleach with 9 parts of water), leave it for 15-30 minutes, and then rinse with water.

Additional precautions for handling dead bodies:

Autopsies on dead bodies which have died with infectious diseases expose staff to unwarranted risk and should generally not be performed. However, if autopsy is to be carried out because of special reasons, the following practices should be adopted:

(a) It should be performed by a pathologist using recommended barrier techniques and procedures to reduce the risk of infection.
(b) The number of people allowed in the autopsy room should be limited to those directly involved in the operation.

(c) After completion of examination and local disinfection of skin with “1 in 50 diluted household bleach” (mixing 1 part of 5.25% bleach with 49 parts of water), the dead body should be placed in a robust and leak-proof transparent bag of not less than 150μm thick. The bagged body should be placed in another opaque bag and zippered closed.

(d) The outside of the dead body bags should be wiped with “1 in 4 diluted household bleach” (mixing 1 part of 5.25% bleach with 3 parts of water) and allow to air dry.

Mortuary staff should ensure that good liaison is maintained between themselves and those who collect the dead bodies for disposal. It is essential that the funeral workers and all others involved in handling the dead body are informed of the potential risk of infection and the categorization of the dead body.

Precautions for all dead bodies

When handling of dead bodies:

(a) Avoid direct contact with blood or body fluids from the dead body.

(b) Observe strict personal hygiene and put on appropriate personal protective equipment (PPE) including gloves, water repellent gown and surgical masks. Use goggles or face shield to protect eyes, if there may be splashes.

(c) Make sure any wounds are covered with waterproof bandages or dressings.

(d) Do NOT smoke, drink or eat. Do NOT touch your eyes, mouth or nose.

After the handling of dead bodies, staff members are encouraged that:

- Personal protective equipment are properly removed after handling dead body.
- Hands be thoroughly washed with liquid soap and water immediately after.

Additional Environmental Control
• Make sure that supply of disposable gloves, protective equipment, alcohol-based hand rub and other disinfectants (such as household bleach) are in adequate amounts and readily available.

• After use, the disposable items such as gloves and protective clothing should be disposed of in a dedicated, lined waterproof container.

• Linen contaminated with blood or body fluids should be laundered in a washing machine with hot washing cycle (>70°C), otherwise, they should be soaked in freshly prepared “1 in 50 diluted household bleach” (mixing 1 part of 5.25% bleach with 49 parts of water) for 30 minutes before washing.

Staff handling dead bodies of unknown category

Care of dead bodies found on board conveyances from land, sea or air, with unclear history or suspected infectious disease, the steps outlined below are to be followed:

(a) Avoid direct contact with blood or body fluids from the dead body.
(b) Observe strict personal hygiene and put on appropriate personal protective equipment (PPE) including gloves, water resistant gown / plastic apron over water repellent gown, and surgical masks. Use goggles or face shield to protect eyes, if there may be splashes.
(c) Make sure any wounds are covered with waterproof bandages or dressings.
(d) Do NOT smoke, drink or eat. Do NOT touch your eyes, mouth or nose.
(e) Place the dead body in a robust and leak-proof opaque plastic bag of not less than 150μm thick, which should be zippered closed. Pins are NOT to be used (The bagged body should be placed in another opaque body bag if the deceased was suspected to be suffering from highly infectious diseases).
(f) Attach an appropriate identity label to the body bag before transport to public mortuary or funeral parlor as the case may warrant.
(g) Remove personal protective equipment after handling of the dead body.
(h) Wash hands with liquid soap and water immediately.

Environmental Control

• Make sure that supply of disposable gloves, protective equipment, alcohol-based hand rub and disinfectant such as household bleach is readily available.
• After use, the disposable items such as gloves and protective clothing should be disposed of in a plastic bag.
• Linen contaminated with blood or body fluids should be laundered in a washing machine with hot washing cycle (>70°C), otherwise, they should be soaked in freshly prepared “1 in 50 diluted household bleach” (mixing 1 part of 5.25% bleach with 49 parts of water) for 30 minutes before washing.
• All surfaces may be contaminated should be wiped with “1 in 50 diluted household bleach” (mixing 1 part of 5.25% bleach with 49 parts of water), leave it for 15-30 minutes, and then rinse with water. Metal surfaces could be wiped with 70% alcohol.
• Surfaces visibly contaminated with blood and body fluids should be wiped with “1 in 4 diluted household bleach” (mixing 1 part of 5.25% bleach with 3 parts of water), leave it for 10 minutes, and then rinse with water.

Mortuary staff

Precautions for all dead bodies

• All dead bodies must be identified and correctly labeled with identity labels and category tags.
• Dead body which is found soiled with blood or body fluids should be placed in a disposable plastic bag instead of linen.
• Dead bodies should be stored in cold chambers maintained at approximately 4°C.
• Since each and every dead body brought to autopsy is a potential source of infection, at all times, pathologists and other support staff should observe standard precautions in the performance of any autopsy.

Environmental Control

• The mortuary must be kept clean and properly ventilated at all times.
• Lighting must be adequate. Surfaces and instruments should be made of materials which can be easily cleaned, disinfected and maintained.
• Storage compartments for dead bodies should be easily accessible for both regular cleaning and maintenance.
• Smoking, drinking and eating are forbidden in autopsy room, body storage and viewing areas.
• All used linen should be handled with standard precautions. Used linen should be handled as little as possible with minimum agitation to prevent possible contamination of the person handling the linen and prevent the generation of potentially contaminated lint aerosols in the areas. Laundry bag should be securely tied up.
• Staff should follow the established guidelines of their organizations on handling of soiled linen.
• Items classified as clinical waste must be handled and disposed of properly according to the legal requirements.
• Environmental surfaces, instruments and transport trolleys should be properly decontaminated.