

Precautions for Handling and Disposal of Dead Bodies, TMH

Infection Control Unit
New Territories West Cluster
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Precautions for handling and disposal of dead bodies

Introduction

All dead bodies are potentially infectious and universal precautions should be implemented for every case. Although most organisms in the dead body are unlikely to infect healthy persons, some infectious agents may be transmitted where workers are in close contact with blood, body fluids and tissues of dead body who died with infectious diseases. To minimize the risks of transmission of known and also unsuspected infectious diseases, dead bodies should be handled in such a way that workers' exposure to blood, body fluids and tissues is reduced. A rational approach should include staff training and education, safe working environment, appropriate work practices, the use of recommended safety devices and vaccination against hepatitis B.

There is a need to maintain the confidentiality of a patient's medical condition even after his/her death. At the same time, there is obligation to inform personnel who may be at risk of infection through contact with dead bodies so that appropriate measures may be taken to guard against infection. The discrete use of labels such as "Danger of infection" on the dead body is considered appropriate.

The followings outline work practices which are recommended when handling and disposing dead bodies. The objectives of drawing up this set of guidelines are: (i) to enable the deceased's family to obtain funeral services, and (ii) to protect the involved personnel, e.g. workers and relatives. Hospitals, public mortuaries, funeral parlours, and undertakers of burial are urged to adopt them in light of local circumstances and requirements. The adopted precautions should be widely disseminated to all staff involved.

Categorization

Based on the mode of transmission and risk of infection of different diseases, the following categories of precautions for handling dead bodies are advised:

- Cat. 1:** Signified by a BLUE label (Sample attached in Appendix 2).
Universal precautions are recommended.
For all dead bodies other than those with infectious diseases as listed under Categories 2 & 3.
- Cat. 2:** Signified by a YELLOW label (Sample attached in appendix 2).
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,
 - (d) Severe Acute Respiratory Syndrome, and
 - (e) other infectious disease as advised by the physician i/c, the infection control officer or microbiologist.
- Cat. 3:** Signified by a RED label (Sample attached in Appendix 2).
Stringent infection precautions are recommended.
For dead bodies with known
- (a) Anthrax
 - (b) Plague
 - (c) Rabies
 - (d) Viral haemorrhagic fevers
 - (e) Creutzfeldt-Jacob disease (CJD) with necropsy, and
 - (f) other infectious disease as advised by the physician i/c, the infection control officer or microbiologist.

The summary table at Appendix 1 provides references to specific precautionary measures required under respective category.

Recommended procedures

A. Last office for the dead body by ward staff

A.1 Precautions for all dead bodies under Category 1

1. Hepatitis B vaccination is recommended for all staff who is likely to come into contact with dead bodies.
2. The body will be classified by attending physician (Medical Officer or House Officer) as category 1, 2 or 3. Tags for classification categories of dead bodies should be attached to dead body, body bag and mortuary sheet.
3. Avoid direct contact with the dead body, blood or body fluids discharged from the dead body. Nursing and other personnel who handle dead bodies must wear protective clothing consisting of gown, apron, mask, caps and gloves; wear goggles if necessary. They should cover all cuts and abrasions with waterproof bandages or dressing.
4. Wound drainage and needle puncture holes of the dead body should be disinfected with 10000p.p.m. hypochlorite and covered with impermeable material. Hypochlorite solution must be freshly prepared.
5. Extreme caution should be exercised when removing intravenous catheters and other devices which are sharp. They should be disposed into puncture resistant containers or sharp box immediately.
6. All body orifices should preferably be plugged with swabs soaked in 10000p.p.m. hypochlorite.
7. The body should be cleaned and dried.
8. After identifying and attaching to the body the identity label and Cat. 1 tag, the body should be wrapped with mortuary sheet before being placed on mortuary trolley and transported to the mortuary.
9. After removing protective clothing and gloves, hands should be washed thoroughly.

A.2 Additional precautions for handling dead bodies with Infectious Diseases listed under Category 2 or 3

1. To obviate the need for the undertaker to handle the body, following A.1.1 A.1.7, it is preferable for the ward staff to dress the deceased. The relatives should be informed beforehand so that they can bring the necessary clothing in advance. If the deceased's own clothing is not available, the deceased should be dressed with a hospital pyjama.

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2. Identify the body and attach to the body the appropriate identity label. The body should be placed in a robust, clear plastic bag of not less than 150 µm thick, which should be zippered or closed tightly with tapes and bandage strips. Pins are not to be used.
3. The outside of the plastic bag should be wiped with 10000p.p.m. hypochlorite if soiled.
4. After attaching to the body bag with the Cat. 2 or Cat. 3 tag, the bagged body should then be placed in another robust plastic bag with zip before being placed on mortuary trolley and transported to the mortuary. The mortuary sheet should be attached with a Cat. 2 or Cat. 3 tag.
5. Disposable items should be discarded into red plastic bag, which should be securely tied up and sent for disposal.
6. For Cat. 2 case, the used linen or protective clothing should be wrapped in a water-soluble plastic bag, which is available for ordering from HA store. The soiled linen should be labelled with infectious hazard and sent to laundry for thermal disinfection.
7. For Cat. 3 case, the used linen or protective clothing should be wrapped in a red plastic bag and sent for disposal.
8. Equipment should be autoclaved or decontaminated with disinfectant in accordance with established disinfection policy.
9. All surfaces that may be contaminated should be disinfected with 1000p.p.m. hypochlorite or 1% printol.
10. After removing protective clothing and gloves, hands should be washed thoroughly.

B. Precautions for mortuary staff

B.1 Precautions for all dead bodies under Category 1

1. Hepatitis B vaccination is recommended to staff who is likely to come into contact with dead bodies.
2. All staff should be trained in handling dead bodies with Infections Diseases. A high standard of personal hygiene should be adopted.
3. Smoking, drinking and eating is forbidden in the autopsy room, body storage and viewing areas.
4. The mortuary must at all times be kept clean and properly ventilated. Lighting must be adequate. Surfaces and instruments should be made of materials which could be easily disinfected and maintained.
5. Avoid direct contact with the dead body, blood or body fluids. Staffs who handle dead bodies must wear protective clothing consisting of gown, apron, mask, gloves and boots; wear goggles if necessary. They should cover all cuts and abrasions with water proof bandages or dressings.
6. All bodies must be identified and correctly labelled with identity

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- labels and Cat. 1 tags.
7. Any dead body which is contaminated with blood or body fluids should be placed in a disposable plastic bag as soon as possible.
 8. Bodies should be stored in cold chambers maintained at approx. 4°C. storage compartments should be easily accessible for both regular cleaning and maintenance.
 9. Since all bodies who come to autopsy is a potential source of infection, at all times, pathologist and other support staff should take universal precautions in the performance of any autopsy.
 10. All efforts should be made to avoid sharps injury, both in the course of examination and afterwards in dealing with waste disposal and decontamination.
 11. Soiled linen, environmental surfaces, instruments and transport trolley should be decontaminated in accordance with established policy.
 12. Single use gloves protective aprons and other waste materials must be discarded in red plastic waste bags for disposal.
 13. After removing protective clothing and gloves, hands should be washed thoroughly.

B.2 Additional precautions for handling dead bodies with infectious diseases listed under Category 2 or 3

In addition to precautions as listed in B.1 above, the following additional precautions should also be observed:

1. Autopsies on bodies which have died with infectious diseases as listed under category 2 or 3 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:
 - i) it should be performed by a trained pathologist using recommended barrier techniques and procedures to reduce the risk of infection.
 - ii) The number of people allowed in the autopsy room should be limited to those directly involved in the operation.
 - iii) After completion of examination and local disinfection of skin with 1000p.p.m. hypochlorite, the body should be placed in a robust plastic bag of not less than 150 µm thick.
 - iv) The appropriate warning tag indicating Cat. 2 or 3 should be attached on the outside of the body bag.
 - v) The outside of the plastic bag should be wiped with 1000p.p.m. hypochlorite.

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

C. Precautions for staff of funeral parlours / undertakers

C.1 Precautions for all dead bodies

1. Hepatitis B vaccination is recommended for all staff who are likely to come into contact with dead bodies.
2. When handling dead bodies, do not smoke, eat or drink and avoid contacting their own mouth, eyes or nose with their hands.
3. Make sure that any cuts, wounds or abrasions are covered with waterproof bandages or dressings.
4. Make sure that a supply of disposable gloves, protective clothing and disinfectant such as hypochlorite is readily available.
5. Avoid direct contact with blood or body fluids from the dead body.
6. Persons handling the dead body should wear disposable gloves and protective clothing. After use, these gloves and clothing should be soaked in freshly prepared 1000p.p.m. hypochlorite for 30 minutes before washing or disposal.
7. Hands must be washed after removing gloves and protective clothing.
8. Any spilled blood or body fluids must be wiped with 10000p.p.m. hypochlorite.
9. Protective clothing or uniform must be kept separate from outdoor clothing.

C.2 Additional precautions for handling dead bodies with infectious diseases as listed under Category 2

In addition to precautions as listed in C.1 above, the following additional precautions should also be observed:

1. There should be minimal handling of the body.
2. The body may be removed from the bag for viewing or hygienic preparation.
3. If hygienic preparation is to be done, all the necessary precautions should be strictly adhered.
4. Embalming should not be done.
5. Viewing of the face of the deceased without physical contact may be permitted.

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C.3 Stringent precautions for handling dead bodies with infectious diseases as listed under Category 3

In addition to precautions under C.1 above, the following additional precautions should also be observed:

1. The body should not be removed from the plastic bag.
2. Unzipping the plastic bag of the body is not permitted.
3. Hygienic preparation should not be done.
4. Embalming should not be done.
5. Viewing of the face of the deceased should not be permitted.

D. **Precautions recommended for relatives of the dead**

D.1 Precautions for dead bodies under Category 1

There should be minimal contact/handling of the body. When there is a need to do so, universal precautions are recommended as follows:

1. When handling dead bodies, do not smoke, eat or drink and avoid contact with their own mouth, eyes or nose with their hands.
2. Avoid direct contact with blood or body fluids from the dead body.
3. Make sure that any cuts, wounds or abrasions are covered with waterproof bandages or dressings.
4. Put on disposable gloves and protective clothing/uniform when handling dead bodies.
5. Hands must be washed after removing gloves and protective clothing.

D.2 Precautions for handling dead bodies with infectious diseases as listed under Category 2

There should be minimal contact/handling of the body. When there is a need to do so, the following precautions are recommended:

1. When handling dead bodies, do not smoke, eat or drink and avoid contact with their own mouth, eyes or nose with their hands.
2. Avoid direct contact with blood or body fluids from the dead body.
3. Make sure that any cuts, wounds or abrasions are covered with waterproof bandages or dressings.
4. Put on disposable gloves and protective clothing/uniform when handling dead bodies.
5. Hands must be washed after removing gloves and protective clothing.
6. Embalming is not to be done
7. Viewing of the face without physical contact may be permitted.

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8. Relatives who are worried about having already been exposed to the infection should contact the physician i/c for counseling.
9. Cremation is recommended for the deceased's body.

D.3 Precautions for handling dead bodies with infectious diseases as listed under Category 3

There should be minimal contact/handling of the body. When there is a need to do so, the following precautions should be observed:

1. When handling dead bodies, do not smoke, eat drink and avoid contact with their own mouth, eyes or nose with their hands.
2. Avoid direct contact with blood or body fluids from the body.
3. Make sure that any cuts, wounds or abrasions are covered by waterproof bandages or dressings.
4. Put on disposable gloves and protective clothing/uniform when handling dead bodies.
5. Hands must be washed after removing gloves and protective clothing.
6. The body should not be removed from the bag.
7. Unzipping of the body bag is not allowed.
8. Embalming should not be done.
9. Viewing of the face is not allowed.
10. Relatives who are worried about having already been exposed to the infection should contact the physician i/c for counseling.
11. Cremation is recommended for the deceased's body.

E. Accidental exposure to blood or body fluids

1. In case of penetrating injury of mucocutaneous exposure to blood or body fluids of the dead body, the injured or exposed areas should be washed with copious amount of running water. Minor penetrating injuries should be encouraged to bleed.
2. All incidents of exposure to blood or body fluids from the dead body, either parenteral or mucous membrane exposures, should be reported to supervisor. The injured person should immediately seek medical advice for proper wound care and post-exposure management.

Bibliography:

Department of Health, Hospital Authority, Regional Services Department, Urban Services Department. Precaution of Handling and Disposal of Dead Bodies. Hong Kong: Department of Health. 3rd Edition. Hospital Authority, Regional Services Department, Urban Services Department; November 1999.

Precautionary measures for handling dead bodies

Risk category	Infection	Bagging	Viewing in funeral parlour	Embalming	Hygienic preparation in funeral parlour
Cat. 1	Other than those specified in Cat 2 & Cat 3 below	Not necessary	Allowed	Allowed	Allowed
Cat. 2*	Human immuno-deficiency virus infection	Must	Allowed	Not allowed	Not advisable
	Hepatitis C	Must	Allowed	Not allowed	Not advisable
	Severe Acute Respiratory Syndrome	Must	Allowed	Not allowed	Not advisable
	Creutzfeldt-Jacob disease without necropsy	Must	Allowed	Not allowed	Not advisable
Cat. 3*	Anthrax	Must	Not allowed	Not allowed	Not allowed
	Plague	Must	Not allowed	Not allowed	Not allowed
	Rabies	Must	Not allowed	Not allowed	Not allowed
	Viral haemorrhagic fevers	Must	Not allowed	Not allowed	Not allowed
	Creutzfeldt-Jacob disease with necropsy	Must	Not allowed	Not allowed	Not allowed

*Including other infectious diseases as advised by the physician i/c, the infection control officer or microbiologist

Explanatory Note:

Bagging : placing the body in a plastic body bag for storage and transport.

Viewing in funeral parlour : allowing the bereaved to see, and spend time with the body before encoffining.

Embalming : injecting preservatives into the body to slow down the process of decay.

Hygienic preparation in funeral parlour : cleaning and tidying the body so it presents a suitable appearance for viewing. Cosmetic work may be included.

Blue
(藍)

Danger of Infection 小心傳染 Category 1			
* In handling dead bodies, Universal Precautions are required. 處理屍體時需要採取普及性預防措施			
Bagging 入屍袋	Viewing in funeral parlour 殯儀館內瞻仰遺容	Embalming 防腐處理	Hygienic preparation in funeral parlour 殯儀館內裝身及化粧
Not necessary 不需要	Allowed 可以	Allowed 可以	Allowed 可以

Yellow
(黃)

Danger of Infection 小心傳染 Category 2			
* In handling dead bodies, Universal Precautions are required. 處理屍體時需要採取普及性預防措施			
* In addition, the following precautions are also required: 此外，下列附加的預防措施亦必須採納:			
Bagging 入屍袋	Viewing in funeral parlour 殯儀館內瞻仰遺容	Embalming 防腐處理	Hygienic preparation in funeral parlour 殯儀館內裝身及化粧
Must 必須	Allowed 可以	Not allowed 不可以	Not advisable 不宜

Red
(紅)

Danger of Infection 小心傳染 Category 3			
* In handling dead bodies, Universal Precautions are required. 處理屍體時需要採取普及性預防措施			
* In addition, the following precautions are also required: 此外，下列附加的預防措施亦必須採納:			
Bagging 入屍袋	Viewing in funeral parlour 殯儀館內瞻仰遺容	Embalming 防腐處理	Hygienic preparation in funeral parlour 殯儀館內裝身及化粧
Must 必須	Not allowed 不可以	Not allowed 不可以	Not allowed 不可以