

Guidance Note for Funeral Directors/Embalmers Handling Potentially Infectious Human Remains

*This note should be read in conjunction with the HPSC Document "Guidelines for the Management of Deceased Persons Harbouring Infectious Disease". **This note should be displayed prominently in all situations where staff are working with human remains.***

Although only a tiny minority of people in Ireland die from an infectious disease, it is never possible to be sure that human remains do not pose an infectious risk. As Funeral Directors and Embalmers have very close contact with cadavers and their body fluids, they are at increased risk of acquiring infection unless preventive steps are taken to reduce that risk. Funeral Directors whose work can involve washing and handling of the remains and embalmers, whose work will involve arterial and cavity embalming, and packing are at increased risk of being exposed to infection, particularly through sharps injury. The most effective way to minimise that risk is through the effective and continual application of Standard Precautions (Appendix 6: *Management of Deceased Persons Harbouring Infectious Disease*)¹.

Embalming is a procedure undertaken to help preserve the human body after death, and to prevent the spread of infection both before and after burial. In order to preserve from putrefactive (and to destroy pathogenic or disease-causing) organisms, embalming fluids are used to provide effective disinfection. The embalming process involves the substitution of blood with a preservative solution and treatment of the body cavity and organs with a similar preservative.

Embalming aims to prevent the spread of infectious agents both before and after burial. The nature of an embalmer's work is such that they may come into contact with potentially infectious human remains - embalming being an exposure-prone activity - with transmission of infectious agents being possible through a number of routes of exposure, including an increased likelihood of sharps injury - for example from shards or spicules of shattered bone, or from surgical implements (knives, needles) - and from increased exposure to blood and other, potentially infectious, body fluids.² In addition, if there is a delay in the time taken to undertake post-mortem procedures, then the likelihood of the replication of certain pathogens with the consequent increase in bacterial load can become a potential problem.³ Embalming, thus, places a potential infectious risk upon the embalmer. Evidence from the UK indicates that the longer the dead body remains untreated, the higher is its bacteria load. In addition, following death there is an increase, not only in the number of microbial cells, but also of their virulence.⁴ In addition, indicator organisms (originating in the large intestine) can translocate or move around the body within a post mortem interval of four to eight hours.

As a result of these risks, **all human remains should be treated as if infectious**, and Funeral Directors and Embalmers should, therefore, use **Standard Precautions** during every moment of contact with a cadaver, with body parts, soiled instruments or soiled garments. The most effective way to minimise the risk of disease transmission is through strict adherence to **Standard Precautions** including the application of steps to minimise the potential for sharps injuries and other exposures. The use of Standard Precautions should be an essential requirement for all staff handling all human remains. Most infections remain undiagnosed; hence it is crucial that Standard Precautions are applied uniformly and in every case.

1. Full information on the use of Standard Precautions in a funeral or post-mortem setting is laid out in Appendix 6: Standard Precautions of HPSC's Management of Deceased Persons Harbouring Infectious Disease available at www.hpsc.ie

2. *Body fluids* include: Tissue fluid (e.g. fluid released when skin-slip occurs), Semen, Vaginal secretions, Cerebrospinal fluid, Amniotic fluid, Pericardial and pleural fluids, Faeces, Urine, Vomit (purge), Sweat and Blood.

3. Health and Safety Executive. *Controlling the risks of infection at work from human remains*. Crown Copyright. HSE, London: 2005.

4. Creely KS. *Infection risks and Embalming*. Research Report TM/04/01 March 2004. Institute of Occupational Medicine. Edinburgh: 2004. Available at http://www.hpa.org.uk/webc/HPAwebFile/HPAweb_C/1200660063059

The following are guiding principles to minimise infectious risk for embalming staff:

1. All staff should ensure that they are fully familiar with, and **use Standard Precautions during every moment of contact with a cadaver**
2. Human remains known or suspected of harbouring pathogens in **Hazard Group 4 or transmissible spongiform encephalopathies (TSEs)**⁵ **should not undergo embalming**
3. **The Notification of Death Form should be completed by the deceased's Medical Practitioner in every case.**
The Funeral Director should ensure that the attending physician completes this form before taking receipt of the deceased. This form will contain the contact details of the doctor who will be familiar with the medical history of the deceased, should s/he require to be contacted in the event of the Funeral Director or one of his staff sustaining a sharps injury.
4. Should any embalming staff **suffer a sharps or splash injury**, they should:
 - a. **Seek immediate medical advice** from their local Occupational Health Department, Emergency Department or General Practitioner,
 - b. **Bring with them** the clinical information (if the deceased person suffered with a disease caused by a Hazard Group 4 pathogen or TSE) and attending physician's contact details contained in the **Notification of Death form**.
 - c. Their **medical advisor will then advise treatment/interventions** along the lines laid out in the HPSC's guidance document **Emergency Management of Injuries** available at www.emitoolkit.ie.

Standard Precautions

The Standard Precautions (Appendix 7) include the following core elements:

- **Handwashing:** after all procedures, after delivery or collection of the cadaver, after removing gloves, before handling any food
- **No smoking or eating** – or other activities that can bring the hands in contact with the face within the work areas that involve handling of remains
- Use of appropriate **Protective Clothing**
 - o waterproof aprons
 - o gowns
 - o gloves
 - o overshoes or Wellington boots
 - o appropriate eye protection (face shield or surgical mask; goggles or mask with eye shield)
- Use of **Specific Embalming protective clothing** (Appendix 9) during embalming procedures (including embalming suit/overalls, full length gown, Wellington boots, plastic apron, heavy duty gloves and eye protection)

Other Important Issues relating to Standard Precautions (for full explanation see Appendix 7):

- **Proper skin care** (i.e. covering cuts, avoid use of false nails etc)
- **Spillages:** must be dealt with immediately (see Chapter 5.1)
- **Use of Standard Operating Procedures**
- **First Aid Box:** A First Aid Box must be provided, and an eye-wash station.
- Dealing with **hazards relating to handling of the deceased's personal effects**
- **Accidents:** All accidents in the workroom must be reported at once to the supervisor and recorded in the Risk Incident form.
- **Immunisation** (see Chapter 20): Staff members should be fully immunised against poliomyelitis, tuberculosis, tetanus and Hepatitis B.

5. Biological agents are classified into four Hazard Groups, from 1 to 4, where 1 represents the lowest level of risk and 4 represents the highest level. TSEs are Transmissible Spongiform Encephalopathies (such as variant Creutzfeldt-Jakob Disease). If human remains are known to be infected with Hazard Group 4 pathogens or a TSE, it is imperative that a funeral director be informed that this body poses a significant health risk and embalming should not be carried out.

It should be noted that the likelihood of transmission of infectious disease during embalming is low, but the potential for injury will be highest when handling sharps.⁶ Should an embalmer or funeral director receive a sharps or splash injury during the course of preparing a cadaver, it is crucial that urgent medical advice be sought, and the details of the patients last attending physician provided to permit a thorough risk assessment.

Handling Sharps (Appendix 8)

The use of disposable sharps should be standard practice. They should always be used in conjunction with a wall mounted blade remover. The following practices (see Appendix 8) lessen the likelihood of sharps injury (protective clothing should be worn throughout):

- Correctly assembling sharps boxes
- Sharps must not be passed directly from hand-to-hand,
- Needles should not be bent/broken
- Needles and syringes should not be disassembled
- Needles should not be recapped
- Used sharps must be discarded into a sharps container
- Sharps containers should never be over filled
- Containers must be disposed of by the licensed route
- Sharps containers should be available at every location where sharps are used
- The aperture to the sharps container should be closed when not in use
- Sharps containers should be placed on a level stable surface
- Never leave sharps lying around
- Never retrieve a sharps from a sharps box
- Do not overfill sharps boxes
- Close and lock sharps box when 2/3 full
- Label sharps containers with the source details prior to disposal
- Place damaged sharps containers inside a larger container

Sharps Injury⁷

In the event of a sharps injury, the funeral director or embalmer should take the following steps:

1. Gently encourage bleeding from the wound;
2. Wash the wound in soap and warm running water, but do not scrub the area;
3. Cover the wound with a dressing;
4. In the event of splashing of blood or body fluid to skin, eyes or mouth: wash with plenty of water;
5. Ensure the sharp is disposed of safely;
6. Report the incident to supervisor immediately;
7. Attempt to identify source of the needle/sharp;
8. Obtain the contact details of the Consultant/GP who was in medical attendance of the patient (from the Notification of Death form) and contact that person to alert them of the injury
9. Go immediately to the Emergency Department/Occupational Health Department and have them contact the Consultant/GP who was in medical attendance of the patient to determine if the patient had a known, relevant infectious condition – the ED or Occupational Health Department will organise further follow up
10. Ensure that an accident report form is completed, and record all information in the Incident Report.

6. Full information on handling sharps is available in Appendix 8: Handling Sharps of HPSC's *Management of Deceased Persons Harboured Infectious Disease* available at www.hpsc.ie

7. See Chapter 6. Management of sharps injuries/splashing injuries in HPSC's *Management of Deceased Persons Harboured Infectious Disease* available at www.hpsc.ie