

SPECIAL HANDLING PROCEDURES FOR SPECIMENS CONFIRMED OR SUSPECTED OF CONTAINING INFECTIOUS AGENT OF TRANSMISSIBLE SPONGIFORM ENCEPHALOPATHIES

I. INTRODUCTION:

Transmissible Spongiform Encephalopathies (TSE), also known as prion diseases, are fatal degenerative brain diseases that occur in humans and certain animal species.

Human TSEs occur in sporadic, familial, and acquired forms. The most common forms are Creutzfeldt-Jakob Disease (CJD), Variant CJD, and Bovine Spongiform Encephalopathy (“Mad Cow Disease”). The incubation usually lasts several years and is invariably fatal.

Etiology: The etiologic agent is thought to be an unconventional filterable agent. Currently, there is no test to detect a patient's immunologic response to the infection and the etiologic agent has not been identified. The exact mode of transmission in humans is not known; however, the disease can be induced in laboratory animals by inoculation of infective material. Person-to-person transmission via skin contact or via environmental contamination has not been shown.

Epidemiology: TSE has been identified in all developed countries and is thought to occur worldwide. The incidence of TSE is estimated at about 1 case per million persons per year.

Although there have been no confirmed cases of occupational transmission to humans, cases of TSE in healthcare workers have been reported in which a link to occupational exposure is suggested. The highest potential risk is from exposure through needle-stick injuries with inoculation. Exposure by splashing of the mucous membranes (notably the conjunctiva) or unintentional ingestion may be considered a hypothetical risk and must also be avoided.

The minimum requirements for decontamination procedures/precautions for materials potentially contaminated with the agent causing TSE are UNKNOWN.

The following policy represents recommendations from the Center for Disease Control (CDC) and the World Health Organization (WHO).

II. NOTIFICATION OF LABORATORY PERSONNEL

In the event that specimen(s) from a case of known or suspected TSE are received in Pathology the following steps will be taken:

1. Notify Department Safety personnel
 - a. Chair person
 - b. Coordinator
 - c. Safety Committee member
 - d. Any laboratory supervisor

2. Responsible person will:
 - a. Track specimen(s) back to source to determine specimen(s) sent;

- b. Alert all personnel receiving specimen(s) of potential hazards, remind them of Universal Precautions, and special disposal instructions (see below);
- c. Alert the Office of Hospital Infection Control;
- d. Interview all personnel handling specimen(s) to determine that Universal Precautions and special disposal instructions have been or will be observed;
- e. Document all specimens received, interviews with personnel, and disposal procedures.

III. SPECIMEN HANDLING

A. As With All Clinical Specimens, Observe Universal Precautions; In Addition:

1. Observe section specific procedures (Histology, Morgue);
2. Handling blood and other body fluids and secretions, excluding CSF and most tissue, requires no special precautions.
3. If analysis is to be performed on CSF it is recommended that automated equipment not be used, and any materials coming in contact with CSF must be either incinerated or decontaminated as outlined below.
4. Single-use protective clothing will be used: disposable liquid-repellent apron, gloves, mask and visor or biohazard hood.
5. Use disposable supplies whenever possible. All disposable instruments that have been in contact with high infectivity tissues should be clearly identified and disposed of by incineration.
6. Use disposable non-permeable material (plastic-backed absorbent paper) on work surface. This covering and all washings, waste material and protective clothing will be disposed of as outlined below.

IV. DECONTAMINATION PROCEDURES

TSE agents are unusually resistant to disinfection and sterilization by most physical and chemical methods including alcohol and boiling.

A. Decontamination of Instruments – when disposables can not be used:

1. Immerse in bleach diluted to 1:2.5 (1 part bleach plus 1.5 parts water made fresh) for one hour.
2. Transfer instruments to water and autoclave at 121°C for one hour.

- NOTE: Bleach does not corrode glass or aluminum but is corrosive to stainless steel and to autoclaves. Rinse thoroughly before autoclaving.

3. Clean and perform routine sterilization.

B. Decontamination of Work Surfaces

1. Use disposable non-permeable cover.
2. Flood contaminated surfaces with bleach diluted to 1:2.5 for one hour and rinse with water.

C. Decontamination of Wastes and Waste-Contaminated Materials

1. Following processing, all discarded material and contaminated disposable supplies are to be double bagged in autoclavable biohazard (orange) bags.
2. Make arrangements with Prep Room personnel for these bags to be picked up in covered rolling waste cans.
3. All potentially contaminated waste will be autoclaved and picked up by the waste disposal contractors according to routine disposal procedures

V. POST-EXPOSURE MANAGEMENT

In the event of exposure to contaminated material the following steps can be taken:

1. Contamination of unbroken skin with internal body fluids or tissues: wash with detergent and abundant quantities of warm water (avoid scrubbing), rinse, and dry. Brief exposure (one minute) to 10% bleach may follow.
2. Needle stick or lacerations: gently encourage bleeding; wash (avoid scrubbing) with warm soapy water. Irrigation of the wound with 0.5% bleach may follow.
3. Splashes into the eye or mouth: irrigate with either saline (eye) or tap water (mouth).
4. Complete NON-CLINICAL INCIDENT REPORT FORM #0741.

VI. REFERENCES

1. WHO/CDS/CSR/APH/2000.3, Report of a WHO consultation: WHO Infection Control Guidelines for Transmissible Spongiform Encephalopathies, Geneva, Switzerland, March 23-26, 1999.
2. Creutzfeldt-Jakob Disease: Epidemiology, Risk Factors, and Decontamination; CDC preliminary document, October 2, 2000.