

# THE UNIVERSITY OF WESTERN ONTARIO

## OCCUPATIONAL HEALTH AND SAFETY

### CONTAINMENT LEVEL 2 - LABORATORY BIOSAFETY PRACTICES :

For laboratories using infectious agents listed as requiring Level 2 precautions as listed in Laboratory Biosafety Guidelines: 2nd ed. Health Canada/MRC, 1996

#### Operational Requirements

1. Hazard awareness training is required - WHMIS and Biosafety training offered by OHS must be taken. Standard operating procedures and spill procedures must be established.
2. Lab coats must be worn, fastened Lab coats must not be worn outside lab area Shoes with closed toes and non-slip soles must be worn
3. Gloves must be worn when handling infectious agents Gloves must be disposed of as in # 10.
4. Safety face and eyewear must be worn if there is any danger of splash e.g. goggles or face shield. ( contact lenses are not recommended).
5. No eating or drinking in lab.
6. No mouth pipetting.
7. Long hair must be tied back or restrained.
8. Hands must be washed on leaving the lab, after handling infectious agent, on removing gloves. A handwashing sink must be available with soap and towel
9. All work surfaces must be disinfected on completion of work.
10. All contaminated materials must be decontaminated prior to disposal or reuse by autoclaving, disinfection or incineration.
11. Access to laboratory should be restricted to those advised of the hazards and trained ( as above).
12. Hazard warning signs must be posted outside each lab indicating the risk level of the agent being used, the name of the responsible person and an emergency phone number.
13. Sharps must be used with caution and disposed of into an approved sharps container and incinerated.
14. All spills of the infectious agent must be reported to the lab supervisor.
- \*15. Infected animals must have appropriate containment.

\*16. Procedures generating aerosols must be carried out in a biological safety cabinet. Centrifugation must be carried out in closed containers.

\*17. The microbiological agent(s) in use must be declared by the lab supervisor on the University "position hazard form" for each user. Lab workers should take part in the medical surveillance programme through the University Staff/Faculty Health Office. Immunization will be offered if available and titres checked.

\*18. Baseline serum samples may be required and held for reference.

\*19. Cleaning staff must be informed of hazards. Areas to be cleaned e.g. floors and garbage containers must be clearly identified. Research staff must clean other areas .

\* Items in addition to requirements for a basic ( level 1) lab

\*\* Procedures which generate aerosols:

Pipetting liquids

Centrifuging

Sonicating, blending or grinding tissues

Vortexing uncapped tubes

Opening pop-top tubes

Penetrating rubber septum vials by needle

Reconstituting lyophilised cultures

Sectioning bone

Many electronic devices e.g. cell counters

Plate washers

Multiwell analysers

## **Physical requirements for the laboratory**

N.B. Requirements in addition to those for Level 1

1. An autoclave must be available in or near the laboratory.

2. Floors, walls and laboratory furnishings must be impervious and readily cleanable and able to be disinfected. (The use of wood fittings is discouraged.)

3. A Class II biological safety cabinet is required for all procedures which generate aerosols. Air from the cabinet may be recirculated to the room after passage through a HEPA filter.

This cabinet must be tested and certified annually.

4. Hooks must be provided for lab coats near the exit from the lab.

5. Directional inward flowing non-recirculated air should be provided if possible.

