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<th>Procedure:</th>
<th>Working with Risk Group 2 microorganisms in teaching labs</th>
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<td>School/Department:</td>
<td>School of Molecular Bioscience</td>
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<td>SOP prepared by:</td>
<td>Nick Coleman</td>
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<td>Version:</td>
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**Section 1 - Personal Protective Equipment**

1. Lab coat or gown. (Gown is preferable for PC2 work)
2. Long hair tied back.
3. Proper enclosed shoes.
4. Safety glasses / goggles if splash/squirt/spray risk present.
5. Nitrile or latex Gloves

**Section 2 – Potential Hazards + Safety precautions**

1. See corresponding risk assessment. Briefly, the hazards are infection of the student, infection of other people, infection of plants or animals, and escape of the microorganism into the environment. These hazards are significant for risk group 2 microbes. The degree of risk will depend upon the type of organism, the route of exposure, and the number of organisms involved.
2. Workers with pre-existing medical conditions (e.g. allergy, immunocompromised state, chemical sensitivity) and workers who are pregnant or expecting pregnancy must consult with their supervisor AND medical specialist AND the university's WHS services before performing this procedure. If there are any serious concerns expressed by any of these individuals, this task must not be performed.

**Section 3 – Procedure**

1. Know the locations of emergency equipment, especially eyewash, the locations of emergency exits, and the emergency evacuation procedure.
2. Know the risks of the organisms you are working with, e.g. check Pathogen Safety Data Sheet if available, or ask your demonstrator.
3. Students handling risk group 2 microbes must be closely & constantly supervised by someone with formal microbiological training.
4. Be familiar with the Australian Standard document AS 2243.3, which describes appropriate work practices in a microbiology lab.
5. Students must alert the prac class or course coordinator of any relevant health conditions, e.g. Immunocompromised status or pregnancy. These conditions would create special risks for handling microorganisms (please refer to the WHS guidelines outlined in the teaching manuals for further advice).
6. Never eat, drink, smoke or apply cosmetics in the microbiology lab. Never put anything in your mouth (e.g. don’t chew the end of pens).
7. Do not use your mobile phone while doing microbiological lab work- this can act as a vector for carrying microbes outside the lab.
8. A class II biosafety cabinet must be used for any manipulations of risk group 2 organisms – this includes making culture transfers, vortexing, pipetting, opening and closing bottles and tubes containing liquid cultures.
9. All cultures must be labelled with the name of the organism (species and strain), the name or initials of the worker, and the date.
10. Cultures must be incubated in the appropriate location, and must not be taken out of the lab by students.
11. Cultures and wastes must be enclosed in a strong secondary container for transport between the microbiology laboratory, culture preparation and autoclaving facilities.
12. Upon starting and finishing work, it is good practice to sterilise the bench surface in the biosafety cabinet with 80% ethanol.
13. At the end of work, discard all unwanted cultures into the appropriate disposal location. All microbial cultures must be destroyed by autoclaving, they cannot be put down the sink, or in the regular garbage.

14. Wash your hands with antiseptic soap before leaving the laboratory.

15. Remove your lab coat or gown before leaving the laboratory, and place inside a sealed plastic bag (e.g. zip-lock type). Coats must be kept clean, launder these weekly to monthly, depending on level of use.

16. Any lab coats which have cultures spilled on them must be immediately removed and disinfected with bleach (for a small spill), or autoclaved (for a larger spill) – coats known to be contaminated must not be laundered at home.

Section 4 – Spills / Incidents

1. Students must immediately report all spills and other incidents to their demonstrator, and if a serious incident occurs, this needs to be formally reported via the University’s online reporting system.

2. In the case of a large spill (>100 ml) of a Risk Group 2 organism outside a biosafety cabinet, evacuate the class. A senior person (e.g. head demonstrator or prac coordinator) should tackle the spill. Put on a full-face respirator (found in spill kit on L4), then proceed as follows (further information detailed in SOP for Biohazard spills).

3. Contain the spill by surrounding with paper towel or an absorbent ‘boom’ from the spill kit, or other absorbent material

4. Disinfect the spill by adding freshly prepared bleach solution containing 1% hypochlorite. Allow at least 10 min for the bleach to kill the microbes.

5. Soak up all the liquids with paper towels, and dispose of all the towels and any other spill containment items used into a strong plastic bag (eg. a ‘wet garbag’ or a biohazard bag).

6. This bag containing the spill materials should NOT be autoclaved, as bleach will corrode the autoclave. Instead, this should be disposed of as medical waste, or as hazardous chemical waste.

Section 7 - References

1. Australian Standard document AS 2243.3
2. Risk assessment and SOP: Disposal of biological waste (SMB039)
3. Risk assessment and SOP: Biosafety cabinets (SMB005)
4. Risk assessment and SOP: Biohazard spills (SMB004)

SOP Consultation, Training and Approval

Print names and enter signatures and dates to certify that the persons named in this section have been consulted/trained in relation to the development and implementation of this Standard Operating Procedure. WHS Representative (WHS Committee) certifies that consultation has taken place.

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**Name Authorising (Printed):** DIANNE FISHER

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