

# HOW TO RESPOND DURING BIOLOGICAL SPILL

Waiting for aerosol to settle



After Clean Up

**Doff PPE**

Clean Up

*2. Hair net (optional)*

*4. Safety goggles*

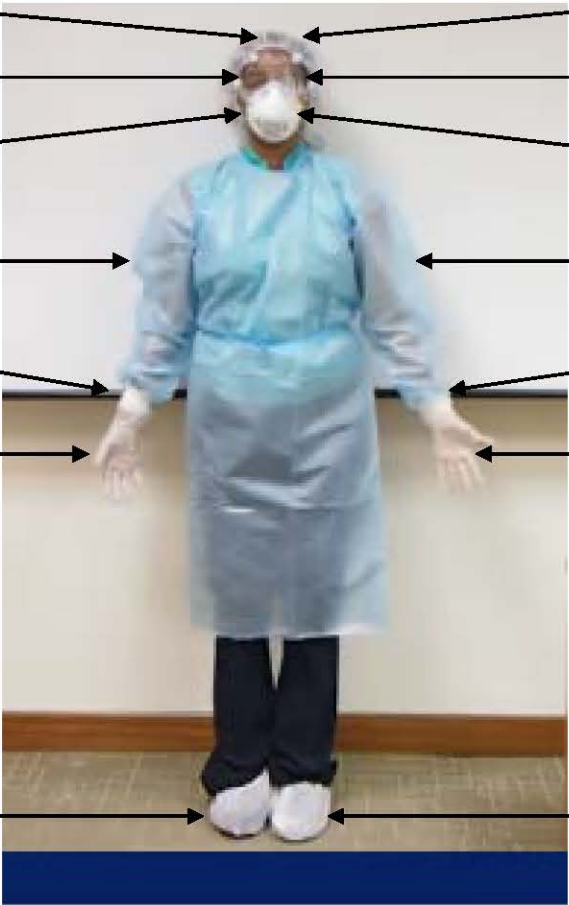
*3. N95 respirator*

*5. Disposable lab gown*

*6. Outer layer gloves*

*1. Inner layer gloves*

*7. Shoe covers*



*6. Hair net (optional)*

*4. Safety goggles (handle by head band)*

*5. N95 respirator (handle by straps)*

*3. Disposable lab gown (inside out)*

*2. Outer layer gloves*

*7. Inner layer gloves*

*1. Shoe covers*

# BIOLOGICAL SPILL RESPONSE PROCEDURES

## Scenario 1: Biological Spill *OUTSIDE* BSC

Raise Alarm	<ol style="list-style-type: none"><li>1. Hold breath and evacuate room.</li><li>2. Alert and inform. Place warning sign to cordon off the spill area.</li></ol>
Contain & Disinfect	<ol style="list-style-type: none"><li>3. Don PPE. Prepare disinfectant.</li><li>4. Wait 30 minutes for aerosol to settle.</li><li>5. Place paper towel to contain spill. Cover spill with paper towel. Decontaminate area with disinfectant (apply from outer to centre).</li><li>6. Allow 30 minutes contact time.</li><li>7. Handle any sharp objects with tongs. Gently sweep small broken glass pieces into dust pan to avoid generating aerosols. Discard into sharps container.</li><li>8. Soak up disinfectant and spill (wipe materials towards centre). Collect contaminated materials with tongs. Discard waste into double biohazard bag.</li><li>9. Repeat steps 5 and 8 again to decontaminate area with disinfectant.</li><li>10. Clean up area with water. Allow to air-dry.</li></ol>
Dispose & Notify	<ol style="list-style-type: none"><li>11. Doff PPE.</li><li>12. Dispose double bag biohazard waste. Label bag with PI name, location and contact number.</li><li>13. Wash hands with antiseptic soap.</li><li>14. Notify PI/supervisor and report incident to OSHE via AIMS within 24 hours.</li></ol>

# BIOLOGICAL SPILL RESPONSE PROCEDURES

## Scenario 2: Biological Spill *INSIDE* BSC

Raise Alarm	<ol style="list-style-type: none"><li>1. Leave BSC turned on.</li><li>2. Alert and inform. Place warning sign to cordon off the spill area.</li></ol>
Contain & Disinfect	<ol style="list-style-type: none"><li>3. Don PPE (N95 respirator, safety goggles and shoe covers not necessary). Prepare disinfectant. Do not place head inside BSC.</li><li>4. Place paper towel to contain spill. Cover spill with paper towel. Decontaminate area with disinfectant (apply from outer to centre). Spray cabinet walls and flood work surface (drain pans, catch basins) if necessary with disinfectant.</li><li>5. Allow 30 minutes contact time.</li><li>6. Soak up disinfectant with paper towels (wipe material towards centre). Drain pans and catch basins into container. Lift front exhaust grille and tray and wipe all surfaces. Discard waste into double biohazard bag.</li><li>7. Repeat steps 4 and 6 again to decontaminate area with disinfectant.</li><li>8. Clean up area with water. Allow BSC to run for 10 minutes before resuming work.</li></ol>
Dispose & Notify	<ol style="list-style-type: none"><li>9. Doff PPE.</li><li>10. Dispose double bag biohazard waste. Label bag with PI name, location and contact number.</li><li>11. Wash hands with antiseptic soap.</li><li>12. Notify PI/supervisor and report incident to OSHE via AIMS within 24 hours.</li><li>13. Engage certification vendor to disinfect interior parts of BSC (ducts, filter, fans) if necessary.</li></ol>

# BIOLOGICAL SPILL RESPONSE PROCEDURES

## Scenario 3: Biological Spill *INSIDE* Centrifuge

Raise Alarm	<ol style="list-style-type: none"><li>1. Turn off affected centrifuge. Leave centrifuge lid closed and evacuate room.</li><li>2. Alert and inform. Place warning sign to cordon off the spill area. Wait 30 minutes for aerosol to settle before opening centrifuge lid.</li></ol>
Contain & Disinfect	<ol style="list-style-type: none"><li>3. Don PPE. Prepare disinfectant.</li><li>4. Wait 30 minutes for aerosol to settle before opening centrifuge lid.</li><li>5. Apply disinfectant (outside-in) to all contaminated surfaces within chamber. Take care to minimize splashing.</li><li>6. Allow 30 minutes contact time.</li><li>7. Handle any sharp objects with tongs. Discard into sharps container.</li><li>8. Soak up disinfectant with paper towels (wipe material towards centre). Transfer safety buckets and rotors to BSC. Open inside BSC to contain aerosol. Decontaminate according to manufacturer's instructions. Discard waste into double biohazard bag.</li><li>9. Repeat steps 5 and 8 again to decontaminate area with disinfectant.</li><li>10. Clean up area with water. Allow to air-dry.</li></ol>
Dispose & Notify	<ol style="list-style-type: none"><li>11. Doff PPE.</li><li>12. Dispose double bag biohazard waste. Label bag with PI name, location and contact number.</li><li>13. Wash hands with antiseptic soap.</li><li>14. Notify PI/supervisor and report incident to OSHE via AIMS within 24 hours.</li></ol>

# REFERENCES

- **Biosafety Training – Managing Biological Spills and Emergencies (OSHBIO05)**
- **NUS Laboratory Biorisk Management Manual (NUS/OSHE/M/01), Version 4.2.**
- **Yong Loo Lin School of Medicine Safety Manual, 4<sup>th</sup> Edition.**