Standard Operating Procedure for Imaging BSL2 samples at the UIC

Note: One safety SOP can be used for more than one experimental protocol if the materials/equipment being used and potential hazards and protective measures are the same.

Title or Type of Procedure: Hosting of Potentially Infectious Samples for Imaging Procedures

P. I.  Mark A. Sanders               Lab Location: CCRB

Prepared By: Guillermo Marques     Approval Signature:
(if required by lab supervisor)

Procedural Materials and Methods:  (See note above)

A. Registration with UIC staff

All users must provide UIC staff with an electronic copy of a current IBC and IACUC (if applicable) protocols. The protocol must contain a section on the imaging of samples at the UIC and how any potential biological and chemical hazards will be mitigated.

All BSL-2 users must have completed DEHS training appropriate for the activity. This includes the on-line radiation safety and blood borne pathogen training modules, in addition to the individual laboratory safety training that must be renewed annually.

Users must provide a protocol for both routine and spill clean-up and decontamination specific to the pathogen of interest.

Users must also provide a protocol for the treatment of biohazardous waste specific to the pathogen of interest.

B. Regular operation

Biohazard sign MUST be posted on the door when potentially infectious Risk Group (RG) 1 or RG 2 agents are in use.

Everyone in the room must wear appropriate personal protective equipment whenever work is performed with infectious agents. Standard protective wear consists of a lab coat dedicated to this project, proper gloves and eye protection. Other gear may be required. This protective wear must never be worn outside of anteroom or in public areas (hallways, restrooms, etc.).

Sample manipulations with RG 2 agents that are likely to produce aerosols (splitting cells, animal surgery, etc.) must be performed in the biosafety cabinets (BSC) available in rooms 1-166A and 1-166B.

Use gloves when moving the dish or specimen onto the imaging rig, then remove gloves before touching the microscope or computer.
After imaging, the samples must be removed from the microscope or imaging chamber and the microscope stage or chamber should be wiped down with tissue soaked in 70% ethanol (or another disinfectant that is effective against the agent).

The BSC must be decontaminated by treatment with 10% bleach (1:9 v/v dilution of household bleach) for 30 minutes, followed by a rinse with 70% ethanol to remove bleach remains.

BSL-2 samples and potentially contaminated materials must be transported in an approved container and removed from the UIC after imaging for decontamination and disposal. This includes used protective wear.

Biohazardous trash from BSL-1 or BSL-2 work (paper towels, disposable plastic ware, gloves) must be placed in the labeled biohazard waste container (not regular trash).

UIC personnel will monitor the biohazard waste containers (clear bags) and regularly autoclave and dispose of biohazardous trash. Animal carcasses, tissues, biological fluids, bedding, chemicals and sharps will be removed by users using either clear or red bags and a sealable container at the end of the procedure and disposed of properly.

C. Incidents and biohazardous agent spill control

- Remove any contaminated clothing and put in autoclavable bag. Be aware that autoclaving may damage fabric.
- Notify other workers in the area of the spill and control traffic through area.
- Wear shoe covers and safety goggles if spill is on floor, may have splashed beyond immediate area of spill.
- Put on gloves and cover spill area with paper towels.
- Pour disinfectant over towels from edges of spill to center, be carefully not to splatter.
- Decontaminate all objects in spill area.
- Allow 30 minutes of contact time.
- Pick up any sharps, including broken glass, with forceps and place in sharps container.
- Use squeegee (or other appropriate device) and dustpan to recover any shards of broken glass in contaminated liquid. Decontaminate squeegee and dust pan.
- Wipe area with disinfectant and clean paper towels and put in biohazard bag.
- Mop if spill is on floor.
- Remove gloves and foot covers before leaving area of the spill, put in biohazard bag.
- Wash hands.
Report the spill to UIC staff immediately.

After receiving treatment, injuries/exposures need to be reported to the UIC staff and to a DEHS Biosafety Officer @ 612-626-6002. Contact: **DEHS Emergency Procedures**

### Hazard Identification and Risk of Exposure to the Hazards:
*(Organism or toxin and procedural steps that may create a risk of exposure such as injecting animals, creating aerosols, centrifugation, etc.)*

This section is dependent on the particular sample and procedure dependent, and the protocol will be part of the user IBC protocol.

### Exposure Controls Specific to Above Risk of Exposure:
*(Lab- and procedure-specific personal protective equipment, biological safety cabinet, centrifuge secondary containment, work practices, immunizations if needed, sharps injury prevention, etc.)*

This section is dependent on the particular sample and procedure dependent, and the protocol will be part of the user IBC protocol.

### Biological Waste Disposal Methods:
*(Lab- and procedure-specific methods)*

*May customize the waste template, [http://www.dehs.umn.edu/Docs/WasteTemplate.doc](http://www.dehs.umn.edu/Docs/WasteTemplate.doc)*

See attached biological waste disposal document. Users are responsible for removal from the UIC facilities and appropriate disposal of cells and all animal waste (tissues, carcasses, bedding and contaminated fluids and solutions).

### Spill Response Procedures:
*(Lab- and procedure-specific methods)*

*May customize the spill template, [http://www.dehs.umn.edu/Docs/DecontaminationTemplate.doc](http://www.dehs.umn.edu/Docs/DecontaminationTemplate.doc)*

**Spill Response Procedures:**

**If Spill Results in a Hazard Exposure (i.e. face or eye splash, cut or puncture with sharps, contact with non-intact skin):**

- Wash exposed skin with soap & water, flush eyes for 15 min.
- Call 911 or seek medical attention.
  - For urgent care employees may go to HealthPartners Occupational and Environmental Medicine (M/F day time or Urgent Care after hours), or **UMMC-Fairview Hospital** (24 hrs). You may seek medical attention at the closest available medical facility or your own healthcare provider.
  - Follow-up must be done by HealthPartners Occupational and Environmental Medicine.
- Report the incident to your supervisor as soon as possible, fill out the appropriate documentation.
  - **Employee First Report of Injury**
  - **Supervisor Incident Investigation Report**
- Send **Incident Report Form** to the IBC if exposure has occurred during work on an IBC protocol.
- Report all biohazard exposures to the Office of Occupational Health and Safety (612-626-5008) or uohs@umn.edu.

**Note:** It is important to fill out all of the appropriate documents to be eligible to collect workers compensation should any complications from the hazardous exposure arise in the future.
References: (papers, Fact Sheets, BMBL, biological MSDS, training requirements, etc.)