Principal Investigator: Date Approved:

**Handling Human Materials Outside of a Biosafety Cabinet**

This SOP applies to splash- or spray-generating procedures with human materials conducted outside of a biosafety cabinet (BSC). This SOP does not apply to working with samples known to be positive for human pathogens or obtained from infected individuals.

Although an aerosol containment device (e.g., BSC) is preferred, it is not required for procedures with human materials that DO NOT create aerosols. However, a BSC must be used to provide protection from potentially infectious aerosols generated by procedures, such as vortex mixing, sonication, homogenizing, grinding, and blending. In the absence of an aerosol containment device, splash or spray protection is needed for the worker.

**Personal Protective Equipment**



**Engineering Controls, Equipment, and Materials**

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| **Biosafety Cabinet (BSC)** | Enclosed, ventilated laboratory workspace that protects the worker from aerosols |
| **Biohazard Waste Container(s)** | Solid, sharps and/or liquid waste containers, as appropriate, compliant with medical waste handling requirements |
| **Disinfectant** | EPA-Registered Disinfectant (see Decontamination and Disinfection SOP) |
| **Splash Shield** | Plexiglas or other shield that separates open containers of hazardous materials from the user and behind which work can be conducted |

1. Don and doff PPE appropriate for procedures involving human materials

**Procedures**

1. Conduct all work with open containers behind a splash shield
2. Perform procedures that could create aerosols within a BSC (e.g., cell culture, tissue harvest, sonication, vortexing, homogenizing, etc.)
3. Decontaminate instruments, equipment and work surfaces that have come into contact with human materials with an EPA-registered disinfectant
4. Dispose of items that have come into contact with human materials as biohazardous waste
5. Dispose of sharps (e.g., needles, scalpels, syringes) as biohazardous sharps waste
6. Wash hands with soap and water immediately after glove removal (see Hand Sanitation SOP)

**Cautions and Considerations**

1. All work must be registered with and approved by the institutional Biosafety Committee, including an emergency response plan for exposures
2. If samples are known to contain airborne-transmissible pathogens, work must be conducted in a biosafety cabinet
3. The laboratory must have a facility-specific Biosafety Manual or Exposure Control Plan
4. Bloodborne Pathogens training must be conducted on an annual basis: contact EHS Biosafety
5. A face shield and surgical mask (in addition to safety glasses) can be used in place of the splash shield
6. Consult with EHS Biosafety if it is unclear whether a procedure creates aerosols
7. Additional PPE (e.g., double gloves) may be required for certain procedures
8. Reduce or eliminate sharps and glass (consult with EHS Biosafety for safer alternatives)
9. Follow post-exposure procedures for an exposure and contact EHS at 801-581-6590 within 12 hours

**References**

1. [University of Utah Exposure Control Plan](https://ibc.utah.edu/biosafety-policies.php)