TABLE OF CONTENTS

INTRODUCTION.........................................................................................................................3
SELECTING PPE – HAZARD ASSESSMENT...........................................................................3
  PPE SELECTION FOR CLINICAL AREAS.............................................................................4
  PPE SELECTION FOR RESEARCH, DIAGNOSTIC, AND TEACHING LABORATORIES ..........5
  PPE SELECTION FOR SUPPORT AREAS (I.E. ENGINEERING AND FACILITIES, GROUNDS
    MAINTENANCE, HOUSEKEEPING, ETC.)..............................................................................5
TRAINING......................................................................................................................................5
DOCUMENTATION...................................................................................................................6
INTRODUCTION

Personal protective equipment (PPE) refers to apparel that is designed to create a protective barrier against workplace hazards. Examples of PPE are gloves, gowns, lab coats, safety glasses, etc. While PPE is an important aspect of workplace safety, it should not be used as a substitute for engineering, work practice, and/or administrative controls. PPE should be used in conjunction with these controls. Defective or damaged personal protective equipment shall not be used.

This policy is designed to comply with the OSHA Personal Protective Equipment Standard 1910.132 and all other applicable state and local laws. For PPE requirements regarding specific OSHA standards please see the following MUSC policies:

- Refer to the MUSC Occupational Safety and Health Program Policy for PPE requirements regarding OSHA Hazardous Waste Operations and Emergency Response standard 1910.120.
- Refer to the MUSC policy on the Respiratory Protection Program for PPE requirements regarding OSHA Respiratory Protection standard 1910.134.
- Refer to the MUSC Bloodborne Pathogen Exposure Control Plan for PPE requirements regarding OSHA Bloodborne Pathogen Standard 1910.1030.

In addition, contact MUSC’s Occupational Safety and Health Program at 843-792-3604 for assistance with choosing PPE.

SELECTING PPE – HAZARD ASSESSMENT

The basic element of a personal protective equipment program should be an in-depth evaluation of the equipment needed to protect the employees from the hazards in the workplace. The evaluation should be used to set a standard operating procedure (SOP) for personnel. Employees then must receive training of the limitations of personal protective equipment and its proper use and maintenance.

It is the responsibility of the supervisor of an area to perform a hazard assessment and determine the appropriate PPE required for specific job tasks. Some steps for supervisors to take when performing a hazard assessment and PPE selection are:

1. Assessing the workplace to determine if hazards are present or potentially present.
2. Identifying if the hazards require the use of head, eye, face, hand, body or foot protection are present or potentially present to protect against those hazards.
3. Identifying workers or visitors to an area to whom these hazards pose a risk.

4. Providing all necessary PPE (except for that defined in the OSHA Standard 1910.132(H)(4)) at no cost to employees, and replacing PPE (except if the employee has lost or purposely damaged PPE).

5. Ensuring proper fit of PPE.

6. Training all staff on the proper use and maintenance of issued PPE, and retraining employees if there are changes in the workplace or required PPE.

7. Enforcing the use of PPE in their work areas, including wearing appropriate PPE themselves.

After PPE is identified as necessary to wear for a specific task, employees are required to wear the designated PPE and supervisors are responsible for enforcing the use of PPE. If employees fail to comply with the use of PPE, progressive disciplinary actions must be taken.

If a supervisor requires further assistance in performing a hazard assessment for a specific task, he or she should contact MUSC’s Occupational Safety and Health Program at 843-792-3604 for a PPE consultation.

PPE Selection for Clinical Areas

Managers of clinical areas are responsible for determining the PPE required based on the hazards present or potentially present. Standard precautions must be taken for all patient care. Other resources to consult when determining PPE requirements for specific tasks are as follows:

- MUSC’s Bloodborne Pathogen Exposure Control Plan
- MUSC Medical Center Policy C-88, Work Practice Policy for Personnel Dealing with Cytotoxic (Antineoplastic) Drugs
- MUSC Medical Center Policy, C-155, Handling and Disposal of Hazardous and Non-Hazardous Pharmaceuticals
- MUSC’s Radiation Safety Manual
- MUSC OSHA online trainings through CATTS
- Material Safety Data Sheets for work with hazardous materials. Access to MSDSs can be found on the OSHP website (http://academicdepartments.musc.edu/vpfa/operations/Risk%20Management/occupsafety/).
PPE Selection for Research, Diagnostic, and Teaching Laboratories

Principal investigators (PIs) are responsible for completing a risk assessment for each type of experiment or process performed in their labs. Risk assessments should be performed before beginning a new experiment, when ongoing experimental processes change, and on a regular basis. At a minimum, researchers working in a lab must wear long pants (or clothing that covers the legs to the ankles), closed toed shoes, and wear other protective apparel when appropriate. Visitors and volunteers in the laboratory are required to wear eye protection at all times. Other resources to consult when choosing laboratory PPE are as follows:

- Material Safety Data Sheets for work with hazardous materials. Access to MSDSs can be found on the OSHP website (http://academicdepartments.musc.edu/vpfa/operations/Risk%20Management/occupsafety/).
- *Biosafety in Microbiological and Biomedical Laboratories*, 5th Ed., by the U.S. Department of Health and Human Services
- MUSC Chemical Hygiene Plan
- MUSC Policy for Minors in Laboratories
- MUSC OSHA online trainings through CATTS
- Manufacturer manuals and instructions for laboratory equipment

PPE Selection for Support Areas (i.e. Engineering and Facilities, Grounds Maintenance, Housekeeping, etc.)

Supervisors of an area should always perform a visual assessment of work areas and observe the workflow of tasks to identify potential hazards in their work areas. The following resources should also be consulted when selecting task specific PPE:

- Manufacturer’s instructions booklets for equipment and instruments being used.
- Material Safety Data Sheets for work with hazardous materials. Access to MSDSs can be found on the OSHP website (http://academicdepartments.musc.edu/vpfa/operations/Risk%20Management/occupsafety/).
- MUSC OSHA online trainings through CATTS
- *Keller’s Official OSHA Safety Handbook*

**TRAINING**

Before performing work requiring the use of personal protective equipment, supervisors
must train employees on when personal protective equipment is necessary, what type is necessary, how it is to be worn, its limitations, proper care, maintenance, and useful life.

MUSC Occupational Safety and Health Programs can provide training relating to the requirements of the Occupational Safety and Health Administration personal protective equipment standard. However, supervisors shall provide training that is specific to their workplace hazards and provide required personal protective equipment.

All employees must demonstrate that they understand when personal protective equipment is necessary, what type is necessary, how it is to be worn, its limitations, proper care, maintenance, and useful life.

**DOCUMENTATION**

**OSHA Standard 1910.132(d)(2)** states that hazard assessments must be performed and that these assessments must be documented. The following documents must be completed to fulfill this requirement:

1. **Clinical Areas**: Each employee must complete the Clinical PPE Selection Certification (Appendix I) document and keep the document on file in the unit. All employees must sign and date the document. It is the clinical nurse manager's responsibility to review the document annually, make any necessary changes, and communicate the changes to his or her staff.

2. **Clinical Laboratories**: Each employee must complete the MUSC Laboratory Services List of Procedures that Require Personal Protective Equipment (PPE) document. The signed documents will be kept in each employee's individual file. The Laboratory Services Education Programs will be responsible for reviewing the document annually, making any necessary changes, and communicating the changes to his or her staff.

3. **Research and Teaching Laboratories**: Supervisors and employees must review and complete the Lab Safety Certification Statement (Appendix II). Copies of the signed document should be available in the lab, signed, and dated on a yearly basis.

4. **Support Areas** (i.e. Engineering and Facilities, Grounds Maintenance, Housekeeping, etc.):
   - In University support areas:
     Supervisors are required to review the Engineering and Facilities Policy #119.00, Personal Safety Items and Safe Working Habits, with all employees. All employees must sign and date this document and keep the document on file in his or her employee folder.
In Hospital support areas:
Supervisors are required to review Procedure 54, *Employee Safety and Personal Protective Equipment*. Supervisors must complete Appendix I of this policy, the PPE Hazard Assessment Certification Form and review it with employees. All employees must sign and date this document and keep the document on file in his or her employee folder.

These documents must be readily available in the work area and supervisors must be able to produce them if asked.
The following list of procedures is meant to be the basis for a department/patient care units orientation concerning the use of personal protective equipment. However, it is not meant to be all inclusive for every department/patient care unit and must be supplemented for those special procedures carried out in that department/unit. This list is intended to cover personal protective equipment only and does not exclude the wearing of further barriers for protection of the patient. This document is designed to comply with OSHA 29 CFR 1910.132, Personal Protective Equipment Standard.

PPE Definitions

**Gloves:** Hand (wrist and forearm) covering sufficient to cover skin that will be in contact with blood, body fluids, mucous membranes, or non-intact skin.

**Gown:** Impervious gown sufficient to cover skin or clothing which has potential for contact with blood, body fluids, mucous membrane, or non-intact skin.

**Full Face Protection:** Impervious mask with attached shield, impervious mask with goggles, impervious mask with eyewear with side protection, full face shield.

Please consult with your nurse manager/supervisor for specific procedures and the appropriate PPE selection.

<table>
<thead>
<tr>
<th>Check if Applicable</th>
<th>Procedure</th>
<th>Gloves</th>
<th>Gown</th>
<th>Full Face Protection</th>
<th>Eye Wash Station / Shower Required</th>
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</thead>
<tbody>
<tr>
<td>□</td>
<td>1. Performance of intravascular procedures including venipunctures, arterial and capillary sticks, flushing, and manipulation of intravenous catheters in order to obtain blood.</td>
<td>Y</td>
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<td>2. Flushing intravenous line when meeting any resistance.</td>
<td>Y</td>
<td>Y</td>
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<td>3. Placement of arterial line and/or manipulation of any line under pressure.</td>
<td>Y</td>
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<td>4. Assisting with or performance of procedures in which a sharp instrument is used to manipulate tissue, including, but not limited to the following:</td>
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<td>Debridement</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
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<td>□</td>
<td>Removal of eschar</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td></td>
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<tr>
<td>□</td>
<td>Incision and Drainage</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td></td>
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<td>□</td>
<td>Suturing Lacerations</td>
<td></td>
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<td>□</td>
<td>Small without bleeding</td>
<td>Y</td>
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<tr>
<td>Check if Applicable</td>
<td>Procedure</td>
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<td></td>
<td>Large with possibility of bleeding</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
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<td></td>
<td>5. Assisting with or performing insertion of devices or catheters into a body cavity in which potentially infectious body fluids are encountered (e.g. central venous lines, paracentesis, sigmoidoscopy, bronchoscopy, NG tube insertion, etc.) Exception: Indwelling urinary catheters.</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td></td>
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</tbody>
</table>
|                     | 6. Performing or assisting in procedures in which tissue is irrigated:  
  If shielded device is used | Y      |      |                      |                                  |
|                     | If small irrigation | Y      |      |                      |                                  |
|                     | If large area or irrigation or irrigation is under pressure | Y      | Y    | Y                    |                                  |
|                     | 7. Personnel at “field” in the operating suites, delivery rooms, or special procedure rooms.  
  Note: Impervious boots and leggings if massive amounts of body fluids are anticipated. | Y      | Y    | Y                    |                                  |
|                     | 8. Performing vaginal or rectal exams  
  Note: Glove cuffs must cover hands, wrist, and forearm that may touch lining of vaginal cavity. | Y      |      |                      |                                  |
|                     | 9. Handling newborns before or during first bath. | Y      |      |                      |                                  |
|                     | 10. Intubation and extubation of patients | Y      |      |                      |                                  |
|                     | 11. Performing oral suctioning or administering mouth care | Y      |      |                      |                                  |
|                     | 12. Performing open tracheal, endotracheal, or nasotracheal suctioning. | Y      |      |                      |                                  |
|                     | 13. Manipulation of tracheotomy or therapy performed on patient with tracheotomy in which provider is in direct line of tracheotomy | Y      |      |                      |                                  |
|                     | 14. Manipulating containers that contain body fluids  
  Small volumes that do not produce splashing (e.g. urinary drainage bags, emesis basins) | Y      |      |                      |                                  |
<p>|                     | Large volumes that may produce splashing | Y      | Y    | Y                    |                                  |</p>
<table>
<thead>
<tr>
<th>Check if Applicable</th>
<th>Procedure</th>
<th>Gloves</th>
<th>Gown</th>
<th>Full Face Protection</th>
<th>Eye Wash Station / Shower Required</th>
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<tr>
<td>□</td>
<td>15. Dressing changes: Use of PPE varies according to size of wound, amount of drainage, type of dressing used, cleaning procedure used and cooperation of the patient. Ranges from use of gloves only to gloves, gown, and full face protection.</td>
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<td>□</td>
<td>16. Assisting with treatment of trauma or other patient in which blood is freely present in the work area. Note: May require impervious boots and leggings also.</td>
<td></td>
<td>Y</td>
<td>Y</td>
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<td>17. Collecting, preparing, and testing specimens. (All specimens are to be brought out of room and transported in leakproof containers with biohazard label provided in all areas.)</td>
<td></td>
<td>Y</td>
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<td></td>
<td>(unless further PPE needed with above procedures)</td>
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<tr>
<td>□</td>
<td>18. Cleaning contaminated equipment: Wiping small equipment with disinfectant</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>□</td>
<td>Wiping large equipment with disinfectant</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>□</td>
<td>If brushes or pressurized liquid used in process</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>□</td>
<td>19. Handling of all dirty laundry and contaminated waste (may need to add gown if possibility of touching clothing)</td>
<td></td>
<td>Y</td>
<td></td>
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<tr>
<td>□</td>
<td>20. Bathing, toileting, feeding when mucous membrane, non-intact skin, and/or obvious soiling with body fluids is encountered.</td>
<td></td>
<td>Y</td>
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<td>□</td>
<td>21. Administration of enema or vaginal douche; Colostomy/Ileostomy care</td>
<td></td>
<td>Y</td>
<td></td>
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<tr>
<td>□</td>
<td>22. Administering blood or blood products</td>
<td></td>
<td>Y</td>
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<td>□</td>
<td>23. Any other procedure or assistance with any other procedure where the potential for splashing of blood or other body fluids exists.</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
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<td>□</td>
<td>24. Working with, mixing Glutaraldehyde</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
</tr>
</tbody>
</table>
### Clinical PPE Selection Certification

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Gloves</th>
<th>Gown</th>
<th>Full Face Protection</th>
<th>Eye Wash Station / Shower Required</th>
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</thead>
<tbody>
<tr>
<td>25. Handling, disposing, transporting, and transferring of hazardous chemicals (Refer to the MSDS for chemicals requiring additional PPE)</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
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</tbody>
</table>

By signing below I understand that the above personal protective equipment is to be worn during the applicable procedures. I know how to use the equipment. I can demonstrate how to access a MSDS.

______________________________  __________________________
Employee Name (Print Legibly)          Date

______________________________  __________________________
Employee Signature              Clinical Unit/Area

Adapted from Infection Prevention and Control by Occupational Safety and Health Program
Outlined below are the minimum requirements to which all employees, students, volunteers, and visitors must adhere when working in a laboratory at MUSC. Principal Investigators are responsible for performing a hazard assessment of their laboratory(s), reviewing the content of this document with their lab workers, training them on all safety procedures, providing necessary personal protective equipment, and enforcing safety precautions. This document is designed to comply with OSHA 29 CFR 1910.132 (d)(2), Personal Protective Equipment Standard.

LABORATORY SAFETY TRAINING
The following safety training has been completed:

☐ MUSC’s OSHA training on the online CATTs
☐ MUSC’s online training for Shipping of Dangerous Goods (if applicable)
   (Dangerous Goods include dry ice, infectious human materials, infectious agents, formaldehyde, etc.)
☐ Training on lab-specific equipment and processes
☐ Additional outside certifications received (if applicable)
   List: ________________________________________________________________________________

DOCUMENTS & SOPS
The following documents have been reviewed and the trainee knows where to access them:

☐ Material Safety Data Sheets (MSDS) for chemicals used and stored in the lab
☐ MUSC Chemical Hygiene Plan
☐ Bloodborne Pathogen Exposure Control Plan (if working with human source material)
☐ Lab-specific standard operating procedures (SOPs)

LAB PRACTICES AND PPE
The following practices and required PPE have been reviewed with the trainee:

☐ Eating and drinking and storage of food and drinks are prohibited in lab.
☐ Long pants (or clothing that extends to the ankles) and closed toed shoes must be worn in the lab.
☐ Lab coats and gloves must be worn when working in the lab.
☐ Additional PPE such as safety glasses, face shields, chemical resistant gloves, etc.
   List: ________________________________________________________________________________
☐ Workers required to wear respirators have been cleared by occupational or student health services and have been fit-tested annually (if applicable).

STORAGE AND DISPOSAL
The following have been reviewed with the trainee:

☐ Proper chemical storage, labeling, and handling procedures
☐ Chemical and biological waste procedures
☐ Sharps handling and disposal
☐ Surface decontamination procedures after work with biologicals
EMERGENCY PROCEDURES
The trainee knows the location of the following emergency equipment in the lab:

☐ Emergency eyewash and shower
☐ Fire extinguisher and pull stations
☐ First aid kit

The trainee can articulate actions to take in the following emergency events:

☐ Accidental exposure to a chemical or biological agent
☐ Where to seek follow-up medical attention
☐ Response actions to a chemical and biological spill

LABORATORY EQUIPMENT
The trainee has been oriented on the proper use, maintenance, and limitations of the following equipment:

☐ Fume hood  ☐ Biosafety cabinet  ☐ Autoclave  ☐ Centrifuge  ☐ Lasers
☐ Compressed gas  ☐ Emergency eyewash and shower

Other (list) ________________________________________________________

LAB-SPECIFIC HAZARDS
Precautions to take when handling the following have been reviewed:

☐ Hazardous chemicals
☐ Biologicals
☐ Radioactive materials  ☐ Dosimeter Required (Contact Radiation Safety at 792-4255 to determine if required)

☐ Other lab-specific high risk processes & precautions taken
Explain:_________________________________________________________________________________________

____________________________________________________

SIGNATURES
I ________________________________ (employee/student/volunteer/visitor) certify that I have been oriented and trained on all of the above items in the laboratory. I understand that I must adhere to all safety precautions.
Signature:_____________________________________________ Date:_____________________________________

I ________________________________ (PI) certify that I have performed a hazard assessment of my area and have trained all workers in my lab on the above items. I understand that it is my responsibility to enforce all safety precautions.
Signature:_____________________________________________ Date:_____________________________________

Contact MUSC’s Occupational Safety and Health Program with any questions.
### Laboratory Safety Certification Statement

**SUPPLEMENTAL LIST OF LAB WORKERS TRAINED**

I (employee/student/volunteer/visitor) certify that I have been oriented and trained on all of the above items in the laboratory. I understand that I must adhere to all safety precautions.

<table>
<thead>
<tr>
<th>Name</th>
<th>Signature</th>
<th>Date</th>
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I ______________________________________ (PI) certify that I have performed a hazard assessment of my area and have trained all workers in my lab on the above items. I understand that it is my responsibility to enforce all safety precautions.

PI Signature:_________________________________________ Date:_____________________________________

Contact MUSC’s Occupational Safety and Health Program with any questions.