

UNIVERSITY OF PITTSBURGH MEDICAL CENTER

**DEPARTMENT OF PATHOLOGY
UPMC Presbyterian Shadyside**

LABORATORY SAFETY MANUAL

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**UPMC PRESBYTERIAN SHADYSIDE
PATHOLOGY DEPARTMENT LABORATORIES**

- AP Molecular
- Automated Testing
- Autopsy
- Blood Bank (Transfusion Service)
- Cytology
- Electron Microscopy
- Frozen Section Labs
- Histology/Immunocytochemistry
- Immunopathology
- IMCPL Lab
- In Situ Hybridization
- Laboratory Support Services
- Medical Transcription AP
- Microbiology
- Molecular Diagnostics
- Ophthalmic Microbiology
- Phlebotomy (MUH)

Shadyside Labs
Shared Services
Special Chemistry
Special Hematology
Specimen Processing
Surgical Pathology
Tissue Typing
Virology

UPMC EMERGENCY TELEPHONE NUMBERS

Location Dependent Numbers

Location	Fire Emergency	Employee Injury or Illness	Chemical Emergency	Security Department
Presbyterian Hospital	7-3131	7-3131	7-6409	7-3191
Montefiore Hospital	7-3131	7-3131	7-6409	8-2555
Falk Clinic	7-3131	7-3131	7-6409	7-3191
Eye and Ear Institute	7-3131	7-3131	7-6409	7-8004
CLSI-Children's Hospital Main Tower	185-5151	7-3131	185-5813 Offshift: 185-5325	185-5191
Scaife Hall	7-3131	7-3131	7-6409	8-9256
Biomedical Science Tower	8-2555	8-2555	7-6409	8-2555
Shadyside	623-3131	623-3131	7-6409	623-2990

Non-location Dependent Numbers

UPMC Emergency Room	647-3333
Environmental Health and Safety Office	647-6409
Work Partners Oakland Office	647-3695
Radiation Emergency	624-2728
Needle Stick Hotline	647-7000
Infection Control	692-2566

UPMC SAFETY POLICIES

(All policies are contained in the UPMC Policy and Procedure Manual and are available on the web at <http://www.upmc.edu>)

Security/Safety

This policy is now EC-200 of the merged UPMC Presbyterian Shadyside manual. Formerly UPMC Presbyterian Policy No. 3503.

Safety Management Program

This policy is now EC-100 of the merged UPMC Presbyterian Shadyside manual. Formerly UPMC Presbyterian Policy No. 3502.

Written Hazard Communication Program

This policy is now EC-500 of the merged UPMC Presbyterian Shadyside manual. Formerly UPMC Presbyterian Policy No. 3506.

Fire Response Procedure

This policy is now EC-400 of the merged UPMC Presbyterian Shadyside manual. Formerly UPMC Presbyterian Policy No. 3509.

Respiratory Protection Program

This policy is now EC-101 of the merged UPMC Presbyterian Shadyside manual. Formerly UPMC Presbyterian Policy No. 3517.

Lockout/Tagout Program

This policy is now EC-102 of the merged UPMC Presbyterian Shadyside manual. Formerly UPMC Presbyterian Policy No. 3518.

Laboratory Safety

This policy is now EC-501 of the merged UPMC Presbyterian Shadyside manual. Formerly UPMC Presbyterian Policy No. 3519.

Waste Management Plan

This policy is now EC-502 of the merged UPMC Presbyterian Shadyside manual. Formerly UPMC Presbyterian Policy No. 3521. Also refer to System Policy HS-FM0208.

Use of Radio Transmitting Devices

This policy is now EC-302 of the merged UPMC Presbyterian Shadyside manual. Formerly UPMC Presbyterian Policy No. 3535.

Guidelines for Handling Sharps

This policy is now IC-02 of the merged UPMC Presbyterian Shadyside manual. Formerly UPMC Presbyterian Policy No. 3514.

UPMC SAFETY POLICIES (cont.)

OSHA Bloodborne Pathogens Standard Exposure Control Plan

This policy is now Health System Policy HS-IC0604.

Tuberculosis Exposure Control Plan

This policy is now IC-06 of the merged UPMC Presbyterian Shadyside manual.
Formerly UPMC Presbyterian Policy No. 3522.

WORK AREA SAFETY GUIDELINES

A. Dress Guidelines

1. Street clothes with a white or a blue lab coat are required. Street clothes should not be too casual in fashion and fit appropriately. Street clothes are limited to long pants, skirts, blouses, shirts, sweaters or dresses.
2. A uniform style scrub suit with a lab coat is permitted as an alternative to street clothes. Scrub suits are to be provided and laundered by the employee when not required by hospital policy. Scrub suits are not considered appropriate attire for support staff working in office/administrative areas.
3. Lab coats must be white or blue and will be provided and laundered by UPMC for all employees. Lab coats must be worn and buttoned at all times when in the laboratory area.
4. All jewelry and neckwear that could pose a hazard to the employee or instrumentation is prohibited.
5. Hair and beards must be worn in a manner that does not pose a hazard to the employee or instrumentation.
6. Hosiery or socks must be worn at all times.
7. Footwear must be leather-like and fully enclosed at all times. Predominantly white or black athletic shoes, with matching laces are permitted. High top athletic shoes or boots are acceptable only underneath pants. The following footwear is not acceptable: sandals, canvas shoes, loosely woven shoes, or shoes with an open toe or heel.
8. In accordance with UPMC policy #HS-HR0714, employee identification badges must be worn and visible at all times while within medical center facilities. Employees are not permitted to augment or deface the identification badge in any manner including the use of pins or stickers.

B.

General Work Practices

1. Eating, drinking, smoking, application of cosmetics, perfume or lip balm, the brushing of teeth and insertion and removal of contact lenses are strictly prohibited in all laboratory areas. The application or administration of medication is also prohibited.
2. Thoroughly wash hands with soap and water before leaving the laboratory area, between patient contact and after glove removal. Open cuts or broken skin must be covered, especially on hands or other exposed body parts.
3. Storage of food, drink and any other consumable items are strictly prohibited in refrigerators and freezers that are designated for biologicals or are located in any laboratory area.
4. Personal articles must be kept away from biohazardous materials in all work areas.
5. Laboratory areas must be kept as neat as possible. Doorways must remain unobstructed and floor space and aisles must be kept clear of supplies and trash to avoid tripping accidents.
6. Remove broken chairs or equipment from the work area until repairs have been made.
7. Spills on floors and countertops should be cleaned up immediately to avoid slipping accidents. Refer to the Spill Cleanup procedures in Section IX of the UPMC Chemical Hygiene Plan for chemical spills and Appendix 3 for spills of blood or other biohazardous material.
8. All areas are to be cleaned with an appropriate disinfectant at midshift and at the end of each shift. A 1:10 dilution of household bleach and water is recommended.
9. Mouth pipetting is **strictly** prohibited.

C. **Identification and Signage**

1. Hazards in all work areas must be clearly labeled and signs must be posted to identify the nature of the hazard (e.g. biohazard, chemical, radiation, etc.).
2. Signs must be posted to designate areas of no smoking, eating and drinking.
3. Refrigerators that are designated as a biological or chemical storage area must be identified. Labels and signs must instruct that no food or drink is stored in the refrigerators. Refrigerators that are used for chemical storage must also have a sign attached stating that it is explosion proof.
4. Chemical storage cabinets must be identified and labeled.
5. The Chemical Spill Procedure must be posted near spill kits. Spill kits must be inspected and initialed monthly.
6. Fire evacuation maps with primary and secondary escape routes must be posted in each work area.
7. Fluorescent emergency number stickers must be posted on all telephones. Stickers may be obtained by calling the Telecommunications Department at 647-2003.

OFFICE SAFETY

A. Equipment:

1. Typewriters and other electrical equipment (computers, printers) must be grounded.
2. Keep fingers and/or objects away from the running machinery (printers, typewriter, fans).
3. Keep food and drink away from electrical equipment.
4. Electrical cords must be placed outside of walk ways.
5. When possible, shut off all equipment when not in use.
6. Close all file drawers when not in use.
7. Keep step-stools away from walking areas.

B. Personal Safety:

Biohazardous and other potentially infectious materials may be mistakenly delivered to a laboratory's office area instead of the laboratory itself. The following guidelines are intended for office personnel who may not have formal laboratory training.

1. Wash hands after all contact with body tissue or fluid specimens.
2. Do not accept requisitions with blood or tissue on them without wearing latex examination gloves. Whenever possible, ask the delivery person to take the requisitions directly to the laboratory.
3. Do not accept leaking packages when the label indicates that the package contains biological specimens without wearing latex examination gloves. Whenever possible, ask the delivery person to take the package directly to the laboratory.

EQUIPMENT PRECAUTIONS

There are several types of equipment used within the Pathology Laboratories that present significant mechanical hazards when in use. Such tools are not to be used without taking the precautions stated in this section. Serious injuries from the use of mechanical equipment may occur rapidly. Such accidents are usually due to less than a second of careless activity, which is far faster than our reaction time to avoid them.

A. General

1. Instrumentation that has been contaminated with a chemical or biohazardous material must be decontaminated.
2. Equipment must be disinfected prior to transportation or return for repair.

B. Band Saws and Hand Saws

1. Do not support object to be cut with your hands.
2. Wear protective eye goggles and/or face shields when cutting with band saws.
3. Always make cuts with hand-held saws in a direction that moves away from your body.
4. In cases where guards exist on equipment, never operate without guard in place.

C. Scalpels, Razor Blades, Knives

1. Always cut in a direction away from your body. If you must support the object you are cutting with your hand, always cut in a direction away from that hand using forceps for support.
2. Do not leave sharp edges exposed when not in use. Do not leave unattended scalpels on laboratory benches.
3. Used scalpels, razor blades and needles are to be discarded in approved sharps container. Containers should be removed when they are 3/4 full to avoid sharps bouncing back out of the container. Notify UPMC Environmental Support Services (647-3370) when containers are full.
4. Use knife guards on ends of microtome knives when cutting. Transport microtome knives in their original containers.

D. **Centrifuges and Rotating Devices:**

1. Never operate a centrifuge with the lid open. Wait until a centrifuge is completely stopped before opening the lid and removing specimens.
2. Be sure that all instruments and articles of clothing are clear of all parts before operating any rotating devices.
3. Be sure centrifuges and rotators are balanced before operating. Never continue to operate such equipment if it does not appear to be balanced.

BIOHAZARD SAFETY

Implementation of the Exposure Control Plan

The UPMC Health System has a set standard and policy (UPMC Policy HS-IC0604) to limit or prevent occupational exposure to blood or other potentially infectious materials. The exposure plan is in compliance with the Occupational Safety and Health Administration's (OSHA) Standard on Bloodborne Pathogens. This policy applies to any staff member who has reasonable anticipation of an occupational exposure. The effective date of this standard was March 6, 1992.

The OSHA Standard on Bloodborne Pathogens includes five areas of compliance: 1) Universal Precautions, 2) work practice controls, 3) use of personal protective equipment, 4) housekeeping and 5) compliance monitoring. Strict adherence to the OSHA and UPMC standards will help ensure the safety of all patients, visitors and staff.

The following sections will outline specific implementation of the Exposure Control Plan. Non-compliance is not only risky, but it is also subject to disciplinary action.

Applicable OSHA definitions

Bloodborne Pathogen - microorganisms that may be present in human blood and can cause disease in humans. The pathogens include but are not limited to Hepatitis B virus (HBV) and human immunodeficiency virus (HIV).

Contaminated - the presence or reasonably anticipated presence of blood or other potentially infectious materials on an item or surface.

Contaminated Sharps - any contaminated object that can penetrate the skin including, but not limited to needles, scalpels, broken glass, broken capillary tubes, and exposed ends of dental wires.

Exposure Incident - a specific eye, mouth, other mucous membrane, non-intact skin, or parenteral contact with blood or other potentially infectious materials.

Occupational Exposure - any reasonably anticipated skin, eye, mucous membrane, or parenteral (intravenous, subcutaneous, intramuscular) contact with blood or other potentially infectious materials that may result from the performance of an employee's duties.

Other Potentially Infectious Materials:

1. Human body fluids including: semen, vaginal secretions, cerebrospinal fluid, pleural fluid, synovial fluid, pericardial fluid, peritoneal fluid, amniotic fluid, saliva in dental procedures, any body fluid that is visibly contaminated with blood, and all body fluids in situations where it is difficult or impossible to differentiate between body fluids.
2. Any unfixed tissue or organ (living or dead); and
3. HIV-containing cell or tissue cultures, organ cultures, and HIV or HBV containing culture medium or other solutions; and blood organs, or other tissue from experimental animals infected with HIV or HBV.

Standard Precautions - an approach to infection control. According to the concept of Standard Precautions, all human blood, certain human body fluids and cultures containing a pathogenic infectious agent are treated as if known to be infectious for HIV, HBV, and other bloodborne pathogens.

Personal Protective Equipment - specialized clothing or equipment worn by an employee for protection against a hazard, including lab coats, face shields, gloves, etc. General work clothes (e.g. uniforms, including scrubs, pants, shirts, and blouses) not intended to function as protection against a hazard are not considered to be personal protective equipment.

Standard Precautions

A. Hands

1. Hands must be washed between patient contact. Hands must also be washed as soon as feasible after removal of gloves or other personal protective equipment.
2. It is mandatory that all laboratory workers wear gloves to handle all human and animal specimens.
3. It is mandatory that gloves be worn during all venipuncture activity. Gloves must fit so that dexterity is not impeded.

4. Gloves must be changed between each patient contact, or when becoming contaminated, torn, punctured, or when barrier function is compromised.
5. Disposable gloves (single use) are never to be washed or decontaminated for reuse.
6. All open wounds including abraded or active dermatitis, lesions, or cuts, must be covered prior to gloving.

B. Gowns and Lab Coats

1. Impervious or fluid resistant gowns are to be available. The use of fluid resistant gowns is at the discretion of each individual department. Under the terms of OSHA, any material can be used provided that it does not permit blood or other potentially infectious materials to pass through. If the anticipated concentration of these substances is not expected to pass through the protective clothing then any cloth material would be appropriate. If a heavy concentration of these materials is expected, protective clothing which offers greater resistance would be used, such as a plasticized material or its equivalent. Fabric lab coats are sufficient for most routine lab procedures.
2. Gowns and lab coats that become soiled or contaminated must be changed as soon as possible.
3. In the case that lab coats are used as personal protective equipment, which will include most lab personnel, the lab coats **MUST NOT LEAVE THE FACILITY** for cleaning. Departments must introduce and implement guidelines for maintenance of all lab coats.
4. Long sleeve lab coats must be buttoned when worn. Long coats are preferred but not necessary if related work does not include full exposure, such as someone who routinely sits at a bench instead of standing.
5. Short sleeve lab coats are satisfactory for messengers only.

C. Face

1. Face protection includes full face shields, or bench shield. Face protection must be used whenever there is a possibility of a splash (including aerosolization) either by blood or other potentially infectious materials. The use of face shields for contact with the patient is optional.
2. Face masks must be worn whenever there is contact with any patient who is neutropenic, or is infectious with any airborne disease such as, but not limited to, tuberculosis.

3. Splattered goggles must be disinfected with a 1:10 solution of household bleach and water and then washed and dried thoroughly with soap and water.
4. Personal eye glasses are not a substitute for goggles.
5. Contact lens use is discouraged if there exists potential for splash exposure.

Note:

Initial and annual training sessions pertaining to Standard Precautions is the responsibility of the Administrative Director. There must be written documentation of these sessions.

Employees who refuse to comply with the Standard Precautions policy must be counseled and disciplinary action may be initiated following the progressive discipline policy (Policy 5820).

D. Personal Protective Equipment

1. Necessary personal protective equipment shall be provided and maintained by the employer free of charge. Maintenance will include cleaning, disposal, repair and replacement.
2. Only protective equipment that protects employee's clothes, skin, eyes, mouth, or other mucous membranes will be provided.
3. The employer will assure accessibility to all necessary equipment.
4. Alternate gloves will be provided to those who have allergies to gloves normally provided.
5. Each department is responsible for establishing maintenance mechanisms for the personal protective equipment in their areas.

E. **Laboratory Hygiene**

1. The work area is to be kept clean and sanitary. The laboratory will be cleaned on a regularly scheduled basis.
2. Eyewash and hand washing stations must be accessible, sanitary, labeled and in working condition.
3. All equipment and work surfaces that have contact with blood or other potentially infectious materials should be decontaminated with a 1:10 solution of household bleach and water or other suitable/approved disinfectant solution. Surfaces should be cleaned at the completion of procedures, after each shift, and immediately in the case of contamination or a spill.
4. Any receptacle intended for reuse that has contact with blood or other potentially infectious materials should be inspected regularly and decontaminated as per written procedure.

F. **Compliance Monitoring**

1. Any staff member who experiences an accident or exposure should promptly report the incident to his/her immediate supervisor. The supervisor will complete an Employee Incident Report form and refer the staff member to either the Work Partners Office or the UPMC emergency room.
2. Following Work Partners Office review and recommendation, the report will be referred to the employee's department head for follow-up.
3. Monitoring of exposure incidents within each department should be included in the departmental Quality Improvement Program.
4. The Work Partners Office will monitor all exposure incidents. This information will be forwarded to the Safety Committee, who makes recommendations concerning policies and procedures.
5. The Work Partners Office will maintain records on all exposure incidents. Staff may have access to these records at any time during normal working hours.

SPECIMEN COLLECTION

A. Patient Contact

1. Clothes must be clean, hands must be washed and new gloves must be worn prior to all patient contact.
2. The dress code should be adhered to so that jewelry, clothes or hair do not touch the patient.
3. All equipment used for specimen collection should be clean (or sterile when applicable).
4. Any item that becomes contaminated with blood or other potentially infectious materials should be discarded, if disposable. Non-disposable items must be disinfected prior to re-use.

B. Venipuncture

1. Only sterile disposable needles may be used.
2. Needles are to remain capped until just prior to use.
3. **Needles are never to be re-used.**
4. **Needles are to be discarded immediately** after specimen collection in an appropriate sharps container that is provided in all patient rooms and units and beside all phlebotomy chairs.
5. **Needles should not be recapped unless absolutely necessary.** The only acceptable method is the one handed scoop method, which should be used only after proper training. Secure cap at bottom next to barrel, not from the top. There have been incidences of needles puncturing the cap.
6. **Needles, clean or used, should never be left in any patient room** unless in a sharps container.

C. **Collection of non-blood sample in outpatient lab areas**

1. All specimen collection containers must be leak-proof.
2. Inspect container for any sign of damage to before use.
3. All specimen containers are to be properly and clearly labeled on the side of container instead of on the lid before collection. Proper identification of the patient must be done prior to specimen collection.
4. Patients must be given complete instructions for collection, including instructions to close or cap container, and the appropriate area to deposit sample when collected.
5. After collection by the patient, the staff member must inspect the specimen to ensure integrity. Check to ensure that:
 - a. Seal is complete.
 - b. Proper collection of specimen type must match requisition or computer label.
 - c. The specimen is not leaking or shows any sign of contamination on the outside of the container. If contamination exists, transfer the specimen to another container when possible.
6. Only specimens in sealed plastic bags may be transported.

D. **Surgical specimen collection for pick-up**

1. Any employee entering the Operating Room to obtain a surgical specimen must be dressed appropriately. Proceed to the OR desk and ask staff for instructions.
2. Any specimen found to be leaking or improperly bagged is not to be picked up until the condition is improved. Surgical specimens may not be transferred into other containers. Specimens or requisitions with visible

contamination are unacceptable and will not be transported until the container is cleaned or a new requisition is sent.

3. Surgical specimens submitted to the laboratory must conform to UPMC Policy 3514, Guidelines for Handling Sharps, (see the UPMC Policy and Procedure Manual or Appendix 6 of this manual). All specimens received in the laboratory that do not conform to these guidelines must be rejected and disposed of according to the same guideline.

SHIPPING SPECIMENS FOR DIAGNOSTIC PURPOSES BY MAIL

A. General

All specimens sent to any outside facility must be packaged appropriately for the safety of all those who are involved with specimen handling. This is to ensure the safe transport of all body fluids and tissue that is shipped for the purpose of diagnosis. Several express mail services, such as the United Parcel Service and Federal Express Corporation, have established that specimens sent via their organizations must be packaged according to the following directions. If these guidelines are followed, the chance for accidental exposure is minimal.

1. Place specimen in a watertight primary receptacle. The specimens should be free of contaminants in a sealed, leakproof plastic container. The container should be properly labeled with the patient's name, medical record or social security number and specimen type.
2. Place the primary receptacle in a watertight secondary package such as a shipping can, sealed styrofoam container or sealed plastic bag.
3. Adequate packing materials are to be used to cushion specimen when placed in outside container. Place an absorbent material (paper towels, cotton balls, superabsorbent packet or cellulose wadding) between the primary receptacle and the secondary packaging. If multiple primary receptacles are placed into secondary packaging, they must be wrapped individually to prevent contact between them. The absorbent material must be adequate to absorb the entire contents of all primary receptacles. Ensuring that sufficient absorbent material is used is the responsibility of the shipper.
4. Place all receptacles in sturdy outside packaging constructed of corrugated fiberboard, metal, rigid plastic or wood. Plastic bags and paper envelopes are **UNACCEPTABLE** outer packaging. A label clearly identifying the destination must be placed on the outer container. This should also have the return address and identify the individual sending the package.

5. A requisition or letter of explanation must accompany the specimen and should be placed inside the shipping carton.
6. Affix a biohazard label on the outer container.

B. **Frozen Specimens**

1. If possible, the specimen should be frozen when packaged.
2. Dry ice should be used in an adequate volume (10:1 ratio) to keep the specimen frozen.

Caution: Dry ice will cause burns to the skin. Always use gloves with proper insulation and never touch dry ice with bare hands.

3. The shipping container should be large enough to allow for the size of the container carrying the specimen, plus expansion. Provide small vent holes in the outer shipping box for the release of CO₂ gas that is a by-product of the dry ice as it evaporates.

Caution: The outer shipping box should not be air tight when sealed.

4. Label the carton "freeze upon arrival."
5. Fill out the courier forms completely. The information should include the name of the person sending the specimen, its destination and the name of a contact person.
6. Affix a biohazard label to the package and indicate the package weight and that the specimen is being shipped in dry ice.

SPECIMEN TRANSPORT

Specimens must always be transported in a manner that ensures the safety of staff, patients, and visitors. Care must also be taken to ensure that the integrity of each specimen has not been compromised.

A. Specimen

1. All specimens to be transported should be tightly capped in leak proof containers.
2. Specimens are to be sealed in plastic bags and carried in an appropriately labeled biohazard transport bag. Biohazard labels must be affixed on the outside of the plastic bags that contain the specimens if leaving the facility.
3. Glass containers or tubes must be transported in support racks or in sturdy specimen baskets.
4. Specimens are to be transported in syringes only if protection has been provided against accidental ejection of specimen and the needle has been removed and replaced with a tightly fitting cap. While removal of the needle is preferred in all cases, an exception to this policy exists for microbiology specimens where concerns for extremely small sample size (rarely), sterility and anaerobiosis must be satisfied. Specimens received for culture in syringes that have the needle attached and covered with a durable sheath are acceptable and should be transported to the Microbiology Laboratory in that condition. Refer to the Microbiology Procedure Manual for more detailed directions on how to process these specimens in the laboratory.
5. Specimens transported in any type of fixative must have appropriate chemical labeling (per MSDS sheets) affixed to the container.

B. **Personnel**

1. All transport personnel must wear latex exam gloves to pick up all human or animal specimens.
2. Gloves must be discarded after each use. **GLOVES MUST NOT BE WORN ON EITHER HAND WHILE WALKING THROUGH ANY AREA IN THE FACILITY UNLESS PHYSICALLY HANDLING SPECIMENS.** This will minimize transfer of organisms to doors or elevators.
3. **Never carry specimens (regardless of the manner packed) into any eating area, gift shop, store or restaurant.**
4. Never carry specimens through a patient or visitor area unnecessarily.

C. **Pneumatic Tube System**

The Pneumatic tube system has been established for rapid transportation of patient specimens throughout the medical center. Please refer to Appendix 5 of this manual for complete instructions on the proper use of the pneumatic tube system.

**ACCIDENTS & SPILLS OF BLOOD AND OTHER
POTENTIALLY HAZARDOUS MATERIALS**

Immediate action to be taken:

- a. Clear area.
- b. Assess type of spill and type of hazard.
- c. Shut down air conditioning (where possible) using discretion, depending upon the size and type of spill.
- d. Notify supervisor.
- e. Determine effective clean-up process and decontamination. Complete directions for handling chemical spills is contained in Section IX of the UPMC Chemical Hygiene Plan which can be found in Appendix 1 of this manual. Complete directions for handling spills of blood and other biohazardous material can be found in Appendix 3 of this manual.

BIOHAZARD MATERIAL DISCARD

The following guidelines should be followed to be in compliance with all standards regarding the disposal of biohazard waste. If a situation should arise that is not covered contact the office of Environmental Health and Safety.

A. **Specimens**

1. Organs and Tissues (Surgical and Autopsy patients) Solid materials such as organs, tissues (fixed and unfixed) and cells must be discarded in a doubled biohazard bag and incinerated. Any paper, containers, gloves, aprons and other items that come in contact with these solid materials must be disposed of in the same manner.
2. Body fluids
Refer to Infection Control Policy.
3. Culture material
All culture materials should be autoclaved at 121^o C for 15 minutes and then incinerated. If the materials are incinerated promptly, the autoclave step may be bypassed.

B. General

1. Discard all sharps (needles, razor blades, scalpels, etc.) that have come in contact with body tissue or fluids into specifically designated receptacles such as red bio-hazard sharps containers.
2. Broken glassware must be discarded into a properly marked container that is used exclusively for that purpose. If glassware has come into contact with biologicals it must be placed into a separate biohazard labeled container. The weight of broken glassware boxes must not exceed 35 pounds. Reinforce the bottoms of the containers with packing tape prior to use. Ensure that the tops are properly secured prior to disposal.

TRAINING REQUIREMENTS

All employees with occupational exposure must participate in a yearly training program at no cost and during working hours.

Training Requirements:

1. Training must occur within 30 days of assignment to the work area.
2. Yearly training, including additional training whenever changes in procedure occur that will affect employee's occupational exposure is required. The additional training will be limited only to new issues being addressed.
3. Training must be offered at a level that will be understood easily by all in attendance.
4. Training shall include at the minimum:
 - a. Information on where employees may obtain a copy of the written standards.
 - b. Location of the written exposure plan in each department.
 - c. An explanation of the bloodborne diseases including the modes of transmission.
 - d. An explanation of the methods that will prevent or reduce exposure including engineering controls, work practices, and personal protective equipment.
 - e. Information on the proper handling and selection of protective equipment including proper use, location, removal, handling, decontamination and disposal.
 - f. Information on Hepatitis B including, safety, administration, method of administration, benefits and charge (none).

- g. Information on the contact persons in case of an exposure incident, including methods of reporting and follow-up of procedures that will be available.
 - h. An explanation of the signs and labels and/or color coding required.
 - i. An opportunity for interactive questions and answers with the person conducting the training sessions. The person conducting the training must be knowledgeable in the subject matter and how it will relate to the specific workplace.
5. Additional training is required for personnel in HIV and HBV laboratories. It must include:
- a. Insurance of proficiency standards regarding microbiological practices and operation specific to the facility.
 - b. Insurance that the employee has prior experience in the handling of human pathogens or tissue cultures before working with HIV or HBV.

FIRE SAFETY

PREVENTIVE GUIDELINES

Fire safety involves prevention and control. It is the responsibility of all laboratory personnel to be alert and to help prevent the occurrence of fires. UPMC has developed policies and procedures to ensure that a continued effort is made to provide a work environment that is conscious of fire safety. Furthermore all employees must read the Fire Response Procedure in the UPMC Policy Manual (policy #3509).

The following are fire prevention guidelines:

1. **IGNITION SOURCES**

Do not locate or operate ignition sources such as flames, heating elements or motors near combustible liquids or gas cylinders. A source of ignition such as an electrical spark near flammable liquid vapors can result in a fire (flammable liquid vapors are heavier than air). If there is sufficient ventilation or air, there is less burnable vapor. For this reason storage areas and/or rooms must be adequately ventilated where volatile solvents are stored.

2. **FLAMMABLES**

- A. Flammable liquids must be stored in safety cans and in vented storage cabinets. In a single lab (not more than 5000 square feet) the following volume of flammables may be stored safely:
- 1) Up to 10 gallons may be stored on open shelves.
 - 2) Up to 20 gallons may be stored in safety cans.
 - 3) No more than 60 gallons is permitted in a vented safety cabinet depending on the capacity of the cabinet.
- B. Safety cans must be utilized in lieu of glass bottles for flammable solvents for volumes greater than 1 quart (944 ml.) and for volumes of highly volatile solvents greater than 1 pint (472 ml.), unless the purity requirement does not mandate glass storage. (CAP 01.1280).
- C. Bottle carriers must be used when transporting hazardous chemicals in glass containers that are larger than 500 ml.
- D. If flammables are stored in large drum containers, the secondary container must be grounded when flammables are decanted (CAP 01.1330).

- E. Flammable gas cylinders must be stored in a separate ventilated room or an enclosure reserved exclusively for that purpose and has a fire-resistance classification of at least two hours. Only one gas cylinder for each tank in use at a work station is permitted within the laboratory.
- F. Storage of flammable liquids is prohibited in any refrigerator that is not explosion proof and has a warning label "not for storage of flammable material".
- G. Flammable decorative items are prohibited.
- H. Absolutely NO SMOKING is permitted in laboratory areas. "NO SMOKING" signs must be posted in all laboratory work storage areas, adjacent corridors etc.
- I. Discard flammable waste materials into a designated waste can as soon as possible after use.

3. **EQUIPMENT**

- A. Do not use equipment with damaged or frayed electrical cords. If equipment "smells funny" or overheats or sparks, unplug it immediately and remove it from service.
- B. All equipment must have a free flow of air to maintain a safe operating temperature range.
 - 1) Do not block the fan on electrical equipment that is in operation.
 - 2) Do not pile material on top of electrical equipment.

4. **FIRE CONTROL**

- A. One each of the following must be stationed within 75 feet of all work areas:
 - 1) HALON or ABC, or CO₂ and Water Type Extinguishers
 - 2) Fire Blanket
 - 3) Chemical Spill Kits
 - 4) Ceiling Shower
- B. An orange emergency sticker (with correct emergency number) must be posted on every telephone in all areas.

- C. An updated evacuation route must be posted in all work areas. The evacuation routes must be free of obstructions and doors must be unlocked at all times.
- D. All employees must be familiar with the Fire Response Procedure and evacuation plan in the UPMC Policy Manual (Policy #3509).
- E. Bell code charts must be posted where applicable.

5. **MISCELLANEOUS**

- A. Permanent storage is prohibited in all hallways.
 - 1) Minimize trash and clutter in the halls by keeping boxes, bags and/or packing material confined within the department.
 - 2) Items may be temporarily stored in hallways, however, they must always be placed on one side of the hall. This is to facilitate fire prevention and access for rescue personnel.
 - 3) Flammable storage cabinets are not permitted in hallways or corridors.
- B. All rooms in which a major fire hazard exists must have direct and unimpeded access to the hall or secondary exit.
- C. Never block access to a fire alarm station, fire extinguisher, fire hose, fire blanket or exit doors.
- D. Never pile material closer than 18" from the ceiling or sprinkler head. It is the responsibility of personnel in any area to ensure that stored material does not impede the operation of the sprinkler system.

FIRE FIGHTING EQUIPMENT AND SAFETY DEVICES

All personnel must be familiar with fire evacuation routes and the location and operation of all safety equipment.

A. **Fire Extinguishers**

Be aware of the location of fire extinguishers in your area. The location will vary in each area. There are several types of extinguishers found in the hospital. They are all intended to extinguish small fires, but some have limited abilities. Extinguishers are labeled

according to type. An ABC labeled extinguisher is a multi-purpose dry chemical extinguisher which may be used on most types of fires (wood, paper, cloth, flammable liquids and electrical fires).

Fire Classification

Class A	Ordinary Combustibles	Fires in wood, textiles, paper, trash and upholstery require an extinguisher labeled A.
Class B	Flammable Liquids	Fires in fuel, oil, gasoline, paint, alcohol, solvents and other flammable liquids require an extinguisher labeled B.
Class C	Electrical Equipment	Fires started in wiring, overheated fuse boxes, conductors and other electrical sources require an extinguisher labeled C.
Class D	Metal	Certain metals such as magnesium, potassium and sodium require a special dry powder extinguisher labeled D.

Types of Extinguishers

Water Pressure Fire Extinguisher: For use on Class A fires

Silver colored tank with hose extending from valve assembly. Effective range is **20-30 feet** and lasts for 1 minute. Water cools the material to boiling point of water 212°F or 100°C.

CO2 (carbon dioxide) Fire Extinguisher: For use on Class B & C fires

Red colored tank with horn attached to valve assembly. Effective range is **3 to 8 feet** with a gas discharge that lasts 8-30 seconds. The gas displaces oxygen and cools the fire area.

Dry chemical Fire Extinguisher: For use on all fire types (A,B & C)

Red colored tank with hose and pressure tank connected to valve assembly (other colors are possible). Effective range is **10 feet** that lasts 20 seconds. Powder from the tank produces a cloud of dust. The powder must be directed to cover the burning fuel.

B. Fire Alarms

All employees must know the location of all manual pull alarm stations near their work area. Most alarms systems have red/white handles with raised letters and the words "Pull Down". The system is activated when the handle is pulled down and released. All occupants should react to any activation of the fire alarm (either for a fire or a fire drill) in

the proper location specific manner. Occupants will be notified when the fire alarm system tests are conducted. If you hear an unannounced fire warning and you are unsure of what to do, leave the building at once via the nearest evacuation route.

C. **Emergency Exits**

All employees must be familiar with the fire escape routes closest to your work area. All buildings usually have exit signs placed for two separate (primary & secondary) routes.

1. Evacuation plans must be posted near doors in every work area.
2. Do not use elevators, they will automatically be placed out of service. Use only the stairwells. Occupants should stay to the right of the stairwell, and exit in a calm and orderly manner to the ground level.
3. Evacuate the floor in which the fire is burning and one floor above and below the fire floor, or as specified by the fire marshall. These three floors are referred to as the **fire zone**.
4. Follow exit signs away from the fire area until you arrive at a designated meeting point outside the building. See appropriate building Fire Safety Policy.
5. The supervisor must check to ensure that all personnel have been evacuated. If a co-worker, patient or friend is missing, report it to your fire marshall or a fireman from the City of Pittsburgh.

D. **Fire Blanket**

Each lab must be equipped with a fire blanket. They are fireproof and are housed in a red wall case. The fire blanket can be used several ways:

1. Draped over a small fire to extinguish the flames.
2. To extinguish a fire on a burning person. Wrap the person with the blanket, place the person on the floor and roll the person until the flames are extinguished.
3. As a protective cover in escaping through an area blocked by fire.

E. **Fire Hoses**

Fire hoses are typically located near a stairwell and are used only on Class A fires. Fire hoses are provided for fire department personnel use. Fire hoses are not to be used by medical center staff members.

F. **"Halon" Fire Extinguishing System**

The flammable storage room (CLSI, Main Tower, Fifth floor - Room 5646) is equipped with a "Halon" fire extinguishing system. All personnel in that area should be familiar with the operation of this system, as described below:

1. The detectors in the Flammable Storage Room are heat sensitive.
2. When heat is detected, the alarm automatically sounds.
3. Personnel in the Flammable Storage Room have **10 seconds** to evacuate before the Halon is released.
4. The Halon system can be aborted by holding the ABORT button, which is located outside of the Flammable Storage Room. Continue to hold the button until the system is reset.
5. As the Halon is released, a warning alarm is continuously sounded to warn all personnel. This alarm is also received by the Pittsburgh Fire Department.

NOTE: DO NOT pull the fire alarm located outside of the Flammable Storage Room for a general fire. This alarm is to be used only in connection with the Flammable Storage Room.

G. **Fire Shutter**

There is a fire shutter located in Chemistry's Specimen Processing (CLSI, Main Tower area). When the fire alarm is activated this fire shutter automatically closes to decrease the flow of air into the laboratory.

Please keep this area clear of personnel or any objects that may interfere with the closing of this shutter.

H. **Smoke And Heat Detectors**

Heat detectors monitor heat and respond to rapid changes in temperatures. Smoke detectors respond to airborne particles and may be located at the ceiling level and/or in the duct work. Activation of these detectors will send an alarm to the Pittsburgh Fire Department.

I. **Sprinkler Systems**

If automatic sprinklers are provided they will be activated by increased temperatures. Once activated, a water spray will continue to be provided until the system is turned off. Activation of this system will send an alarm to the Pittsburgh Fire Department.

J. **Safety Shower**

There are safety showers located throughout the laboratories. These showers work on a spring release and will continue to spray as long as the chain is pulled. All employees must know the location of the safety shower nearest their work station.

EMERGENCY FIRE PROCEDURES AND INSTRUCTIONS FOR RESPONDING TO A FIRE

- A. **RACE PROCEDURE**- the following instructions are for individuals who are in the immediate vicinity of a fire:

R = RESCUE ANYONE IN IMMEDIATE DANGER

A = ACTIVATE NEAREST FIRE ALARM SYSTEM

- Pull stations are located near most stairwell exits.

- Follow up with an emergency telephone call that is specific to your location.

DIAL THE APPROPRIATE EMERGENCY NUMBER LISTED ON THE PHONE

- 1) Give your name and the exact location and conditions

Example: This is Name, I want to report a fire in Location.

- 2) Do not hang up until the operator has received the message properly. Wait for the operator to repeat the information for clarity.
- 3) The paging operator will page "Condition F" and announce the affected floor and wing.

C = CONTAIN THE FIRE BY CLOSING ALL DOORS AND WINDOWS

Leave the lights on, close but do not lock all doors and turn off all equipment that could be a hazard if left operational. All doors and windows must remain closed until the "All Clear" signal is announced.

E = EXTINGUISH FIRE (ONLY IF SAFE TO DO SO)

Control measures should be undertaken only for small isolated fires. If a fire is so severe that attempts to extinguish it puts you in danger, evacuate the area.

FIRE ALARM SYSTEMS AND RESPONSES

Staff at UPMC may work in different buildings on a regular basis. The following lists of buildings is grouped by similar operating fire alarm systems, and includes a brief description of occupant responses. Each building is separate from all others. Personnel must be aware of the fire zones, fire systems and codes in their work area. Consult building Fire Safety Policy or Environmental Health and Safety office for more information.

A. EYE AND EAR INSTITUTE PAVILION/PRESBYTERIAN UNIVERSITY HOSPITAL

The system covers only the D-wing, 4-wing, E-wing and G-wing. The bells ring a three digit bell code, four times. The bells ring in all areas of those wings. The voice paging system will announce that a “Condition F” has been sounded and will give location information. Close all doors and wait for further instructions. Areas renovated since September 1990 will have an electronic tone rather than a bell to sound a coded signal. White flashing strobe lights have been installed in renovated areas. Some hospital areas may have a synthesized voice message instead of bell signals or coded tones.

B. CHILDREN'S HOSPITAL MAIN TOWER

There is a coded klaxon (horn) signal, which sounds in all areas of the building. A voice message and flashing strobe lights follow. All occupants in the fire zone must remain (or defend) in place until otherwise instructed by your floor marshal or the Pittsburgh Fire Department. Exit the fire zone via a posted escape route if instructed to do so.

C. THE EYE AND EAR INSTITUTE, FALK CLINIC, BIOMEDICAL SCIENCE TOWER

The fire alarm system announces a pre-recorded message, followed by electronic tones. The message is announced in the fire zone, as well as in the stairs on all levels. Strobe lights flash in those same areas. All occupants in the fire zone are to leave via posted escape routes.

D. MONTEFIORE UNIVERSITY HOSPITAL BUILDINGS

MUH is divided into two separate areas: the hospital and the Lilliane S. Kaufmann Building. Both have red fire alarm stations located next to exit doors. Each building has an annunciator on every floor at the main elevators. That device indicates (with a lamp) when the floor has an alarm and what type of device has been activated.

Montefiore Hospital's fire alarm system covers all connected hospital property, except the Kaufmann Building. The system rings a three- or four-digit bell code on all floors. There are red flashing lights on all hospital floors. When the alarm sounds, close all doors and listen to the voice paging system for instructions.

E. **SCAIFE HALL (S-WING) AND A-WING**

Scaife Hall is divided into three sections which are:

S WING, ZONE 1 - wing adjacent Lothrop St.

Occupants must evacuate through Stairwell 5 or 6 and proceed to the front lawn of Salk Hall.

S WING, ZONE 2 - wing adjacent DeSoto St.

Occupants must evacuate through Stairwell 1 or 2 and proceed to the rooftop parking level of Western Psychiatric Institute and Clinic.

A - WING - connects S Wing to PUH

Occupants must evacuate via the stairwell in PUH to the first floor. Occupants must then exit PUH on the Lobby Level and proceed to the rooftop parking level of Western Psychiatric Institute and Clinic.

This is currently a two part system that uses bells and an overhead voice message. Newly renovated areas of Scaife utilize the overhead voice message while other areas use a bell code system.

* An audible alarm is sounded, using either a bell code or in new areas, a tone followed by an overhead message.

F. **C-WING**

The bells ring a two-three-or four-digit bell code at least four times. The bells ring on all floors. All occupants in the fire zone must evacuate via the stairs, or horizontally through the connecting doors to Presby. All other occupants must close all doors and wait for further instructions.

Recently renovated areas will have a synthesized voice message and white flashing lights instead of coded bells signals or coded tones.

TELEPHONE NOTIFICATION TO THE EMERGENCY OPERATOR

Notify the emergency operator using the posted emergency telephone number that is specific to the area in which the fire is discovered. All telephones must have a sticker that identifies appropriate emergency telephone numbers in all work areas.

FLOOR MARSHAL RESPONSIBILITIES

In many buildings, a floor marshal is assigned to ensure that all occupants evacuate at the time of the alarm. Floor marshals are appointed individuals who are normally present on their assigned floor during their work period. Alternate floor marshals are appointed to assist the floor marshal and will assume the responsibilities of a floor marshal in their absence. Members of the Department of Pathology Safety Committee are the designated floor marshals for each laboratory.

Floor marshals are knowledgeable about all occupants assigned to their floor, and know if there are handicapped persons in their area. Floor marshals are to keep themselves informed of any unusual hazard on their assigned floor and will inform the Environmental Health and Safety Office of the hazard and what precautions should be taken. Floor marshals should also notify the Environmental Health and Safety Office if any new hazards are introduced in the area.

In the event of fire alarm system activation, the floor marshals in the fire zone will (as necessary):

1. Alert and evacuate all personnel from the fire zone.
2. Alert any persons working in areas where the fire alarm may not be heard.
3. Check that all doors are closed as the floor is evacuated.

4. Notify the Emergency Operator of unusual hazard(s) on their floor and the proper precautions to take.
5. Report to the Emergency Operator to give the name and last known location of any remaining handicapped or otherwise unaccounted-for person(s). Remain with all handicapped personnel until help arrives.
6. Once evacuated, collect a roll call from the supervisor of each section to determine that all persons have evacuated the building.

Floor Marshals will hold training sessions with their floor occupants to inform them of emergency procedures, special precautions, and evacuation plans.

EVACUATION INSTRUCTIONS FOR HANDICAPPED PERSONS

Handicapped persons who cannot move down stairwells on their own should:

1. Use the nearest telephone and call the appropriate emergency operator and identify themselves, their location, and the nature of the emergency.
2. If possible, locate themselves close to the nearest exit and await help, or remain in their office or laboratory with the door closed and move to an outside window.

NOTE: The floor fire marshal will remain with handicapped persons until help arrives.

PROCEDURE FOR EVACUATING THE ENTIRE BUILDING

1. The decision to evacuate the entire building may be made and communicated by the building manager or administrative representative. This decision is to be made in consultation with the City of Pittsburgh Fire Department.
2. The signal for a clinic-wide evacuation will be communicated via the voice paging system.
3. Turn off equipment which can be a hazard if left operational. Do not turn off lights. Close all doors.
4. During either a limited or building-wide evacuation, use horizontal evacuation routes or stairwells. **DO NOT USE ELEVATORS.** Seek paths of egress as far away as possible from the fire area so as not to hinder fire fighting efforts taking

place in the fire area. Follow exit signs away from the fire area until you arrive in a safe area or you are outside.

5. Stay low when moving through corridors to avoid inhaling smoke and fumes. Do not run in corridors or stairwells.
6. Make efforts to move patients' records.
7. Feel all doors for heat prior to opening. If a door feels hot **DO NOT OPEN IT**.
8. In smoke filled areas, do not enter an area that seems to have more smoke on the other side of the door.
9. An effort should be made to check all areas during the evacuation process. Use common sense. **DO NOT RE-ENTER** a fire area to search for unaccounted individuals.
10. Notify the firemen of any persons who are not accounted for and are still in the building.
11. Watch out for traffic and keep the doorways clear for access by the firemen when exiting.

ELECTRICAL SAFETY

With the increased use of automated equipment within the laboratories and offices, personnel are exposed to a greater degree of electrical hazards.

The following electrical safety precautions must be strictly adhered to:

- 1) All labs and office instruments and appliances must have a complete grounding circuit (except for certain approved double insulated items).
- 2) All instrument and appliance wiring must be maintained in good condition. Disconnect electrical equipment from power sources before servicing.
- 3) Do not service wiring or electrical outlets. Report all problems to the Plant Services

Department for repair.

- 4) Disconnect and label any instrument or appliance that has produced an electric shock, or is not grounded, with the following type of tag:
- 5) Never use electrical equipment with exposed wiring or equipment that is waiting for electrical repair.
- 6) Never operate electrical switches or manipulate electrical plugs or instruments with wet hands or in the presence of water spills.
- 7) All fixed electrical receptacles must be inspected at least annually for ground integrity by Plant Services.
- 8) All laboratory instrument and appliances must be adequately grounded and checked for current leakage during the annual safety inspection and/or least every 12 months.
- 9) Replace blown fuses with the same type and size (ampere) of fuse. If the fuses on an instrument blow frequently, investigate the possibility of a short circuit or overload. Never insert fuses in a live circuit. Report this condition to your supervisor.

LABORATORY STANDARD AND HAZARD COMMUNICATION STANDARDS (CHEMICAL SAFETY)

Brief History

OSHA's "Occupational Exposure to Hazardous Chemicals in Laboratories" ruling was passed in January 1990. It was recognized that medical laboratories were not adequately addressed in current legislation with regard to overall worker safety. Up until then, various regulations were issued to protect workers from hazardous substances but none of these regulations were comprehensive. In 1983 OSHA initiated the Hazard Communication Standard Right-to-Know-Law (HCS) 29 CFR 1910.1200, to help improve worker awareness in the general non-manufacturing sector, such as the University of Pittsburgh Medical Center and other institutions throughout the country.

The Laboratory Standard is to be used in conjunction with the Hazard Communication Standard to augment employee training. The Laboratory Standard specifically requires a Chemical Hygiene plan for each facility. This is a reference document for use by employees in the laboratory. The goal of these standards is to reduce the incidence of chemical related injuries and illnesses by increasing worker awareness and to permit flexibility in developing and implementing safety and health programs. This rule applies to all laboratories using hazardous chemicals according to the Standards "laboratory use" and "laboratory scale" definitions.

Laboratory scale deals with container sizes(not specific quantities) that are small enough to be easily and safely handled by one person.

Laboratory use means procedures being used which are not part of (nor do they simulate) a production process.

The Laboratory Standard is preempted by the OSHA Formaldehyde and Benzene Standards, that address these particular chemicals in detail. This means that where the Laboratory Standard

allows the employee leeway in monitoring, respirator use, and medical surveillance with most hazardous substances, they must follow the Formaldehyde Standard when dealing with formalin products in the laboratory.

"Employee" is a term defined in the Laboratory Standard as "an individual employed in a laboratory workplace who may be exposed to hazardous chemicals in the course of his/her assignments." These "employees" may be actual lab workers or others who may be required to enter a laboratory due to their work assignments where potential exposures may occur (i.e. maintenance and custodial personnel).

A lab that distributes and/or transports or mixes chemical solutions to other satellite facilities or clinics must follow the Hazard Communication Standard for that chemical. Containers must be properly labeled with the hazard information for that chemical and a material safety data sheet must be provided to the user. If containers of hazardous chemicals are transported by couriers they must be trained in accordance with the Hazard Communication Standard.

Furthermore, the Department of Transportation regulations require that shipping containers for formalin be labeled "ORM-A, Formalin, UN2209." If private carriers are transporting the chemicals, the drivers must be provided with adequate information concerning the hazards of the chemical and emergency response information (MSDS sheet). The transporter must carry paperwork which contains the name of the hazardous chemical, the DOT identification code and a 24 hour emergency telephone number. The emergency telephone number must be that of the facility sending the hazardous chemical or of an agency qualified to provide detailed information on the hazardous material. This number will be used by the emergency response team at the scene of an accident.

Laboratory and formaldehyde safety training classes are offered monthly by the UPMC Environmental Health and Safety Office. All laboratory staff are required to attend laboratory safety training or the current refresher course annually. All laboratory staff that work directly with formaldehyde must attend the formaldehyde safety class annually.

REFERENCES

The following documents have been approved and provided by the University of Pittsburgh Medical Center and/or the Environmental Health and Safety Office:

Appendix 1 - UPMC Chemical Hygiene Plan

Appendix 2 - Occupational Safety and Health Standards, Subpart Z
Toxic and Hazardous Substances Formaldehyde Standard

Appendix 3 - UPMC Spill Cleanup Procedure for Biohazardous Materials

Appendix 6 - UPMC Guidelines for Handling Sharps (Policy IC-02)

The Department of Pathology assumes no liability for the information contained in the documents listed above, but gratefully acknowledges the assistance of the University of Pittsburgh Medical Center and the Environmental Health and Safety Office.

APPROVED



6/09/2003

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03/12/2009

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REVISED



06/09/2003(to include UPMC Shadyside)

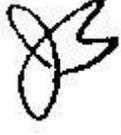


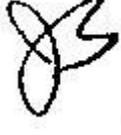
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