

**WILLIAM PATERSON UNIVERSITY  
OF NEW JERSEY**

# **CHEMICAL HYGIENE PLAN**

**Reference 29 CFR 1910.1450**

**Occupational Exposure to  
Hazardous Chemicals in Laboratories**

**Revised January 10, 2008**

**Chemical Hygiene Officer  
Mukesh K. Sahni, Ph.D.**

**300 POMPTON ROAD, WAYNE NJ 07470**

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## FOREWORD

On January 31, 1990 the Occupational Safety and Health Administration (OSHA) promulgated a final rule for occupational exposure to hazardous chemicals in laboratories. Included in the standard, which became effective on May 1, 1990 is a requirement for all employers covered by the standard to develop and carry out the provisions of a Chemical Hygiene Plan (CHP).

A CHP is defined as a written program which sets forth procedures, equipment, personal protective equipment and work practices that are capable of protecting employees from the health hazards presented by hazardous chemicals used in that particular work place. Components of the CHP must include standard operating procedures for safety and health, criteria for the implementation of control measures to ensure proper operations of engineering controls, provisions for medical consultation, designation of personnel, and identification of particularly hazardous substances.

This plan is the Chemical Hygiene Plan developed for William Paterson University of New Jersey located at 300 Pompton Road in Wayne, New Jersey 07470. This CHP is maintained readily available with all Appendices at Campus Police, The Dean College of Science and Health (Rm# S 317) and Safety Compliance Officer (Rm# S 301A) Copies of this CHP will be given to all laboratory employees and will be available in individual Department offices. All laboratory personnel must know and follow the procedures outlined in this plan. All operations performed in the laboratory must be planned and executed in accordance with the enclosed procedures. In addition, each employee is expected to develop safe personal chemical hygiene habits aimed at the reduction of chemical exposures to themselves and co-workers.

This document was developed to comply with paragraph (e) of the referenced OSHA 1910.1450 standard. William Paterson University of New Jersey will maintain the facilities and procedures employed in the laboratory compatible with current knowledge and regulations in laboratory safety. This CHP will be reviewed, evaluated and updated at least annually and is readily available to employees, their representatives and any representative of the Assistant Secretary of Labor for OSHA.

Administration

**Implementation Plan  
For  
OCCUPATIONAL EXPOSURE TO HAZARDOUS  
CHEMICALS IN LABORATORIES  
29 CFR 1910.1450**

**APPLICABILITY**

The Laboratory Standard applies to all employers engaged in the laboratory use of hazardous materials/chemicals. Laboratory use of hazardous chemicals is defined as the use or handling of chemicals in which **all** of the following conditions are met:

- (a) Chemical manipulations are carried out on a “laboratory scale”. Laboratory scale is defined as work with substances in which the containers used for reactions; transfers and other handling of substances are designed to be easily and safely manipulated by one person. This definition excludes those work places whose function is to produce commercial quantities of materials;
- (b) Multiple chemical procedures or chemicals are used;
- (c) The procedures involved are not part of a production process, nor in any way simulate a production process; and
- (d) “Protective laboratory practices and equipment” are available and in common use to minimize the potential for employees’ exposure to hazardous chemicals.

This standard does not apply to:

- (a) Uses of hazardous chemicals that do not meet definition of laboratory use, and in such cases, employer shall comply with the relevant standard in 29 CFR part 1910, sub part Z, even if such use occurs in a laboratory.
- (b) Laboratory uses of hazardous chemicals which provide no potential for employees exposure.

Where the standard does not apply, it shall supersede, for laboratories, the requirements of all other OSHA health standards in 20 CFR part 1910, sub part Z, except as follows:

- (a) For any OSHA health standard, only the requirement to limit employee exposure to the specific Permissible Exposure Limit (PEL) shall apply for laboratories, unless that particular standard states otherwise or unless the action level (or in the absence of an action level, the PEL) is exceeded.

- (b) Prohibition of eye and skin contact where specified by OSHA health standard shall be observed.
- (c) Where the action level (or in the absence of an action level, the PEL) is routinely exceeded for an OSHA regulated substance with the exposure monitoring and medical surveillance requirements, the employee exposure monitoring and medical monitoring requirements of this standard shall apply.

Any substance specific standard can require coverage to remain under that standard rather than under the laboratory standard. In the absence of a statement of preemption in a substance specific standard, the determination of whether the laboratory standard applies must be dependent on both “laboratory use “ and “laboratory scale” criteria. Where these criteria are met, the laboratory standard applies.

## ASSIGNMENTS

1. **The President of WPUNJ** has the ultimate responsibility for chemical hygiene throughout the laboratory, and with assistance of other program administrators, must provide continued support for chemical hygiene.
2. **The Supervisor of the Administrative Unit** is the Dean of the College of Science and Health and is responsible for:
  - (a) Coordination of the chemical hygiene activities of the Departments of the College subject to the provisions of this Chemical Hygiene Plan and
  - (b) Informing Central Administration of the needs of these Departments in implementing the Plan.
3. **Safety Compliance Officer (SCO)** is also **The Chemical Hygiene Officer (CHO)** who will
  - (a) Work with administrators, Departmental faculty members and other employees both within and without the Departments to develop and implement appropriate chemical hygiene policies and practices;
  - (b) Help faculty develop precautions and adequate facilities for handling hazardous materials;
  - (c) Seek ways to improve the chemical hygiene program.
4. **The laboratory Supervisor** is, for the purpose of this plan, the chair of the Departments of College of Science and Health. He/She is directly responsible for chemical hygiene in the laboratories of the respective Departments, including responsibility to:
  - (a) Ensure that faculty and lab personnel have copies of CHP and follow the guidelines for safe operating procedures;

- (b) Receive and review all safety inspection, incident and equipment reports about their respective departments;
  - (c) Consult with the SCO if there are questions about the ordering or use of Hazardous Materials and convey this information to the appropriate faculty/staff member (s);
  - (d) Ensure that facilities and training for use of any material being ordered are adequate.
5. **The Project Director or Course Coordinator** is, for the purpose of this plan; the faculty member assigned direct responsibility for the operation of a particular teaching laboratory or conducting research alone or with student assistance. He/She is responsible for chemical hygiene procedures in these laboratories.
  6. **The Laboratory Worker (employees)** is responsible for operating the laboratory and/or the stock rooms in accordance with this Chemical Hygiene Plan and for developing and maintaining good personal chemical habits.
  7. **The Student**, although not legally covered by the provisions of this plan, is by departmental policy responsible for learning how to work safely in the laboratory. "Safe Work" includes but is not limited to adherence to the applicable provisions of this Chemical Hygiene Plan and the development of good personal chemical hygiene habits.

## **LABORATORY SAFETY/CHEMICAL HYGIENE COMMITTEES**

The Safety/Chemical Hygiene Committee appointments are for a period of one year. At least one faculty/staff member will be appointed from each department.

As of July 2007 the following are the members of these committees:

Prof. Z. Cong, College of Arts and Communication	x 3137
Prof. R. McCallum, Chemistry and Physics Department	x 3462
Prof. R. Rehgerg, Exerc. And Movement Science	x 2267
Prof. G. Ndjatou, Computer Science	x 2515
Mr. Mouhanad Bittar(George), Chemistry and Physics Department	x 2236
Dr. M. K. Sahni, Safety Compliance Officer	x 3417/2194
Dr. Karen Swanson, Environmental Science/Geography Department	x2589
Prof. K. Scura, Nursing Department	x 3800-1422
Ms. S. Sgro, Biology Department	x 2619
Prof. C. Leonard, Biology Department	x 2791

## **RESPONSIBILITIES:**

1. Recommend new or modifications of existing laboratory Safety/Chemical Hygiene policy to the appropriate department.
2. Report to the department on a regular basis concerning matters of laboratory Safety/Chemical Hygiene.
3. On the schedule prescribed in the Chemical Hygiene Plan (Twice a year):
  - a. Conduct safety inspections.
  - b. Check records that all safety equipment e.g. eye wash fountains, hoods and showers are tested regularly.
  - c. Insure that Chemical Hygiene Plan is updated on a regular basis
  - d. Identify hazardous or potentially hazardous practices.
  - e. Analyze all hazmat and other safety incidents and near incidents and report conclusions and recommendations, if any, to the appropriate Department and others in the University with a need to know.
  - f. Acquaint the Dean, University Safety Officer and others in University administration with the safety/chemical hygiene needs of the respective Departments.

## **RECORDS**

- (a) All accidents/incidents shall be reported immediately, in writing, using the University Accident/Incident Report Form. These reports will be filled with university administration as per university regulations. A copy will be sent to the Dean, Chair of the Department and Chair of the responsible Safety/Chemical Hygiene Committee.
- (b) Reports of the Laboratory Safety/Chemical Hygiene monitoring inspections as well as records of all remedial actions taken to eliminate observed problems will be filled with the Dean and the Chair of the Department and the Chair of the appropriate Safety/Chemical Hygiene Committee.
- (c) Medical records will be maintained at the Student Health Center in accordance with Federal and State regulations.

## **TRAINING AND INFORMATION PROGRAM**

- (a) Employees PEOSH Hazard Communication Standard training is a university responsibility under New Jersey Law. The employees must be trained at the time of their initial assignment to work with hazardous chemicals and when a new physical or health hazard is introduced into the workplace. Refresher training shall be provided every two years for all employees who continue to be exposed to hazardous chemicals. The training will be provided during working hours and at no cost to the employee. Workstation specific training is the responsibility of the appropriate department.
- (b) Laboratory employee will be made aware of the location and operation of available protective equipment by his/her immediate supervisor.
- (c) Literature/Consultant Services: Chemical safety literature, including MSDS' is available with the Campus Police Office.
- (d) Individual involved in laboratory safety/chemical hygiene will be encouraged and supported in attending national and regional meetings, seminars and workshops dealing with these subjects.

## **SIGNS AND LABELS**

- (a) All chemicals will be labeled as required by Federal and State regulations.
- (b) All safety showers, eye wash fountains and other safety/first aid locations will be prominently labeled. There are no areas in the laboratories where food/drink may be stored or consumed or where smoking is permitted.
- (c) Warning signs will be posted at all locations where hazardous equipment, materials or procedures are in use e. g. lasers, high vacuum, high magnetic field, X-ray, particular toxic materials such as (carcinogens, Mutagens, Tetrogens) etc.

## STANDARD OPERATING PROCEDURES

### General Rules

1. Avoid working alone in a laboratory or chemical storage area.
2. Eating and drinking is strictly prohibited in the laboratories. These are a source of hand-to-mouth contamination.
3. Smoking is not allowed in the laboratories.
4. Food and beverages should not be stored in the laboratory refrigerators.
5. Glass wares and utensils, which are used, for laboratory operations should not be used for eating and drinking purposes.
6. The application of cosmetics is prohibited in laboratories.
7. Wearing proper Personal Protective Equipment (PPE) is mandatory by policy, procedure, standard or Material Safety Data Sheets (MSDSs).
  - a. Gloves should be worn when the potential for contact with toxic chemicals exists. Inspect the gloves before each use and dispose them off properly when you are finish working.
  - b. Appropriate eye protection (goggles or safety glasses with side shields) specific to the biological or chemical product being used, must be worn when handling materials, especially caustics or acids, which may be splashed.
  - c. Contact lenses may be worn in the laboratories provided appropriate eye protection (goggles or safety glasses with side shields) is worn.
  - d. Accidents and Spills must be immediately brought to the attention of the instructor. If necessary instructor should report it to the safety compliance officer.

**Eye Contact:** Promptly flush eyes with water for a prolonged period of time (15 minutes) and seek medical attention immediately.

**Ingestion:** Seek emergency medical attention immediately.

**Skin Contact:** Promptly flush the affected area with plenty of water and remove any contaminated clothing. Seek medical attention.

**Clean Up:** Promptly clean up spills, using appropriate protective apparels, equipment and use proper disposal methods.
- a. Appropriate laboratory protective clothing should be worn in the lab. Lab coats are recommended. Immediately remove clothing with significant contamination.
- b. Confine long hair and loose clothing. Shoes must be worn at all times in the laboratory. It is recommended that open toed shoes not be worn.
8. Hands should be washed frequently during the day, before and after handling specimens, before leaving the laboratory and before eating or drinking.
9. Do not use mouth suction for pipeting or starting a siphon. Use pipeting aids for every work.
10. Avoid inhaling the chemicals, do not “Sniff” to test chemicals.

11. All chemicals must be labeled in accordance with 29CFR 1910.1200 Hazard Communication Standard.
12. Material Safety Data Sheets (MSDSs) are available on request from the Safety Compliance Officer, Dr. M. K. Sahni Room # 301A. The MSDS can also be found **ON-LINE** at [www.siri.org](http://www.siri.org) or [www.hazard.com/msds](http://www.hazard.com/msds). The MSDSs are also available in the Science building at the following locations: 5<sup>th</sup> Floor – Foyer (521), 4<sup>th</sup> Floor- Room # 412, 3<sup>rd</sup> Floor – Room # 319 and on the 2<sup>nd</sup> Floor – by the Stairwell opposite Room # 221. MSDSs are also available at the University Police.
13. Before starting work check to see if hoods are operational and note location of all additional safety apparatus/equipment.

### **Housekeeping**

Keep the work area clean and uncluttered with chemicals and equipments being properly labeled and stored; clean up the work area on completion of an operation or at the end of each day. The rules of good housekeeping must be followed:

1. Access to emergency, showers, eyewashes should never be blocked by anything, not even a temporarily parked chemical cart. Exits and aisles must not be obstructed in any way. Equipment, chairs, supplies or containers are not permitted in exit routes or areas. Exit doors must never be blocked, bolted or obstructed.
2. Do not hang clothing on or near radiators, steam pipes, heating instruments or open flames.
3. Do not accumulate trash in any area. Dispose of trash everyday.
4. Needles, syringes and other sharp objects must be disposed of in red “Sharps” containers that are conspicuously labeled to ensure safe handling and disposal.
5. Waste should be properly labeled and kept in their proper containers.
6. Festive decorations will be limited to designs on glass outside of the laboratory work areas. Decorations on lights and instruments are prohibited. Hanging decorations and wax candles are also prohibited.

### **Glassware**

Many painful wounds have been caused by careless handling of glass.

1. Handle all glassware with extreme care.
2. When inserting glass tubing in rubber or cork stoppers and rubber or plastic tubing, always lubricate the glass with water, glycerin or other appropriate lubricant. Always grasp the tube one or two inches away from the stopper and work it into stopper or tubing. Never grasp the tube at the far end. Protect hands with appropriate gloves or with a thick layer of clothes against breakage. Most

- important of all, make sure the stopper hole is large enough so that you don't have to apply excessive pressure when inserting the tube.
3. When cutting glass or tubing, be sure the file mark is deep enough before trying to break the glass. Protect hands by covering the rod or tubing completely with a cloth at and around the breaking point. Break away from your body.
  4. Do not use chipped or broken glassware. Discard them immediately.
  5. Glass and sharp objects must be disposed of in properly labeled containers to prevent accidental cuts. Disposal of broken glass along with paper or trash is a hazard to the housekeeping/custodial staff.
  6. Do not attempt to remove stoppers on glass tubing by force; if they are stuck, carefully cut them off.
  7. Decontaminate glassware exposed to infectious substances or materials.
  8. Chemical bottles must be completely emptied, rinsed with appropriate solvent (usually water) three times, and cross out the label before disposal in containers as general waste.
  9. Heated glass and containers should be handled with tongs and/or heat resistant gloves.

### **Electrical Equipment**

Care should be exercised when using electrical equipment.

1. Do not touch electrical equipment with wet hands or while standing on a wet floor.
2. All instruments including household type appliances, such as microwave ovens, must be properly grounded.
3. Do not try to repair equipment yourself. This should be done by qualified personnel.
4. Never try to by-pass any safety device on a piece of electrical equipment.
5. In case of fire on or near any electrical equipment, use only carbon dioxide or dry powder fire extinguisher.

### **Compressed Gas Cylinders**

1. All compressed gases received, used or stored must be labeled according to the Department of Transportation (DOT) regulations. All cylinders must be identified with a label or tag with the name of its contents. **DO NOT DEPEND ON COLOR CODES.**
2. Always use special cylinder carts when moving cylinders. Avoid dragging, sliding or rolling cylinders.
3. Protective valve caps must be kept in place while cylinder is moved.
4. Do not accept a cylinder, which has rust on or near the main valve.
5. Check for any leak in the area where the main valve joins to the cylinder body.

6. Users should be familiar with the particular characteristics of the gas, i.e. flammability, reactivity and toxicity.
7. All cylinders (both stored and those in use) must be secured in an upright position (with the valve up) by means of a strap, chain or non-tip base. (Carts are not acceptable as a base).
8. Cylinders must never be stored near an actual or potential source of heat, or where they may be exposed to extreme of weather or in the vicinity of combustibles. Cylinders temperature must not exceed 125° F
9. Cylinders must not be stored in an area where they may become part of an electrical circuit.
10. Cylinder valve should be protected with a standard cap when not in use (empty or full).
11. Transferring of compressed gas from one vessel to another is an extremely hazardous operation. This operation must never be done (except dry ice and cryogenic material such as liquid nitrogen or helium).
12. Never use a high-pressure cylinder without a regulator.
13. Regulator threads must match cylinder valve outlet threads, if connection can not be readily made, do not force.
14. Regulators for different pressure systems must not be interchanged.
15. Never permit the gas to enter the regulator suddenly. Open tank valve slowly.
16. Never try to stop a leak between a cylinder and regulator by tightening the union nut unless the valve has been closed off.
17. Never use a damaged cylinder/regulator.
18. Valves must be closed when returning empty cylinders.
19. When opening cylinder valve, stand away from face of the regulator and point outlet away from your body.
20. Always shut the tank valve first and then vent the regulator to zero.
21. Empty cylinders must be marked EMPTY and stored separately from full cylinders.

## **Flammable Chemicals**

In general, the flammability of a chemical is determined by its flash point, the lowest temperature at which an ignition source can cause the chemical to ignite momentarily under certain controlled conditions.

1. Chemicals with a flash point below 100° F (37.8° C) will be considered “Fire-Hazard Chemical”.
2. Think before you make a move when handling flammable liquids.
3. Quantities of one gallon or more of flammable must be stored in approved safety containers.
4. Small quantities of flammables may be stored on open shelves. Bulk quantities must be stored in an approved flammable safety cabinet or flammable storage room. Do not store flammable in fume hoods.

5. Do not store ether or any other flammable in refrigerators, unless the refrigerator is rated as explosion proof.
6. Flammable liquid should always be kept away from fire, reactive chemicals and sparks.
7. Flammable should be stored separately from oxidizers and out of direct sunlight in tightly closed containers.
8. Avoid heating flammable solvents with open flame.
9. Flammable liquids must never be dumped in a sink. Dispose of flammable as chemical waste in approved, properly labeled containers in accordance with the WPUNJ Hazardous Waste Policy.

### **Corrosive Chemicals**

Corrosivity is sometimes given in manufacturers Material Safety Data Sheets and on labels. Also, guidelines on which chemicals are corrosive can be found in other OSHA standards and in regulation promulgated by DOT in 49 CFR and the EPA in 40 CFR.

1. A corrosive chemical is one that
  - a. Is injurious to body or corrosive to metal by direct chemical action,
  - b. Fits the OSHA definition of corrosive in Appendix A of 29 CFR 19190.1200,
  - c. Fits the EPA definition of corrosive in 40 CFR 261.22 (has a pH greater than 12 or less than 2.5), or
  - d. Is known or found to be corrosive to living tissues.
2. Store acids and bases separately.
3. Organic acids should be stored separately from strong oxidizing agents (e.g., sulfuric, nitric or perchloric acid) to prevent corrosion of storage cabinets due to fume interaction).
4. Wear appropriate protective apron, gloves and eye protection when handling corrosive chemicals.
5. Never pipete by mouth.
6. Always add the acid to the water slowly from the side of the mixing vessel. Mix by rotating slowly and avoid heating.
7. Check containers for any leaks.
8. All corrosive materials should be kept in cool, dry, well ventilated area away from direct sunlight and other reactive, flammable or toxic chemicals.
9. Dispose of corrosive as chemical waste in properly labeled containers in accordance with WPUNJ Hazardous Waste Policy.

## Reactive Chemicals

Reactivity information is sometimes given in the manufacturers, MSDSs and on the labels.

Guidelines on which chemicals are reactive can be found in regulations promulgated by the Department of Transportation (DOT) in 49 CFR and by the Environmental Protection Agency (EPA) in 40 CFR.

1. A reactive chemical is one that:
  - a. Is described as such in the MSDS,
  - b. Is identified by the DOT as:
    - An oxidizer
    - As organic peroxide
    - An explosive, Class A, B or C
  - c. Fits the EPA definition of reactive chemical in 40 CFR 261.23
  - d. Fits the OSHA definition of unstable in CFR 1910.1450
  - e. Is known or found to be reactive with other substances.
2. Handle reactive chemicals with all proper safety precautions, including segregation in storage and prohibition on mixing even small quantities with other chemicals without appropriate personal protection and precaution.
3. Reactive chemicals should be kept away from heat, sparks, fire and flammables.
4. Always work with reactive chemicals in well-ventilated areas.
5. Take proper precautions while working with peroxides and other explosive chemicals
  - a. Work with minimum of amounts of chemicals required.
  - b. Never use metal spatulas; use wooden or ceramic spatulas.
  - c. All spills should be cleaned immediately.
  - d. Never dispose of pure peroxides directly. Always dilute the peroxides with water and reducing reagents such as sodium bisulfite or ferrous sulfate before disposal as chemical waste.
6. Dispose of reactive chemicals in properly labeled containers in accordance with WPUNJ Hazardous Waste Policy.

**CARCINOGENS, REPRODUCTIVE TOXINS, SUBSTANCES THAT HAVE A  
HIGH DEGREE OF ACUTE TOXICITY AND CHEMICALS OF  
UNKNOWN TOXICITY**

1. When performing laboratory experiments with greater than 10 mg. Of any carcinogen, reproductive toxin, substances that have a high degree of acute toxicity, or a chemical whose toxic properties are unknown the following procedure should be used:
  - A. **Select Carcinogen:** Any substance which meets one of the following criteria:
    - [i] It is regulated by OSHA as a carcinogen and defined as such in 29 CFR 1910.1450 and any other substance described as such in the applicable MSDS; or
    - [ii] It is listed under the category, “Known to be carcinogens”, in the Annual Report on Carcinogens published by the National Toxicology Program [NTP] (latest edition); or
    - [iii] It is listed under group 1 [“Carcinogenic to humans”] by the International Monographs [IARC] (latest edition); or
    - [iv] It is listed under group 2A or 2B by IARC or under the category, “reasonably anticipated to be carcinogens” by NTP, and causes statistically significant tumor or incidence in experimental animals in accordance with any of the following:
      - [a] After inhalation exposure of 6-7 hours per day, 5 days per week, for a significant portion of a lifetime to dosages of less than 10 mg/m<sup>3</sup>;
      - [b] After repeated skin application of less than 300 mg/kg of body weight per week; or
      - [c] After oral dosages of less than 50 mg/kg of body weight per day.
  - B. **Reproductive Toxins:** Any substance which affect the reproductive capabilities including chromosomal damage (mutations) and effects on fetuses (teratogenesis); or described as such in the applicable MSDS.
  - C. **Substance with a high degree of acute toxicity:** Any substance for which the LD<sub>50</sub> described in the applicable MSDS cause the substance to be classified as a “highly toxic chemical” as defined in ANSI Z 129.1.
  - D. **Chemical whose toxic properties are unknown:** A chemical for which there is no known statistically significant study conducted in accordance with established scientific principles that establishes its toxicity.

For the purpose of this Chemical Hygiene Plan chemicals in above four categories will be called “Hazardous Materials”.

**Designated area:** A hood, glove box, portion of a laboratory, or an entire laboratory room designated as the only area where work with quantities of the hazardous chemicals in excess of the specified limit shall be conducted.

2. Designated areas shall be posted and their boundaries clearly marked. Only those persons trained to work with hazardous chemicals will work with those chemicals in a designated area. All such persons will:
  - a. Use the smallest amounts of chemical that is consistent with the requirements of the work to be done.
  - b. Use high-efficiency particulate air (HEPA) filters or high-efficiency scrubber systems to protect vacuum lines and pumps.
  - c. Decontaminate a designated area when work is completed.
  - d. Prepare wastes from work with hazardous chemicals for waste disposal in accordance with the WPUNJ Waste Disposal Policy.
4. Store all hazardous chemicals in locked and enclosed spaces.
5. Do not wear jewelry when working in designated areas because the decontamination of jewelry may be difficult or impossible.
6. Wear long-sleeved disposable clothing and gloves known to resist permeation by the chemicals to be used when working in designated areas.
7. Use of known carcinogens, mutagens or teratogens must be reviewed by a Special Review Committee (comprising of two faculty members and Safety Compliance Officer) for use of extremely Hazardous Chemicals.

### **Control Measures**

The appropriate control measures should be implemented in order to reduce employees exposure to toxic substances. Chemical safety is achieved by continual awareness of chemical hazards and by keeping the chemicals under control by taking proper precautions. The chemical manufacturer's recommendations found on the substance MSDS should be used to determine the exact type of control measure. One can substitute a non-hazardous or less hazardous material in place of a hazardous one and if this measure is not feasible, the Engineering Controls, such as use of fume hoods is the primary method of controlling hazards. Laboratory personnel should be familiar with the precautions to be taken, including the use of engineering and other safeguards. They should be alert to detect the malfunction of engineering and other safeguards. A simple approach for reducing exposure is the use of Personnel Protective Equipment (PPE), such as gloves, goggles, lab coats or respirators. PPE should never be substituted for Engineering Controls.

1. All laboratory work involving the use of hazardous chemicals should always be done in a fume hood.
2. Fume hood should provide at least **100 linear feet per minute of air flow**. The monitoring should be done at regular intervals.

3. All laboratory personnel should understand and comply with following when using Fume Hoods:
  - a. A fume hood should not be used for storage purposes and it should not be used to dispose of chemicals by evaporation.
  - b. A fume hood is a safety backup for condensers, traps or other devices that collect vapors and fumes.
  - c. Place all equipment for an experiment at least six inches inside the fume hood and on jacks and clamps so that air flow into the hood and through the lower slot is not hindered.
  - d. All employees should get familiar with new Fume Hood controls. On the face of each fume hood are the following control items:
    - A GREEN light labeled “MAXIMUM AIR FLOW MODE”
    - A RED light labeled “MINIMUM AIR FLOW”
    - A HORN
    - A RED button labeled “BUZZER SILENCE”
  - e. Upon opening the hood, you will notice that the red light goes out and the green light comes on indicating that the hood is in working order. The hood can only be used when green light is lit.
  - f. Upon closing the hood, the red light comes on indicating that the hood is out of service.
  - g. If the hood is in service (green light lit), and an improper air quantity is sensed in the exhaust ductwork, then both green and red light will light simultaneously and the horn will sound. The horn can be silenced by closing the hood and holding down the red buzzer button. As long as the air flow problem continues, the red and green lights will remain lit indicating that the hood is out of service.
  - h. The average face velocities of all laboratory hoods should be checked regularly and also when there has been any change made in the mechanical system.
  - i. The records of all the face velocities should be maintained.

## EMERGENCY RESPONSE PROCEDURE FOR CHEMICAL SPILLS

In the event of a chemical spill the following WPUNJ personnel must be informed immediately. These people will act as Emergency Chemical Spill Coordinators.

	Day	Night
WPUNJ Campus Police	x 2301	x 2301
Director Facilities, Operation and Planning	x 2323	
Safety Compliance Officer	x 3417/2194	
Chemistry and Physics Department	x 2195	
Biology Department	x 2245	

### EMERGENCY PROCEDURE

All laboratories are equipped with emergency equipment such as fire extinguishers, fire blankets, emergency showers, and eye wash stations. Some laboratories have acid, base (caustic) and mercury spill control kits.

In case of fire, sound the FIRE ALARM and call CAMPUS POLICE at x 2301 immediately. Evacuate every one out of the area. Make sure that you have an escape route. If the fire is small, fight it. Use water to put out trash can fires. For other laboratory fires, use an appropriate fire extinguisher. Carbon dioxide extinguishers are the most common.

In case a persons cloths catch fire, wrap the individual in a fire blanket or use an emergency shower. Use of emergency shower is recommended if a person has a large chemical spill on the body. Stand under the shower and pull the chain to activate the shower. All contaminated clothing should be removed and dispose of as chemical waste.

Eye wash stations are used for chemical splashes in the eyes. Wash the eye(s) for minimum of 15 minutes. Do not rub the eyes. Seek medical attention as soon as possible.

## CHEMICAL SPILL RESPONSE PROCEDURE

In case of a chemical spill in a laboratory, the following procedures are to be implemented by the laboratory personnel present at the site of the spill:

### Small Spill Clean-up

If laboratory personnel can safely handle the *spill (Small Spills – upto 300 mL and Medium Spills – 300 mL to 5 litres)* themselves using the spill control kit available within the laboratory, then they should clean up the spill.

- a. Evacuate all non-essential personnel from the site of the spill area. Identify substances and determine risk analysis.
- b. Select and put on the appropriate Personnel Protective Equipment.
- c. If the spilled material is flammable, turn off ignition and heat sources.
- d. Leave fume hoods on and make sure all laboratory doors and inter connecting laboratory doors are closed.
- e. Contain the spill to prevent further contamination.
- f. Consult the Material Safety Data Sheet (MSDS).
- g. Absorb or neutralize the spill with the proper material. Remember always work from outer edge in towards the center.
- h. Dispose of all the clean-up material as chemical waste in properly labeled containers in accordance with WPUNJ Hazardous Waste Policy.

### Large Spill Clean-up

If the laboratory personnel can not safely handle the spill (*Large Spills -Spills of more than 5 liters*), due to the amount, hazard, the lack of supplies etc., then the following procedure should be implemented:

1. Open lab fume hoods and leave the area immediately. Close lab doors as you leave.
2. Sound Fire Alarm to evacuate the building.
3. Call the Campus Police at x 2301.
4. Call the Safety Compliance Officer at x 3417/2193 or call the available Safety Committee member.
5. Account for all the personnel in the immediate area after evacuation. Do not let anyone leave building until medical checkup or decontamination is done.
6. Do not attempt rescues.
7. Check the MSDS to get all the information available for the chemical spilled.

8. Do not try to reenter the area until emergency personnel arrive on the scene.
9. If the spill is not hazardous, try to contain the spill until emergency personnel arrive.
10. Provide all the information to the Emergency Response Personnel
  - a. Location
  - b. Chemical name/CAS#
  - c. Hazard analysis
  - d. Amount
  - e. Time of spill occurred
  - f. Gas, liquids, solids
  - g. Number of victims in proximity of incident
  - h. Number of persons contaminated or injured
  - i. Need for Medical Assistance (Ambulance)
  - j. Need for Emergency Response Team (Fire Department)
- ii. Assist the Emergency Response Personnel in whatever way until the clean up is complete.
- iii. Complete all necessary reports.
11. All clean up material should be disposed of as chemical waste in properly labeled containers in accordance with WPUNJ Hazardous Waste Policy.
12. Report the incident to the proper WPUNJ authorities.
13. Coordinate with Campus Police and Emergency Response Personnel for notification to regulatory agencies as required by law.

### **Mercury Thermometer Spills**

1. Wear gloves to avoid skin absorption, when handling mercury spills.
2. Collect the mercury and any broken glass into a plastic bag using wet paper towel or use Mercury Spill Clean-up Kit, if available.
3. Place the plastic bag into a small box labeled "Mercury" for safe and proper disposal as chemical waste.
4. Never pour mercury down the drain.

## WPUNJ HAZARDOUS WASTE DISPOSAL POLICY

### Hazardous Waste

The Environmental Protection agency (EPA) maintains several lists of specific and non-specific substances that are considered hazardous wastes. These include most commonly used organic solvents and a broad range of halogenated and non-halogenated solvents. A chemical is also considered hazardous if it is ignitable, corrosive, or reactive; if it contains certain metals, pesticides or selected organics above specified levels; or if it is otherwise capable of causing potential hazard to the environment or to the human health when it is improperly stored, transported, dispersed, or otherwise managed.

These wastes can be either specifically listed or they may have been characteristics which make them hazardous by definition. The listed and characteristic wastes are also found in Code of Federal Regulations (See 40 CFR 261.3 sub part D, and 40 CFR 261.31, 261.32, 261.33).

### Procedure:

The following procedure should be used for the removal of chemical wastes. These procedures comply with the current U. S. Environmental Protection Agency (EPA) and Department of Transportation requirements and are intended to permit safe and efficient handling of chemical wastes generated by students and research personnel in the laboratories.

The generating laboratory/department is responsible for identification and labeling of all waste chemicals that are not in the original containers with the original label. Unknown waste chemicals will be handled on a case by case basis and are subject to potentially expensive analysis fee in addition to the disposal fee.

The following procedure should be used to dispose of the hazardous chemicals:

1. The flammable solvent waste should be collected in appropriate flammable solvent containers and they should be labeled very clearly "ORGANIC FLAMMABLE SOLVENT".
  - a. DO NOT mix halogenated and non-halogenated solvents whenever possible.
  - b. Whenever solvents are added to the waste container/bottle, complete the waste description. Write the solvent components by their names and quantity.
  - c. DO NOT put solids, aqueous chemical waste, phenol, strong acids or bases, oxidizers or radioactive wastes in solvent collection containers.
  - d. DO NOT overfill the containers.
  - e. Store waste solvent containers away from the potential source of heat or ignition.

2. Flammable solids like phosphorous and metal catalysts (e.g., palladium or platinum on carbon, Raney nickel or platinum oxide) should be stored under water.
3. Water reactive chemicals such as sodium and potassium metals should be stored in mineral oil. Keep the containers tightly closed.
4. Small quantities of most acids and bases can be disposed of by pouring down the drain with running water only after neutralizing to a pH between 5 and 9. Many acids and bases which are strong oxidizers (Perchloric acid and Chromic acids) form highly toxic salts (e.g., Hydro flouric acid) should not be neutralized and should not be poured down the drain.
5. DO NOT mix oxidizers with easily oxidized organic or inorganic materials.
6. DO NOT place containers of potentially explosive chemicals in boxes containing other waste chemicals. Metal sensitive compounds such as Picric acid should not be kept in metal containers. DO NOT wrap them with Aluminum foil. Make sure that chemicals such as Picric acid and other tri-nitro compounds should not get dry while in use or storage. Fill the bottles containing these chemicals with water and tighten the caps before disposing them of as chemical waste.
7. Ethers and alkali metals from potentially explosive per oxides. The date of receipt and the date opened on all these chemicals should be clearly marked. This information is needed to meet the safety and department of transportation requirements. Open containers of per oxide forming chemicals should be discarded as chemical waste within 3-6 months after opening. Unopened containers of per oxide forming chemicals should be dispose of after one year of receipt or on the expiry date printed on the container label.
8. Hazardous material containers (5 gallon and over) must be decontaminated by rinsing with appropriate solvent before disposal. The rinse solvent should then be disposed of as chemical waste.
9. The original label on the hazardous material container should be removed or defaced with a marker or by putting an Empty sticker on it.
10. One gallon or smaller glass or plastic bottles can be disposed of as general waste after decontaminating and final triple water rinse.
11. Non-hazardous, water-soluble chemicals may be disposed of by pouring down the drain with running water.
12. The waste oil generated by routine maintenance procedures (i.e. motor oil, A. C. compressor oil, vacuum pump oil etc.) should be collected and bulked by Physical Plant Personnel.
13. The waste oil should be placed in proper containers, sealed and labeled by authorized Physical Plant Personnel for transportation to the storage area.

## **WPUNJ BIOHAZARDOUS WASTE DISPOSAL POLICY**

The following steps are the responsibility of the generating laboratory:

1. All biohazardous waste shall be inactive through autoclaving, or other decontamination method appropriate to the agent involved, before leaving the laboratory where it is generated.
2. Any biohazardous waste which is mixed with EPA hazardous and/or radioactive waste shall be managed in accordance with the applicable requirements for those wastes. Mixed biohazardous waste shall be treated to render it nonbiohazardous through autoclaving or other decontamination methods appropriate to the agent involved. Once treated, the waste shall be managed as EPA hazardous and/or radioactive waste.
3. Before leaving the laboratory where generated, biohazardous waste, except sharp objects, shall be packaged in impermeable, orange or red polyethylene or polypropylene plastic bags.
4. Filled biohazardous bags shall be sealed.
5. Discarded sharp objects shall be segregated from all other waste. Discarded sharps shall be placed directly into leak-resistant, rigid, puncture-resistant containers.
6. Biohazardous waste bags will be removed for either “on site” or “off site” disposal by housekeeping personnel or by medical waste pick up contractor.

### **On Site Storage and Disposal**

1. All on site storage of biohazardous waste shall be in designated area away from general traffic flow patterns and be accessible only to authorized personnel.
2. All areas primarily used for the storage of biohazardous waste, other than the point of origin, shall be constructed of smooth, easily cleanable material that is impervious to liquids and capable of being readily maintained in a sanitary conditions. All outdoor storage areas shall be conspicuously marked with the international biohazard symbol.
3. Disposable containers used for storage of biohazardous waste shall be destroyed during the disposal process. Multi-use storage containers shall be disinfected after each use according to the method described below. Multi-use containers shall be constructed of smooth, easily cleanable, impermeable material resistant to corrosion by disinfectant chemicals.

## **On Site Transfer Requirement**

1. Sealed packages of biohazardous waste shall remain intact until treatment or disposal. There shall be neither recycling efforts nor intentional removal of waste from its packaging prior to the waste being treated or disposed.
2. Packages of biohazardous waste shall be handled and transferred in a manner that does not impair the integrity of the package.
3. Trash chutes shall not be used to transfer biohazardous waste between locations.
4. Packages of biohazardous waste shall not be compacted or subjected to mechanical stress which will compromise the integrity of the package during transfer.
5. Surfaces contaminated with spilled or leaked biohazardous waste shall be cleaned with a solution of industrial strength detergent to remove visible soil and shall be disinfected with one of the following agents:
  - a. Hot water at a temperature of at least 164° F or 73° C for a minimum of 30 seconds.
  - b. Rinsing for at least 3 minutes with one of the following chemical disinfectants at the minimum concentration listed:
  - c.
    1. Hypochlorite solution containing 100 parts per million, also referred to as 100 ppm, available free chlorine, or
    2. Iodine solution containing 25 ppm available iodine.
    3. 70% ethanol.

All containers used for storage or transfer of biohazardous waste should be disinfected using one of these methods after each use.

6. Liquid waste generated by the use of these chemical disinfection methods should be disposed of into sewage system.
7. Persons loading or unloading bags of biohazardous waste from transfer vehicles should wear impermeable gloves and protective clothing.

## **Off Site Disposal and Labeling Requirements**

1. Bagged biohazardous waste transported off site and manually unloaded prior to final treatment should be enclosed in a rigid- container. If a fiberboard box is used, it should be double walled and corrugated and meet the standards of U. S. Department of Transportation, section 178.210, Code of Federal Regulations.
2. The following information should be securely attached or permanently printed on each bag, container and outer layer of packaging, using indelible ink:
  - a. The name of the generating institution and address
  - b. The date waste was generated or packaged

- c. The international biological hazard symbol. The symbol should be red, orange or black, and the background color should contrast with that of the symbol. The symbol should be at least 6 inches in diameter on bags and at least 1.5 inches in diameter for sharp containers.
- d. One of the phrases **“BIOHAZARDOUS WASTE”** or **“INFECTIOUS WASTE”** should be used.

*All biohazardous/medical waste/sharps and needles will be removed from WPUNJ Campus by Medical Waste Disposal Company for incineration or disposal in secure landfill.*

## GENERAL RULES FOR SAFE USE OF RADIOACTIVE MATERIALS

1. Always wear laboratory coats or other protective clothing in areas where radioactive materials are used.
2. Always wear disposable gloves when handling radioactive materials, changing them frequently
3. After each procedure or before leaving the area, monitor your hands and clothing for contamination in a low-background area with an appropriate radiation detector.
4. DO NOT eat, drink, smoke or apply cosmetics in any areas where radioactive material is stored or used.
5. DO NOT store food, drink or personal effects with radioactive materials.
6. NEVER pipette by mouth.
7. Survey all areas where radioisotopes are used with an appropriate radiation detection survey meter (e.g. handheld survey meter) prior to and at the end of each use. If necessary, decontaminate or secure the area for decay as appropriate.
8. Dispose of radioactive waste only in specially designated, labeled, and properly shielded receptacles.
9. Store radioactive solutions in covered containers that are clearly identified and labeled with the name of the compound, radionuclide, date and activity.
10. Always keep sources, waste and other radioactive material in shielded containers.
11. Restrict access to radioactive material. This may be achieved by one or more of the following:
  - a. Lock designated areas when not in use;
  - b. Lock refrigerators where radioactive materials are stored.
12. Always use a cart to move sources, waste and other radioactive materials to minimize exposure.

## **EMERGENCY PROCEDURES FOR RADIOACTIVE MATERIAL SPILL**

**NOTE: All incidents must be reported to Radiation Safety Officer (RSO). If you need emergency assistant during or after hours or on the weekends, please call Campus Police at 720-2301.**

All radioactive material users must read these procedures prior to commencing work.

### **A. MINOR SPILL**

1. Notify all other persons in the room.
2. Cover the spill with absorbent paper.
3. Use disposable gloves and remote handling tongs. Carefully fold the absorbent paper. Insert into a plastic bag. Also insert into the plastic bag all other contaminated materials such as disposable gloves. Put the plastic bag into the radioactive waste container.
4. Decontaminate as necessary.
5. Check the area around the spill, hands and clothing for contamination with a low-range, G-M survey meter.
6. Report the incident to the Radiation Safety Officer (RSO).
7. Permit no person to resume work in the area until a survey has been made and confirmed by the RSO.

### **B. MAJOR SPILL**

1. Notify all persons not involved in the spill to vacate the room immediately
2. If a liquid spills. Cover the spill with absorbent paper or pads, but do not attempt to clean it up. Confine the movement of all potentially contaminated personnel to prevent the spread.
3. If possible, the spill should be shielded, but only if it can be done without further contamination or without significantly increasing your radiation exposure.
4. Leave the room and lock the doors to prevent entry.
5. Notify the RSO immediately.

6. Remove contaminated clothing and store for further evaluation by RSO. If the spill is on the skin, flush thoroughly and then wash with mild soap and lukewarm water.
7. Decontaminate area as per the RSO instructions.
8. All persons involved must be monitored.
9. Permit no person to resume work in the area until a survey by the RSO is performed.

# EXPOSURE CONTROL PLAN

## (BLOODBORNE PATHOGENS RULE)

### Introduction

The Exposure Control Plan set forth below has been written in accordance with Occupational Safety and Health Administration's (OSHA) Occupational Exposure to Bloodborne Pathogens rule, 29, CFR Part 1910.1030. It was created by the William Paterson University Advanced Athletic Training class and is intended to be put into effect within the training room and all fieldwork. All members associated with the program will be required to follow its protocol. The purpose of this plan is to protect the student athletic trainers, athletes, and staff from the transmission of any bloodborne pathogens such as HBV or HIV. Violations of the (OSHA) rule can result in substantial fines. It is recognized that our profession involves many risks when dealing with patients who are bleeding, so it is important that this plan is thoroughly read and followed at all times. Although it is subject to change in order to comply to current OSHA guidelines.

This plan contains the following information:

1. Definitions of all terms used in the plan.
2. What to do when you come in contact with an athlete that is bleeding.
3. Proper use and disposal of latex rubber gloves.
4. Proper techniques used to sterilize and disinfect equipment after exposure has taken place.
5. Areas within the training room where exposure should be limited.
6. Proper techniques of disposing infectious materials using sharps containers.
7. Proper labeling of infectious disposable materials.
8. What to do if you are exposed.

### Definitions

*Assistant Secretary* – The Assistant Secretary of Labor for the OSHA, or designated representative.

*Blood* – Includes human blood, human blood components, and products made from human blood.

*Bloodborne Pathogens* – Includes pathogenic micro-organisms that are present in human blood and can cause disease in humans. These pathogens include, but are not limited to hepatitis B virus (HBV), and human immuno-deficiency virus (HIV).

*Contaminated* – The presence of or reasonably anticipated presence of blood or potentially infectious materials on an item or surface.

*Contaminated Sharps* – Any contaminated object that can pierce the skin, including, but not limited to, needles, scalpels, and broken glass.

*Decontamination* – Use of physical or chemical means to remove, inactivate or destroy bloodborne pathogens on a surface or item to a point where they are no longer capable of transmitting infectious particles, and the surface of the item is rendered safe for handling, use, or disposal.

*Director* – Director of the National Institute for OSHA, U. S. Department of Health and Human Services, or designated representative.

*Employee* – A faculty member, staff member or student who performs duties which may involve exposure to potentially infectious blood or body fluid as a function of their job performance or clinical education.

*Engineering Controls* – Controls (sharps and disposal containers) that isolate, or remove the bloodborne pathogens hazard from the workplace.

*Exposure Incident* – A specific eye, mouth, other mucous membrane, non-intact skin, or parenteral contact with blood or infectious material that results from the performance of an employee's duties.

*Occupational Exposure* – Reasonably anticipated skin, eye, mucous membrane or parenteral contact with blood or other potentially infectious materials that may result from the performance of an employee's duties.

*Other Potentially Infectious Materials* – 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.

*Parenteral Protective Equipment* – Specialized clothing or equipment worn by an employee for protection against a hazard.

*Regulated Waste* – Liquid or semi-liquid blood or other potentially infectious material.

*Source Individual* – Any individual, living or dead, whose blood or other potentially infectious materials may be a source of Occupational Exposure to the employee.

*Sterilize* – Use of a physical or chemical procedure to destroy all microbial life, including highly resistant bacterial endospores.

*Universal Precautions* – An approach to infection control. According to the concept of universal precautions, all human blood and certain human body fluids are treated as if known to be infectious for HIV, HBV, and other bloodborne pathogens.

*Work Practice Controls* – Controls that reduce the likelihood of exposure by altering the manner in which a task is performed.

## **Hepatitis B (HBV) Vaccination**

1. The university shall make available the Hepatitis B vaccine and vaccination series as well as post-exposure evaluation and follow-up care to all employees who are faculty and/or staff of the university who have occupational exposure or reasonable expectation thereof.
2. The university shall make available the post-exposure Hepatitis B vaccination and vaccination series as well as post-exposure evaluation and follow-up care to all employees who are students of the university who have occupational exposure or reasonable expectation thereof.

3. The university shall ensure that all medical evaluations and procedures including the Hepatitis B vaccine and vaccination and post-exposure evaluation and follow-up, including prophylaxis, are in compliance with OSHA Rule 29 CFR 1910.1030 and are:
  - i. Made available at no cost to the employees.
  - ii. Made available to the employees at a reasonable time and place.
  - iii. Performed by or under the supervision of a licensed physician or by or under the supervision of another licensed health care professional; and
  - iv. Provided according to the recommendations of the U. S. Public Health Service current at the time these evaluations take place.

### **Employees with Occupational Exposure**

Physicians, Trainers, Equipment managers, coaches, and any other employees who performs tasks similar to those by employees listed above must comply with the Exposure Control Plan.

The previously mentioned staff members are to have been trained in the following:

1. Basic First Aid Skills
2. CPR and Rescue Breathing

In addition to those requirements, the athletic training staff shall be responsible for the following:

1. Primary care of sub-acute open wounds.
2. Attend to post operative scars and lesions.
3. Evaluation of athletic injuries, post injury care and rehabilitation.

### **Compliance Method**

1. Universal precautions shall be observed to prevent contact with blood or other potentially infectious materials. Under circumstances in which differentiation between body fluid types is difficult or impossible, all body fluids shall be considered infectious materials.
2. WPUNJ Athletics shall provide hand washing facilities, which are readily accessible to employees, and visiting teams.
3. When hand washing facilities are not available, WPUNJ Athletics shall provide an appropriate antiseptic hand cleanser in conjunction with clean cloth/paper towels or antiseptic towelettes. Hands shall be washed with soap and water as soon as possible.
4. Employees shall wash their hands immediately or as soon as possible after removal of protective equipment.
5. Employees shall wash any other skin with soap and water immediately or as soon as possible following contact of such body areas with blood or other potentially infectious materials.

6. Eating, drinking, smoking, applying cosmetics or lip balm, and handling contact lenses are prohibited in any areas where medical procedures are performed.
7. Food and drink shall not be kept in refrigerators, freezers, shelves, cabinets or on countertops or bench tops in any area where medical procedures are performed.
8. All procedures involving blood or other potentially infectious materials shall be performed in such a manner as to minimize splashing, spraying, spattering and generation of droplets of these substances.
9. Specimens of blood or other potentially infectious materials shall be placed in a container which prevents leakage during collection or handling.
10. Specimens of blood or other potentially infectious materials shall be placed in a container bearing a biohazard symbol; which should prevent leakage during collection and handling.
11. Equipment that may become contaminated with blood or other potentially infectious materials shall be decontaminated as necessary prior to shipping to be serviced.

**Personal Protective Equipment:**

1. The WPUNJ shall provide protective equipment such as latex rubber gloves, and protective pocket masks with mouthpiece at no cost to the employees.
2. Employees shall use appropriate personal protective equipment when caring for open wounds.
3. WPUNJ shall ensure that appropriate personal protective equipment in the appropriate sizes is readily accessible in it's locker rooms, training rooms, practice facilities, and at game sites, including sidelines, or is issued to employees.
4. Cleaning and disposal of personal protective equipment will be done at no cost to the employees.
5. WPUNJ shall repair or replace protective equipment as need to maintain it's effectiveness, at no cost to the employees.
6. If blood or other infectious material penetrates a garment, the garment shall be removed immediately or as soon as possible.
7. All personal protective equipment shall be removed prior to leaving work area.
8. When personal protective equipment is removed it shall be placed in an appropriately designated area or container for storage, washing, decontamination or disposal.
9. Latex rubber gloves shall be worn when it can be reasonably anticipated that the employee may have hand contact with blood, other potentially infectious materials, mucous membranes, non-intact skin; when handling vascular access procedures, and when handling or touching contaminated items or surfaces.
10. Disposable gloves, such as surgical or examination gloves shall be replaced as soon as practical when contaminated or as soon as possible if torn, punctured or when their ability to function as a barrier is compromised.

### **Housekeeping:**

1. The university shall ensure that the work site is maintained in a clean and sanitary condition. The university shall determine and implement an appropriate written schedule for cleaning and method of decontamination.
2. All equipment and environmental and working surfaces shall be cleaned and decontaminated after contact with blood or other potentially infectious materials.
3. Contaminated work surfaces shall be decontaminated with appropriate disinfectant after completion of procedures, immediately after or as soon as feasible when surfaces are overtly contaminated or after any spill of blood or other potentially infectious materials; and at the end of the work shift if the surface has been contaminated since the last cleaning.
4. Protective coverings, such as plastic wrap, aluminum foil, or imperviously-backed absorbent paper used to cover equipment and environmental surfaces, shall be removed and replaced as soon as feasible when contamination occurs.
5. All bins, pails, cans, and similar receptacles intended for reuse which have a reasonable likelihood for becoming contaminated with blood or other potentially infectious materials shall have a removable, plastic liner. These containers must also be inspected and decontaminated on a regular basis.
6. Broken glassware, which may be contaminated, shall not be picked up directly with the hands. It shall be cleaned up using mechanical means, such as brush and dust pan, tongs, or forceps.
7. Reusable sharps that are contaminated with blood or other potentially infectious materials shall not be stored or processed in a manner that the training staff must reach by hand into the containers where these sharps have been placed.

### **Regulated Waste:**

Contaminated sharps and discarding and Containment. Contaminated sharps shall be discarded immediately or as soon as feasible in containers that are:

- a. Closeable
  - b. Puncture resistant
  - c. Leakproof on sides and bottoms
  - d. Labeled or color coded
1. During use, containers for contaminated sharps shall be:
    - a. Easily accessible to personnel and located as close as is feasible to the immediate area where sharps are used or can be reasonably anticipated to be found.
    - b. Maintained upright throughout use.
    - c. Replaced routinely and not be allowed to overfill.
  2. When moving containers of contaminated sharps from the area of use, the containers shall be:
    - a. Closed immediately prior to removal or replacement to prevent spillage or protrusion of contents during handling and storage.

- b. Placed in as secondary container if leakage is possible. The secondary container shall be closable, labeled or color coded, and constructed to contain all contents and prevent leakage during handling.
- 3. Reusable containers shall not be opened, emptied, or cleaned manually or in any other manner.

**Other Regulated Waste:**

Regulated waste shall be placed in containers, which are:

- a. Closable
- b. Constructed to contain all contents and prevent leakage of fluids during handling, and storage.
- c. Labeled or color-coded.
- d. Closed prior to removal to prevent spillage or protrusion of contents.
- 1. If outside contamination of the regulated waste container occurs, it shall be placed in a second container which is:
  - a. Closable.
  - b. Constructed to contain all contents and prevent leakage of fluids during handling, and storage.
  - c. Labeled or color-coded.
  - d. Closed prior to removal to prevent spillage or protrusion of contents.
- 2. Disposal of all regulated waste shall be in accordance with applicable regulations of the U. S., State of New Jersey, and political subdivisions of states and territories.

**Post-exposure Evaluation and Follow-up:**

Following a report of an exposure incident the university shall make immediately available to the exposed employee a confidential medical evaluation and follow-up, including at least the following elements:

- a. Documentation of the routes of the exposure, and circumstances under which exposure incident occurred.
- b. Identification and documentation of the source, unless the university can establish that identification is infeasible or prohibited by law.
- 1. The source's blood should be tested as soon as feasible and after consent is obtained in order to determine HBV and HIV infection. If consent is not obtained, the university shall establish that legally required consent cannot be obtained. When law does not require the source's consent, the source's blood, if available, shall be tested and the results documented.
- 2. When the source is already known to be infected with HBV or HIV, testing for the source individual's known HBV or HIV status need not be repeated.
- 3. Results of the source individual testing shall be made available to the exposed employee, and the employee shall be informed of applicable laws and regulations concerning disclosure of the identity of the infectious status of the source.

4. Collection and testing of blood for HBV or HIV serological status:
  - a. The exposed employee's blood shall be collected as soon as feasible and tested after consent is obtained.
  - b. If the employee consents to baseline blood collection, but does not give consent at the time for HBV or HIV serologic testing, the sample shall be preserved for at least 90 days. If within 90 days of exposure incident, the employee elects to have the baseline sample tested, such testing shall be done as soon as feasible.
5. Post-exposure prophylactics, when medically indicated, as recommended by the U. S. Public Health Service.
6. Counseling.
7. Evaluation of reported illnesses.

#### **Information Provided to Healthcare Professional:**

The university shall ensure that the healthcare professional evaluation a person from the training staff after an exposure incident is provided with the following information:

1. A copy of this regulation.
2. A description of the exposed "trainer's" duties as they relate to the exposure incident.
3. Documentation of the route(s) of exposure and circumstances under which exposure occurred.
4. Results of the source's blood testing, if available.
5. All medical records relevant to the appropriate treatment of the employee including vaccination status which are the responsibility of the university to maintain.

#### **Healthcare Professional's Written Opinion**

The healthcare professional's written opinion for post-exposure, evaluation and follow-up shall be limited to:

1. The employee has been informed of the results of the evaluation.
2. The employee has told about any medical conditions resulting from exposure to blood or other potentially infectious materials, which require further evaluation or treatment.
3. All other findings or diagnoses shall remain confidential and shall not be included in the written report.
4. Medical Records shall be maintained according to same way as other record keeping is handled.

## **Communication of Hazards to Training Staff**

The following procedures for communicating hazards to employees shall be implemented:

1. Warning labels shall be affixed to containers of regulated waste, contaminated equipment, refrigerators and freezers containing blood or other potentially infectious materials, and other containers used to store, transport or ship blood or other potentially infectious materials.

### **Specifications:**

- a. Warning labels shall include the Biohazard symbol and the word "Biohazard".
  - b. Warning labels shall be fluorescent orange or orange-red or predominantly so, with lettering or symbols in a contrasting color.
  - c. Warning labels shall be affixed as close as feasible to the container by string, wire, adhesive, or other method that prevents their loss or unintentional removal.
  - d. Red bags or red containers may be substituted for labels.
  - e. Containers of blood, blood components, or blood products that are labeled as to their contents and have been released for transfusion or other clinical use are exempted from the labeling requirement.
  - f. Individual containers of blood or other potentially infectious materials that are placed in a labeled container during storage, transport, shipment, or disposal are exempted from the labeling requirement.
  - g. Warning labels required for contaminated equipment should also state which portions of the equipment remain contaminated.
  - h. Regulated waste that has been decontaminated need not be labeled or color-coded.
2. The university shall ensure that all of the training staff participates in a training program of Occupational Exposure, which shall be provided at no cost to the employees during working hours.

### **Training Program Elements**

- a. An accessible copy of the regulatory text of OSHA's Occupational Exposure to Bloodborne Pathogens Rule, 29 CFR 19010.1030, and an explanation of its contents.
- b. A general explanation of the epidemiology and symptoms of bloodborne diseases.
- c. An explanation of the modes of transmission of bloodborne pathogens.
- d. An explanation of the Exposure Control Plan and the means by which the employee can obtain a copy of the written plan.

- e. An explanation of the appropriate methods for recognizing tasks and other activities that may involve exposure to blood and other potentially infectious materials.
  - f. An explanation of the limitations of methods that will prevent or reduce exposure including appropriate engineering controls, work practices, and personal protective equipment.
  - g. Information on the types, proper uses location, removal, handling, decontamination, and disposal or personal protective equipment.
  - h. An explanation of the basis for selection of personal protective equipment.
  - i. Information on the Hepatitis B vaccine, including information on it's efficiency, safety, method of administration, and benefits of being vaccinated.
  - j. Information on the appropriate actions to take and persons to contact in an emergency involving blood or other infectious materials.
  - k. Information on the post exposure evaluation and follow-up that the university is required to provide for the training staff following an exposure incident.
  - l. An explanation of the signs and labels and/or color coding required by this plan.
  - m. An opportunity for interactive questions and answers with persons conducting the training session.
3. Training shall be provided as follows:
    - a. At the time of initial assignment to tasks where occupational exposure may take place.
    - b. Within 90 days after the effective date of the standard.
    - c. At least annually thereafter.
  4. Annual training for all the training staff shall be provided within one year of their previous training.
  5. The university shall provide additional training when changes such as modification of tasks or procedures or institution of new tasks or procedures affecting the training staffs occupational exposure. The additional training may be limited to addressing the new exposures created.
  6. Material appropriate in content and vocabulary to educational level, literacy, and language of training staff shall be used.
  7. The person(s) conducting the training shall be knowledgeable in the subject matter required to be covered by the training program as it relates to intercollegiate sports and the athletic training room facilities.

### **Medical Records**

WPUNJ shall establish and maintain an accurate record for each trainer with occupational exposure.

1. This record shall include:
  - a. The name and social security number of all trainers.

- b. A copy of all trainers HBV vaccination status including the dates of all the HBV vaccinations and any medical records relative to the trainers ability to receive vaccination.
  - c. A copy of all results of examinations, medical testing, and follow-up procedures.
  - d. The university's copy of the healthcare professional's written opinion.
  - e. A copy of the information provided to the healthcare professional.
2. The university shall ensure that medical records required are:
    - a. Kept confidential.
    - b. Are not disclosed or reported without the trainer's express written consent to any person within or outside the workplace except as required by law.
    - c. The university shall maintain the records required as outlined by OSHA standards. In the case of students records will be kept from the time of graduation plus 30 years.

### **Training Records**

Training records shall include the following information:

- a. The dates of the training.
  - b. The contents of the training session.
  - c. The names and qualifications of persons conducting the training.
  - d. The names and job titles of all persons attending the training sessions.
1. Training records shall be maintained for 30 years from the date on which the training occurred.
  2. The university shall ensure that all records required to be maintained by this section shall be provided upon request.
  3. Training staff records required by this paragraph shall be provided upon request for examination and copying to training staff, to training staff representative, and to the director.
  4. Trainer medical records required by this paragraph shall be provided upon request for examination and copying to trainers, to anyone having consent of the subject trainer, and to the director.
  5. The employer shall comply with the requirements involving transfer of records set forth in 29 CFR 1910.20.