



LAKE FOREST
COLLEGE

Environmental Health & Safety Plan

Implemented
September 2008

Updated
July 2017*

*Structural Plan Revision



Table of Contents

Overview	5
Electrical Safety Program	6
General Policy	6
Normal Practice	6
Reporting	6
General Guidelines and Definitions	6
Opening and Closing Electrical Circuits	7
Use of Electrical Equipment When Flammable or Ignitable Materials Are Present	8
Personal Protective Equipment	8
Warning Signs and Barricades	8
Use of Portable Equipment	8
Exposure Control Plan (ECP) For Bloodborne Pathogens	10
Purpose	10
Administrative Duties	10
Definition of Exposure	10
Job Classes: Global Risk of Exposure	11
Job Classes: Function-Specific Risk of Exposure	11
Compliance Strategies	11
Engineering and Work Practice Controls	11
Hand Washing Facilities	12
Work Restrictions	12
Personal Protective Equipment	12
Gloves	13
Information and Training	13
Recordkeeping	14
Availability	14
Evaluation and Review	15
Hepatitis B Vaccination Program	15



Post-Exposure Evaluation and Follow-Up	15
Fall Protection Plan	18
Overview	18
Purpose	18
Application	18
General Procedures	18
Handling of Hazardous and Perishable Materials	20
Overview	20
Process	20
Electrical Safety in The Instructional and Research Laboratories	22
Employee Exposure Protection and Monitoring	22
Lockout/Tagout Energy Control Guidelines	24
Overview	24
Purpose	24
Application	24
General Procedures	24
Personal Protective Equipment (PPE) Program	27
Overview	27
Purpose	27
Application	27
General Procedures	28
Hazard Assessment	28
PPE Selection Guidelines	28
Employee Training	28
Cleaning and Maintenance	29
PPE Information	29
Scaffolding Safety Procedures	30
Purpose	30
Application	30
General Procedures	30
Gasses, Fumes, Vapors and Dust	31
Purpose	31
General Policy	31



Environmental Health & Safety Plan



Overview

The Lake Forest College Mission Statement declares, "We maintain a secure residential campus of great beauty." We interpret "secure" in its broadest sense. Webster defines secure as follows: "to relieve from exposure to danger; to make safe against adverse contingencies."

As such the College has developed the Lake Forest College Safety Manual as a guide for developing sound, safe working habits in our work environment. The objective of this manual is to provide each employee with a framework of basic information to develop safety-conscious attitudes and behavior. Copies of this manual may be found in the Offices of Public Safety, Facilities Management, and the Business Office.

Occupational safety and health, whether in the laboratory, residence hall or office, is of paramount importance to Lake Forest College. How we perform our jobs and our personal perspectives regarding safety and health are critical to the success of an outstanding safety effort. Safety is everybody's responsibility; therefore, we ask for your commitment to this College goal.

The Lake Forest College Safety Program is directed by the Public Safety Director, who works closely with an appointed Safety Committee comprised of persons representing each organization element. Each employee is encouraged to work with this committee and to assist in formulating and complying with the Safety Manual and other applicable procedures



Electrical Safety Program

General Policy

The purpose of this program is to inform interested persons, including employees, that Lake Forest College is complying with the OSHA Electrical Safety Standard, Title 29 Code of Federal Regulations 1910.333. This requires written procedures for preventing electrical shock or other injuries to employees resulting from direct or indirect electrical contact. This program applies to all work operations at Lake Forest College where employees may be exposed to potentially hazardous electrical, other than laboratories, which have their own guidelines. This program is also designed to provide guidelines that will help protect the entire campus community from these same injuries.

The Safety Coordinator, under the direction of the Director of Public Safety has overall responsibility for coordinating safety and health programs at Lake Forest College. The Director of Facilities Management is the person with the overall responsibility for determining which employees are “qualified” to work on or near energized or de-energized parts. (See below for definitions of these terms.) The Lake Forest College Safety Committee will review and update the program as necessary. Copies of the written program may be obtained from the Business Office, the Department of Public Safety, or the Department of Facilities Management.

If, after reading this program, you find that improvements can be made, please contact the Safety Coordinator, Director of Public Safety or the Director of Facilities Management. We encourage all suggestions because we are committed to creating a safe environment for all members of the community and a successful electrical safety program is an important component of our overall safety plan. We strive for clear understanding, safe work practices, and involvement in the program from all members of the College community.

Normal Practice

Almost everyone at the College works with electrical equipment. In most cases, the common sense of our employees is the most reliable safety measure. For example, if a computer is covered with water, do not turn it on until it has been checked by a qualified individual from Facilities Management or Library and Information Technology. The cord connected to a coffeepot or heater should be checked to see if it is operating properly: if the cord or plug seems too warm when the device is operating, then there may be a problem. Frayed power cords, damaged outlets, and switches that work intermittently should be investigated. If you are unsure if a tool or appliance is electrically safe, then contact your supervisor or other qualified individual for assistance. On a routine basis, no one other than qualified Facilities Management personnel should make changes in the wiring within the walls of a building.

Reporting

Concerns about electrical safety can be reported to Facilities Management or to the Department of Public Safety.

General Guidelines and Definitions

No persons or employees, except for those determined to be qualified by the Director of Facilities Management, shall work on or near exposed energized or de-energized parts.

A qualified person is one who received the appropriate training to work on or near exposed energized parts. The training may be either classroom or on-the-job training, or a combination of



both. The degree of training should correlate to the individual risk of each employee based on his or her job.

Energized equipment is any equipment that is connected to an electrical circuit, either directly or by the use of a cord.

Equipment is de-energized after it has been disconnected from the circuit and all electricity has been drained from the equipment. Some equipment may store a small amount of electricity and needs to be drained. An example of this would be a machine that after it has been disconnected and the control switch is turned on, it may run for a second or two. All equipment should be tested to make sure the power is drained before working on it.

Exposed parts would usually mean that the cover is removed and or the parts that are carrying or conducting the electricity are visible, and you would be able to come in contact with them.

It is the responsibility of all outside contractors or vendors to verify that their employees are qualified to work on or near exposed energized or de-energized parts, and that they follow all guidelines under the OSHA Electrical Safety Standard, Title 29 Code of Federal Regulations 1910.333.

Whenever working on or near equipment or circuits that are or may be energized, employees must use safe work practices to prevent electrical shock or other injuries from either direct or indirect electrical contacts. Additional specific safe work practices must be consistent with the nature and extent of the hazard present. All parts should be considered energized until tested and verified that they are de-energized.

Employees must de-energize live parts to which they may be exposed, unless it has been determined by the Director of Facilities Management that de-energizing does one of the following.

- Introduces additional or increased hazards, such as interruption of life support equipment, deactivation of alarm systems, shutdown of ventilation systems in hazardous locations, or deactivation of lighting systems.
- Is infeasible due to equipment design or operational limitations, such as testing of active circuits and work on circuits that form a key part of a continuous process.

If equipment cannot be de-energized, workers must use appropriately rated insulating equipment, use the proper safe work practices, and exercise extreme caution when working on live systems. Employees need not de-energize live parts operating at less than 50V, as long as there is no increased exposure to electrical burns or to explosion due to electrical arcs.

The safe work practices must meet the following criteria:

- Protect employees and others against contact with energized circuit parts directly with any part of their body or indirectly through some other conductive object.
- Be suitable for the working conditions.
- Be suitable for the voltage level of the exposed electric conductors or circuit parts.
- When working on de-energized circuits or parts, all employees should follow the guidelines and procedures outlined in the College's lockout/tagout program.

Opening and Closing Electrical Circuits

Whenever a circuit is de-energized by a circuit protective device (such as a circuit breaker) the following steps must be taken before the circuit is re-energized.



- You should not manually reset the breaker until after you have determined that the equipment and circuit can safely be re-energized.
- If you are repeatedly tripping breakers or blowing fuses do not continually reset the breaker or replace the fuse. You must notify Facilities Management to determine the cause of the repeated breakdowns. Nobody should be allowed to use the equipment until it has been tested and repaired.
- No employee should modify any circuit breakers or fuse panels.

Use of Electrical Equipment When Flammable or Ignitable Materials Are Present

You must not use electrical equipment capable of igniting flammable materials, even where such materials are present only occasionally, unless you take measures to prevent hazardous conditions from developing. Such materials include but are not limited to flammable gases, vapors, or liquids; combustible dust; and ignitable fibers or filings.

Personal Protective Equipment

Workers should always use the PPE necessary to protect themselves from electrical shock or other injuries. All PPE should be maintained in a safe, reliable condition, and should be inspected periodically. If you are unsure of what protective equipment to use, you should ask the Director of Facilities Management or his designee.

Warning Signs and Barricades

You must use the following alerting techniques to warn and protect others from electrical shock, burns, or electrical equipment failure hazards.

- Safety signs, safety symbols, or accident prevention tags to warn others about electrical hazards that may endanger them.
- Barricades used in conjunction with safety signs where it is necessary to prevent or limit access to work areas exposing persons to un-insulated energized conductors or circuit parts. Note: You must use only non-conductive barricades for this purpose.
- If signs and barricades do not provide sufficient warning and protection from electrical hazards, you must provide an attendant to warn and protect others.

Use of Portable Equipment

A qualified person should visually inspect portable cord-and-plug-connected equipment and flexible extension cords before use. During this inspection the qualified person ought to look for the following:

- External defects such as loose parts, deformed or missing pins, or damage to the outer jacket or insulation.
- Evidence of possible internal damage such as pinched or crushed outer jackets.

Exception: if cord-and-plug-connected equipment and extension cords remain connected once they are put in place and are not exposed to damage (such as cords connecting computer equipment to their electrical outlet) they need to be inspected only when they are relocated.



Environmental Health & Safety Plan

If there is a defect or evidence of damage that might expose an employee to injury, the defective or damaged item should be removed from service until after repairs and test of the equipment are made.

Workers must handle portable equipment so that it will not cause damage.

Employees must never use flexible electric cords connected to equipment for raising or lowering the equipment.

Flexible cords should never be fastened with staples or hung in any way that might damage the outer jacket or insulation.

When using energized equipment, make sure that employee's hands are not wet when plugging and unplugging flexible cords, and cord-and-plug connected equipment.

Handle energized plug and receptacle connections only with insulating protective equipment if the condition of the connection could provide a conducting path to the employee's hand (for example, if a cord connector is wet from being immersed in water).

Make sure the locking-type connectors are properly secured after connection.

If using a portable electric tool with a grounding plug, you must use flexible cords that also contain an equipment-grounding conductor.

Workers must never attach, connect, or alter attachment plugs and receptacles in a way that prevents proper grounding.

Workers must never alter equipment to allow the grounding pole of a plug to be inserted in slots intended for connection to the current-carrying conductors.

Any portable electric equipment and flexible cords used in a hazardous location (such as working in wet conditions, or any highly conductive work locations) must be UL (Underwriters Laboratory) approved for use under those conditions. (For example, only an electrical extension cord approved for use under water may be used to supply power to an electrical pump under wet conditions.)

Workers must always make sure that the electrical plug properly mates with the receptacle they are using, including receptacles on cord sets.



Exposure Control Plan (ECP) For Bloodborne Pathogens

Purpose

This document serves as the written procedures Bloodborne Pathogens Exposure Control Plan (ECP) for Lake Forest College Campus. These guidelines provide policy and safe practices to prevent the spread of disease resulting from handling blood or other potentially infectious materials (OPIM) during the course of work.

This ECP has been developed in accordance with the OSHA Bloodborne Pathogens Standard, 29 CFR 1910.1030. The purpose of this ECP includes:

- Eliminating or minimizing occupational exposure of employees to blood or certain other body fluids.
- Complying with OSHA's Bloodborne Pathogens Standard, 29 CFR 1910.1030.

Administrative Duties

The Safety Coordinator, under the direction of the Director of Public Safety has overall responsibility for developing and maintaining the program. Copies of the written program may be obtained from the Business Office or Department of Public Safety. In addition, the Personnel office is responsible for maintaining any records related to the Exposure Control Plan.

If, after reading this program, you find that improvements can be made, please contact the Safety Coordinator or Director of Public Safety. We encourage all suggestions because we are committed to creating a safe environment for all members of the community and a successful exposure control program is an important component of our overall safety plan. We strive for clear understanding, safe work practices, and involvement in the program from all members of the College community.

All incidents of exposure shall be reported to the Department of Public Safety.

Definition of Exposure

For the purpose of this plan:

- Exposure: is defined as any exposure where there is a presence of blood or OPIM without regard to the use of personal protective equipment (i.e., employees are considered to be exposed even if they wear personal protective equipment (PPE)).
- Direct contact exposure: is defined as any exposure where there is direct contact of blood or OPIM with the skin or any body parts of the employee. (i.e., the employee was not wearing personal protective equipment and made contact with blood or OPIM, or the blood or OPIM made contact outside the area protected by personal protective equipment (PPE)).
- Exposure Determination: We have determined which employees may incur occupational exposure to blood or OPIM.



Job Classes: Global Risk of Exposure

Exposure determination is required to list all job classifications in which all employees may be expected to incur such occupational exposure, regardless of frequency. At this facility the following job classifications are in this category:

- Public Safety Officers
- Athletic Trainer
- Health Center receptionist
- Athletic Department Equipment Manager
- Others (as designated by the Vice President of Business)

Job Classes: Function-Specific Risk of Exposure

In addition, we have identified job classifications in which some employees may have occupational exposure. Not all employees in these categories are expected to have exposure to blood or OPIM. Therefore, tasks or procedures that would cause occupational exposure are also listed to further specify which employees have occupational exposure. The job classifications and associated tasks for these categories are as follows:

- Facilities Management (custodians) for clean up (as designated by the Director of Facilities Management)
- Professional Personnel in the Science Departments
- Sports Center (student workers) for laundry service of uniforms (as designated by the Equipment Manager)
- Others (as designated by the Vice President of Business)

Compliance Strategies

This plan includes a schedule and method of implementation for the various requirements of the standard. Universal precaution techniques developed by the Centers for Disease Control and Prevention (CDC) will be observed at this facility to prevent contact with blood or OPIM. All blood or OPIM will be considered infectious regardless of the perceived status of the source individual.

Engineering and Work Practice Controls

Engineering and work practice controls will be used to eliminate or minimize exposure to employees at this facility. Where occupational exposure remains after institution of these controls, employees are required to wear personal protective equipment. At this facility the following engineering controls are used:

- Placing sharp items (e.g., needles, scalpels, etc.) in puncture-resistant, leak proof, labeled containers.
- Performing procedures so that splashing, spraying, splattering, and producing drops of blood or OPIM is minimized.
- Removing soiled PPE as soon as possible.
- Cleaning and disinfecting all equipment and work surfaces potentially contaminated with blood or OPIM. Note: We use a solution of 1/4 cup chlorine bleach per gallon of water.



Environmental Health & Safety Plan

- Thorough hand washing with soap and water immediately after providing care or provision of antiseptic towelettes or hand cleanser where hand washing facilities are not available.
- Prohibition of eating, drinking, smoking, applying cosmetics, handling contact lenses, and so on in work areas where exposure to infectious materials may occur.
- Use of leak-proof, labeled containers for contaminated disposable waste or laundry.
- All soiled or potentially exposed clothing, PPE, dressings, or other materials are to be disposed of in approved, labeled Bio-Hazard trash bags or other suitably labeled containers.
- Employees may not wear soiled or exposed clothing to another assignment following the exposure.
- Employees may not launder such clothing at home. The College will provide laundering service through a licensed cleaner.
- Soiled athletic uniforms will be laundered by the Head Athletic Trainer.

The above controls are examined and maintained on a regular schedule.

Hand Washing Facilities

Hand washing facilities are available to employees who have exposure to blood or OPIM. Sinks for washing hands after occupational exposure are near locations where exposure to bloodborne pathogens could occur.

At this facility hand washing facilities are located: throughout each building.

Supervisors make sure that employees wash their hands and any other contaminated skin after immediately removing personal protective gloves, or as soon as feasible with soap and water.

Supervisors also ensure that if employees' skin or mucous membranes become contaminated with blood or OPIM, then those areas are washed or flushed with water as soon as feasible following contact.

Work Restrictions

In work areas where there is a reasonable likelihood of exposure to blood or OPIM, employees are not to eat, drink, apply cosmetics or lip balm, smoke, or handle contact lenses. Food and beverages are not to be kept in refrigerators, freezers, shelves, cabinets, or on counter tops or bench tops where blood or OPIM are present. Mouth pipetting/suctioning of blood or OPIM is prohibited. All procedures will be conducted in a manner which will minimize splashing, spraying, splattering, and generation of droplets of blood or OPIM.

Personal Protective Equipment

All personal protective equipment (PPE) used at this facility is provided without cost to employees. PPE is chosen based on the anticipated exposure to blood or OPIM. The protective equipment is considered appropriate only if it does not permit blood or OPIM to pass through or reach the employees' clothing, skin, eyes, mouth, or other mucous membranes under normal conditions of use and for the duration of time which the protective equipment will be used.

Lake Forest College makes sure that appropriate PPE in the appropriate sizes is readily accessible at the work site or is issued without cost to employees by:

- Each individual Department, as deemed necessary



Environmental Health & Safety Plan

- Hypoallergenic gloves, glove liners, powderless gloves, or other similar alternatives are readily accessible to those employees who are allergic to the gloves normally provided.

We purchase (when consumable), clean, launder, and dispose of personal protective equipment as needed by:

- Each Department as needed
- All repairs and replacements are made by Lake Forest College

Employees must remove all garments which are penetrated by blood immediately or as soon as possible. They must remove all PPE before leaving the work area. When PPE is removed, employees place it in a designated container for disposal, storage, washing, or decontamination.

Gloves

Employees must wear gloves when they anticipate hand contact with blood, OPIM, non-intact skin, and mucous membranes; when performing vascular access procedures, and when handling or touching contaminated items or surfaces. Disposable gloves used at this facility are not to be washed or decontaminated for re-use and are to be replaced as soon as practical when they become contaminated or as soon as feasible if they are torn, punctured, or when their ability to function as a barrier is compromised.

Utility gloves may be decontaminated for re-use provided that the integrity of the glove is not compromised. Utility gloves will be discarded if they are cracked, peeling, torn, punctured, or exhibit other signs of deterioration or when their ability to function as a barrier is compromised.

Hypoallergenic gloves, glove liners, powderless gloves, or other similar alternatives shall be readily accessible to those employees who are allergic to the gloves normally provided. Routinely this facility does not follow Universal Precautions in the handling of all laundry, therefore, contaminated laundry must be placed in bags or containers which are labeled or color-coded. The Head Athletic Trainer will be responsible for the laundering of all soiled athletic uniforms, following the proper precautions.

Information and Training

Lake Forest College ensures that bloodborne pathogens trainers are knowledgeable in the required subject matter. We make sure that employees covered by the bloodborne pathogens standard are trained at the time of initial assignment to tasks where occupational exposure may occur, and every year thereafter by the following methods:

- Annual training through the Department of Public Safety

Training is tailored to the education and language level of the employee, and offered during the normal work shift. The training will be interactive and cover the following:

- The standard and its contents.
- The epidemiology and symptoms of bloodborne diseases.
- The modes of transmission of bloodborne pathogens.
- Lake Forest College Bloodborne Pathogen ECP, and a method for obtaining a copy.
- The recognition of tasks that may involve exposure.
- The use and limitations of methods to reduce exposure, for example engineering controls, work practices and personal protective equipment (PPE).



Environmental Health & Safety Plan

- The types, use, location, removal, handling, decontamination, and disposal of PPEs.
- The basis of selection of PPEs.
- The Hepatitis B vaccination (HBV), including efficacy, safety, method of administration, benefits, and that it will be offered free of charge.
- The appropriate actions to take and persons to contact in an emergency involving blood or OPIM.
- The procedures to follow if an exposure incident occurs, including the method of reporting and medical follow-up.
- The evaluation and follow-up required after an employee exposure incident.
- The signs, labels, and color coding systems.

Additional training is provided to employees when there are any changes of tasks or procedures affecting the employee's occupational exposure. Employees who have received training on bloodborne pathogens in the 12 months preceding the effective date of this plan will only receive training in provisions of the plan that were not covered.

Recordkeeping

Training records shall be maintained for three years from the date of training. The following information shall be documented:

- The dates of the training sessions;
- An outline describing the material presented;
- The names and qualifications of persons conducting the training;
- The names and job titles of all persons attending the training sessions.

All training records will be kept in the Department of Public Safety. Medical records shall be maintained in accordance with OSHA Standard 29 CFR 1910.20. These records shall be kept confidential, and must be maintained for at least the duration of employment plus 30 years. The records shall include the following:

- The name and social security number of the employee.
- A copy of the employee's HBV vaccination status, including the dates of vaccination.
- A copy of all results of examinations, medical testing, and follow-up procedures.
- A copy of the information provided to the healthcare professional, including a description of the employee's duties as they relate to the exposure incident, and documentation of the routes of exposure and circumstances of the exposure.

All current year medical records will be kept in the Business Office vault and all prior years will be kept in the College's archives.

Availability

All employee records shall be made available to the employee in accordance with 29 CFR 1910.20. All employee records shall be made available to the Assistant Secretary of Labor for the Occupational Safety and Health Administration and the Director of the National Institute for Occupational Safety and Health upon request.



Evaluation and Review

This program and its effectiveness is reviewed every year and updated as needed. All provisions required by this have been implemented.

Hepatitis B Vaccination Program

Lake Forest College offers the Hepatitis B vaccine and vaccination series to all employees who have occupational exposure to bloodborne pathogens, and post exposure follow-up to employees who have had a direct contact exposure incident. Any employee who has been exposed is eligible for the Hepatitis B Vaccination Program.

All medical evaluations and procedures including the Hepatitis B vaccine and vaccination series and post exposure follow up, including prophylaxis are:

- Made available at no cost to the employee.
- Made available to the employee at a reasonable time and place.
- Performed by or under the supervision of a licensed physician or by or under the supervision of another licensed healthcare professional.
- Provided according to the recommendations of the U.S. Public Health Service.

All laboratory tests are conducted by an accredited laboratory at no cost to the employee. Hepatitis B vaccination is made available:

- After employees have been trained in occupational exposure (see Information and Training).
- Within 10 working days of initial assignment.
- To all employees who have occupational exposure unless a given employee has previously received the complete Hepatitis B vaccination series, antibody testing has revealed that the employee is immune, or the vaccine is contraindicated for medical reasons.
- Can be received at the College's Health & Wellness Center with prior notification

Participation in a pre-screening program is not a prerequisite for receiving Hepatitis B vaccination. If the employee initially declines Hepatitis B vaccination but at a later date while still covered under the standard decides to accept the vaccination, the vaccination will be made available. All employees who decline the Hepatitis B vaccination offered must sign the OSHA-required waiver indicating their refusal. If a routine booster dose of Hepatitis B vaccine is recommended by the U.S. Public Health Service at a future date, such booster doses will be made available under the same criteria as the initial series.

Post-Exposure Evaluation and Follow-Up

All exposure incidents are reported, investigated, and documented. When the employee is exposed to blood or OPIM, the incident is reported to the Department of Public Safety immediately if possible, or at most within 24 hours. When an employee has a direct contact exposure, he or she will receive a confidential medical evaluation and follow-up, including at least the following elements:

- Documentation of the route of exposure, and the circumstances under which the exposure occurred.
- Identification and documentation of the source individual, unless it can be established that identification is infeasible or prohibited by state or local law.



Environmental Health & Safety Plan

- The source individual's blood shall be tested as soon as feasible and after consent is obtained in order to determine HBV and HIV infectivity. If consent is not obtained, the Director of Public Safety establishes that legally required consent cannot be obtained. When the source individual's consent is not required by law, the source individual's blood, if available, will be tested and the results documented.
- When the source individual 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.
- Results of the source individual's testing are made available to the exposed employee, and the employee is informed of applicable laws and regulations concerning disclosure of the identity and infectious status of the source individual.

Collection and testing of blood for HBV and HIV serological status will comply with the following:

- The exposed employee's blood is collected as soon as possible and tested after consent is obtained;
- The employee will be offered the option of having their blood collected for testing of the employee's HIV/HBV serological status. The blood sample will be preserved for up to 90 days to allow the employee to decide if the blood should be tested for HIV serological status.

All employees who incur a direct contact exposure incident will be offered post-exposure evaluation and follow-up according to the OSHA standard. All post exposure follow-up will be performed by Highland Park Hospital. The healthcare professional responsible for the employee's Hepatitis B vaccination is provided with the following:

- A copy of 29 CFR 1910.1030.
- A written description of the exposed employee's duties as they relate to the exposure incident.
- Written documentation of the route of exposure and circumstances under which exposure occurred.
- Results of the source individuals blood testing, if available.
- All medical records relevant to the appropriate treatment of the employee including vaccination status.

Lake Forest College obtains and provides the employee with a copy of the evaluating healthcare professional's written opinion within 15 days of the completion of the evaluation. The healthcare professional's written opinion for HBV vaccination must be limited to whether HBV vaccination is indicated for an employee, and if the employee has received such vaccination. The healthcare professional's written opinion for post-exposure follow-up is limited to the following information:

- A statement that the employee has been informed of the results of the evaluation.
- A statement that the employee has been told about any medical conditions resulting from exposure to blood or OPIM which require further evaluation or treatment.

Note: All other findings or diagnosis shall remain confidential and will not be included in the written report.

Biohazard labels are affixed to containers of regulated waste, refrigerators and freezers containing blood or OPIM, and other containers used to store, transport or ship blood or OPIM. The universal biohazard symbol is used. The label is fluorescent orange or orange-red. Red bags or other approved containers may be substituted for labels. Only licensed blood donor organizations shall be used for



Environmental Health & Safety Plan

any blood drives on campus. It is expected that these outside agencies will follow all appropriate procedures.



Fall Protection Plan

Overview

The standards for regulating fall protection systems and procedures are intended to prevent employees from falling off, onto or through working levels and to protect the employees from falling objects.

Purpose

It is Lake Forest College's purpose in issuing these procedures to further ensure a safe workplace based on the following formal, written procedures for dealing with fall protection, and protection from falling objects. These procedures will be reviewed and updated as needed to comply with OSHA regulations, new practices in fall protection, and as business practices demand. The Director of Facilities Management is the plan coordinator and is responsible for its implementation. Facilities Management Supervisors will be responsible for the direct supervision of the plan.

Copies of the written plan may be obtained at the Office of Facilities Management, Department of Public Safety, and the Business Office of Lake Forest College.

Application

These general procedures apply to all employees of Lake Forest College who might be exposed to fall hazards, except when designated employees are inspecting, investigating, or assessing workplace conditions before the actual start of a job assignment, or after the work has been completed.

All outside contractors or vendors will maintain responsibility to comply with all OSHA regulations regarding fall protection and protection from falling objects.

General Procedures

Our employees must be protected when they are exposed to falls from unprotected sides and edges of walking/working surfaces (horizontal and vertical surfaces) which are 6 feet or more above lower levels.

Whenever work is being done more than 6 feet above lower levels, the area below and all workers below must be protected from falling objects.

Our employees must be protected when working on walking/working surfaces with holes where they can fall 6 feet or more to a lower surface (including skylights) and the area below must be protected from falling objects.

All excavations must be protected to prevent any persons from falling in. In addition, walls, pits, shafts, and similar excavation's 6 feet or more deep must be guarded to prevent employees from falling into them.

When equipment is less than 6 feet below an employee, but because of the form or function is dangerous, the employee must be protected. When the equipment is more than 6 feet below the employee, even if it is not dangerous, the employee must be protected.

When the employees are exposed to the hazard of falling out or through wall openings where the outside bottom edge of the wall opening is 6 feet or more above lower levels and the inside bottom



Environmental Health & Safety Plan

edge of the wall opening is less than 39 inches above the walking/working surface the employee must be protected from falling.

There may be situations that are not specifically covered by our written safety plan. Therefore whenever an employee is exposed to falls of 6 feet or more to lower levels, they must be protected.

When employees are exposed to falling objects, they must wear hard hats, and also implement one of the following measures if possible:

- Erect toeboards, screens, or guardrail systems to prevent objects from falling from higher levels.
- Barricade the area to which objects could fall, prohibit employees from entering the barricaded area, and keep objects that may fall far enough away from the edge of a higher level so that those objects would not go over the edge if they were accidentally moved.
- Cover or guard holes 6 feet or more above a lower level.

Employees will follow all safety procedures designated by the plan Supervisors. All questions about safety or hazards should be referred to the plan Supervisors.

If the situation calls for the use of fall protection devices such as harnesses or lanyards and belts because the hazard cannot be reduced to a safe level, then the employee must don such protective equipment before beginning the work and use it as intended throughout the duration of the work.

All walking/working surfaces must be kept in a clean and, so far as possible, dry condition. Where wet processes are used, drainage shall be maintained and false floors, platforms, mats or other dry standing places should be provided where practical.

No employee should do work requiring special fall protection devices until they have completed training with that device as designated by the plan supervisor.

It is the plan supervisor's responsibility to:

- Inspect the area to determine what hazards exist or may arise during the work.
- Identify the hazards and select the appropriate measures and equipment.
- Give specific and appropriate instructions to workers to prevent exposure to unsafe conditions.
- Ensure employees follow procedures given and understand training provided.

Additionally, the general public should be protected from any area that poses a risk of falling objects or whenever there is an excavation. All areas must be well marked and protected to prevent approach by unauthorized persons. Areas should be protected by barricades, and or fencing, and the area should be marked with caution or danger tape, and or signs.



Handling of Hazardous and Perishable Materials

Overview

The Lake Forest College Mission Statement declares, "We maintain a secure residential campus of great beauty." We interpret "secure" in its broadest sense. Webster defines secure as follows: "to relieve from exposure to danger; to make safe against adverse contingencies."

As such the College has developed the Lake Forest College Safety Manual as a guide for developing sound, safe working habits in our work environment. The objective of this manual is to provide each employee with a framework of basic information to develop safety-conscious attitudes and behavior. Copies of this manual may be found in the Offices of Public Safety, Facilities Management, and the Business Office.

Occupational safety and health, whether in the laboratory, residence hall or office, is of paramount importance to Lake Forest College. How we perform our jobs and our personal perspectives regarding safety and health are critical to the success of an outstanding safety effort. Safety is everybody's responsibility; therefore, we ask for your commitment to this College goal.

The Lake Forest College Safety Program is directed by the Public Safety Director, who works closely with an appointed Safety Committee comprised of persons representing each organization element. Each employee is encouraged to work with this committee and to assist in formulating and complying with the Safety Manual and other applicable procedures.

Various other safety resources within Lake Forest College are provided as supplements to this manual. These resources will differ depending on the type of job you do, the equipment and personal protection required for job performance, and your work environment. Your supervisor will provide you with additional information necessary for safety in your workplace.

Process

Mail Services frequently receives hazardous material including, but not limited to chemical, biological, and radioactive agents. Most commonly, hazardous material shipments received at Mail Services contain perishable materials shipped on dry ice.

When these packages are received, they should be immediately checked in to the Arrival Inbound Tracking System. Additionally, the recipient should be notified via telephone immediately. To prevent the package from sitting in Mail Services overnight, the appropriate Professional Lab Supervisor should be notified if the package has not been removed by 1:30PM. Keep calling people in the department until someone has picked up the package.

Slightly damaged hazardous materials may be signed for, provided the outside shipping container has no sign of puncture and there is no sign of leakage through the container. Severely damaged hazardous material containers must not be accepted. Upon entry of such items to Mail Services, contact a supervisor who will make a determination of how to proceed.

If a hazardous materials package is discovered damaged on the shelf the following action must take place:

1. Immediately contact a mailroom supervisor.
2. A call must be placed to Public Safety if there is any sign of spill. In case of a radioactive shipment, this would include any puncture to the outside packaging.



Environmental Health & Safety Plan

Food and other perishable items may never be placed in a mailbox. Any such items are to be checked in as accountable and placed on the shelf in its appropriate place. The addressee should be called immediately.

Emergency Hazmat Contacts:

Public Safety – x5555

Biology - x6045

Chemistry - x5086

Physics - x5160

Psychology - x5239



Electrical Safety in The Instructional and Research Laboratories

Employee Exposure Protection and Monitoring

Modern scientific laboratories contain a variety of essential electrical equipment. Both commercial instruments and locally made devices are employed to accomplish the work of scientists and students. As with all aspects of laboratory practice, such equipment should be used in a manner to minimize risks to everyone.

Electrical circuits are characterized by voltage, current and power. It is not possible to list values of current or voltage that are absolutely safe or that are unacceptably dangerous. For instance, a car battery (12 volts) presents virtually no danger of electrocution, but if the terminals of a car battery are touched together by a small screwdriver then the current flow can be great enough to melt the screwdriver and perhaps cause skin burns. On the other hand, students studying electrostatics with a van de Graaff generator routinely subject themselves to a million volts, with hair-raising but non-lethal consequences, because of the small currents involved. Indeed, anyone feeling a static electricity spark while touching a doorknob has been shocked by several thousand volts.

Electricity is dangerous when there is enough voltage across part of a body to cause appreciable current flow through that part. Current flowing from a wire into a hand, for example, frequently causes the muscles to contract and hold uncontrollably on to the wire. If enough current flows near the heart, it will be stopped. Of course, medical technicians use electricity to start hearts, too.

Fortunately, prudent safety practice for electricity is straightforward and effective: do not touch conductors that can electrocute you. In teaching and research laboratories, the instructor or supervisor should take reasonable measures to prevent students from being harmfully shocked by electricity. The instructor should speak clearly to students about these issues. In all likelihood, the instructor will know the most about appropriate safety procedures for their laboratories. If questions arise, however, the instructor is expected to seek advice from other knowledgeable individuals, such as the department chairperson or an electrician in Facilities Management.

In general, the laboratory instructor oversees the safety of electrical laboratory instruments, while Facilities Management oversees the safety of electrical power sources (building wiring and outlets), lighting, and HVAC in the laboratory. Cooperation and communication between these groups is desirable.

Here are a few items that should be considered with regard to electrical instruments in a laboratory:

- replace damaged power cords
- verify operation of grounds in outlets
- verify neutral and hot sides in outlets
- check assignment of outlets to circuit breakers and know where the circuit breakers for the laboratory outlets and lights are located
- when possible, use GFI (Ground Fault Interrupt) outlets near places where water can contact electrical circuits
- check for warm plugs and replace as needed



Environmental Health & Safety Plan

- for devices drawing large currents (for example, motors, heating elements, high-power lasers), minimize the number of plugs and sockets in the power lines; use twist-lock plugs and sockets when possible, or better still, hard-wire the equipment
- check insulation between heating elements and equipment casings
- routinely used hazardous circuits should be suitably enclosed or insulated; if this is not possible, appropriate signs should be posted; devices under development are exempt, though appropriate notification should be made to those who may come near the work area
- when possible, relative neatness in wire arrangement is desirable - if problems develop, it will be easier for someone else to understand the circuit and avoid danger



Lockout/Tagout Energy Control Guidelines

Overview

Energy control procedures are designed to isolate machines or equipment whenever servicing or maintenance is being performed. The following guidelines are provided to assist the employees of Lake Forest College in developing their procedures so they meet the requirements of the OSHA standards regarding lockout/tagout & energy control procedures.

Purpose

It is Lake Forest College's purpose in issuing these procedures to further ensure a safe workplace based on the following formal, written procedures for the lockout of energy isolating devices whenever maintenance or servicing is done on machines or equipment. These procedures will be reviewed and updated as needed to comply with OSHA regulations, new practices in lockout/tagout, and as business practices demand. The Director of Facilities Management is the plan coordinator and is responsible for its implementation. Facilities Management Supervisors will be responsible for the direct supervision of the plan.

Copies of the written plan may be obtained at the Office of Facilities Management, Department of Public Safety, and the Business Office of Lake Forest College.

Application

These general procedures apply to all employees of Lake Forest College who might be exposed to hazards during the servicing or maintenance of machines or equipment. Authorized employees are required to perform the lockout/tagout in accordance with these procedures. All employees, upon observing a machine or piece of equipment which has been locked out or tagged to perform servicing or maintenance shall not attempt to start, energize, or use that machine or equipment. Violations of these procedures could be cause for disciplinary actions.

All outside contractors or vendors will maintain responsibility to comply with all OSHA regulations regarding lockout/tagout & energy control procedures.

General Procedures

Only those persons authorized by the Director of Facilities Management or the Supervisors of Facilities Management shall perform any service or maintenance work on any machinery or equipment.

The authorized employee shall identify the type and magnitude of the energy that the machine or equipment utilizes, shall understand the hazards of the energy, and shall know the methods to control the energy.

If the machinery or equipment is in an area where other employees or persons will be present, those person³ must be notified that servicing or maintenance is required, and that the machine or equipment will be locked out or tagged out to perform the servicing or maintenance.

The authorized employee should follow these procedures for isolating the machinery or equipment from its source of energy:

- if the machine or equipment is operating, shut it down by the normal stopping procedure (depress the stop button, open switch, close valve, etc.)



Environmental Health & Safety Plan

- de-activate the energy isolating device(s) so that the machine or equipment is isolated from the energy source(s) (turn off switches, turn off electrical breaker, unplug power cords, etc.)
- lock out or tag out the energy isolating device(s) - (Lock out is the preferred method of isolating machines or equipment from energy sources when the machines or equipment are directly connected to the energy source(s) (connected without a power cord). Tag out is to be performed on directly connected machinery or equipment only when there is no way to lock out the machine or equipment. If the machinery or equipment uses a power cord, the cord does not need to be locked if it is under direct control of the authorized employee (such as small power tools where the cord is short and within the control of the authorized employee). However, if the cord is located away from where the authorized employee is working, or if the machinery or equipment is left unattended the plug end of the cord must be locked or tagged.)
- ensure that the machinery or equipment is disconnected from the energy source(s) by first making sure no personnel are exposed, then verify the isolation of the equipment by operating the on/off switch or other normal operating control(s) to verify that the equipment will not operate.
- any stored or residual energy (such as in capacitors, springs, elevated machine members, rotating flywheels, hydraulic systems, and air, gas, steam, or water pressure, etc.) must be dissipated or restrained by methods such as grounding, repositioning, blocking, bleeding down, etc. (all safety precautions should be taken to eliminate the risk of these parts moving during the servicing or maintenance)
- the machinery or equipment is now locked out

Once the servicing or maintenance has been completed and the machine or equipment is ready to return to normal operating condition, the following steps should be taken.

- the same authorized employee who locked out or tagged out the machine or equipment must also unlock or untag the machine or equipment
- check the machine or equipment and the immediate area around it to ensure that nonessential items have been removed and that the machine or equipment components are operationally intact
- check the work area to ensure that all employees have been safely positioned or removed from the area
- verify that the controls are in neutral (turned off)
- remove the lockout or tagout devices and reenergize the machine or equipment (Note: the removal of some forms of blocking may require the reenergization of the machine before safe removal)
- notify affected employees that the servicing or maintenance is completed and the machine or equipment is ready for use

Employees shall follow any additional safety procedures designated by the plan Supervisors.

All questions about safety or hazards should be referred to the plan Supervisors. It is the plan Supervisor's responsibility to:



Environmental Health & Safety Plan

- ensure that the authorized employees understand the hazards of the machinery or equipment they are working on and that they know the proper methods to lockout or tagout that machinery or equipment
- give specific and appropriate instructions to workers to prevent exposure to unsafe conditions
- ensure employees follow procedures given and understand training provided

Additionally, the general public should be protected from any area that poses a risk. If necessary, all areas must be well marked and protected to prevent approach by unauthorized persons. These areas should be protected by barricades, marked with caution or danger tape, and or signs should be posted.



Personal Protective Equipment (PPE) Program

Overview

The following guidelines are provided to assist the employees of Lake Forest College in developing their procedures so they meet the requirements of the OSHA standards regarding personal protective equipment.

Personal protective equipment should not be relied on as the only means to provide protection against hazards, but should be used in conjunction with guards, engineering controls, and sound practices.

Purpose

It is Lake Forest College's purpose in issuing these procedures to further ensure a safe workplace based on the following formal, written procedures for the use of personal protective equipment. These procedures will be reviewed and updated as needed to comply with OSHA regulations, new practices in the use of personal protective equipment, and as business practices demand. The Safety Coordinator, under the direction of the Director of Public Safety has overall responsibility for coordinating safety and health programs at Lake Forest College.

It is the responsibility of the Director, Manager, Supervisor or the Department Head of each department to determine which jobs or duties within their department require the use of personal protective equipment. The supervisor is then responsible for the direct supervision of the program within that department.

Any concerns regarding this program or specific duties requiring the use of PPE should be brought to the attention of the Department Head or the Director of Security and Public Safety.

Copies of the written plan may be obtained at the Department of Public Safety or the Business Office of Lake Forest College.

Application

These general procedures apply to all employees of Lake Forest College who might be exposed to hazards during the course of their duties. Violations of these procedures could be cause for disciplinary actions.

The following safety plans contain the guidelines for the use of PPE while performing duties that are specific to those plans:

- Chemical Hygiene Plan (Laboratory Safety)
- Exposure Control Plan (ECP) for Bloodborne Pathogens
- Hazard Communication Plan (working with hazardous chemicals)
- Lockout/Tagout - Energy Control Guidelines
- Scaffolding Safety Procedures
- Procedures for Working with Gases, Vapors, Fumes, and Dust
- Electrical Safety Program
- Electrical Safety in the Instructional and Research Laboratories
- Fall Protection Guidelines



All outside contractors or vendors will maintain responsibility to comply with all OSHA regulations regarding the use of PPE.

General Procedures

Hazard Assessment

The Director, Manager, Supervisor, or Department Head should identify jobs or duties where exposures to hazards occur or could occur. The following is a list of the basic hazard categories and the types of sources that produce those hazards:

- Impact - sources of motion; i.e., machinery or processes where any movement of tools, machine elements or particles could exist, or movement of personnel that could result in collision with stationary objects, or sources of potential falling or dropping objects
- Heat - sources of high temperature that could result in burns, eye injury or ignition of clothing or equipment
- Penetration - sources of sharp objects which might pierce or cut parts of the body including feet or hands
- Harmful dust - sources of dusts or airborne particles that might be inhaled
- Compression (roll over) - sources of rolling or pinching objects which could crush the feet or other body parts
- Light (optical) radiation - sources of light radiation, i.e., welding, brazing, cutting, furnaces, or high intensity light which could cause damage to vision
- Chemicals - sources of hazardous chemicals which could cause bodily harm

PPE Selection Guidelines

Once the hazard has been identified and evaluated, these general procedures should be followed for selecting the proper PPE:

- Become familiar with the potential hazards and the type of PPE that are available, and what they can do
- Compare the types of PPE available for the hazards, with consideration of the environment in which the hazard exists
- Select the PPE which ensures a level of protection greater than the minimum required to protect the employees from the hazards
- Fit the user with proper, comfortable, well-fitting protection and instruct employees on care and use of the PPE. It is very important that the users are aware of all warning labels for and limitations of their PPE.
- Continuously review and evaluate the suitability of the selected PPE

Employee Training

Once the PPE has been selected, it is the responsibility of the supervisor to make sure that the employee who is required to use the PPE has the proper training or understanding of that PPE. The training should include:

- When PPE is necessary
- What PPE is necessary



- How to wear the assigned PPE
- Limitations of the PPE
- The proper care, maintenance, useful life, and disposal of the PPE

Cleaning and Maintenance

It is important that all PPE be kept clean and properly maintained by the employee to whom it is assigned. PPE is to be inspected, cleaned, and maintained by employees at regular intervals as part of their normal job duties so that the PPE provides the requisite protection. If PPE is for general use, it is the responsibility of the supervisor to ensure that the equipment is properly cleaned and maintained. If a piece of PPE is in need of repair or replacement it is the responsibility of the employee to bring it to the immediate attention of his or her supervisor. PPE that is in disrepair or not able to perform its intended function should not be used and should be disposed of properly.

PPE Information

All PPE must be approved by the manufacturer for the types of hazard it is protecting against. Some of the PPE to be considered are:

- Eye and Face Protection - Goggles and Face Shields
- Foot Protection - Safety Shoes
- Hand Protection - Gloves
- Head Protection - Hard Hats
- Hearing Protection - Ear Plugs



Scaffolding Safety Procedures

Purpose

It is Lake Forest College's purpose in issuing these procedures to further ensure a safe workplace based on the following formal, written procedures for scaffold work. These procedures will be reviewed and updated as needed to comply with new OSHA regulations, new best practices in scaffolding, and as business practices demand. The Director of Facilities Management is the plan coordinator and is responsible for its implementation. Facilities Management Supervisors will be responsible for the direct supervision of the plan.

Copies of the written plan may be obtained at the Office of Facilities Management, Department of Public Safety, and the Business Office of Lake Forest College.

Application

This general scaffold plan applies to all employees of Lake Forest College when using scaffolding in the performance of their duties.

All outside contractors or vendors using scaffolding to perform work at Lake Forest College will maintain responsibility to comply with all OSHA regulations.

General Procedures

The following general procedures apply to all scaffold operations for Lake Forest College.

- Scaffolds will be erected, dismantled, or altered only under the direct supervision and direction of one of the plan Supervisors.
- Scaffold footings and anchors must be sound and rigid.
- Scaffolds and scaffold components will never be loaded in excess of their intended loads or rated capacities, or used in any way contrary to their design.
- Fall protections must be provided for any employee on a scaffold more than 10 feet above a lower level.
- All employees should wear hardhats when working on or around, assembling, or dismantling scaffolds. This is our primary protection from falling objects.
- All areas around the scaffolding should be protected, to prevent tools, materials, or equipment that may inadvertently fall from the scaffolding from striking employees or other persons.
- Debris must not be allowed to accumulate on platforms.
- Safety should always be a primary concern of all employees using scaffolding.
- Employees will follow all safety procedures designated by the plan Supervisors.
- It is the responsibility of the supervisor to review the safety procedures with the employee.
- All questions about safety or hazards should be referred to the plan Supervisors.



Gasses, Fumes, Vapors and Dust

Purpose

The purpose of this program is to provide guidelines for the protection of employees, from possible hazards that may be created by gasses, fumes, vapors, or dust.

General Policy

It has been determined that there are no positions at Lake Forest College that are specifically at risk from working around gasses, fumes, vapors, or dust. However, the possibility exists that these hazards could be present with regards to some assigned duties. Supervisors assigning duties should be aware of those possibilities. If it is determined that there is or might be a hazard present, the supervisor should take the necessary precautions to protect the employee or other members of the community from those hazards with the use of engineering controls or personal protective equipment (PPE).

Any concerns or questions regarding possible exposure to these hazards should be brought to the attention of the Safety Coordinator or the Director of Public Safety. All determinations of risk will be based on the published NIOSH permissible exposure limits (PEL).

The proper training on the use of all required PPE must be provided prior its use by any employee.