Oklahoma State University - Okmulgee

Safety Basics

Guide

OSU-OKMULGEE SAFETY BASICS GUIDE

PREFACE

As a government entity, Oklahoma State University comes under *Public Employees Occupational Safety and Health Administration* (PEOSH) regulation; however, workplace safety should not be just about law. ***Workplace safety integrates the way we think about what we do and how we do it.***

OSU-Okmulgee cares about employee health and safety. From an employer perspective, injuries and illnesses result in increased absenteeism, loss of job productivity, and increased costs of insurance.

Thinking "safety" is an attitude that can and should be developed to the point that it has a positive impact on how we approach every job, every task. Causing safety-thinking to be a natural, subconscious mental activity is something that each individual should take pride in accomplishing for personal as well as professional reasons. But, accomplishing such is a motivated individual effort.

This guide is a primer, providing basic information about legal requirements, administrative policies, and information about the most common causes of workplace injuries and accidents. Primarily, this guide lays a foundation for expected growth in your knowledge and practice of safety in the workplace.

At the end of this guide there is a signature-page. This page should be removed (or photocopied) and completed, then forwarded to the office of Contracts, Grants and Safety Compliance, Business Affairs Department. ***Every employee needs to assure that this signature-page is on-file in his/her records.***

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I.   Safety Training

The State Law
Because of concerns about the rising costs of Workers' Compensation in Oklahoma, the state legislature passed **House Bill 1447** which revised state law. The change incorporated a "**quarterly safety training**" expectations for all public employees of this state.

Quarterly Safety Training
As a result of Workers' Compensation reform, **State Law 40 O.S. Section 403** expectations are that all OSU employees, including student employees, receive safety training at least four times a year.

The object of the law is to reduce the number of accidents occurring, thereby reducing the amount and cost of Workers' Compensation claims being processed by the state (and paid for by taxpayers). The law is designed to help employees by providing them with the information necessary to do their jobs safely, as well as by reducing the amount of money being spent by the state on Workers' Compensation claims.

The Department of Labor (DOL) states that quarterly safety training should be **"Appropriate to the nature and severity of the hazards faced by the employee."** In other words, somebody in a high-hazard work environment such as a laboratory may need more specialized training than somebody who works in an office. Fortunately, the DOL does not set time requirements for training to be given, leaving leeway as to how these quarterly requirements may be met.

Safety training should be documented with date, subject-title, contact-hours of training-time, and the name and identification number of person(s) receiving the training. A copy of this information should be reviewed and signed by the employee(s) supervisor, then forwarded to OSU-Okmulgee's Contracts, Grants and Safety Compliance Coordinator, Business Affairs Office.

Sources of Training
There are four (4) primary sources of individual training:
1. Self-Directed: The university library has a quantity of safety training DVDs and VHS cassettes available for employee check-out. Another source for self-directed training is internet/on-line training. OSU-Stillwater has a quality selection available at **www.pp.okstate.edu/ehs**.
2. Campus Curriculum: Many of the programs-of-study at OSU-Okmulgee include safety training. _With the instructor's permission_, staff can sit in on that portion of the curriculum; faculty preparing and teaching safety as a portion of his/her coursework may count that time as self-directed safety training.
3. On-campus Safety-based Professional Development: Periodically, the university arranges for a formal safety training class on-campus. These no-cost training events are open to all campus employees.
4. Off-campus Safety-based Professional Development: There are professional training organizations that periodically offer off-campus training over a wide variety of topics, including "safety". The price of attendance varies.

Policies and Procedures
It is important that employees make themselves knowledgeable of campus policies and procedures; however, particular ones relate directly to the safety and well-being of employees:
- 1-008   Tobacco Use
- 1-018   Drug-free Campus Policy Statement
- 3-018   Workers' Compensation Insurance
- 4-006   Sexual Assault
- 4-011   Anti-Hazing Policy
- 5-001   Hazardous Communications Program
- 5-002   Fire Protection and Safety
- 5-003   Handling and Disposal of Hazardous Chemicals
- 5-005   Emergencies

- 5-008   Control/Abatement of Asbestos in Campus Facilities
- 5-009   Procurement and Installation of Fume Hoods

This list may not be all-inclusive of the current policies in place, and is subject to change without notice. Talk with your unit leader about access to a copy of the campus' Policy & Procedures Manual.

II. Workplace-Related Illness and Injury

Changes have occurred in the American workplace as a result of new technology and automation. These changes bring with it a set of health and safety concerns. In addition to obvious hazards such as slippery floors or an open file drawer, a workplace may also contain hazards such as, poor lighting, noise, poorly designed furniture, and equipment and machines that emit gases and vapors. Even the nature of work itself has produced a whole host of stress-related symptoms and musculoskeletal strains. The leading types of disabling accidents in the workplace are the result of falls, strains and over exertions, falling objects, striking against objects, and being caught in or between objects.

Falls
Falls are the most common workplace accident, accounting for the greatest number of disabling injuries. The most common cause of falls is tripping over an object such as electrical cords or open drawers. Bending while seated in an unstable chair is another common hazard. Falls are frequently caused by using a chair or stack of boxes in place of a ladder, and by slipping on wet floors. Loose carpeting, objects stored in halls or walkways, and inadequate lighting are other hazards that invite accidental falls. Fortunately, all of these fall hazards are preventable. The following checklist can help stop a fall before it happens:
- Be sure the pathway is clear before you walk.
- Close drawers completely after every use.
- Avoid excessive bending, twisting, and leaning backward, especially while seated.
- Secure electrical cords and wires away from walkways.
- Use a stepladder for overhead reaching;
- Clean up spills.
- Pick up objects co-workers may have left on the floor.
- Report loose carpeting or damaged flooring.
- Never carry anything that obscures your vision.

If you find yourself heading for a fall, remember - **roll, don't reach**. By letting your body crumple and roll, you are more likely to absorb the impact and momentum of a fall without injury. Reaching an arm or leg out to break your fall may result in a broken limb instead.

Lifting
It's important to follow the principles of safe lifting. Even small, light loads can wreak havoc on your back, neck, and shoulders if you use your body incorrectly when you lift. Before you pick something up, ask yourself these questions:
- How high do I have to lift it?
- How far do I have to carry it?
- Is this too heavy for me to lift and carry alone?
If you feel that the lift is beyond your ability, contact your supervisor or ask for help.

Safe Lifting Steps
- Take a balanced stance, feet placed shoulder-width apart. When lifting something from the floor, squat (don't bend) close to the load.
- Keep your back in its neutral or straight position. Tuck in your chin so your head and neck continue the straight back line.

- Grip the object with your whole hand, rather than only with your fingers. Draw the object close to you, holding your elbows close to your body to keep the load and your body weight centered.
- Lift by straightening your legs. Let your leg muscles, not your back muscles, do the work. Tighten your stomach muscles to help support your back. Maintain your neutral back position as you lift.
- Don't twist when lifting. When you must turn with a load, turn your whole body, feet first.
- Be sure that you have a clear view in the direction you are carrying.
- To set something down, use the same body mechanics designed for lifting.

Lifting from a Seated Position
Bending from a seated position and coming back up places tremendous strain on your back. Instead, stand and move your chair out of the way. Squat and stand whenever you have to retrieve something from the floor.

Ergonomic Solutions to Tasks
- If you are doing a lot of twisting while lifting, try to rearrange the space to avoid this. People who have to twist under a load are more likely to suffer back injury.
- Rotate through tasks so that periods of standing alternate with moving or sitting. Ask for stools or footrests for stationary jobs.
- Store materials at knee level whenever possible instead of on the floor. Make shelves shallower (12-18") so one does not have to reach forward to lift the object. Break up loads so each weighs less.
- If your must carry a heavy object some distance, consider storing it closer, request a table to rest it on, or try to use a hand truck or cart to transport it.

Struck By or Striking Objects
Pay attention to where you are walking at all times, properly store materials in your work area, and be sure that you are able to see ahead of you. Running into objects is another cause of injuries. Incidents of this type include:
- Bumping into doors, equipment, desks, file cabinets, open drawers, or other people while walking.
- Striking equipment extensions and open file drawers.
- Striking against sharp objects such as machines, desk corners, etc.

Objects striking employees occur as a result of incidents such as:
- Supplies sliding from shelves or cabinet tops.
- Overbalanced storage or file cabinets caused by two or more drawers being open at the same time or in which the file drawer was pulled out too far.
- Tools or machines, such as computers, that were dropped.
- Doors that were opened suddenly from the other side.

Proper material storage and use of storage devices can avoid these accidents.

Caught In or Between Objects
Disabling incidents also occur as a result of workers getting fingers, feet or clothing caught in or between objects. Watch for pinch-points when working with or around equipment.

Material Storage
Materials that are improperly stored can lead to objects falling on workers, poor visibility, or create a fire hazard. A good housekeeping program can reduce or eliminate hazards associated with improper storage of materials. The following are good storage practices:

- Boxes, papers, and other materials should not be stored on top of lockers or file cabinets because they can cause landslide problems. Boxes and cartons should all be of uniform size in any pile or stack. Always stack material in such a way that it will not fall over.
- Store heavy objects on lower shelves.
- Try to store materials inside cabinets, files, and lockers.
- Office equipment such as typewriters, index files, lights or calculators should not be placed on the edges of a desk, filing cabinet, or table.
- Aisles, corners, and passageways should be unobstructed.
- Storage areas should be designated and used only for that purpose. Store heavy materials so you do not have to reach across something to retrieve them.
- Fire equipment, extinguishers, fire door exits, and sprinkler heads should remain unobstructed. Materials should be at least 18 inches minimum away from sprinkler heads.

III. Ergonomics

Ergonomics means making the workplace comfortable and physically fitting to the employee as is reasonable possible. Job environment characteristics that have been associated with such a workplace-fit include:
- Design of workstations
- Nature of the tasks
- Repetitiveness within the job
- Degree of postural constraint
- Work pace

Arranging Your Workstation to Fit You
- Adjust the height of the chair's seat such that the thighs are horizontal while the feet are flat on the floor.
- Adjust the seat pan depth such that your back is supported by the chair back rest while the back of the knee is comfortable relative to the front of the seat.
- Adjust the back rest vertically so that is supports/fits the curvature of your lower back.
- With the arms at your sides and the elbow joint approximately 90 degrees, adjust the height/position of the chair armrests to support the forearms.
- Adjust the height of the keyboard such that the fingers rest on the keyboard home row when the arm is to the side, elbow at 90 degrees, and the wrist straight.
- Place the mouse, trackball, or special keypads, next to the keyboard tray. Keep the wrist in a neutral position with the arm and hand close to the body.
- Adjust the height of the monitor such that the top of the screen is at eye level. If bifocals/trifocals are used, place the monitor at a height that allows easy viewing without tipping the head back.
- Place reference documents on a document holder close to the screen and at the same distance from the eye.
- A footrest may be necessary if the operator cannot rest his/her feet comfortably.

Applying Good Work Practices
The way a task is performed, and the workstation environment it is performed in, can influence the risk of injury and productivity. Good technique can make a job easier and safer to accomplish.
- Moving or tipping the computer monitor away from sources of glare or direct light.
- Clean the monitor screen on a regular basis, and use an anti-glare filter on the screen.
- Using diffusers on overhead lighting, and area-lighting when necessary.
- Avoid cradling the telephone between the head and shoulder. Hold the phone with your hand, use the speaker phone, or a headset.
- Keep frequently-used items like the reference materials, and pens/pencils within easy reach.

- Use the minimum force necessary when using hand tools or actions.
- Neutralize distracting noise by using ear plugs or turning on a fan.
- Maintain a comfortable workplace temperature by using layers of clothing or a fan.

IV. Air Quality and Ventilation

The study of indoor air quality (IAQ) and pollutant levels in work environments is complex. The complexity of studying and measuring the quality of workplace environments arises from various factors including:
- Building designs are frequently changing to accommodate more employees and reorganization.
- Buildings undergo renovations such as installation of new carpet, modular office partitions and free-standing offices, and painting.
- Health symptoms appearing are vague and common both to the workplace and home environment.

Building studies indicate that the common sources of such problems include poor ergonomic layout, poor ventilation, poor thermal conditions, too high or low humidity, emissions from machines, and other building contaminants. If you see such an issue in your area, contact your supervisor.

Overview of Ventilation Design
Air enters buildings or spaces through mechanical ventilation systems as well as naturally through leaks around windows, doors, etc. Newer, larger buildings are highly energy efficient, with sealed windows and heavy insulation, primarily depend on mechanical ventilation. Older, small, and low occupancy buildings may be adequately ventilated through natural sources: air leakage through windows and doors, and other openings.

Heating ventilation and air conditioning systems (HVAC) are designed to keep occupants comfortable and healthy by controlling the amount of outside air that is added to the building atmosphere, filtering both incoming and re-circulated air to remove particulates and controlling the temperature. The HVAC system includes all heating, cooling, and ventilation equipment serving a building: furnaces or boilers, chillers, cooling towers, air handling units, exhaust fans, ductwork, filters, steam (or heating water) piping.

Environmental Factors
A ventilation system should provide for a comfortable environment with respect to humidity and temperature. The overall goal of climate control is to provide an environment that is not too cold or hot, dry or humid, and that is free from drafts and odors. Humidity refers to the amount of moisture in the air and extremes in humidification levels can influence how comfortable you feel.

Indoor Air Quality
Air quality can originate within the building or from outdoors. Examples of sources that originate outside a building include: (1) pollen, dust and fungal spores; (2) general vehicle exhaust; (3) odors from dumpsters; and (4) re-entrained exhaust from the building itself or from neighboring buildings. Examples of sources that originate from within the building include: (1) building components and furnishings, (2) maintenance or remodeling activities (painting, etc.), (3) housekeeping activities, (4) unsanitary conditions (standing water from clogged drains or dry traps) and water damage, (5) emissions from office equipment or special use areas (print shops, laboratories, or food preparation areas), and (6) personal perfumes and deodorants.

Elements of Air Quality
- HVAC systems periodic cleaning and filters being changed.
- Special attention to operations that may generate air contaminants.
- The ventilation system adequate supply of fresh outside air into the area, and capture and vent air pollutant sources to the outside.
- Machinery should be operated in well-ventilated areas, and cleaned and maintained according to the manufacturer's recommendations.

Evaluation
In order to determine if a possible relationship between any adverse health symptoms and indoor air quality exist, an indoor air quality survey can be conducted. If you believe that there is a cause for concern for your work area, contact your supervisor.

Lighting
Lighting affects personal comfort on the job. The best lighting system is one in which the light level is geared to the task, where brightness ratios are controlled (no intensely bright or dark areas in one field of vision) and where ceilings, walls, and floors are carefully chosen to minimize glare.

Lighting needs vary with time, task, and person-to-person. One approach is to use adjustable task lighting that can provide needed illumination without increasing general lighting.

V. Noise

Workers are subjected to many noise sources including telephones, high-speed printers, fax and other machines, and human voices. The most common effects are interference with speech communication, annoyance, and distraction from mental acuity. Government standards set limits for exposure to noise to prevent hearing loss. The level of noise one can be exposed to is dependent on (a) the intensity of the noise as well as (b) the duration of exposure. In an office setting, PEOSH noise standards are rarely approached; however, if you feel that you are being subjected to unreasonable sound levels, contact your supervisor.

VI. Electrical Safety

Electricity is essential to workplace operations. Electrical equipment is potentially hazardous and can cause serious shock and burn injuries if improperly used or maintained. Types of electrical hazards found in the workplace include the following:

S/B Grounded
Grounding is a method of protecting employees from electric shock. By grounding an electrical system, a low-resistance path to earth through a ground connection is intentionally created. When properly done, this path offers sufficiently low resistance and has sufficient current-carrying capacity to prevent the build-up of hazardous voltages. However, most equipment is manufactured with grounded plugs as a precaution (three prong plugs). In such cases, the equipment should be used in accordance with the manufacturer's instructions.

S/N/B Overloaded
Overloaded electrical circuits and extension cords can cause a fire. A sufficient number of electrical outlets will eliminate the need for extension cords, and reduce the risk. Extension cords should only be used in situations where fixed wiring is not feasible.

Placement of Cords
Cords can present a hazard when placed in walkway areas, or in foot-areas under desks. When using an extension cord across walkways, aisles or under desks, either tape it down or purchase a cord runner.

Out of Sight
Attention should be given to connections behind equipment or furnishings. Equipment or filecases may be set on cords, or pushed too tightly against electric outlets, severely bending and damaging the cord at the plug.

Working on "Live Equipment"
Disconnect the power source to equipment before cleaning, adjusting, refilling, or performing other tasks to the equipment. If a guard or cover is removed, replace it before reconnecting power or starting the equipment.

<u>Electrical Circuit Breaker Panels</u>
Electrical panel doors should always be kept closed to prevent accident, and unblocked to allow quick emergency access.

VII. Fire Prevention Strategies

The best time to think about fire safety is before a fire occurs. Learn the location of fire escape routes and how to activate the fire alarm. Participate in practice fire drills on a regular basis. Become familiar with stairway exits. Elevators should not be used during a fire, and may expose passengers to concentrated heat and smoke.

- Heat-generating equipment (photocopiers, microwave machines, coffee makers) are often overlooked as a potential fire hazard. Keep such equipment away from anything that might burn, and be sure to turn off at the end of the day.
- Use only grounded electrical tools or appliances, plugged into grounded outlets.
- If electrical equipment malfunctions or gives off a strange odor, promptly disconnect it and call the appropriate maintenance personnel.
- Be sure that extension cords are made to carry the electrical load of the tool or appliance; never plug one extension cord into another.
- Keep extension cords clear of doorways and other areas where they can be stepped on or damaged. Replace damaged electrical cords.
- Do not allow combustible material (boxes, paper, etc.) to build up near sources of ignition.

Through a program of scheduled inspections, unsafe conditions can be recognized and corrected before they lead to serious injuries. Look for items previously pointed out, such as objects protruding into walkways, file cabinets that are weighted toward the top or frayed electrical cords. Advise personnel in the area of the hazards and set about correcting them.

<u>Smoke Hazard</u>
An open workspace designs allows smoke to spread quickly, and the incorporation of many synthetic and other combustible material in office fixtures (such as furniture, carpet, wastebaskets contents, and wall coverings) often makes "smoky" fires. In addition to being smoky, many synthetic materials can emit toxic fumes during a fire. Inhalation of toxic fumes can hamper a worker's chances of getting out of a fire in time. Workers need to recognize when to evacuate the area and know how to exit in an expedient manner.

An emergency action plan can address potential emergencies expected in your work area. For emergency evacuation, the use of floor plans or workplace maps that clearly show the emergency escape routes and safe refuge areas should be included in the plan. Employees should discuss best-response to emergencies with their supervisors shortly after starting work and whenever their responsibilities under the plan change.

If you discover a fire, or see or smell smoke, immediately follow these procedures:
- Notify Physical Plant and/or Campus Police
- Activate the building alarm (fire pull station); then, verbally notify people in the building.
- Shut down equipment in the immediate area, if possible.
- Isolate the area by closing windows and doors before evacuating the building, if you can do so safely.
- Do not collect personal or official items; leave the area of the fire quickly and walk (<u>do not run</u>) to an exit, then to the designated gathering area.
- Upon their arrival, provide the fire/police teams with the details of the problem.

- If fire alarms are ringing, or you are told that there is smoke or fire is occurring in your building:

    o (a) evacuate the building immediately,

- o   (b) move to your designated meeting location or upwind from the building, staying clear of streets, driveways, sidewalks, and other access ways to the building, and
- o   © remain away from the building until notified that it is safe to return.
- If you are a supervisor, as quickly as possible:
  - o   (a) try to account for your employees,
  - o   (b) keep your employees together, and
  - o   © report any unaccounted-for person(s) to the emergency personnel at the scene.

Workplace safety integrates the way we think about what we do and how we do it. This guide is only a primer, providing basic information to lay a foundation for growth in your knowledge and practice of safety in the workplace.

If you have any questions or concerns related to safety practices at OSU-Okmulgee, please talk with your unit leader, or contact the Office of Contracts, Grants and Safety Compliance, Business Affairs.

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CERTIFICATION PAGE

INSTRUCTIONS:
THIS PAGE SHOULD BE REMOVED (OR PHOTOCOPIED) AND COMPLETED. AFTER COMPLETING, THIS PAGE SHOULD BE RETURNED TO OSU-OKMULGEE CONTRACTS, GRANTS AND SAFETY COMPLIANCE, BUSINESS AFFAIRS OFFICE.

With the attachment of my signature below, I attest that I have reviewed the Oklahoma State University-Okmulgee Safety Guide ©2006 and related policies.

I further attest that is my intent to abide by safety-related policies, procedures, requirements, and regulations whether that of Oklahoma State University, the State of Oklahoma, or the United States of America, to the best of my knowledge and ability.

_____   **_____**
PRINTED NAME   **EMPLOYEE IDENTIFICATION #**

_____   **_____**
SIGNATURE   **DATE**