



Basic Safety Orientation

SAFETY AND COMPLIANCE

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OUR MISSION



The mission of Safety and Compliance is to promote safe and environmentally sound work practices that advance the University's mission and interests by advising and consulting with faculty, staff and students.

NEWS

Holiday Season Safety
Dec 11, 2013

Boneyard Creek Community Day is Saturday, April 12, 2014
Dec 11, 2013

New App: Check Out the Health of Waterways
Jun 25, 2013
The EPA has an app and website with information on the condition of waterways. [View Safety & Compliance News >>](#)

PREVENT BACK INJURIES

Back injuries can put you out of commission for longer than you want to be left out. There are several steps you can take to avoid injuring your back.

- Physical activity: combine moderate aerobic activity and strength training to strengthen back and abdominal muscles (consult a physician as needed)
- Posture: when standing, keep one foot slightly in front of the other; when sitting, sit up straight with both feet flat on the floor
- Proper lifting: bend the knees, maintain the natural curve of the back and use your leg muscles; get help for heavier objects
- Short break: a minute or two of stretching

This orientation is **General Knowledge** only.

Further training is required to meet hazard specific training requirements.

For more information, please contact the Division of Safety and Compliance at 217-265-9828.



Basic Safety Orientation

Hazard Communication

Machine Safeguarding

Personal Protective Equipment

Hearing Conservation

Respiratory Protection

Good Safety Practices

Basic Electrical Safety



Basic Safety Orientation

Hazard Communication

- aka “The Right to Know”
- The Hazard Communication Standard provide information to...
 - Safely use hazardous materials
 - Select proper personal protective equipment (PPE)
 - Know what to do in the event of an exposure
 - Keep exposures at the lowest practical levels and below the Permissible Exposure Limits (29 CFR 1910.1000, Subpart Z) established by OSHA.

(Material) Safety Data Sheets (MSDS/SDS)...

- Available to employees on all hazardous chemicals to which there is potential or actual exposure so that personnel working in the area can decide what kind of exposure controls should be used.
- Required before a product can be used.



For more information:

<http://www.fs.illinois.edu/services/safety-and-compliance/employee-safety-health/hazard-communication>

The MSDS/SDS provides...

- Identity of material and manufacturer
- Hazardous ingredients
- Physical & chemical characteristics
- Fire & explosion hazard data
- Reactivity data
- Health hazard data (limits, symptoms, etc.)
- Precautions for safe handling
- Control measures and First Aid



Basic Safety Orientation

Machine Safeguarding

CAUTION

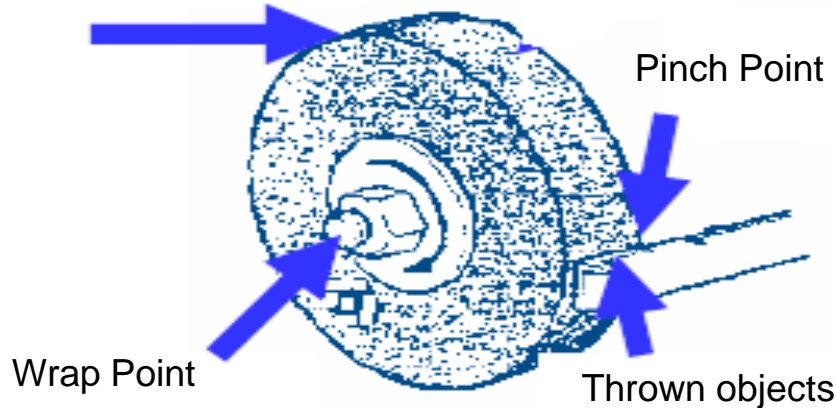
DO NOT OPERATE UNLESS
SAFETY GUARDS OR DEVICES
ARE IN PLACE AND
PROPERLY ADJUSTED

Machine Safeguarding

- University personnel use a wide variety of machines.
- Moving machine parts have the potential to cause severe injuries such as crushed fingers or hands, amputations, and burns.
- Safeguards are essential for protecting personnel from these preventable injuries.
- Report any unguarded machine to your supervisor immediately.

Machine Guarding - Hazard Identification

Contact with
abrasive surface



A "machine hazard" occurs at the point of operation, and can be created by:

- components which transmit energy, such as pulleys, belts, chains, gears, couplings, or flywheels; or
- other parts which move while the machine is working, including reciprocating, rotating, and transverse parts.

- "Guarded" means shielded, fenced, or enclosed by covers, casings, shields, troughs, spillways or railings, or guarded by position or location.
- Never wear loose clothing, long hair, jewelry, or gloves.



Work only in the area covered by the tool rest; do not attempt to support the tool with your hands.



An unguarded saw blade

The hand of a man who lost his finger working on a machine with no guard in place



Machine Safeguarding Hazards

Examples: Belt drives, chain drives, gear drives, and feed rolls.	PINCH POINTS Where two parts move together and at least one of them moves in a circle; also called mesh points, run-on points, and entry points. When shields cannot be provided, operators must avoid contact with hands or clothing in pinch point areas. Never attempt to service or unclog a machine while it is operating or the engine is running.
Examples: Rotating power transmission shafts or shafts that protrude beyond bearings or sprockets.	WRAP POINTS Any exposed component that rotates. Once a finger, thread, article of clothing, or hair is caught it begins to wrap; pulling only causes the wrap to become tighter.
Examples: Shears, saws, mowers, rotary shredders and cutters, augers, chain and paddle conveyors.	SHEAR POINTS Where the edges of two moving parts move across one another or where a single sharp part moves with enough speed or force to cut soft material. Keep hands and feet out of these areas. Recognize the potential hazards of cutting and shear points on equipment that are not designed to cut or shear.
Examples: Gears, platens or machine beds, hitches, telescoping shafts.	CRUSH POINTS Points between two objects moving toward each other or one object moving toward a stationary object. Guard yourself! Never stand between two objects moving toward one another.
Examples: Feed rolls, grinders, fans and blades on blowers, flywheels on balers.	PULL-IN POINTS Points where objects are pulled into equipment, usually for some type of processing. Never hand-feed materials into moving feed rollers. Always stop the equipment before attempting to remove an item that has plugged a roller or that has become wrapped around a rotating shaft. Freewheeling parts, rotating or moving parts that continue to move after the power is shut off are particularly dangerous. Allow sufficient time for freewheeling parts to stop moving. Stay alert! Listen and Watch for Motion!
Examples: Rocks, stones, sticks, and pieces of metal, wood, plastic, etc.	THROWN OBJECTS Any object that can become airborne because of moving parts. Keep shields in place to reduce the potential for thrown objects. Wear protective gear such as goggles to reduce the risk of personal injury if you cannot prevent particles from being thrown.

General Requirements for Safeguards

- Prevent contact : prevent hands, arms or other body parts or clothing from making contact with dangerous machine parts
- Secure: workers should not be able to easily remove or tamper with guards
- Create no new hazards: no sharp edges on the guard
- Create no interference: guard should not impede workers from performing their jobs
- Allow safe lubrication: parts should be lubricated without removing the guard



Basic Safety Orientation

Personal Protective Equipment

- Required when engineering or administrative controls are inadequate.
- Must be properly selected and worn.
- Training is required.

- Use personal protective equipment where needed
 - Gloves
 - Safety glasses
 - Hard-toed shoes
 - Hard hats
 - Long pants and sleeves

- Safety and Compliance can do worksite assessments.



PPE: Eye & Face Protection

PPE is required by OSHA where there is a reasonable probability of preventing injury when PPE is used.

- Safety glasses (minimum requirement)
- Goggles – better protection for chemicals, splashes, dust or projectile
- Face shield – better for splashes or projectiles
- Chemical splash hood – shoulder length or longer



Protectors must meet the following minimum requirements:



- Adequately protect against the hazards for which they are designed.
- Fit snugly without interfering with the movements or vision of the wearer.
- Be capable of being disinfected and easily cleaned.
- Be kept clean and in good repair.



Basic Safety Orientation

Hearing Conservation

- Noise is one of the most pervasive problems in today's occupational environment, causing gradual hearing loss in workers in a wide variety of occupations.
- The OSHA noise standards (29 CFR 1910.95 and 29 CFR 1926.52) are enforced at the University of Illinois at Urbana-Champaign by the Illinois Department of Labor.
- Workers who are exposed to a time-weighted average of 85 decibels (A-scale) or more for an eight-hour exposure are considered to have occupational noise exposure.

- Loud noises over long periods can cause deafness.
- Wear ear plugs or muffs.
- Some jobs require annual hearing tests.
- Safety and Compliance does worksite noise assessment.



- Noise-induced hearing loss is the number one occupational disability.
- Noise-induced hearing loss is progressive over time—you may not be aware of it until it's severe.
- Noise-induced hearing loss is permanent.
- Noise-induced hearing loss is preventable!!

Use the 3 foot rule

- If you have to raise your voice to be heard by someone standing within 3 feet (arm's length), then the noise level is most likely above the hazardous noise level.

- Reduce noise in the environment
- Wear well-fitted hearing protection

Examples of Hearing Protectors

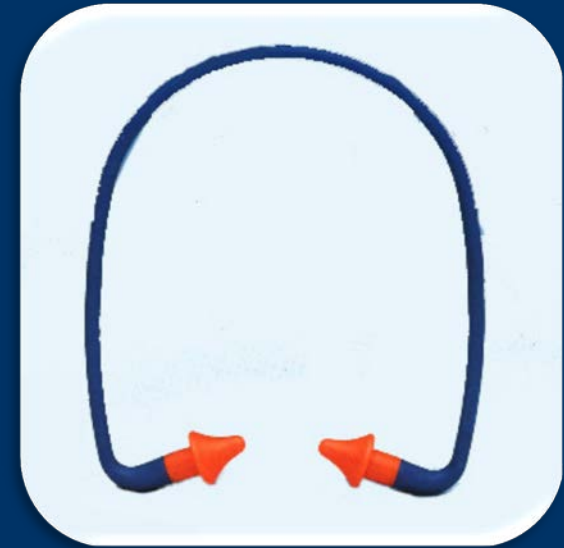
Earmuffs



Earplugs



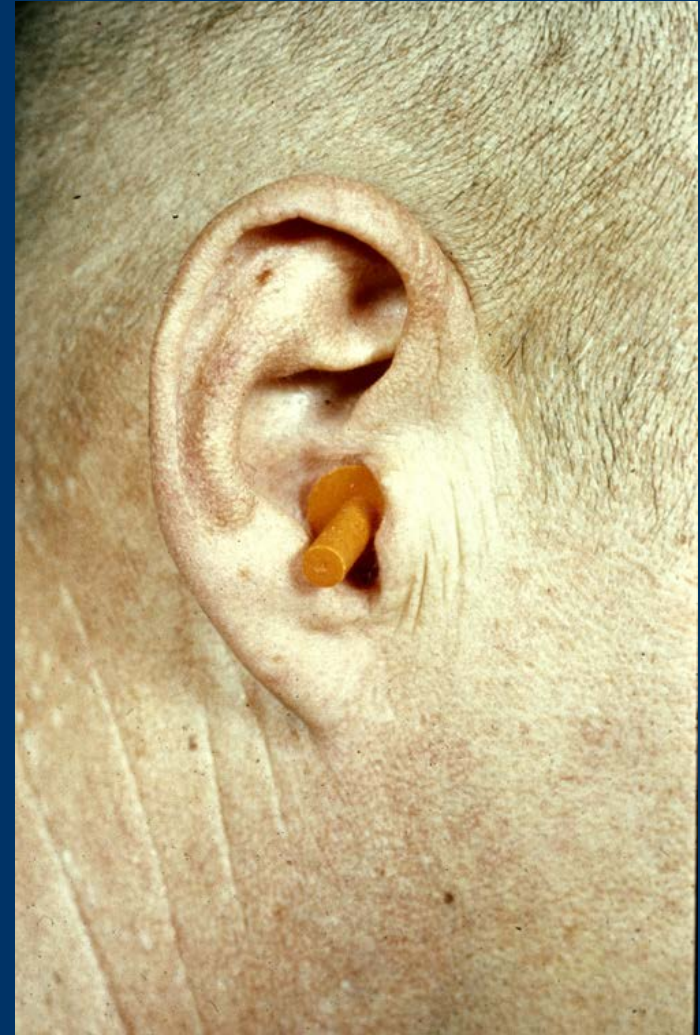
Canal Caps



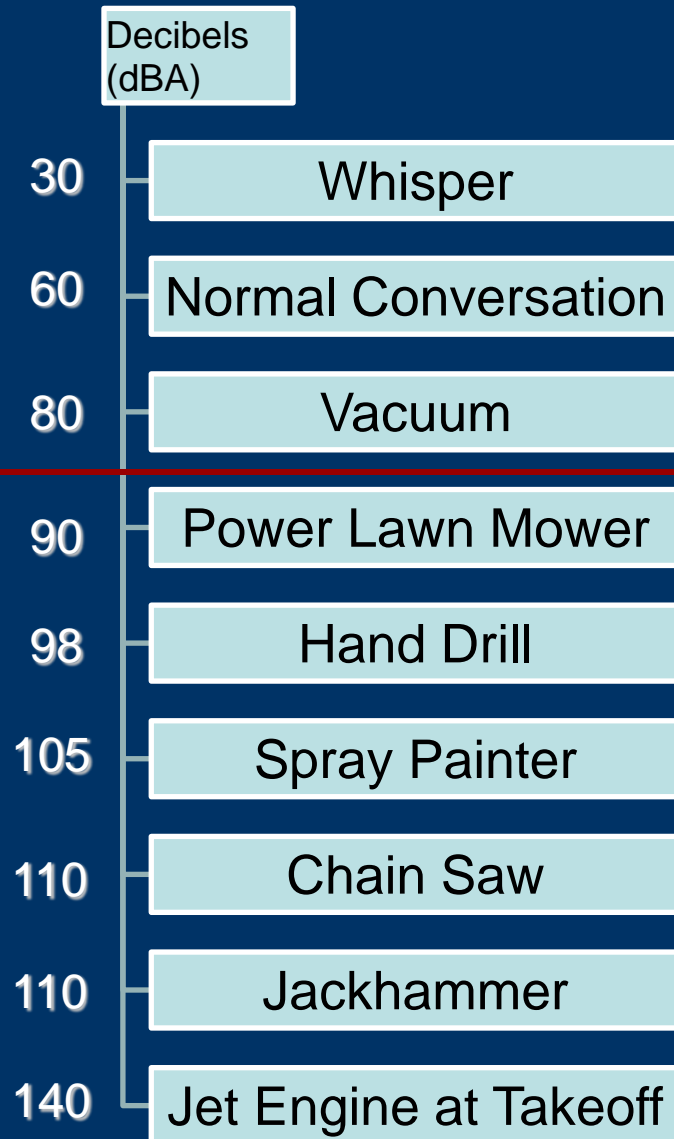
Bad Fit

vs

Good Fit



Hearing Conservation



OSHA Action Level – 85 dB

Hearing Protection Recommended

Without proper hearing protection, using a spray painter for only 4 minutes can become dangerous to the human ear!



Basic Safety Orientation

Respiratory Protection

- Some jobs put you in contact with chemicals in the air.
- Safety and Compliance does worksite chemical assessments.
- If respirators are needed, you must have a medical physical plus annual training and fitting.





Basic Safety Orientation

Good Safety Practices

- Inspect work area daily.
- Practice good housekeeping.
- If you aren't sure, ASK.
- Read warning labels and respond appropriately.
- Follow posted guidelines and procedures.
- Report all accidents/injuries/illnesses.



Basic Safety Orientation

Basic Electrical Safety

A module on Basic Electrical Safety is available.

<http://www.fs.illinois.edu/services/safety-and-compliance/industrial-safety/electrical-safety>

In general....

- Electrical cords – good condition; remove frayed cord/exposed wires
- Use 3-pronged plugs (grounded)
- Do not overload circuits





Safety is everyone's responsibility.
Better safety and health practices reduce
fatalities, injuries, and illnesses.
Make safety your priority.

To contact the Division of Safety and Compliance:
<http://www.fs.illinois.edu/services/safety-and-compliance>