

Hazard Communication and Right to Know Training



For SUNY Oswego Staff

Presented by SUNY Oswego Environmental Health
and Safety (EHS) Department

June 2017

AGENDA

- Regulations
- Hazard Communication/Right to Know
- Fire Safety
- Bloodborne Pathogens
- Slips, Trips and Falls
- Ergonomics
- Lockout Tagout (LOTO)
- Asbestos Awareness
- QUIZ – *Please remember to take the quiz to document your training.*

REGULATIONS - Agencies

Worker Safety Regulations are enforced through the following agencies:

- **OSHA** – Occupational Safety and Health - a division of the US Department of Labor (covers private employees on campus such as contractors)
- **PESH** – Public Employee Safety and Health Bureau -a division of NYS Department of Labor (covers public employees only)



REGULATIONS - PESH

PESH oversees workplace protection of public employees at the State and local level.

- The PESH program **inspects** workplaces, equipment and work procedures to ensure that they meet OSHA standards.
- Safety and Health Inspectors and Industrial Hygienists also **investigate complaints** of discriminatory actions taken against employees by their employers when related to safety and health activities.
- Public employers violating PESH laws are issued **compliance orders** and can be assessed **civil penalties** for non-compliance.
- The PESH program also provides safety and health **consultation services** to public employers.

HAZARD COMMUNICATION and NYS Right to Know Law

The Hazard Communication Standard (HazCom) and the NYS Right to Know Law(RTK) is based on a simple concept:

“Employees have both a need and a right to know the hazards of the chemicals they are exposed to when working.”

5 components/Requirements of HazCom/RTK:

- Hazard Determination
- Safety Data Sheets (SDS)
- Labeling of Chemical Substances
- Written Plan ([SUNY Oswego Hazard Communication Plan](#))
- Employee Information and Training

HAZARD COMMUNICATION and NYS Right to Know Law

The Hazard Communication Standard (HazCom) and the NYS Right to Know Law(RTK)

For most safety and health rules and regulations, NYS adopted the rules and regulations under OSHA – General Industry 29 CFR 1910 or for Construction 29 CFR 1926. However under the Right to Know Law there are additional requirements for Hazard Communication which include:

Annual Training

Maintaining of records for an additional 10 years

Exposure Levels based on ACGIH 1989 vs 1968

HazCom/RTK and Global Harmonization (GHS)

- In 2012 there were changes made to the OSHA regulation. The changes adopted GHS- A common, coherent approach to classifying and communicating chemical hazards
 - Harmonized definitions of hazards
 - Specific criteria for labels
 - Harmonized format for safety data sheets

Global Harmonization System

Who's Participating?

- Currently, 67 countries
 - Argentina, Australia, Austria, Belgium, Bolivia, Brazil, Brunei Darussalam, Bulgaria, Cambodia, Canada, Chile, China, Colombia, Cyprus, Czech Republic, Denmark, Ecuador, Estonia, Finland, France, Gambia, Germany, Greece, Hungary, Iceland, Indonesia, Ireland, Italy, Japan, Lao People's Democratic Republic, Latvia, Liechtenstein, Lithuania, Luxembourg, Madagascar, Malaysia, Malta, Mauritius, Mexico, Myanmar, Netherlands, New Zealand, Nigeria, Norway, Paraguay, Peru, Philippines, Poland, Portugal, Republic of Korea, Romania, Russian Federation, Senegal, Serbia, Singapore, Slovakia, Slovenia, South Africa, Spain, Sweden, Switzerland, Thailand, United Kingdom, United States of America, Uruguay, Vietnam, and Zambia

GHS- Standardizes

- Requirements for Chemical Labels
- Safety Data Sheets
- Uses Pictograms
- Provides standard for Hazard Class and Hazard Category determination
- Provides standardized Hazard Statements for SDS based on the class and category

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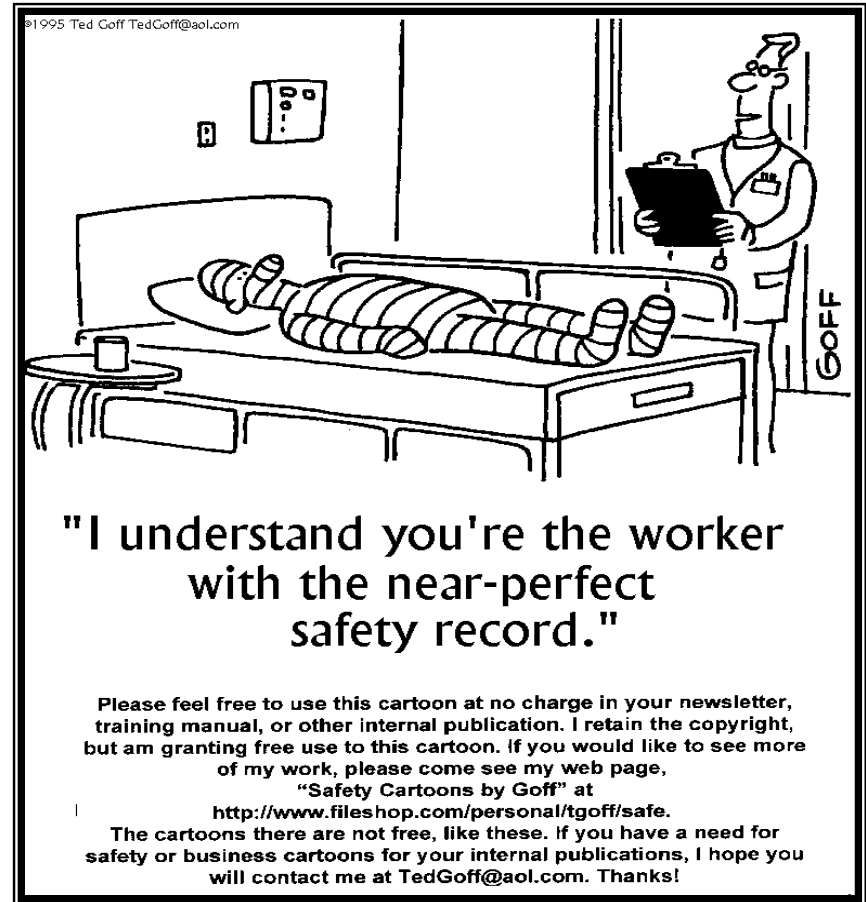
- Written Plan ([SUNY Oswego Hazard Communication Plan](#))
- Hazard Determination
- Safety Data Sheets (SDS)
- Labeling of Chemical Substances
- Employee Information and Training

Training

- NYS requires that every employee complete Right to Know training every year.
- This presentation provides basic information, your Supervisor is responsible to provide training to you on the specific chemicals you will use on your job and how to use them safely.
- If you have questions ask your supervisor or contact EHS at X 3157

HAZCOM – Written Plan

EHS maintains a written Hazard Communication Program that spells out how we are going to comply with the requirements of the standard. [SUNY Oswego Hazard Communication Program](#)



Hazard Determination

- Based on the Physical Properties of the chemical or the Health Hazards that are associated with the chemical.
- At SUNY Oswego we rely on our chemical suppliers (manufacturers) to make the determination for us, they are also required to provide us with the Safety Data Sheet (SDS) for the chemical/product.

Physical Hazards

Hazard Class	Hazard Category						
Explosives	Unstable Explosives	Div 1.1	Div 1.2	Div 1.3	Div 1.4	Div 1.5	Div 1.6
Flammable Gases	1	2					
Flammable Aerosols	1	2					
Oxidizing Gases	1						
Gases under Pressure Compressed Gases Liquefied Gases Refrigerated Liquefied Gases Dissolved Gases	1						
Flammable Liquids	1	2	3	4			
Flammable Solids	1	2					
Self-Reactive Chemicals	Type A	Type B	Type C	Type D	Type E	Type F	Type G
Pyrophoric Liquids	1						
Pyrophoric Solid	1						
<i>Pyrophoric Gases</i>	Single category						
Self-heating Chemicals	1	2					
Chemicals, which in contact with water, emit flammable gases	1	2	3				
Oxidizing Liquids	1	2	3				
Oxidizing Solids	1	2	3				
Organic Peroxides	Type A	Type B	Type C	Type D	Type E	Type F	Type G
Corrosive to Metals	1						
<i>Combustible Dusts</i>	Single Category						

Physical Hazard Criteria

- Explosives
- Flammable gases
- Flammable aerosols
- Oxidizing gases
- Gases under pressure
- Flammable liquids
- Flammable solids
- Self-reactive substances and mixtures
- Pyrophoric liquids
- Pyrophoric solids
- Self-heating substances and mixtures
- Substances and mixtures which, in contact with water, emit flammable gases
- Oxidizing liquids
- Oxidizing solids
- Organic peroxides
- Corrosive to metals

Health Hazards

Hazard Class	Hazard Category			
Acute Toxicity	1	2	3	4
Skin Corrosion/Irritation	1A	1B	1C	2
Serious Eye Damage/ Eye Irritation	1	2A	2B	
Respiratory or Skin Sensitization	1			
Germ Cell Mutagenicity	1A	1B	2	
Carcinogenicity	1A	1B	2	
Reproductive Toxicity	1A	1B	2	Lactation
STOT – Single Exposure	1	2	3	
STOT – Repeated Exposure	1	2		
Aspiration	1			
Simple Asphyxiants	Single Category			

Health Hazard Criteria

- Acute Toxicity
- Skin corrosion/Irritation
- Serious eye damage/eye irritation
- Respiratory or skin sensitization
- Germ cell mutagenicity
- Carcinogenicity
- Reproductive toxicity
- Specific target organ toxicity – Single exposure
- Specific target organ toxicity – Repeated exposure
- Aspiration hazard

HAZCOM – Safety Data Sheets

Safety data sheets (SDS) are documents that contain information necessary for recognizing hazards of materials. It is your right to see a SDS for any product you use.

- Custodial chemical SDS are located in every building in the custodial break area.
- We are currently developing an online data base through MSDS Online. The link can be found on the Facilities' Service Environmental Health and Safety web page. <https://www.oswego.edu/facilities-services/environmental-health-and-safety>
- SDS for the sciences, art and technology departments are kept in each department.
- Contact the EHS Department to request SDS for other products.

http://www.oswego.edu/administration/environmental_health_and_safety/index.html

GHS - Safety Data Sheet Format

- 1. Identification of the substance or mixture and of the supplier**
- 2. Hazards identification**
- 3. Composition/information on ingredients**
- 4. First-aid measures**
- 5. Fire-fighting measures**
- 6. Accidental release measures**
- 7. Handling and storage**
- 8. Exposure controls/personal protection.**
- 9. Physical and chemical properties**
- 10. Stability and reactivity**
- 11. Toxicological information**
- 12. Ecological information (non-mandatory)*
- 13. Disposal considerations (non-mandatory)*
- 14. Transport information (non-mandatory)*
- 15. Regulatory information (non-mandatory)*
- 16. Other information, including date of preparation or last revision**

Labels and Other Forms of Warning

- Required Elements

- Product identifier (what it is)
- Signal words (Danger or Warning)
- Hazard statements
- Pictograms
- Precautionary statements
- Name, address, and telephone number of the chemical manufacturer, importer, or other responsible party

Labels on Shipped Containers

- Each container of a classified hazardous chemical leaving the workplace is to be labeled, tagged, or marked with the following:
 - Product identifier
 - Signal word
 - Hazard statement(s)
 - Pictogram(s)
 - Precautionary statement(s)
 - Name, address, and telephone number of responsible party

Harmonized Information

“Signal word” - a word used to indicate the relative level of severity of hazard and alert the reader to a potential hazard on the label.

- “Danger” is used for the more severe hazards,
- “Warning” is used for the less severe

Harmonized Information

“Hazard statement” - a statement assigned to a hazard class and category that describes the nature of the hazard(s) of a chemical, including, where appropriate, the degree of hazard.

- For example: Harmful if inhaled [for Category 4 Acute Toxicity - Inhalation]

Pictograms

- The GHS uses nine pictograms to convey the health, physical, and environmental hazards.
- This final rules requires eight of these pictograms, the exception being the environment pictogram, since environmental hazards are not within OSHA's jurisdiction.

Harmonized Information

“Pictogram” means a composition that may include a symbol plus other graphic elements, such as a border, background pattern, or color, that is intended to convey specific information about the hazards of a chemical. Eight pictograms are designated under this standard for application to a hazard category.

HCS Pictograms and Hazards

Health Hazard  <ul style="list-style-type: none"> • Carcinogen • Mutagenicity • Reproductive Toxicity • Respiratory Sensitizer • Target Organ Toxicity • Aspiration Toxicity 	Flame  <ul style="list-style-type: none"> • Flammables • Pyrophorics • Self-Heating • Emits Flammable Gas • Self-Reactives • Organic Peroxides 	Exclamation Mark  <ul style="list-style-type: none"> • Irritant (skin and eye) • Skin Sensitizer • Acute Toxicity (harmful) • Narcotic Effects • Respiratory Tract Irritant • Hazardous to Ozone Layer (Non-Mandatory)
Gas Cylinder  <ul style="list-style-type: none"> • Gases Under Pressure 	Corrosion  <ul style="list-style-type: none"> • Skin Corrosion/ Burns • Eye Damage • Corrosive to Metals 	Exploding Bomb  <ul style="list-style-type: none"> • Explosives • Self-Reactives • Organic Peroxides
Flame Over Circle  <ul style="list-style-type: none"> • Oxidizers 	Environment (Non-Mandatory)  <ul style="list-style-type: none"> • Aquatic Toxicity 	Skull and Crossbones  <ul style="list-style-type: none"> • Acute Toxicity (fatal or toxic)

Precautionary Statements

“Precautionary statement” means a phrase that describes recommended measures that should be taken to minimize or prevent adverse effects resulting from exposure to a hazardous chemical, or improper storage or handling.

- For example: Wear face protection [for Explosives, Division 1.1]

Label Example

New style Label (GHS)



Xyz... Chemical

WARNING

Flammable Liquid and vapor

Harmful if swallowed

May cause damage to organs (liver)

May cause damage to organs through prolonged or repeated exposure (heart)

Suspected of damaging fertility

Keep away from heat, sparks, open flames and hot surfaces - No smoking. Do not breathe vapors. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use protective equipment as required. Wear protective gloves and eye protection. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Keep container tightly closed. Ground container and receiving equipment. Use explosion-proof electrical, ventilating, lighting equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Store locked up in a well ventilated place. Keep cool. Dispose of contents and container in accordance with local, state and federal regulations.

First Aid:

If swallowed: Call a doctor if you feel unwell, Rinse mouth.

If on skin or hair: Remove immediately all contaminated clothing. Rinse skin with water.

If exposed or if you feel unwell: call a doctor.

Fire:

In case of fire: Use water spray foam, dry chemical or carbon dioxide (CO₂) for extinction

GHS Company, 123 Global Drive, Cincinnati, OH

telephone (800) 555-8888

Fire Safety – Prevention

- Do not store paper, cardboard, clothing, plastic or other combustible items within **2 feet** of the ceiling.
- Do not overload electrical outlets
- Do not block fire extinguishers
- Keep clutter to a minimum.
- Report any exposed or damaged electrical wires to maintenance at x3200



Fire in Wilber Hall in May 2006 due to damaged electrical wiring. Thanks to the fire alarm system and a fast response from University Police and the Oswego Fire Dept., the fire was put out quickly.

Fire Safety – Prevention

- Use only UL approved portable heaters with tip-over safety features.
- Do not place them within **3 feet** of paper, cardboard, clothing, plastic or other combustibles.
- Do not leave unattended.



This portable heater caught on fire in Penfield Library in the Spring of 2005.

FIRE SAFETY – Extinguisher Use

NOTE! You are not required to put out a fire with an extinguisher.

**Your primary responsibility is to
evacuate the building.**

If you find yourself trapped in a burning building, a fire extinguisher may come in handy to clear an exit route. If you choose to use a fire extinguisher remember to **P.A.S.S.**

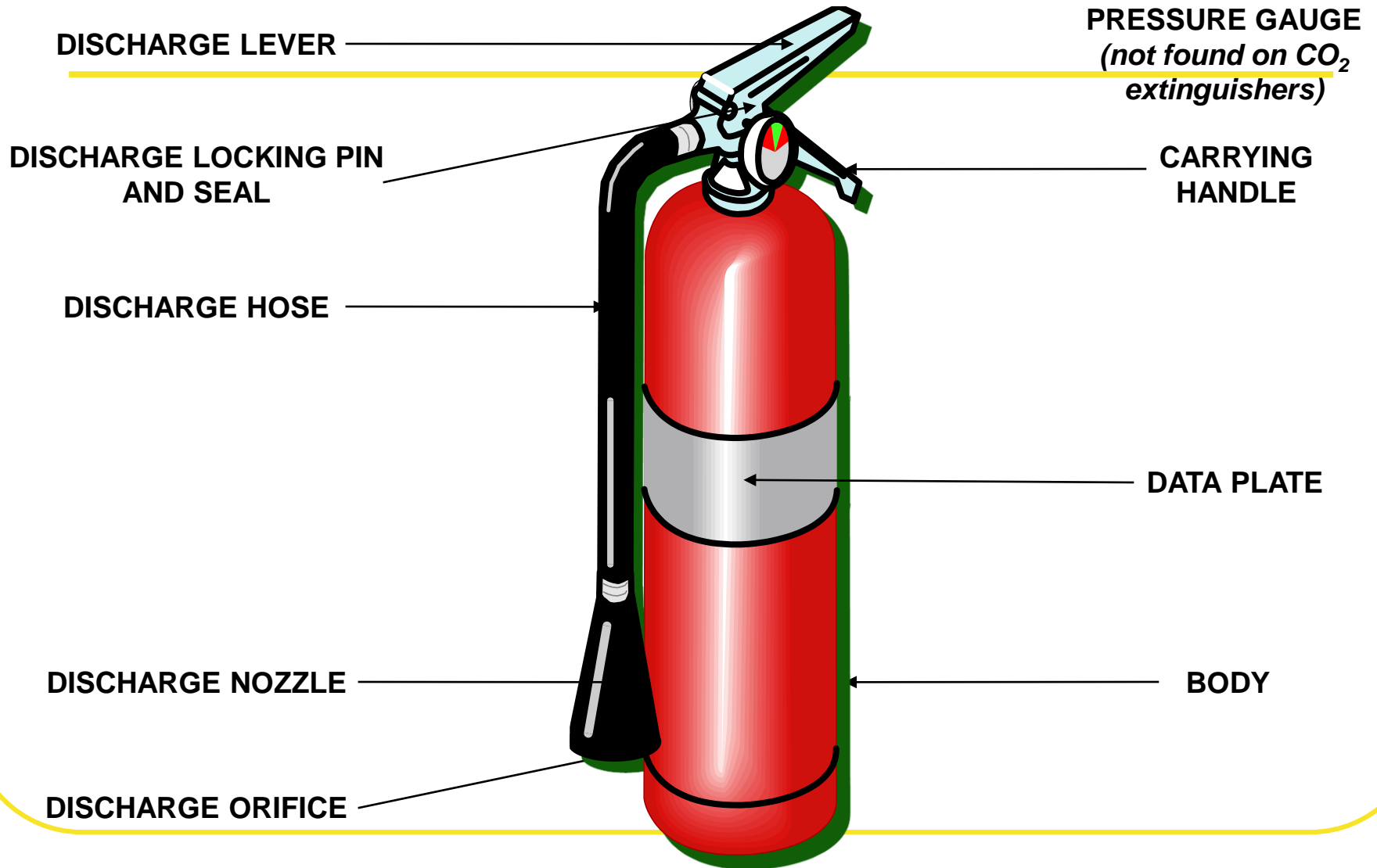
Pull the pin

Aim the nozzle

Squeeze the handle

Sweep – use a sweeping motion

NOTE! – Your typical CO₂ extinguisher only has 8 - 30 seconds of discharge time!



BLOODBORNE PATHOGENS - Overview

Bloodborne pathogens are microorganisms such as viruses or bacteria that are carried in blood and can cause disease in people such as malaria, syphilis, and brucellosis, but ***Hepatitis B (HBV)*** and ***the Human Immunodeficiency Virus (HIV)*** are the two diseases specifically addressed by the OSHA Bloodborne Pathogen Standard.

The **Hepatitis B** virus is very durable, and it can survive in dried blood for up to seven days. For this reason, this virus is the primary concern for employees such as housekeepers, custodians, laundry personnel and other employees in a non first-aid or medical care situation.

The **HIV** virus is very fragile and will not survive very long outside of the human body. It is primarily of concern to employees providing first aid or medical care in situations involving fresh blood or other potentially infectious materials.

BLOODBORNE PATHOGENS - Transmission

Bloodborne pathogens can be transmitted through contact with infected human blood and other potentially infectious body fluids such as:

- blood
- semen
- vaginal secretions
- cerebrospinal fluid
- synovial fluid
- Pleural fluid
- saliva from dental procedures
- any body fluid with visible blood
- any unidentifiable body fluid
- Feces and vomit should also be considered potentially infectious, since they may contain blood which is not easily visible.

Body fluids generally NOT considered potentially infectious include nasal secretions, sputum, sweat, tears, and urine

BLOODBORNE PATHOGENS – Transmission (cont)

Unbroken skin forms an impervious barrier against bloodborne pathogens. However, **infected blood can enter your system through:**

- Open sores
- Cuts
- Abrasions
- Acne
- Any sort of damaged or broken skin such as sunburn or blisters

Bloodborne pathogens may also be transmitted through the **mucous membranes** of the

- Eyes
- Nose
- Mouth

For example, a splash of contaminated blood to your eye, nose, or mouth could result in transmission.

BLOODBORNE PATHOGEN - Prevention

- Call University Police at X 5555 in an emergency.
- For minor incidents have the victim self treat (i.e. put on their own band-aid).
- Whether or not you think the blood/body fluid is infected with bloodborne pathogens, *it is treated as though it is*. Facilities Services Maintenance and Operations staff have been trained in how to clean up blood spills.
- Contact X 3200 for Clean up of any Blood/Body Fluid.

SLIPS TRIPS FALLS



You take hundreds of steps every day, but how many of those steps do you take seriously?

SLIPS TRIPS FALLS

SLIP: to slide along smoothly resulting in a sudden mishap.

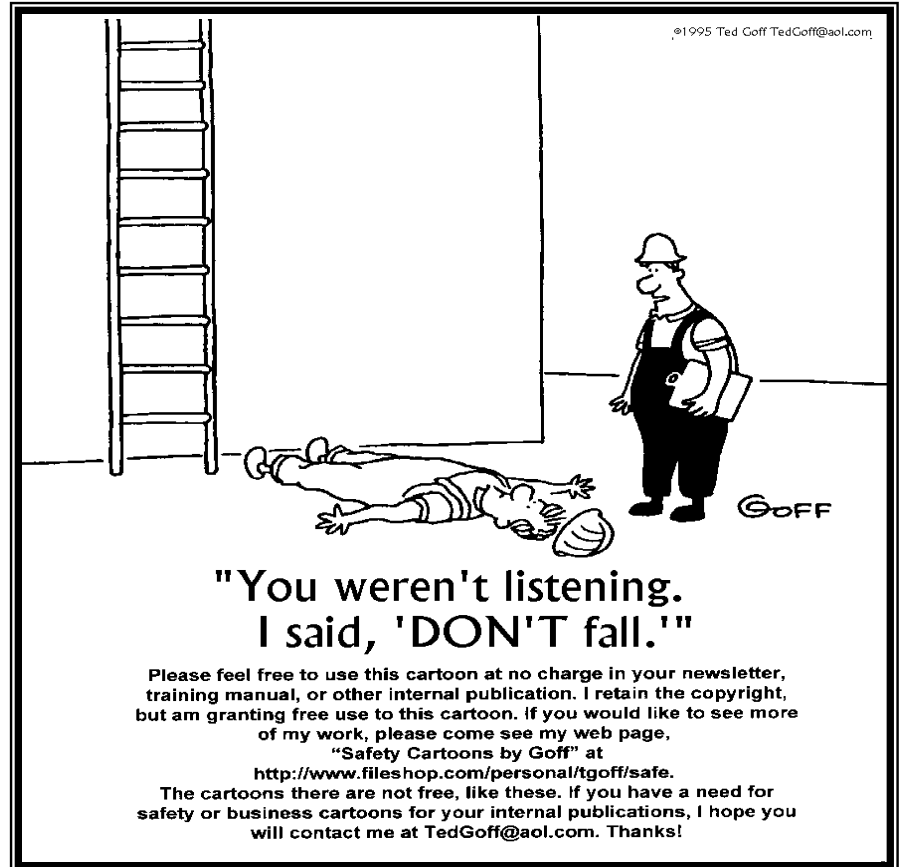
- Weather conditions may cause the floors to be wet or the ground to be icy.
- Watch where you are stepping and use caution on wet floors and ice to avoid slipping.
- Report all potential slip/trip conditions to Maintenance at x3200



SLIPS TRIPS FALLS

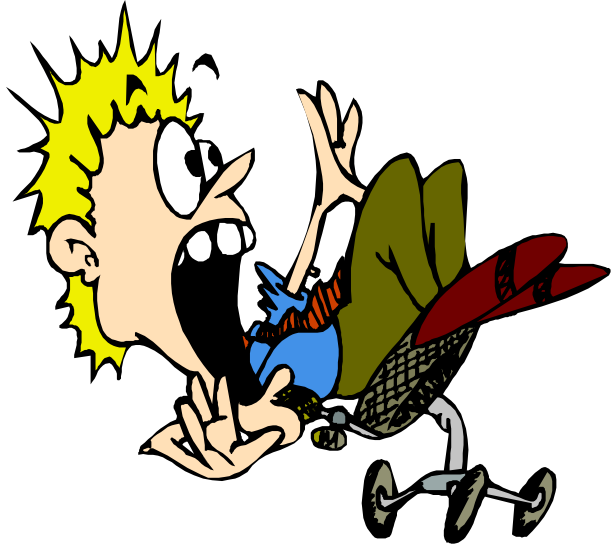
TRIP: to catch the foot on something so as to stumble.

- Damaged steps or misplaced items are major factors in trips.
- Make sure that steps you use are in good shape and clear of items.
- Use handrails when ascending or descending stairs.



SLIPS TRIPS FALLS

FALL: to descend freely by the force of gravity.



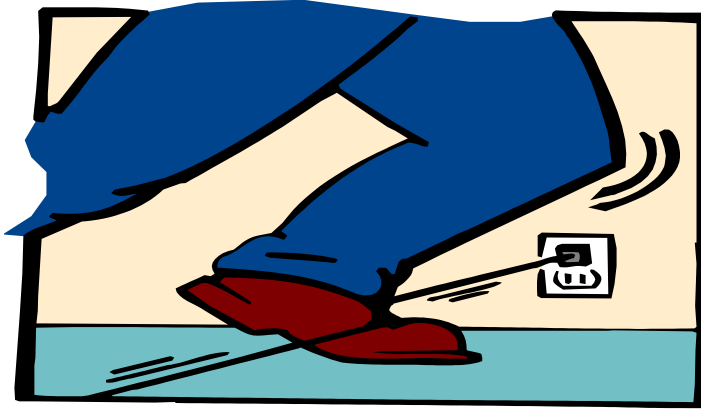
Eliminate the hazard when possible
(i.e. broken chair, unstable ladder, etc).

Only use ladders that are in good
condition and have a sticker indicating
the maximum weight allowed.

Practice good judgement - Don't lean
back in chairs, don't climb on unstable
shelving or tables.

SLIPS TRIPS FALLS

WHAT CAN YOU DO?



Pick up objects and move extension cords to eliminate the potential for injury.

Prevent a potential injury by cleaning up spills and wet floors.

Keep isles and walkways clear of clutter or obstructions.



SLIPS TRIPS FALLS

WHAT CAN YOU DO?



If something is creating a potential slip, trip, or fall hazard fix it (clean it up - move it).

Place signs to warn others of the potential hazard.

If you can not fix it - Place a work order so that Facilities Management (x3200) is aware of the problem.

ERGONOMICS

Ergonomics means

“fitting the job to the worker”

The prevention of **W**ork-related **M**usculo **S**keletal **D**isorders (**WMSDs**). Also known as:

- **C**umulative **T**rauma **D**isorders (**CTDs**)
- **R**epetitive **S**train **I**njuries (**RSIs**)
- Overuse injuries

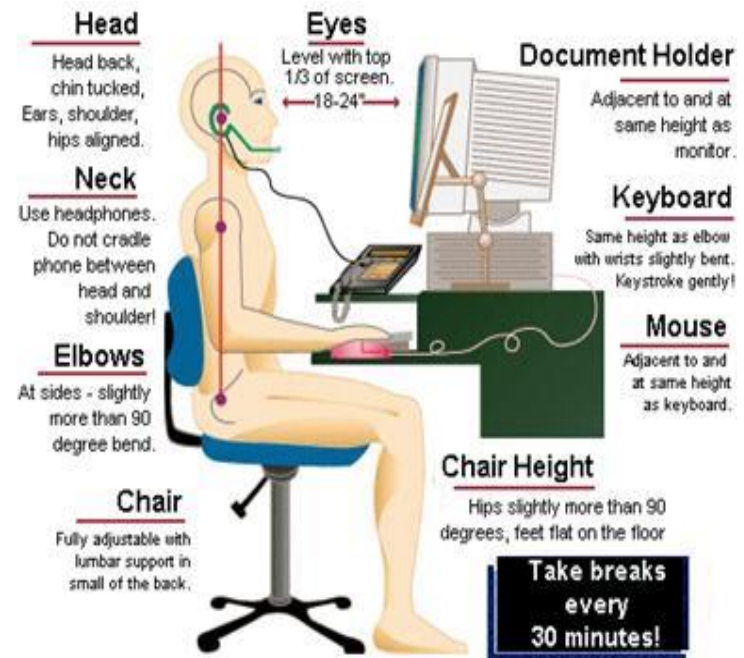
Usually develop gradually, but sometimes can appear suddenly

Can be serious, if not taken care of early

ERGONOMICS – Causes of WMSDs

Risk Factors

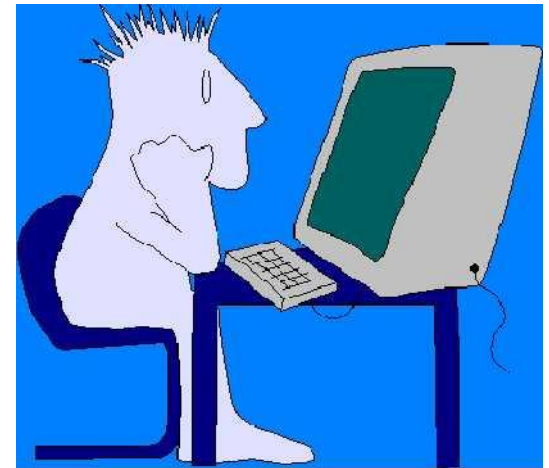
- Awkward Postures
- Force
- Repetitive Motions
- Vibration
- Temperature
- Environmental Factors
 - poor lighting



ERGONOMICS - Risk Factors

Risk of injury depends upon:

- Duration - usually need hours of exposure before risk factors become a concern. Can be all at one time or cumulative over the day
- Frequency - how often
- Intensity - how much



ERGONOMICS - Symptoms of WMSDs

- Discomfort
- Pain
- Numbness
- Tingling
- Burning
- Swelling
- Change in color
- Tightness, loss of flexibility

ERGONOMICS - Prevention

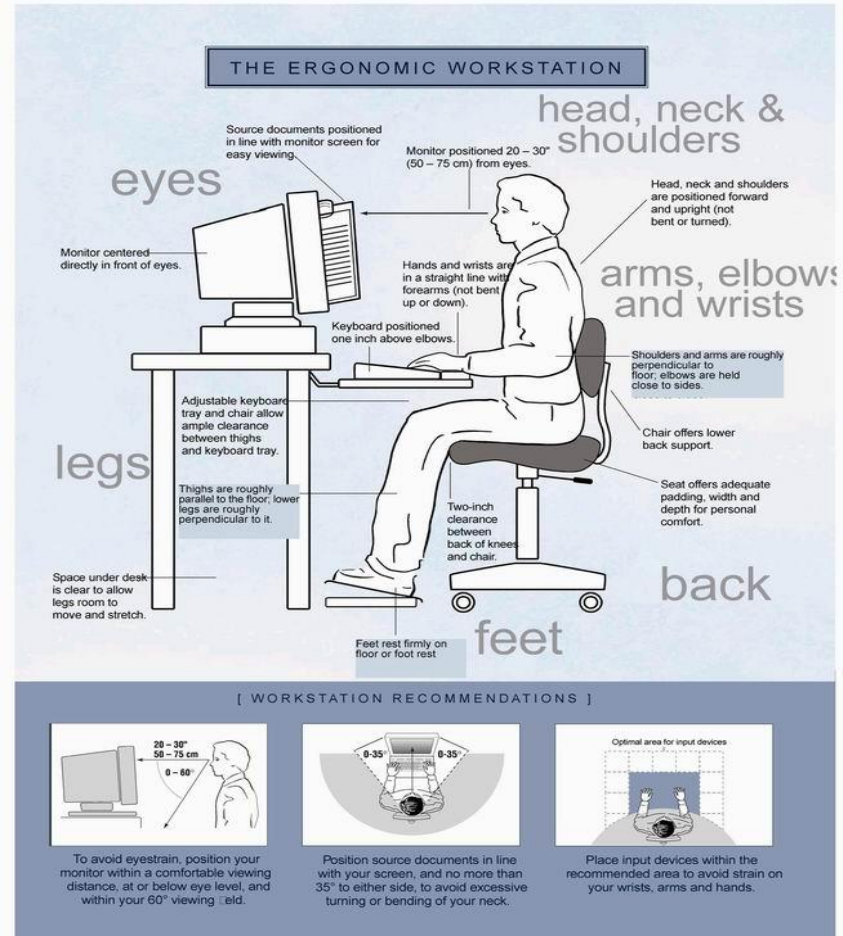
- Spread keyboard work throughout the day
- Take stretch pauses
- Improve your posture and move around as much as possible
- Stretch each day to stay flexible



ERGONOMICS - Prevention

- Tilt or rotate the work
- Change workstation heights & display heights
- Use platforms
- Bring items within easy reach
- Pause to stretch

Reduce awkward postures



LOCKOUT / TAGOUT

- When equipment has to be serviced this program prevents the unexpected start up of equipment, or release of stored energy that could cause injury
- Hazardous energy = mechanical, hydraulic, electrical, gas, pneumatic, chemical, thermal, etc.



DANGER

This energy source has been LOCKED OUT.

Only the individual who signed the reverse side may remove this lock/tag.

TAG NUMBER: _____

DATE: _____

MANAGER: _____

PHONE: _____

REMARKS: _____

LOCKOUT / TAGOUT

Never remove a Lock or a Tag.
Only the person who put the lock
and/or tag on may remove it.

Contact information should be
located on the tag. Or call
Maintenance at x3200 .



ASBESTOS AWARENESS

- Asbestos is a generic term for group of minerals known for their strength, flame/heat resistance, & indestructible qualities.
- Asbestos fiber bundles can split with small fine fibers breaking away.
- If inhaled the body is able to resist most of the large particles, but the smaller fibers can lodge deep in the lungs.

ASBESTOS AWARENESS – Health Risks

This can cause these diseases:

LUNG CANCER
ASBESTOSIS
MESOTHELIOMA

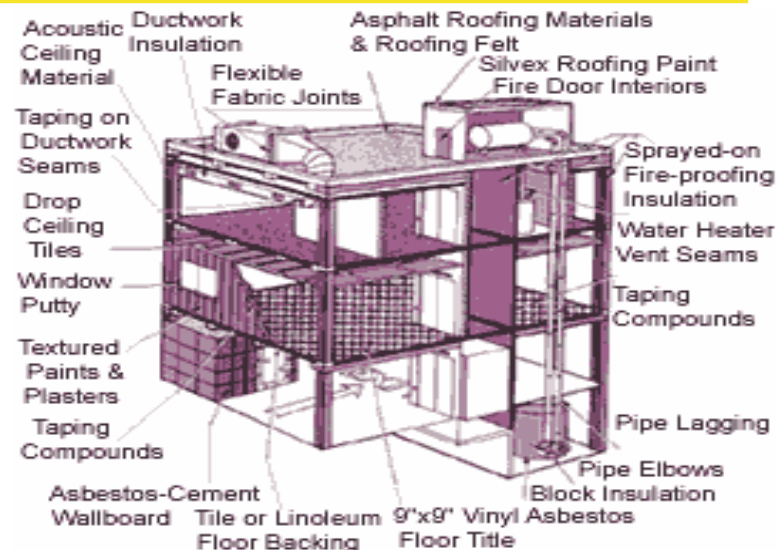
Your chance of getting an asbestos–related disease depends on the dose: the concentration of asbestos in the air and the duration of exposure.

This means that the more asbestos you inhale (dose), the greater your risk of contracting an asbestos–related disease.

ASBESTOS PRODUCTS

Typical asbestos containing materials found on campus are:

Pipe and equipment Insulation	Transite wall or ceiling panels
Some wall, ceiling and acoustical plasters	Spray on fireproofing
Floor tiles	Fire doors
Mastic (glues on moldings, ceiling tiles, floor tiles, etc)	Roofing material
Putties and caulks	Gaskets



NOTE: Your own home may contain many of these materials also. Asbestos is typically found in homes built before the 1980's. Asbestos is still found in currently manufactured items such as roofing materials and automobile brakes.

ASBESTOS AWARENESS

Asbestos is found in 9 inch by 9 inch floor tile that was manufactured before 1981



Asbestos is found in mechanical rooms around joints such as pipe elbows or fittings – (areas marked in red).

ASBESTOS AWARENESS – Fiberglass

This is not a pipe insulation that contains asbestos. It is fiberglass



WHEN IS ASBESTOS A RISK TO HEALTH ?

- A **Friable** (easily crumbled in your hand) material is more dangerous (e.g. insulation).
- A **Non-Friable** (not easily crumbled) is not as dangerous (e.g. floor tile, mastic).
- If the Material is in **good condition** e.g. sealed, painted, it is not a risk to your health.

THANK YOU

Thank you for participating in the EHS department Right to Know Training.

To document the training, we are asking you to complete the quiz located on our website.

[Go To Quiz](#)

Contact Information

For additional information please do not hesitate to contact the EHS office in Lee Hall.

Environmental Health and Safety Office

110 Lee Hall

Main Line 315-312-3157