

# KWORC

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KANSAS  
WORKERS RISK COOPERATIVE  
*for* COUNTIES

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Loss  
Prevention  
Best  
Practices  
and  
Procedures

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# GENERAL SAFETY RULES

The following are suggested general safety rules which can be adapted to meet the needs of your county. The general safety rules of your county should be reviewed with new employees upon hiring.

1. Use personal protective equipment when hazards cannot be eliminated.
2. Do not use unsafe equipment. Report unsafe equipment immediately to the supervisor.
3. Always be alert for unsafe acts and unsafe conditions.
4. Horseplay on county property or while on county business is prohibited.
5. All safety regulations and signs must be obeyed. They are for the protection of everyone.
6. Labels or other identification on incoming containers should not be removed or defaced. Material hazards must remain apparent. All containers used in the workplace must be properly labeled.
7. Should an employee sustain an injury or be stricken by an illness that is serious enough to require professional medical attention, it will be the supervisor's responsibility to see that necessary transportation to the medical facility is provided. When a member of the general public is injured or injury to an employee is serious, call for immediate medical transportation (paramedic or emergency medical technician (EMT)).
8. All accidents, injuries, near misses and property damage, no matter how slight, are to be reported to the supervisor as soon as possible. An injury/incident report should be completed by the supervisor to help prevent recurrence.
9. Work areas, including aisles, stairways, floors and platforms must be kept clear of obstructions.
10. County employees who are operating or riding in a county vehicle must wear a safety and/or restraint belt, if one is provided in the vehicle.
11. Employees who operate vehicles must obey all driver safety instructions and comply with traffic control devices.
12. Do not block exit doors, fire doors, fire extinguishers or sprinkler risers for any reason.
13. Oily rags and similar refuse subject to spontaneous combustion should be placed in metal containers with self-closing lids.
14. Flammable/combustible liquids should be stored in a separate, detached, low value building or in a fire resistive metal cabinet.

16. Learn the location, types and operation of fire extinguishers in your area. Fire extinguisher training should be mandatory for all employees.
17. Severe weather plans should be developed and posted. Learn the location of the emergency evacuation plan in your area.
18. Observe “No Smoking” areas, i.e., battery charging areas, flammable liquid storage areas, computer rooms and any other posted areas.
19. Possession of unauthorized firearms, alcoholic beverages, illegal drugs or unauthorized medically prescribed drugs will not be tolerated.
20. Immediate supervisor’s must be informed if a worker is required to take prescription medication during work hours. Written medical evidence stating that the medication will not adversely affect decision making or physical ability may be required.
21. Immediate supervisor’s must be informed of any permanent or temporary impairment that may reduce a workers ability to perform in a safe manner.
22. Learn to lift properly:
  - a. Get a firm footing.
  - b. Keep back relatively straight, with buttocks pushing out (like a weightlifter).
  - c. Get a firm grip with the palms of your hands.
  - d. Draw the object close to you.
  - e. Bend your knees and lift with your legs.(For complete Back Safety Guidelines refer the the safe lifting and back care section on page 119)
23. Anytime floors are wet from weather or cleaning, “Wet Floor” or similar signs should be placed in the hazardous area to warn employees and the public. Consideration should be given to posting signs at exits advising that sidewalks and parking lots may be slippery during inclement weather.
24. All nonessential doors should remain locked. These include janitorial closets and storage areas to prevent unauthorized individuals from entering these areas.
25. All county vehicles must be equipped with first aid kits, emergency triangles/flares and fire extinguishers.

# SAFE OPERATING PROCEDURES

In addition to standard safety rules, each department should develop Safe Operating Procedures (SOPs) to detail how selected operations are to be performed. As examples, we have reprinted excerpts from certain member counties SOPs in the common areas of:

- Equipment Operation
  - Mowing
  - Mowing with Tractors
  - Mowing with Small Hand Rotary Mowers
  - Spraying
  - Snow Removal and Ice Control
  - Transfer Stations
  - Work Site Traffic Control

## EQUIPMENT OPERATION

1. Equipment, which includes all vehicles, shall be operated and maintained in compliance with the law and the directives of the department.
2. Equipment shall not be driven or road tested at speeds in excess of the established speed limits, nor at speeds greater than is reasonable and prudent under the existing conditions. **Employees DO NOT have special traffic privileges.**
3. Employees who operate equipment must be familiar with the contents of the *Kansas Driving Handbook*, pertinent traffic laws, the equipment operator's manual and the directives of the department. **Employees must use seat belts and shoulder harnesses when such devices are provided on the equipment they are operating or riding in. Its the law! (Refer to policy section for county seat belt policy.)**
4. Operators must report all unsafe or defective equipment to their supervisors. Equipment is to be cleaned regularly and maintained in a safe operating condition. A procedure must be established for reporting.
5. No operator should start, stop, slow down, turn or back equipment without using the proper signals and making certain the maneuver can be exercised safely.
6. On rural roads or in any areas where parking lanes are not provided or where traffic warning signs are not erected, equipment should not be stopped opposite other equipment within a distance of 100 feet. The drivers and passengers of such equipment should not congregate in the traffic lane. No equipment should stop or park on the traveled portion of the roadway when it is practical to stop or park off the roadway, unless required to do so in the line of duty. Equipment should not be parked on the roadway unless protective flags, flares, signs or flagpersons are utilized. All road work must comply with the MUTCD.

7. Equipment should not be stopped or parked in close proximity to working operations or where it may interfere with the movement of other traffic. Equipment should not be left adjacent to the roadway in such a manner as to constitute a traffic hazard, nor should it be parked on a curve or hill where it will obstruct sight distances.
9. Operators must not park and leave equipment without setting brakes. Lockout/Tagout procedures must be followed with performing maintenance or repair. Chocks should be placed under the wheels as an additional precaution where conditions warrant.
10. Equipment operators must reduce speeds during periods of poor visibility and shall turn on the headlamps as an added precaution.
11. Equipment that is customarily towed must not be towed unless safety chains are used in addition to the regular tow bar or connector. The safety chains must be permanently attached to all towed equipment and must be of sufficient strength in the event of tow bar failure. Chains, hooks and attachments must be kept in good repair and should be constantly inspected for weakened areas.
12. Equipment operators should shift into lower gears before descending steep hills—gears must not be disengaged nor shall the vehicle be allowed to coast at any time.
13. Unauthorized persons must not ride in or operate county equipment.
14. Not more than three persons should be permitted to ride in the front seat of any pickup or truck and no passenger will interfere with the driver's control.
15. Equipment doors must be kept closed while the unit is in motion and must not be left open while it is parked.
16. No one should open the door of any equipment on the side exposed to moving traffic unless and until it is safe to do so and it can be done without interfering with the movement of traffic.
17. Drivers must not permit equipment to be loaded beyond its capacity nor must they permit materials, supplies or miscellaneous gear to be loaded on the running board, fender, hood or truck box in any manner which would permit any portion of the load to extend beyond the fender line, be high enough to strike overhead obstacles, or in any manner interfere with the vision of the operator.
18. Ballast used in the operation of equipment must be secured or loaded so it cannot shift, spill or injure the operator or others if the equipment tips.
19. Flags and other warning devices placed upon county equipment must be in accordance with departmental policies.
20. If a heater or starting fluid is used for cold weather starting, the manufacturer's recommendations must be followed. Since starting fluid is flammable, do not smoke when using nor puncture or burn the container. Dispose of the container according to

manufacturer's instructions.

21. Never refuel equipment while the engine is running. Static electricity, a spark from the ignition system or a hot exhaust could cause the fuel to ignite.
22. Watch for overhead and underground high-voltage electrical lines and telephone lines. Be sure of gas and water line locations before starting work.
23. Always face or look in the direction the machine is traveling. Avoid sudden brake stops with a raised or loaded bucket and make sure the bucket does not pass over anyone.
24. Exercise extreme caution when working close to bank edges where there is soft footing, danger of collapse or when loading at the base of a high bank where there is a possibility of the bank collapsing on the equipment.
25. The machine must be attended to at all times while a load is suspended. If you leave a vehicle unattended, the load must be setting on theground, parking brake on, engine off and hydraulics neutralized.

## **MOWING**

Safety rules applying to all types of mowing equipment:

1. Direct mower discharge toward the ditch or backslope and away from vehicles, employees or other pedestrians.
2. Never attempt to unclog or adjust a running machine.
3. Operators of mowing equipment must wear protective clothing including a fluorescent orange vest and hearing protection.
4. Mowers should be shut off when crossing driveways and intersecting county roads.
5. Follow all manufacturer's operating and safety precautions.

## **MOWING WITH TRACTORS**

1. Persons other than the operator are not permitted to ride on tractors.
2. Always shut off the engine and set the parking brake when dismounting from a tractor. Permit the engine to cool sufficiently before refueling.
3. Always drive the tractor at speeds compatible with safety, especially over rough ground, crossing ditches, slopes or when turning.

4. When operating on steep grades, use care to maintain proper stability. For the added protection of employees, slopes that are steeper than a three to one ratio or abnormal terrains where conditions are adverse should not be mowed with tractors. Sickle bar mowers should be used with the sickle bar toward the upside of the slope.
5. If the tractor is stuck, back out to prevent upsetting. If logs are used, always put them under the rear wheels and back out.
6. Keep all guards and shields in place.
7. Observe all motor vehicle laws.
8. Be alert for markers used to identify mowing hazards.
9. Wear eye and hearing protection.
10. Wear appropriate footwear.
11. Always wear seat belts when operating roll over protection structure (ROPS) installed equipment.

### **MOWING WITH SMALL HAND ROTARY MOWERS**

1. Clear the area of debris before mowing.
2. Stay off wet slopes.
3. Shut off the engine when the mower is unattended or when refueling.
4. Do not operate the motor at speeds in excess of the manufacturer's instructions.
5. Keep all safety guards and shields in place.
6. Wear eye and hearing protection.
7. Always wear appropriate footwear.

### **SPRAYING**

1. Employees doing the actual operation, or coming in contact with spray materials, should have a thorough knowledge of the chemicals being used. Material safety data sheets should be available on job sites and available in the work area.
2. The operation and maintenance of the spray power equipment will be the responsibility of an employee who is properly trained in its operational functions.

3. Surfaces on the spray tank and truck must be kept reasonably free from accumulation of spray material. This equipment must be washed off at least once daily when it is used.
4. Adequate platforms, railings and safety harness must be provided for the protection of nozzle operators when the top of the spray tank or truck cab is used as a spraying platform.
5. Plates, pipes and hinges must be inspected before each use for deterioration caused by corrosive action of spray materials.
6. Hoses and hose connections must be inspected before each use. A spray hose under pressure can cause serious injury if the hose becomes disengaged.
7. Personal protective equipment shall be provided and used according to manufacturer's recommendations. Safety equipment to be carried in the vehicle shall include: extra clothing, goggles, gloves, first aid kit, fire extinguisher, eye wash, at least 5 gallons of extra water and extra clothing.
8. The Worker Protection Standards must be adhered to when county employees come under the Workers Compensation Act.

## **SNOW REMOVAL AND ICE CONTROL**

Operators must know how to handle their vehicles and equipment during adverse weather conditions. The following procedures must be observed at all times:

1. Exhaust systems of equipment for winter operations must be thoroughly checked for leaks.
2. Lights and windows must be frequently cleaned during snow and ice removal operations. Amber rotating beacons must be used by working equipment in traffic lanes.
3. If it becomes necessary to stop equipment in the traffic lane while plowing snow or spreading sand or chemicals, traffic must be warned by operating amber rotating beacons/strobe lights and hazard warning flashers.
4. Material spreaders must be adequately secured to the truck and hopper type spreaders should be blocked to prevent sideshift.
5. Snow removal equipment must not be operated against the flow of traffic except when necessary to remove the low side with deep drifts.
6. Precautions, particularly with v-plows, must be exercised when passing or meeting traffic to avoid throwing heavy snow or ice on a windshield or obstructing the vision of motorists.
7. Operators must use extra care when meeting opposing traffic to avoid sideslip when removing packed snow or ice with one-way plows or trucks equipped with a side-mounted wing.

8. Operators must use care when removing snow in the vicinity of parked or abandoned vehicles on or adjacent to roads being cleared. Even though cars are illegally parked, reasonable care must be taken consistent with the road clearing.
9. Operators must exercise reasonable care to prevent damage to signs, delineators, posts, guardrails, bridge rails, mailboxes, guide posts, etc.
10. Operators must stop their snow plows or motor graders when reaching railroad crossings and raise and adjust the blade so that no damage shall be done to the crossing or to their equipment. Operators are cautioned not to leave a windrow of snow on the crossing which may cause train derailment. The operators must inspect and clear packed snow or ice from the flangeways. The railroad company must be notified whenever a crossing cannot be cleared properly.

### **10 Commandments for Snow Fighters**

1. Thou shalt present thyself to thy job physically and mentally fit and properly clothed for any emergency in order to withstand the rigors of thy task.
2. Thou shalt never enter thy cab without inspecting thy lights, windshield wipers, defrosters, flares and other safety equipment.
3. Thou shalt know thy spreading and plowing routes, as well as the performance of thy spinner and the life of thy plow blade.
4. Thou shalt faithfully remain alert in order to avoid guardrails, headers, stalled cars, man-hole covers, railroad tracks and mailboxes. Otherwise thee may smite thy windshield with thy head.
5. Thou shalt contain thy temper even though cars and trucks pass thee on both sides and tailgate thee too close for comfort. Anger only multiplies thy prospects of coming to grief by accident.
6. Thou shalt use thy radio as briefly as possible, if thee is fortunate enough to have one. Remember thy fellow workers may need to communicate in an emergency.
7. Thou shalt interrupt the flow of power to thy spreader before attempting to free any foreign objects or blockages if thee treasure thy fingers.
8. Thou shalt render thy truck and spreader out of gear and stoutly set thy brakes before dismounting from thy cab.
9. Thou shalt govern thy speed according to conditions, else thee may wind up with thy truck upside down.
10. Thou shalt mind thy manners on the roadway; clearly signal thy intentions; render assistance to stranded motorists and remember that it is more blessed to give than to receive.

## **TRANSFER STATIONS**

To ensure the safe operations of the transfer station and to protect the general public, safety rules must be posted and adhered to. Each individual county transfer station is unique, and the county should modify the following rules to meet its individual needs.

## **Employee Rules**

1. All employees should have the opportunity to be vaccinated against hepatitis exposure.
2. Employees should attend blood borne pathogen safety classes provided by the County Health Department or KWORCC.
3. As waste is received, it should be spread out to determine if there are any hot spots.
4. A temporary barrier needs to be established to prevent employees and the public from approaching the pit area.

## **General Public**

1. The general public should be restricted from entering the station until an operator has been contacted. At that time, the operator shall instruct and guide the individual.
2. Children and pets must remain in vehicles at all time.
3. No one is allowed in the pit area. The temporary barrier should remain in place until the operator is ready to load.
4. No one should be allowed in the building when the operator is not present.
5. Smoking is not allowed in the station.
6. Alcoholic beverages are not allowed in the station.
7. Only those items that should be recycled or removed to another part of the landfill should be removed from the transfer station.
8. No loitering.

## **TRAFFIC CONTROL—WORK SITE TRAFFIC CONTROL**

When determining the traffic control of a particular work site, several things need to be examined. The MUTCD and Low Volume Road Handbook should be your guide to proper sign placement.

### **Evaluate Site Needs, including:**

1. The type of work (stationary, continuous, mobile) being done;
2. The location of work area (shoulder, right-of-way, roadway);
3. Expected time involved on the project;
4. The characteristics of the roadway (hills, curves, etc.) and

5. The speed and volume of traffic.

### **Alert Drivers**

1. Do not surprise motorists by not providing ample warning signs. Give drivers time to act responsibly.
2. Give drivers early warning in congested areas or where the road work is obstructed by a building, hills or curves.
3. Do not confuse drivers with contradictory signs or pavement markings.
4. If flaggers are to be used in alerting drivers, they should be preceded by at least two signs. The first sign should indicate "Road Work Ahead"; the second "Flagger Ahead" or "Be Prepared to Stop."
5. All warning signs should be highly visible and kept clean at all times.
6. Maintain credibility with drivers by doing what the signs say.

### **Guide Drivers**

1. Traffic must be clearly directed around the work area.
2. Ideally, traffic should be able to move in both directions. A steady flow of traffic should be maintained.
3. Instructions (signs or markings) for drivers around the work area should be easily understood and visible.
4. When reducing traffic lanes, the channelizing devices should produce a smooth and gradual movement from one lane to another.
5. Lane reduction signs should be posted (as per MUTCD) well in advance of the closure on a high-speed roadway, with frequent sign displays thereafter.
6. Channelizing devices should be spaced evenly according to the speed of the traffic (MUTCD). Repair and replace them as needed.
7. Supervisors should drive through the traffic control setup to check it from the driver's perspective.

### **Protect Crew**

1. The work area should be adequately surrounded by barricades and all workers should remain within the protected area whenever possible.

2. Workers should use caution when leaving the protected area.
3. All work site crew members must wear reflective vests and hats that meet ANSI standards to enhance the motorists' view of personnel.
4. Flaggers should be properly trained and positioned. Flagger training and certification is available through KWROCC.
5. Flaggers should always be preceded by signs to warn motorists of personnel on the roadway. ("Flagger Ahead" or "Be Prepared to Stop")

## **LOCATION OF WORK SITE TRAFFIC CONTROL DEVICES**

### **Signs**

The type, size and placement of warning signs should be in accordance with the MUTCD and LVR

1. Warning signs should be placed on the right curb of the roadway. On divided roads, a parallel sign should be placed on the median.
2. On city streets, signs must be at least seven feet above and two feet from the edge of the right side curb.
3. On rural roads, warning signs should be at least five feet above and one foot from the edge of the roadway.
4. Cover warning signs until work begins and remove them from view when work is completed.
5. Signs and safety vests should be reflective so night drivers may be able to view them clearly.
6. Temporary signs in the work area should not block or contradict permanent signs. Cover permanent signs.

### **Barricades**

1. Barricades should always have orange/white diagonal stripes.
2. Signs, flags or lights may be attached to roadway barriers.
3. Portable barricades (one or two boards) may need to be held in place with sandbags.

4. Portable barricades should never be weighted with rocks, concrete blocks or similar material.
5. Permanent barricades (Type III) are to be used for road closures or on high volume and high speed roadways.

### **Cones and Posts**

1. Cones should be made of orange reflectorized plastic.
2. Cones should be a minimum of 18 inches—larger cones must be used on busier roadways.
3. Light cones may be weighted (with water or sandbags) to avoid blowing away.
4. Spacing of cones varies with the speed of traffic.

### **Barrier Requirements for 350**

On July 27, 1997 the Federal Highway Administrative Office of Engineering issued a guidance memo mandating that all work zone devices, used on the National Highway System (NHS), be crash tested to National Cooperative Highway Research Program Report 350 (NCHRP350) requirements. This memo went on to divide many of these devices into four categories with each having its own level of testing requirements and compliance dates. These categories are defined as:

1. **Category 1.** Includes those items that are small and lightweight, channelizing and delineating devices that have been in common use for many years and are known to be crashworthy by crash testing of similar devices or years of demonstrable safe performance. These include cones, tubular markers, flexible delineator posts and plastic drums with no attachments. These devices may be allowed for use on the NHS based on the developer's self-certification. The implement date was 10/01/98.
2. **Category 2.** Includes devices that are not expected to produce significant vehicular velocity change, but may otherwise be hazardous. Examples for this class are barricades, portable sign supports, intrusion alarms, drums, vertical panels or cones with lights. Testing of devices in this category shall be required. However, they may qualify for the reduced testing requirements. The compliance date for this category was 10/01/00.
3. **Category 3.** This category is for hardware that is expected to cause significant velocity changes or other potentially harmful reactions to impacting vehicles. Hardware in this category must be tested to the full requirement of NCHRP 350. Barriers, fixed sign supports, crash cushions and other work zone devices not meeting the definitions of Category 1 or 2 are examples from this category. The effective date for attenuator's was 10/01/98.

*Temporary Barriers.* New units must have tensile and moment resistance. The implementation date was 10/01/00.

4. **Category 4.** Includes portable or trailer-mounted devices such as arrow displays, temporary traffic signals, area lighting supports and portable changeable message signs. After the compliance date of 10/01/02 (revised to 10/01/03) this class of devices may not be used unless they are placed behind crashworthy barriers or shielded with the truck mounted attenuator's or crash cushions.

**NOTE:** Always strive to comply with the *Manual on Uniform Traffic Control Devices* (MUTCD).

## **PLANNING WORK SITE TRAFFIC CONTROL**

### **Introduction**

Work zone traffic control is an area of increasing concern due to the effect on the public motorist, county workers and pedestrians. The National Safety Council indicates approximately 50,000 people are killed or injured nationwide in work zones. In the state of Kansas, work zone fatalities and injuries have increased in the last few years at an alarming rate.

In accident cases, traffic control is also taken into account by the courts in establishing liability. Although there are some exceptions, the Kansas Tort Claims Act provides for liability of governmental entities recognized under common law. In addition, the public motorists are unpredictable, so it is important to do what is necessary to protect employees and the County from accidents.

To provide better guidance for the public, there should be a traffic control plan with proper signage set according to the MUTCD. Kansas has officially adopted the 2003 MUTCD as the standard for traffic control in the state. It should be remembered that the MUTCD is a minimum standard, and additional safety or traffic control may need to be taken where necessary.

An area of traffic control of extreme importance is signage to warn the public and to properly guide traffic. Motorists should be given ample warning so they have time to react. Use a sequence of signs to warn drivers of upcoming work areas. When reducing traffic lanes, channel devices should be used to produce a smooth gradual movement from one lane to another. Signs and traffic devices should be weighted with sandbags not rocks, concrete blocks or similar material. Flags attached to signs will help increase visibility. Should a road be closed, a permanent Type III barricade should be used. To accommodate run-off-the road incidents, provide a roadside recovery area. When practical, store equipment, vehicles and materials in a manner that will not be vulnerable to vehicles.

### **Provide Adequate Protected Workspace**

1. Work areas must be large enough for safe movement of crews and equipment within the work site.
2. Plan for material and tool storage within the work area—avoid crossing lanes of traffic for retrieval of materials, etc.

## **Provide Adequate Warning Time and Materials**

1. Do not surprise drivers with last minute warnings.
2. In order to give drivers adequate warning, consider the following roadway conditions:
  - a. Topography
  - b. Traffic Volume
  - c. Traffic Speed
  - d. Light and Weather Conditions
3. Use sequenced signs to warn drivers of upcoming work areas.
4. Use flashing lights or arrows for high visibility.
5. Confusing messages to motorists should be avoided.
6. Maintain an inventory of signs, barricades, cones, lights, etc.
7. All control devices should be kept clean and in good condition.

# DEPARTMENTAL SAFETY RULES

The general safety rules listed previously apply to virtually all county employees regardless of their position. Each operating department has its own unique needs and hazards which may require communication of more specific rules to its employees in order to adequately manage risks. Below are examples of such specific rules taken from Member Counties.

## ROAD & BRIDGE/HIGHWAY DEPARTMENT SAFETY RULES

1. Drive to and from jobs safely. Driving too slowly or at excessive speeds is dangerous.
2. Maintain the brakes, horn, lights and steering on pickups and trucks. **Regular maintenance should be scheduled and documented. Regulations require a vehicle check before leaving the shop. This includes lights, tires, and the fluid levels. This walk around must be documented.**
3. Install and maintain traffic control devices on road construction jobs as required by the *Manual on Uniform Traffic Control Devices* (MUTCD).
4. Use extra caution when pulling onto a road or crossing the center line with equipment.
5. Leave no obstacles, i.e. windrows, on the road at night that could cause accidents.
6. Remove any hazardous objects, including rocks and other debris, you see lying on county roads.
7. Only authorized and properly trained personnel will operate county equipment.
8. Personnel on field operations that require them to be in the roadway or on the right-of-way and out of their vehicles, must wear reflective outerwear. Hard hats and eye protection are to be worn as conditions warrant. This rule applies at all times during regular working hours and special overtime situations. Lunch hours and authorized breaks are not excluded if hazards still remain.
9. Reflective emergency warning triangles provided with equipment must be used in situations that require the equipment to remain immobile on or near the roadway for an extended period of time. This regulation will not apply to equipment on a signed and/or barricaded construction site.
10. Hazard lights, beacons, strobe lights and warning devices shall be installed and used on all vehicles and machinery when operating on road maintenance or construction sites. In addition, orange safety flags must be mounted on snowplows during snow clearing operations.
11. Smoking must not be permitted during any refueling operation. The engine of any fuel powered equipment must be shut down and the ignition shut off before any refueling operation begins. To avoid spillage, fuel pumps should not be left unattended while in operation.

12. No personnel are to be in the shop area after normal working hours unless authorized by management.
13. Under no circumstances are flags marking utility lines to be removed until a road construction job is finished. Employees designated to install flags at the site should also remove them when the job is completed.
14. No cover may be removed from areas between flags designating utility lines unless approved by a supervisor.
15. Any damage to county private property caused by any employee in the course of work must be reported to the supervisor **immediately**.
16. Employees in a driving capacity (using equipment and/or driving vehicles) must make certain that the equipment is in safe working condition before beginning the day's activities.
17. No one should be allowed to operate any county equipment unless trained and authorized by a supervisor to do so. Such training should be documented in the employees file. Each operator will have a valid driver's license in their possession.
18. Operators of county equipment must shut off the motors of their vehicles whenever they leave the vehicles or equipment unattended for an extended period of time. Upon leaving the vehicle, the brakes or any other braking device must be set and keys removed.
19. On all work being performed on street areas necessary signs, barricades or flagmen will be placed at the prescribed distance on each side of the work area.
20. Flasher barricades and other safety equipment must be placed on jobs left incomplete overnight. Warning signs, barricades and other warning equipment will be placed at the prescribed distance on each side of the work area.
21. Materials must be loaded in a manner to prevent shifting. Materials which could roll, shift, fly or fall off vehicles should be secured by chains, tarps, ropes, net screen or other means.
22. Pipes, posts, etc., must be loaded parallel with the vehicle body and shall not extend more than three feet beyond the rear of the vehicle. Red flags must be attached to the end of loads according to state and local law. Ropes, ratchet style tackle blocks, truck chains and other apparatus must not be hung on the outside of vehicles unless the lower end is securely fastened to prevent swinging.
23. Where graders and trucks are doing construction work on public highways and streets, warning signs, barricades, flagmen or other means will be appropriately placed according to the MUTCD and Low Volume Road (LVR) manuals.
24. Drivers backing county vehicles with an obstructed or partial view should have an

observer assisting and/or a backup signaling device.

25. Drivers of vehicles pulling trailers must be responsible for verifying that the vehicle is rated for that trailer and that the trailer is attached to the vehicle in a firm and safe manner. Any trailer being towed must have safety chains installed and used.

## **OFFICE SAFETY GUIDELINES**

1. Watch fingers and hands when closing file drawers; avoid nipping them—close drawers by using handles.
2. Be certain file cabinets are not top heavy. Never open more than one drawer at a time.
3. Never pull the cord of an appliance or tool to disconnect it.
4. Always be on the lookout for damaged wires, loose or broken plugs, frayed, cracked or brittle cords. Do not use a cord or appliance if any of the above conditions are found.
5. Materials which will burn—flammable liquids, clothing, curtains, paper or towels should be kept well away from lights, candles, lamps, heating devices, hot surfaces, etc.
6. If a cord, appliance or tool sparks, immediately unplug it and report it to the supervisor or have it checked for repair or replacement.
7. Never use an electrical appliance/tool in or about water or wet conditions.
8. Always make certain an electrical appliance is off before plugging it in.
9. Never circumvent a properly grounded electric device.
10. Always keep all legs of any chair in contact with the floor.
11. Aisles, stairways and emergency exits must be kept unobstructed.
12. Turn on lights in stairs, aisles and emergency exit areas before natural light becomes inadequate. Report defective lighting systems.
13. One hand should always be free when ascending or descending stairs.
14. Emergency exits must be clearly marked, accessible and unlocked during normal working hours.
15. Floor surfaces must be kept clean of all types of debris, including telephone and electrical wires.

16. Spills must be cleaned up immediately or the area involved must be protected with wet floor signs or other devices.
17. Appropriate ladder stairs should be obtained for use in record storage areas.

## **OFFICE MACHINES AND VIDEO DISPLAY TERMINALS**

1. When operating office machines, the employee should maintain proper work posture through proper location and orientation of the work surface and/or chair.
2. Avoid working for extended periods of time with elbows situated above mid-torso.
3. While operating office machines, employees should sit in a chair low enough to place both feet on the floor with knees slightly higher than hips. Sit firmly against the back of the chair.
4. All office machines must be placed on a firm, solid work surface.
5. To minimize eye fatigue, full-time video display terminal (VDT) operators should take a 15 minute alternate task break every hour. Moderate users should take a 15 minute alternate task break every two hours.
6. Minimize reflected glare on VDT screens by keeping them away from windows and other sources of bright light.

**Refer to pages on ergonomics,  
working with computer terminals  
and office ergonomics.**

# BLOODBORNE PATHOGEN PROGRAM

## I. POLICY STATEMENT

It is the policy of \_\_\_\_\_ County to provide a safe and healthful workplace for our employees. This policy and procedure will provide a method to safeguard our employees from being occupationally exposed to blood and other potentially infectious materials (OPIM), during first-aid and emergency situations. It is also the intent of this policy to comply with federal OSHA requirements listed in *29 CFR 1910.1030*.

### Scope

This policy applies to individuals, who in an emergency situation, have the potential for being exposed to blood and OPIM when responding solely to injuries resulting from workplace incidents. This policy also applies to janitorial personnel who are directly responsible for the cleanup of an incident site.

## II. GENERAL PROGRAM MANAGEMENT

### Responsible Persons

There are three groups of responsible persons that are central to the effective implementation of the bloodborne pathogen program. These three groups are: (1) safety officers; (2) department supervisors and foremen; (3) employees.

**1. Safety Officer.** The safety officer will be responsible for the overall management and support of the bloodborne pathogens program. Activities delegated to this position typically include, but are not limited to:

- a. Primarily being responsible for implementing the exposure control program for the entire facility.
- b. Working with management and other employees to develop and administer any additional bloodborne pathogen related policies and practices needed to support the effective implementation of this plan.
- c. Looking for ways to improve the exposure control program, as well as to revise and update the plan when necessary.
- d. Collecting and maintaining suitable reference materials.
- e. Acting as facility liaison during OSHA inspections.
- f. Conducting periodic facility audits to maintain an up-to-date exposure control program.
- g. Maintaining an up-to-date list of facility personnel requiring training, in conjunction with

facility management. (**See Hepatitis B Vaccination List in Bloodborne Pathogen Forms folder.**)

h. Developing suitable education and training.

**2. Department Supervisors and Foremen.** Department supervisors and foremen are responsible for exposure control in their respective areas. They work directly with the safety officer and county employees to ensure the proper exposure control measures are followed.

**3. Employees.** As with all of the county's safety programs, employees have the most important role in the bloodborne pathogens compliance program, for the ultimate execution of much of the program rests in their hands. In this role they may be required to know and preform the following:

- a. Know what tasks they preform that have potential for exposure to bloodborne pathogens;
- b. Attend the bloodborne pathogens training sessions;
- c. Plan and conduct all operations in accordance with work practice controls;
- d. Develop good personal hygiene habits.

### **Availability of the Exposure Control Plan to Employees**

To help employees with their efforts, the county's exposure control plan is available at any time for review. Employees are advised of this availability during their education and training sessions. Copies of the exposure control plan are kept in the \_\_\_\_\_ office.

### **Plan Review and Update**

To keep the Exposure Control Plan up-to-date, the plan will be reviewed and updated under the following circumstances:

1. Annually, on or before \_\_\_\_\_ (Date);
2. Whenever new or modified tasks and procedures are implemented that could affect occupational exposure of the employees;
3. Whenever the employees' jobs are revised such that new instances of occupational exposure may occur and
4. Whenever new functional positions are established within the county that may involve exposure to bloodborne pathogens.

## **III. EXPOSURE DETERMINATION**

OSHA requires employers to conduct an exposure determination concerning which employees may incur occupational exposure to potentially infectious materials. The exposure determination is made without regard to the use of personal protective devices. That is, the employee is considered exposed even if they wear personal protective equipment. In \_\_\_\_\_ County, the following job classifications have been determined to have the

possibility of an occupational exposure to bloodborne pathogens. (List the job classification and the procedures that might expose an employee in that class. Below are some examples.)

1. **Janitor**—Tasks or procedures that may cause exposure include cleaning of restrooms and cleaning of a first aid station or accident site.
2. **Foreman**—Tasks or procedures that may cause exposure include attending to a work related injury. (Only foreman that have received first aid training should be attending to an injury.)
3. **First Aid Personnel**—Tasks or procedures that may cause exposure include attending to a work related injury.

This list was compiled on or before \_\_\_\_\_ (Date). The safety officer will work with department supervisors and foremen to review and update this list as the tasks, procedures and classifications change.

## IV. METHODS OF COMPLIANCE

We understand that there are a number of areas that must be addressed in order to effectively eliminate or minimize exposure to bloodborne pathogens in the county. These areas consist of:

1. Using universal precautions
2. Establishing appropriate engineering controls
3. Implementing appropriate work practice controls
4. Using necessary personal protective equipment
5. Implementing appropriate housekeeping procedures

### A. Universal Precautions

Universal precautions will be observed at the facility in order to prevent contact with blood or other potentially infectious material (OPIM). All blood or OPIM will be considered infectious regardless of the perceived status of the source individual.

1. Gloves will be worn when touching blood or other body fluids, mucus membranes, non-intact skin or handling items or surfaces soiled with blood or other body fluids. Gloves will be disposed of after a single use.
2. If it is anticipated droplets of blood or any body fluid may come in contact with the mucus membranes of the employees eyes, nose or mouth, he/she will wear protective equipment. (i.e. goggles or face shields.)
3. Hands or other skin surfaces will be washed immediately if contaminated with blood or other body fluids. Hands will also be washed immediately upon glove removal.
4. Any items such as razors, knife blades, broken glass or equipment will be disposed of in a puncture and leak proof container, labeled for disposal of such items.

5. To minimize exposure to body fluids during CPR, non-reflexive breathers or other disposable aids will be used.
6. If clothing is contaminated it is to be removed as soon as possible.
7. Eating, drinking, smoking, applying cosmetics or lip balm and handling contact lenses are prohibited in the first aid room.

### **Engineering Controls**

Engineering controls help to eliminate or minimize employee exposure to bloodborne pathogens. At \_\_\_\_\_ County, the following engineering controls will be utilized: (List all relevant controls needed. Some examples are listed below.)

1. Use of a sharps container for disposable sharps. (Sharps include, but are not limited to, hypodermic syringes and needles, cannulas, scalpels, razor blades and lancets.)
2. Use of containers and appropriate disposal bags for potentially infectious waste.
3. Hand-washing facilities that are readily accessible to the employees who incur exposure to blood and OPIM. Hand-washing facilities are located in the first aid room and in the restrooms.

### **C. Personal Protective Equipment**

Personal protective equipment is the employee's "last line of defense" against bloodborne pathogens. The county provides, at no cost to employees, the personal protective equipment they need to protect themselves against exposure. This equipment includes, but is not limited to the items listed below: (List all appropriate protective equipment.)

1. Gloves
2. Safety glasses
3. Goggles
4. Face shields
5. Respirators

The safety officer, working with the department foreman, is responsible for ensuring that all department and work areas have appropriate personal protective equipment available to employees.

Employees' personal protective equipment is chosen based on the anticipated exposure to blood or OPIM.

To ensure that personal protective equipment is not contaminated and is in the appropriate condition to protect employees from potential exposure, \_\_\_\_\_ County adheres to the following practices:

1. All personal protective equipment is inspected periodically and repaired or replaced as needed to maintain its effectiveness.
2. Reusable personal protective equipment is cleaned, laundered and decontaminated as needed, at no cost to the employees.

To ensure equipment is used as effectively as possible, employees must adhere to the following practices when using personal protective equipment.

1. All potentially contaminated personal protective equipment is removed prior to leaving a work area.
2. Disposable gloves are replaced as soon as practical after contamination or if they are torn, punctured or otherwise lose their ability to function as an exposure barrier. Reusable utility gloves are not used at \_\_\_\_\_ County.
3. Protective clothing, such as coats, are worn whenever potential exposure to the body is anticipated.

### **Housekeeping**

Maintaining all facilities in a clean and sanitary condition is an important part of the exposure control plan for bloodborne pathogens. The janitorial and cleaning staff will employ the following practices:

1. Any surface or equipment contaminated with blood or other bodily fluids will be cleaned as soon as possible.
2. Employees will use paper towels to remove the visible materials and then decontaminate using a ten to one ratio water and bleach solution, e.g. one cup bleach to ten cups water.
3. Cleaning products such as paper towels and gloves will be placed in plastic bags and burned or removed by a hazardous waste disposal company. The bags will be red in color and marked with the biohazard label.
4. Regulated wastes, including bandages, feminine hygiene products, etc., are also placed in biohazard bags for disposal consistent with the manner listed above.

The safety officer, working with the plant manager, is responsible for setting up the cleaning and decontamination schedule and ensuring its effectiveness within the facility.

## **V. ABOUT HEPATITIS**

### **What Is Hepatitis?**

The word “hepatitis” means “inflammation of the liver.” It can be caused by a number of agents,

including bacteria, drugs, toxins and excess alcohol; but of serious concern is that which results when any one of several hepatitis viruses infect the liver.

### **What Are the Different Types of Viral Hepatitis?**

There are at least five types of hepatitis caused by different hepatitis viruses.

1. **Hepatitis A**—formerly called “infectious hepatitis”
2. **Hepatitis B**—formerly called “serum hepatitis”
3. **Hepatitis C**—formerly called “non-A, non-B hepatitis”
4. **Hepatitis D**—also known as “delta hepatitis,” an infection that exists only in combination with hepatitis B virus
5. **Hepatitis E**—formerly known as “epidemic” or “waterborne non-A, non-B hepatitis”

### **How Prevalent is Hepatitis?**

In the United States, viral hepatitis ranks third among reportable communicable diseases. Every year, more than 600,000 Americans become newly infected with some form of viral hepatitis, yet only 10 percent of these cases are reported to health authorities.

About 50 percent of the world’s “reported” viral hepatitis cases are Hepatitis A. The Hepatitis A virus is most prevalent among populations that have poor hygiene or are living in crowded conditions.

An estimated 300,000 people in the United States develop Hepatitis B infection every year. Most of these people do not know that they have the disease, often mistaking it for the “flu.” Generally fewer than 30 percent have obvious symptoms of hepatitis, and approximately 10,000 infected people require hospitalization.

The Hepatitis C virus infects nearly 150,000 Americans yearly, sometimes as a result of blood transfusions. In fact, Hepatitis C is considered to be the developed world’s most prevalent transfusion-related disease.

The prevalence of Hepatitis D infection in the United States is under investigation.

Hepatitis E epidemics have been reported primarily in India, Asia, the Middle East, North Africa and Mexico.

### **How Do You Know If You Have Hepatitis?**

The symptoms of hepatitis vary a great deal. A large number of people have no symptoms at all, while other have severe symptoms. Early signs are similar to the flu—general fatigue, joint and muscle pain and a loss of appetite. Nausea, vomiting and diarrhea or constipation may follow with a low-grade fever. As the disease progresses, a tenderness may exist in the liver area (upper right side of the abdomen) and jaundice (yellow skin) may occur.

It is important to remember that even mild forms of the disease can lead to serious complications. Simple blood tests are necessary to determine with certainty if you have hepatitis.

### **How is Hepatitis Infection Spread?**

**Hepatitis A** virus is excreted in the feces. Infected people can spread the virus by neglecting to wash their hands after eliminating solid body waste. The virus may be passed along when these individuals handle food or other items that are placed in the mouth. Hepatitis A also can be spread through direct contact with infected people. In addition, hepatitis epidemics occur when drinking water or food (including raw or steamed clams, oysters or mussels) have been contaminated by Hepatitis A virus.

**Hepatitis B** virus is found in all body fluids of infected people, including blood, semen, saliva and urine. The principle ways of spreading the Hepatitis B virus include intimate contact with infected people or exposure to body fluids from these individuals.

Piercing of the skin by contaminated instruments such as those used for tattooing, ear piercing, acupuncture and dental or medical procedures poses a serious risk of passing Hepatitis B virus to others. This disease also can be spread when illicit drug users share equipment. In addition, the Hepatitis B virus may be transmitted sexually, when contaminated body fluids come into contact with mucous membranes of tiny breaks in the skin. Hepatitis B can also be transmitted to infants born to women who are highly infectious at the time of delivery. These infants have an 80-90 percent chance of developing hepatitis; most become lifetime carriers of the Hepatitis B virus, unless their mothers are identified prior to delivery and the infants are subsequently treated at birth.

**Hepatitis C** virus, until recently, was known as non-A, non-B hepatitis because it could not be traced to A, B or D viruses. In the late 1980s, genetic sequences of the virus were isolated and cloned, and a test for identifying an antibody to the virus was developed. The virus was designated Hepatitis C. Transfused blood is one source of the transmission of this disease. Most hepatitis cases that occur as a result of blood transfusions are Hepatitis C. Hepatitis C also may spread through intimate contact with an infected person.

**Hepatitis D** virus cannot initiate an infection by itself. A person must have acquired Hepatitis B before becoming infected with Hepatitis D. These viruses together usually produce a disease more severe than that caused by the Hepatitis B virus alone. The Hepatitis D virus is spread in the same ways as the Hepatitis B virus. In the United States, infections with Hepatitis D occur primarily among those who must receive blood products frequently, such as dialysis patients, hemophiliacs or among those who inject illicit drugs.

**Hepatitis E** virus is acquired when water or food contaminated with human feces is ingested.

### **What Is My Risk of Acquiring Hepatitis?**

People who are at risk of acquiring Hepatitis A and Hepatitis E infections are primarily those exposed to unsanitary conditions where they may consume food or water contaminated by viruses. Hepatitis A outbreaks also occur quite commonly in day-care centers or nurseries where an infected child may transmit the disease to others quite rapidly.

Those at highest risk for acquiring Hepatitis B infection are listed specifically below. Individuals who belong to any of the following groups should consider being tested for signs of past infection or current infection with the Hepatitis B virus:

1. Health care personnel:
  - a. Dentists and oral surgeons
  - b. Physicians and surgeons
  - c. Paramedic personnel and custodial staff who may be exposed to the virus
  - d. Dental hygienists and dental nurses
  - e. Laboratory personnel handling blood, blood products and other patient samples (e.g., urine).
  
2. Selected patients and patient contacts:
  - a. Patients and staff in hemodialysis units and hematology/oncology units
  - b. Patients requiring frequent and/or large-volume blood transfusions or clotting factor concentrates
  - c. Residents and staff of institutions for the mentally handicapped
  - d. Household and other intimate contacts of people with persistent Hepatitis B antigen in their blood.
  - e. Certain military personnel
  - f. Morticians and embalmers
  - g. Blood bank and plasma fractionation workers
  - h. People at increased risk of the disease due to their sexual practices (e.g., people who repeatedly contract sexually transmitted disease; homosexually active males; female prostitutes.)
  
3. People of Asian, African, Eastern European, Caribbean, Pacific Island, American Indian, native Alaskan or South American descent.

People with a Hepatitis B infection or those who are carriers of the Hepatitis B virus are at risk of acquiring the Hepatitis D virus.

Hepatitis C infection is a risk for anyone who must receive transfused blood or blood products. The risk of sexual transmission is under investigation.

### **Is There Any Treatment for Hepatitis?**

If a person is infected with Hepatitis A, he or she and other members of the household who are not immune may receive an injection of a blood product called gamma globulin. Gamma globulin contains antibodies to Hepatitis A that can reduce the recipient's risk of infection.

Under certain conditions, people who are exposed to Hepatitis B virus and are not immune may be given a blood product with a high concentration of protective Hepatitis B antibody called Hepatitis B immune globulin (HBIG). Hepatitis B vaccine also may be considered for

long-term prevention. Whether circumstances exist that would suggest the administration of HBIG, Hepatitis B vaccine or both, is a topic for discussion with a physician.

Recently, treatment with the drug Interferon has shown encouraging results in patients with chronic cases of Hepatitis B and Hepatitis C.

If a blood test shows that you have one of these diseases, your physician may prescribe bed rest and inactivity. The doctor may also recommend that you isolate yourself and use disposable plates, cups and utensils.

The most important way to avoid the consequences of hepatitis is through prevention.

### **What Are the Consequences of Hepatitis?**

Hepatitis A often produces fever; however, the disease is generally resolved without any long-term effects.

Hepatitis B may have a broad range of clinical symptoms including complete recovery for most people, death due to fulminant (severe) hepatitis (in less than one percent of the cases) or chronic liver disease which may progress to liver cancer (5 to 10 percent).

People who acquire Hepatitis C stand a 50 to 60 percent chance of developing lifelong liver disease.

Hepatitis D, in conjunction with Hepatitis B, is the most severe known form of viral hepatitis and generally progresses into chronic active disease or death due when it is severe.

Hepatitis E is among the leading causes of acute viral hepatitis in young to middle-aged adults in developing countries. It has a high mortality rate—nearly 20 percent—in infected pregnant women.

Complete recovery from any form of hepatitis may take four months or longer. Many people say that they are not themselves for years after infection. In certain cases, individuals do not regain their former levels of energy and stamina; sometimes they are forced to take less demanding jobs and discontinue many aspects of their previous life-style.

### **What Is Being Done To Control Hepatitis?**

Hospitals and blood banks are required to test all blood drawn for transfusion with very sensitive tests for Hepatitis B and Hepatitis C viruses. Many hospitals are testing staff members, patients being prepared for surgery, kidney patients and pregnant women for evidence of Hepatitis B infection as well. In some areas, testing of all patients admitted to the hospital for signs of hepatitis is performed on a routine basis.

A major advance in the control of Hepatitis B occurred in 1981 with the introduction of a

hepatitis vaccine. For people at high risk of acquiring hepatitis, vaccination is recommended. Once vaccinated, individuals should have their blood tested at regular intervals to determine their level of immunity.

Many people in high-risk categories acquire natural immunity to the Hepatitis B virus through previous infection. Simple blood tests can identify people with immunity; these individuals do not need to be vaccinated.

Pregnant women, especially those in the high-risk groups noted earlier, should arrange for hepatitis testing prior to delivery. If the mother is infectious with Hepatitis B, arrangements should be made to immunize her infant at birth. Treatment usually includes administration of the hepatitis B vaccine together with HBIG. Both mother and infant should be tested regularly thereafter to determine their immune status.

A blood test has been developed to identify antibody to the Hepatitis D virus, and a recently developed blood test will identify the Hepatitis C antibody. New developments in the field of hepatitis diagnosis and treatment are being made which will help curtail the spread of this disease in the future.

## VI. HEPATITIS B VACCINATION, POST-EXPOSURE EVALUATION AND FOLLOW-UP

### Vaccination Program

To protect our employees as much as possible from the possibility of a Hepatitis B infection, the county has implemented a vaccination program. This program is available, at no cost to the employees, who have been identified as having the possibility of occupational exposure to blood or other body fluids. The vaccination will be made available within 10 working days of the job assignment or 10 days after an exposure. (**See Employee Consent to Hepatitis B Vaccine in Bloodborne Pathogen Forms folder.**)

Employees who decline the Hepatitis B vaccine must sign a waiver that uses the wording in Example A of the OSHA standard. (**See Vaccination Declination Form in Bloodborne Pathogen Forms Folder.**) Employees who initially decline the vaccine but who later wish to have it may request and receive it within 10 days at no cost to the employee.

The safety officer will announce the date for the vaccinations and be responsible for keeping the recorded employee consent or refusal forms.

Vaccinations are performed under the supervision of a licensed physician or other healthcare professional.

### Post-Exposure Evaluation and Follow-Up

If an employee is involved in an accident where exposure to bloodborne pathogens may have occurred, there are two things that need to be focused on immediately:

1. Investigating the circumstances surrounding the exposure incident.
2. Ensuring that the employee receives medical consultation and treatment (if necessary) as quickly as possible.

The safety officer will investigate every exposure incident that occurs in the county offices and departments. This investigation is initiated within 24 hours of the incident and involves gathering, but not limited to, the following information:

1. Where, when and how the incident occurred;
2. What potentially infectious materials were involved;
3. Source of the infectious materials;
4. What circumstances surrounded the incident;
5. Personal protective equipment being used at the time;
6. Action taken as a result of the incident.

This information is evaluated and documented using the "Incident Investigation Form" (**See Exposure Incident Investigation in Bloodborne Pathogen forms folder.**) or a form requiring at least the same basic information.

The follow-up process consists of three steps, as outlined below: (**See Post Exposure Checklist in Bloodborne Pathogens Forms folder.**)

1. An exposed employee is provided with documentation regarding the routes of exposure and the circumstances under which the exposure incident occurred and identification of the source individual (if possible).
2. If possible, the source individual's blood is tested to determine HBV and HIV infectivity. This information will also be made available to the exposed employee, if it is obtained. At that time, the exposed employee will be made aware of any applicable laws and regulations concerning disclosure of the identity and infectious status of a source individual.
3. The blood of the exposed employee is collected and tested for HBV and HIV status.

Once these procedures have been completed, an appointment is arranged with a qualified healthcare professional to discuss the medical status of the exposed employee. This includes an evaluation of any reported illnesses, as well as any recommended treatment.

It is recognized that much of the information involved in this process must remain confidential, and every possible effort will be made to protect the privacy of the individuals involved.

### **Information Provided to the Healthcare Professional**

To offer assistance, a number of documents are forwarded to the healthcare professional. These typically include the following:

1. A copy of the Bloodborne Pathogen Standard;

2. A copy of the "Incident Investigation Form" and any accompanying information describing the exposure incident;
3. The exposed employee's relevant medical records;
4. Any other pertinent information.

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

After consultation, the healthcare professional will provide a written opinion to the employer within 15 days, evaluating the exposed employee's situation. The employer will then notify the exposed employee of the results of that evaluation.

Healthcare professionals shall be instructed to limit their opinions to the following:

1. Whether the Hepatitis B vaccine is indicated and if the employee has received the vaccine;
2. Following an exposure incident, whether the exposed employee has been informed of the results of the evaluation and
3. Following an exposure incident, whether the employee has been told about any medical conditions resulting from that exposure to blood or OPIM.

The written opinion to the employer will not reference any personal medical information.

### **Medical Records**

To ensure that there is as much medical information as possible available for the participating healthcare professional, the county will maintain comprehensive medical records on all employees. The county is responsible for maintaining these records, which will include the following information:

1. Name of the employee;
2. Employee's social security number;
3. A copy of the employee's Hepatitis B vaccination status;
4. Copies of the results of the examinations, medical testing and follow-up procedures that took place as a result of an employee exposure to bloodborne pathogens;
5. A copy of the information provided to the consulting healthcare professional as a result of any exposure to bloodborne pathogens.

As with all information in these areas, it is important to keep the information in these medical

records confidential. This information will not be disclosed or reported to anyone without the employee's written consent, except as required by law.

## VII. LABELS AND SIGNS

Biohazard labels are the most obvious warnings of possible exposure to bloodborne pathogens. Because of this, we have implemented a comprehensive biohazard warning labeling program in this facility using approved labels, or when appropriate, red "color-coded" containers. The safety officer is responsible for setting up and maintaining this program for the county.

The following items will be properly labeled: (Below are a few examples of items that need to be labeled. Add or subtract items as needed for each specific department.)

1. Containers of regulated waste;
2. Refrigerators/freezers containing blood or OPIM;
3. Sharps disposal containers;
4. Other containers used to store, transport or ship blood and other infectious materials;
5. Laundry bags and containers if containing, or having been in contact with, infectious materials;
6. Contaminated portions of equipment.

## VIII. INFORMATION AND TRAINING

All employees who have the potential for exposure to bloodborne pathogens are put through a comprehensive training program providing them with as much information as possible on the issue. (**See Bloodborne Pathogen Training in Bloodborne Pathogen Forms folder**)

New employees or employees changing jobs or job functions requiring training in bloodborne pathogens will receive this training at the time of their new job assignment. After initial training, employees will be retrained at least annually to keep their knowledge current.

The safety officer is responsible for seeing that all employees who have any potential for exposure to bloodborne pathogens receive this training.

### Training Topics

Training will be provided to \_\_\_\_\_ at the time of hire and at least annually thereafter. Include job title(s) of person(s) that will be trained. Examples are: supervisors, first aid responders, etc. Training will include, but is not limited to, the following:

1. Employees will be provided access to a copy of the OSHA bloodborne pathogen standard, *29 CFR 1910.1030*, and a written copy of the County's exposure control plan.
2. Employees will receive general information regarding bloodborne pathogen diseases with emphasis on epidemiology, symptomatology and modes of transmission of Hepatitis B and HIV.

3. Employees will be shown how to identify tasks that may involve exposure to blood or other infectious materials.
4. Employees will review the use and limitations of methods that will reduce or prevent exposure. These methods are engineering controls, work practice control and personal protective equipment.
5. Employees will learn the types and proper use, location, removal and handling of contaminated personal protective equipment. The information regarding the selection of PPE will also be included.
6. The employees will be provided information on the Hepatitis B Vaccine, including its efficiency, safety, mode of administration, benefits and the county's free vaccination program.
7. Employees will be instructed regarding actions to take in the event of an exposure, including reporting, medical follow-up and counseling.
8. Employees will be shown the visual warnings of biohazards in the facility, including labels, signs and color coded containers.
9. Employees will be provided with an opportunity to ask questions of the instructor in the training program.

### **Training Methods**

The county's training presentation typically consists of a classroom type atmosphere with personal instruction and employee handouts. Time is allotted to provide the employees an opportunity to ask questions and interact with the instructor.

### **Record Keeping**

The county maintains training records containing the following information: **(See Bloodborne Pathogen Training in Bloodborne Pathogen forms folder)**

1. Dates of all training sessions
2. Contents/summary of the training sessions
3. Name and qualifications of the instructor(s)
4. Names and job titles of employees attending the training sessions

The training records are available for examination and photocopying by employees and their representatives, as well as KDHR and its representatives. These records are maintained by the safety officer.

# CHAIN SAW SAFETY

Everyone who operates a chain saw should wear all recommended Personal Protective Equipment; however, OSHA Reg. 1910.266 requires all employees using a chain saw to be in compliance.

## PERSONAL PROTECTIVE EQUIPMENT

1. **Leg Protection:** protective chaps are designed to reduce the risk or severity of injury to the legs in the event of contact with a moving saw chain. The fibers in the pads are designed to rip apart and to clog the sprocket and stop the chain in certain circumstances.
2. **Head Protection:** wearing a hardhat can reduce the severity of injury from falling branches. Stihl hardhats meet ANSI standard Z89.1 for class A & B hard hats. Helmet systems are available equipped with hearing and face protection.
3. **Eye Protection:** must be worn for protection from flying wood chips and dirt. Stihl safety glasses are available in a variety of styles that meet ANSI standard Z87.1
4. **Hearing Protection:** must be worn to reduce exposure to harmful noise levels that can affect hearing. Stihl hearing protection reduces noise levels by 22dB (a) while permitting wearer to hear normal conversations and meets ANSI S3.19.
5. **Hand Protection:** gloves will protect against cuts and fatigue. Wear good quality gloves that provide protection, a good grip and keep hands warm in cold weather. Gloves are available from Stihl with cut-retardant material sewn in.
6. **Foot Protection:** heavy duty steel toed boots with slip resistant soles provide a good footing for chain saw use and protection from the elements. Protective boots are available with cut retardant material sewn in.
7. Trim fitting clothes (not loose or ragged)
8. Long-sleeve shirt and cut resistant chaps.

Additionally, First Aid Supplies: it is recommended that first aid supplies be readily available in case of accidents. Some recommended items are listed below. Check with your local fire department EMT to assist you in setting up a complete First Aid Kit.

assorted bandages	latex gloves	tweezers
antiseptic wipes	gauze pads	first aid cream
peroxide or alcohol	sterile pads	adhesive tape
pain reliever packets	scissors	eye irrigation & eye patches

## CHAIN SAW SAFETY TIPS

1. Chain saws vary greatly by make and model.
2. NEVER operate a chain saw when you are fatigued.

3. Operators **MUST** always grip the saw firmly.
4. **NEVER** cut with the tip of the chain saw blade.
5. Always “plan the cut” before felling or cutting a tree.
6. Do not stand between or on logs and fallen branches.
7. **NEVER** work by yourself.
8. Do not cut with the chain saw over your head.
9. Do not cut materials other than wood with a chain saw.
10. Wear personal protective equipment.
11. Keep checking the condition of your chain saw.
12. Make sure gas and chain oil are kept in safe areas.
13. Avoid horseplay and overconfidence.

## **TRANSPORTING**

1. When transporting in a vehicle, keep chain and bar covered.
2. Secure the saw by tying it down to prevent fuel spillage or damage.
3. When transporting a chain saw by hand, stop the engine, place the muffler at the side away from your body and position the guide bar to the rear.
4. Do not remove the chain break or alter the handles, chain break, chain or covers.

## **STARTING PROCEDURE**

1. Do not place the chain saw on your knee when starting it.
2. Always start a chain saw that has a 10-inch or larger bar on the ground.
  - a. Engage the chain break
  - b. Place one foot through the bottom handle
  - c. Hold the top handle
  - d. Pull the starter rope
3. Always use both hands to maintain control.
4. When moving from tree to tree or cut to cut, activate the chain break, remove your finger from the trigger and keep the bar away from your body.

5. Do not set a saw down while the blade is engaged.
6. Stop the engine and turn the switch to “OFF” when the chain saw is to be left unattended.

### **CHAIN SAW OPERATIONS FOR MOTOR GRADERS**

1. Eye protection is required anytime the saw is being used. A face shield, along with the safety glasses, is required for prolonged use.
2. Hearing protection is required for prolonged use of any chain saw.
3. Chaps will be required under the following circumstances:
  - When it is required to make numerous cuts on a felled tree.
  - When doing continuous trimming of brush or side trimming.
  - Prolonged cutting of trees in the right-of-way.
4. Chaps do not have to be worn when the operator feels he can make a single cut to a felled tree and remove from the roadway with his motor grader.
5. At no time shall the operator use his mold board as a lifting devise while operating a chain saw.
6. At no time shall the operator stand on his motor grader while operating a chain saw.
7. The operator will use his best judgement when needing assistance with the size of tree(s) involved.
8. Removal of trees and brush will be performed mainly by the use of the motor grader to lessen the risk of injury.

# CONFINED SPACE ENTRY

## INTRODUCTION

Many workplaces contain spaces which are considered “confined” because their configurations hinder the activities of any employee who must enter, work in and exit them. For example: employees who work in process vessels generally must squeeze in and out through narrow openings and perform their tasks while cramped or contorted. OSHA uses the term “confined space” to describe such spaces. In addition, there are many instances where employees who work in confined spaces face increased risk of exposure to serious hazards. In some cases, confined space work keeps employees closer to hazards, such as asphyxiation atmospheres or moving parts of machinery. OSHA uses the term “permit-required confined space” to describe those spaces which both meet the definition of “confined space” and pose health or safety hazards.

Permit-required confined spaces are defined in *29 CFR 1910.146* as those spaces that: (1) are difficult to enter and leave; (2) are not intended for employee occupancy except for repair or maintenance and (3) present potential hazards such as engulfment, mechanical hazards, or toxic, oxygen deficient or flammable atmospheres (Non-permit confined spaces do not contain any hazard capable of causing death or physical harm.).

In order to comply with the standard, each employer must: (1) survey their workplace and identify confined spaces that may exist; (2) inform employees of these spaces through the use of signs or other effective means of notification and (3) prevent unauthorized entry. A written program must be established that outlines procedures for preventing unauthorized entry. Identifying and evaluating hazards, testing and monitoring conditions and ensuring safe entry.

Most professionals agree that there are three key elements in an adequate confined space program: (1) establishing a procedure that defines a confined space and provides adequate guidance for safe entry and emergency rescue; (2) establishing a permit system that includes the signature of a knowledgeable person and (3) establishing training for all employees who might have occasion to enter a confined space.

An annual program review must be performed to ensure that the program is up to date.

## WORKING IN CONFINED SPACES

*Ref: 29 CFR 1910.146*

Every year people are trapped, injured and killed while working in confined spaces. At least 60 percent of the deaths occur in rescuers employed to remove victims. Improper training, persons working alone and poorly developed confined space work programs account for most confined space incidents.

What is a confined space?

The confined space work standards apply directly to most industries and is expected to have a broader application than was originally anticipated. The intent of the standard is to reduce incident potentials for those working in confined spaces.

Workers entering confined spaces may become exposed to hazardous environments that could be toxic, explosive and asphyxiating. Every year people die in confined spaces as the result of being engulfed by dirt, dust and even by food products.

A confined space is an area that:

1. Has an opening large enough and configured such that it will allow an employee to enter;
2. Has limited or restricted means of access for entry and/or exit;
3. Is not designed or intended for continuous human occupancy.

A permit space exhibits one or more of the following characteristics:

1. Potential to contain a hazardous atmosphere
2. Potential for engulfing persons entering the space
3. Configured such that workers can become trapped or asphyxiated by inwardly converging walls
4. Shaped such that it has downward sloping floors or may taper to smaller cross sections that limit access and the ability to move
5. Contains any serious safety or health hazard

# COUNTY CONFINED SPACE ENTRY PROGRAM

## PURPOSE

The purpose of this policy is to protect the health of employees as well as to reduce the number of accidental injuries associated with entering and/or working in a confined space.

## DEFINITION

Confined space is an enclosed area that has the following characteristics:

1. It is large enough and so configured that an employee can bodily enter and perform assigned work.
2. It has limited or restricted means for entry or exit (tanks, vessels, silos, storage bins, hoppers, vaults, manholes, sewers, lift/pump stations, etc.).
3. It is not designed for continuous employee occupancy.

## CONFINED SPACE HAZARD IDENTIFICATION

Each department head will evaluate his or her workplace to determine if any spaces are permit-required confined spaces.

**NOTE:** Proper application of the decision flow chart will facilitate compliance with this requirement.

If the workplace contains permit spaces, the department head shall inform employees of the location and the dangers posed by the permit spaces by posting signs or by any other equally effective means.

## PERMIT SYSTEM

If the department head decides that employees will enter permit spaces, the following steps shall be followed:

1. Measures shall be implemented to prevent unauthorized entry.
2. The permit space shall be isolated.
3. Permit spaces shall be purged, flushed or ventilated as necessary to eliminate or control atmospheric hazards.
4. Barriers shall be provided as necessary to protect entrants from external hazards.

5. Employees authorized by the department head shall document the completion of items 5(a), (b), (c) and (d) before entering the confined space, by preparing a confined space entry permit.
6. The completed permit shall be made available at the time of entry to all authorized entrants so that the entrants can confirm that pre-entry preparations have been completed by posting it at the entry portal or by any other equally effective means.
7. The duration of the permit shall not exceed the time required to complete the assigned task or job identified on the permit.
8. The department head shall terminate entry and cancel the entry permit when:
  - a. The entry operations covered by the entry permit have been completed or
  - b. A condition that is not allowed under the entry permit arises in or near the permit space.
9. The department head shall retain each cancelled entry permit for at least one year.

## **TRAINING**

The department head shall provide training so that all employees whose work is affected by this policy acquire the understanding, knowledge and skills necessary for the safe performance of the duties assigned under this policy.

The training shall establish employee proficiency in the duties required by this policy and shall introduce new or revised procedures, as necessary, for compliance with this policy.

The department head shall certify that their employees have been trained in the duties required by this policy. The certification shall contain each employee's name and the dates of training.

# COUNTY SAFETY COMMITTEE BYLAWS

## MEMBERSHIP

Membership of the Safety Committee has been established by the County Board of County Commissioners. The six established positions are as follows (noting that the departments should have administrative capabilities to make decisions for county employee's safety):

1. County Safety Coordinator, as a permanent member;
2. One courthouse employee elected by the Board of County Commissioners;
3. One emergency medical service employee selected by emergency medical service director;
4. One sheriff's department employee selected by the sheriff;
5. One highway department employee selected by the road and bridge director (depending on the number of employees in the road and bridge department, two members could be selected from this group);
6. One health department employee selected by the health department director;
7. One noxious weed department employee selected by the noxious weed director.

## TERMS OF SERVICE

Safety Committee members shall serve two-year terms that will begin in the following manner:

1. In January of odd years, the individuals selected for positions 1, 3 and 5 will assume their positions.
2. In January of even years, the individuals selected for positions 2, 4 and 6 will assume their positions.

No member shall serve two consecutive terms.

## SELECTION

All employee members of the Safety Committee shall be chosen by the department head or elected official. Only those employees having completed an initial employment period and who are covered by the county personnel program will be eligible to serve on the committee.

## OFFICERS

Safety Committee officers will consist of the following:

1. **Chairperson**—appointed by Board of County Commissioners;
2. **Vice Chairperson**—selected by the Committee and
3. **Secretary**—selected by the Committee.

These officers will be selected at the first regular meeting each fiscal year and will serve a

one-year term. It will be the responsibility of the chairperson to preside over all committee meetings, prepare an agenda for meetings, call any special meetings necessary and to carry out the duties normally assigned to a presiding officer.

It will be the responsibility of the vice-chairperson to assume the duties of chairperson in times of absence or if otherwise prevented from carrying out the chairperson's duties.

It will be the responsibility of the secretary to see that the minutes of each committee meeting are kept, a copy of all proceedings and correspondence is on file in the office of the Board of County Commissioners, and each department in the county receives a copy of the minutes within 10 days of the meeting date.

## **MEETINGS**

The safety committee is required to meet once a month. Special meetings may be called as necessary by the chairperson or at the request of the Board of County Commissioners. The meeting will be held on the third Thursday of each month at a location designated by the chairperson.

A quorum shall be constituted by four members present.

The department head shall designate an alternate to assume the duties in case the member from that department is unable to be present at the meeting. Said alternate shall be an individual representing the same constituency.

## **INDIVIDUAL SAFETY MATTERS**

The safety committee will review individual safety matters and make recommendations to the department head and Board of County Commissioners if requested to do so. Requests for this type of review must be made in writing to the committee chairperson or any committee member prior to the next regularly scheduled meeting.

## **COMPENSATION**

Employee members who attend safety committee meetings while not on regular duty shall be compensated by their department at their standard rate of pay. Elected and appointed members shall receive no additional compensation for serving on the committee.

## **AMENDMENT**

The Bylaws may be amended by a two-thirds majority of the safety committee present at any committee meeting, provided the proposed amendment has been published to committee members and has been discussed at a prior meeting.

# COUNTY ACCIDENT PREVENTION THROUGH USE OF A SAFETY COMMITTEE APPROACH

Some counties may find the formation of a safety committee is necessary in order to provide the proper amount of focus to loss prevention matters. In addition KWORCC has specific guidelines to increase advanced discount at page 49. If your county chooses the safety committee approach, the following outline may be of assistance.

## PURPOSE OF THE COMMITTEE

1. To prevent injuries and lower the costs of accidents;
2. To prevent possible liability actions against the county;
3. To help create and maintain all employees active interest in safety.

## SUPPORT/BACKING/DIRECTION

Strong written support of the chief executive is important.

1. Employees are aware of management's **REAL** attitude towards safety and they act accordingly. If management gives "lip service" to safety, that is what the employees will give as well.
2. What is said to be the number one reason why safety programs "crash and burn?" They do not have a strong, genuine statement of support from top management. Without this, the program is almost destined to fail!
3. How to show this support and backing:
  - a. Create and distribute a strong safety policy statement. A policy should express in a personal way top management's intentions, sincerity and determination. It should be written to ensure there will be no confusion concerning direction and assignment of responsibilities and authority to direct and carry out safety functions vested in the county safety committee.
  - b. The Commissioner, County Administrator or County Safety Coordinator should either sit as a member of the committee or at least be involved as a frequent visitor and participant in meetings and functions.

Designate a safety coordinator to oversee and direct the committee's activities.

1. Ideally this person should have county-wide authority (such as County Administrator or Clerk) but should most importantly be a person familiar with department functions, has the enthusiasm to motivate people and has the respect of the workers.
2. By policy or decree, the coordinator should be vested with overall directional authority. Giving this position to an employee with little or no authority creates a “lame duck” from the start. Make sure authority is equal to the responsibility. Everyone must understand the importance of this position and what the coordinator’s functions will be.

## COMMITTEE MEMBERSHIP AGENDA

Makeup can vary depending on size, needs and the type of organization.

1. **Chairperson**—should be the Safety Coordinator.
2. **Type**—an employee and management mix works best—it gets the “we can” concept working.
3. **Membership**—a cooperative group of four to 10 members is suggested. Try to cover all departments and rotate membership each year to help create the spirit that committee membership is a “privilege.”
4. **Meetings**—should be scheduled at least monthly with a planned agenda and no more than one hour in length; the agenda should include:
  - a. Record of Attendance
  - b. Review of Old Business
  - c. Review of recent accidents, discussing trends or preventative actions taken
  - d. Reports on special projects, training efforts or promotional activities
  - e. Review of Department Self Inspection Reports
  - f. New Business including presentations, films, speakers, etc.
  - g. Set date/time for next meeting and make assignments to members (**See “Safety Committee Minutes” in the general forms folder.**)

### ***Documentation, Documentation, Documentation!***

1. Keep track of items and assignments.
2. All safety committee members should be accountable.
3. Report the committees activities and findings to the county commissioners.

## RESPONSIBILITIES/DUTIES

1. Develop, endorse and distribute a county-wide safety policy statement. No “canned” policy will suffice for every county, however. the following are examples of statements that can be incorporated in your own personalized statement:

- Safety is one of the most important concerns each of us has as a management representative. It is important because failure to succeed means emotional and financial hardship for an employee and his/her family, loss of prestige for the entity in the community and the possibility of seriously affecting the friendliness and cooperativeness of our workforce. If we utilize to the fullest the talents of our management team, efforts to achieve accident-free operations will be successful.

- Accident and injuries are always costly to the individual worker and often disastrous to his future and the security of his family. They are also costly to the community, both in direct financial burdens and in the reduction of efficiency. It is the firm and continuing policy of the management of this county that accidents shall be reduced or eliminated by the use of every reasonable mechanical precaution and by promotion of safe practices.

- The safety of all county personnel is of primary importance in the community and your full cooperation in making this policy effective will be needed.

- It is the intention of the members of the County of \_\_\_\_\_ to develop, implement and administer a comprehensive loss prevention program. Public and employee safety is important. In all of our assignments, the health and safety of all are to be considered. Department heads and supervisory personnel at all levels of the work force are directed to make safety a matter of continuing concern, equal in importance with all other operational considerations. This program is established to emphasize that loss prevention is an integral part of management procedures designed to fully utilize the county's capital and personnel. Although profit is not the goal of county operations, efficiency is desired to ensure maximum use of each tax dollar available.

2. Establish a regular facility inspection program that detects unsafe conditions in time to prevent an accident from occurring. While this should be a daily function of each employee, a planned and scheduled monthly inspection by the department head, designate or a special inspection team, assures both work areas, equipment and those areas where "no one ever goes", are all covered. A Monthly Safety Check is located in the general forms folder and provides a checkoff format to guide the inspectors in what to look for in these areas.

Develop and distribute general safety rules for all county employees.

1. Employees, supervisors and management must be aware of what is expected of them.
2. Rules should be: (1) logical and enforceable; (2) easy to understand—short sentences and simple words and (3) positive statements rather than what is prohibited.
3. Page 48 gives an example of simple, yet effective basic safety rules for employees.
4. Post conspicuously these rules and assure all employees have read or have had the rules read to them.

5. Supervisors are responsible to ensure that the posted rules are clearly understood.

Develop a new employee safety orientation program.

1. New employees can be your biggest concern due to their being unfamiliar, overanxious or their skill (and caution) at specific tasks is unknown. A session where the new employee is clearly oriented to the county's safety program will basically "set a strong foundation" from which you can build a loyal, effective and safe employee.
2. Sample items to cover during an orientation session are found in **New Employee Safety Checklist in the general forms folder**.

Establish an accident investigation/review procedure.

1. We must learn from history or we are "destined to repeat it."
2. Get the facts—look for root causes, not just symptoms.
3. Make supervisors accountable for this investigation—they are most skilled in what happens in their areas.
4. Review all reports at or before the committee meeting to discuss trends, corrective measures, etc. **KWORCC Injury form in the general forms folder** is the format that should be used.
5. The Committee should make a determination on the "preventability" of an accident and suggest further action (additional corrective measures, procedure change, elimination of a task, employee discipline, etc.).

Develop a quarterly report summary for management.

1. Keep them aware of the types of accidents.
2. Let them know what is being done to prevent further occurrences.

**NOTE:** Format is up to the county.

Establish positive safety incentives to employees who contribute to the safety program and who do not have accidents. (**See page 50**) Encourage suggestions. Make safety "worth their while." When management shows they care, the employees will rise to the task. Rewards may include:

1. Cash incentives
2. Annual safety banquets
3. Time off (if possible)

### **Establish disciplinary procedures for repeat safety violators.**

Install safe performance as an addition to the established system for merit review. Employees, as well as supervisors and department heads, need to be made aware that failure to observe safety program requirements, repeat violations of safety rules and numerous preventable accidents may effect their paychecks.

Review purchasing policies on major equipment to address necessary safety equipment that should be considered.

### **Develop realistic goals the county safety effort wants to accomplish.**

1. Obtainable—measurable (i.e., reduce number of county vehicles with defective brakes and signals by 20% over the next six month period)
2. Hazard—correction—time frame
3. Possible sequence: (1) the coordinator meets with department heads to discuss vehicle inspection program; (2) a person in each department is chosen to inspect vehicles; (3) all vehicles are inspected by departments; (4) results are reviewed and budgets for repairs/maintenance are discussed; (5) repairs are made; (6) vehicles are reinspected and (7) evaluation of results in terms of accidents and defective equipment repaired are prepared.

## **CONCLUSIONS**

1. Accentuate the “we” in your program.
2. Include involvement and accountability at all levels.
3. Pro-active vs. re-active thinking.
4. Structure to your effort. What does it cost?

# BASIC SAFETY RULES FOR EMPLOYEES

The most valuable tool you can have to protect yourself from the hazards of your job is **common sense**. We cannot give you a “guardian angel” to see that you avoid all accidents, injuries and health hazards. You must remain alert for yourself as well as for your fellow co-workers. We will try to make you aware of the hazards of your job to help avoid accident producing situations.

Each employee must:

1. Follow instructions. If you do not understand, ask for an additional explanation on how to do the job safely.
2. Correct unsafe conditions or report them to the supervisor or foreman.
3. Keep your work area clean. Poor housekeeping causes accidents and wastes time.
4. Use the proper tools or equipment for each job and use them safely.
5. Operate only the equipment you are authorized and qualified to use.
6. Report all accidents to the foreman or supervisor so corrective action can be taken as needed.
7. If injured, even slightly, get prompt first aid or medical care to reduce the chances of a minor injury developing into a serious injury.
8. Wear the personal protective equipment required for the job and wear it properly; take care of the equipment and have it replaced if it is damaged or worn out.
9. Avoid getting involved in fighting, horseplay or any other situation that would cause someone’s attention to be distracted from the job.
10. Recognize the fact that you have a major responsibility in developing an effective safety program. We cannot place you in a “cocoon,” and no amount of training, rules and regulations or personal protective equipment will keep you safe if your attitude is negative or indifferent. Please obey all the safety rules and practices outlined in the following pages and help develop safety awareness among your fellow co-workers.

# **KWORCC SAFETY INCENTIVE AWARD**

The loss prevention unit of KWORCC hereby recommends to the County Commissioners, a safety awareness program that financially awards those employees who offer the best safety suggestions for the month. An important element in any accident prevention program is the ability to maintain employee interest. Incentive programs have the ability to create and maintain employee interest.

We are suggesting that a safety budget be established by the counties to reward these individuals. The initial financial outlay by the county will be minimal. We are suggesting \$25 per month with a maximum of \$100, if an acceptable suggestion is not presented within four months. At that time, the award will remain at \$25-\$100 until an acceptable suggestion is made.

An acceptable safety suggestion must be submitted in writing to the employee's supervisor. The supervisor should review that suggestion and, if worthy of further review, pass it on to the safety committee, if one is established, or to the county commission. At this point, the employee should be given the opportunity to present his or her suggestion to the committee or the commissioners.

We believe that this will be an excellent way to keep the employees interest and their safety awareness levels high.

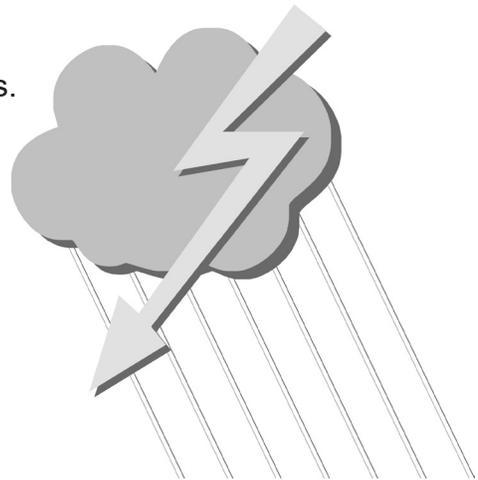
# EMERGENCY PROCEDURES

## SEVERE WEATHER

### Severe Lightning and Thunder Storms

The National Weather Service is responsible for issuing weather warnings to the public. A “severe thunderstorm” indicates the possibility of frequent lightning and/or damaging winds of greater than 58 m.p.h., hail 3/4 inch or more in diameter (about the size of a dime) and heavy rain. A “severe thunderstorm watch” indicates thunderstorms, frequent lightning, hail, winds of greater than 75 m.p.h. and the possibility of tornadoes. Here are some specific guidelines:

1. Most severe storms are recognized while still in a threat phase or warning phase, thus allowing time for appropriate actions.
2. Before the storm, secure loose materials in yard areas.
3. Check emergency lighting and flashlights.
4. Check emergency communication equipment.
5. Be alert for fires started by lightning.
6. Personnel should stay inside.



### Floods

Except in the case of flash flooding, the onset of most floods is a relatively slow process with adequate warning. The buildup usually takes several days. Flash flood warnings are the most urgent type of flood warnings issued. These warnings are transmitted to the public over radio and television. Here are some specific guidelines:

1. Monitor weather forecasts and warnings issued by the Weather Bureau. Flash flood warnings are the most urgent type of flood warnings issued.
2. Reinforce dikes along waterways, ditches, etc.
3. Block off openings into buildings with sandbags or flood shields.
4. Secure loose materials in yard areas.
5. Close off tank vents and discharge valves to prevent spillage of flammable liquids.
6. Shut off gas valves.
7. Remove hazardous chemicals from lines.

8. Check emergency lighting and flashlights.
9. Shut off all electrical power.
10. Evacuate employees in a safe and orderly manner, if necessary.
11. Relocate vehicles, portable equipment, and important files/records to a safe place.
12. After the flood:
  - a. Search for safety hazards, such as downed electrical wires, leaking flammable or toxic gases and liquids, damage to foundations or underground piping.
  - b. Check and restore fire protection equipment.

### **Tornados**

These short-lived storms are the most violent of all atmospheric phenomena and, over a small area, the most destructive. The width of a tornado path ranges generally from 200 yards to one mile. Tornadoes sometimes double back or move in circles and some have remained motionless for a while before moving on.

The National Weather Service is responsible for issuing tornado warnings to the public. A “tornado watch” means that conditions are favorable for tornadoes to develop and a “tornado warning” means that a tornado has actually been sighted in the area or is indicated by radar. Here are some specific guidelines:

1. Monitor weather forecasts and warnings issued by the weather service. Tornado warnings should be announced over the public address system.
2. Stay away from windows.
3. If time permits, secure all loose materials in yard areas, especially booms or cranes.
4. Designate someone to ensure that all persons are on the move to their designated shelter locations.
5. Absolutely nobody should remain near windows or leave the building until termination of the emergency.
6. All employees should move quickly, but safely, to interior, windowless, enclosed areas such as restrooms, storerooms, stair towers or enclosed offices.
7. Designate someone who will give the “all clear” for an orderly return to the workplace areas, pending communication with the Emergency Coordinator.



8. After the tornado:
  - a. Search for safety hazards such as live electrical wires, leaking flammable or toxic gases or liquids, damage to foundations or underground piping.
  - b. Check and restore fire protection equipment.

## **Fire**

Fire is the most common loss exposure to public property. Periodic fire inspections, proper maintenance and good housekeeping practices can help prevent fires from starting. However, quick and effective action after a fire has broken out can keep a small blaze from becoming a raging inferno. The following can help minimize losses after a fire has started: smoke detectors, fire alarms, sprinklers, fire extinguishers, escape routes and fire exits.

You should consider installing alarms that ring in the fire and police stations. If your buildings already have such alarms, check them periodically to keep them in working condition.

If your government cannot afford to install sprinklers and other fire safety devices in all facilities, identify the most valuable items and store them in fireproof containers or install sprinklers in rooms where they are stored.

When possible store documents, records and other items in separate buildings or parts of a building, so that fire or other disasters are less likely to destroy all of them. In addition, your government should keep duplicates of all valuable documents at separate locations, especially computerized records. In fact, computer files should be backed-up regularly so that valuable information is not lost from a disaster—or one wrong keystroke.

Keep in mind that actual fire is not the only danger—smoke and water can sometimes cause more damage than the fire itself. Smoke- and water-proof containers can save many valuable documents, records and other items from total or partial loss.

Upon hearing a fire alarm, receiving notification or discovering a fire the following action should be taken:

1. Call the fire department or 911 and report details of the fire. These details should include:
  - a. Identity of caller
  - b. Location
  - c. Nature of fire
  - d. Whether there are injuries
2. Sound the fire alarm.
3. Have individuals ensure evacuation is taking place.
4. Attempt to fight the fire with hand held extinguishers if the fire is in its incipient (early) stage. If there is any doubt as to your ability to put out the fire, get out immediately. Fire extinguisher training is available from KWRORCC. All employees should be trained on the proper use of

fire extinguishers.

5. One person should be outside waiting for the fire department to direct them to the location of the fire.
6. Time permitting, qualified individuals assisting in the evacuation should check to see that all fire doors are closed and all machinery, electrical power and gas is turned off in the affected areas.

The steps mentioned above may be undertaken if the safety of all involved can be assured.

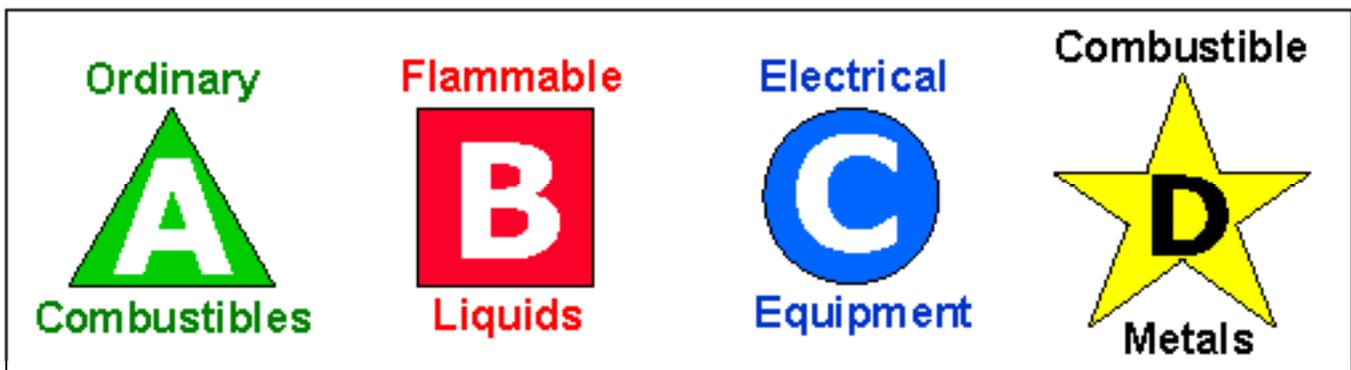
It is important to keep in mind that the safety of all employees and visitors to the building is the most important thing in a fire situation.

**Evacuation maps should be posted throughout buildings, especially in courthouses, so that evacuation routes are clear to employees and visitors.**

### EXTINGUISHER CLASSIFICATION

Letter classification given an extinguisher to designate the class or classes of fire on which it will be effective.

- Class A – ordinary combustibles (wood, cloth, paper)
- Class B – flammable liquids, gases, greases
- Class C – energized electrical equipment
- Class D – combustible metals



# EMPLOYMENT PRACTICES

The Americans with Disabilities Act of 1990 (ADA) had a major impact on the hiring process of all employees. There are many facets to the ADA that employers need to become familiar with to comply. The following are just some of the important requirements of the ADA which relate to the hiring process.

## APPLICATIONS AND INTERVIEWS

1. Employers may ask questions about an applicant's ability to perform both "essential" and "marginal" functions, but employers cannot refuse to hire solely because an applicant's disability prevents performance of the "marginal" functions.
2. Do not phrase an inquiry in terms of disability. Example: An employer may ask whether the applicant has a driver's license (if driving is a job function), but not whether he/she has a visual disability.
3. An employer cannot ask how often the applicant will require leave for treatment or how often he expects to use leave as a result of a disability. Rather, the employer may state attendance requirements and ask whether the applicant can meet them.
4. An employer cannot use an application form that identifies impairments (i.e., medical history). The employer also cannot inquire about an applicant's workers compensation history.

## JOB DESCRIPTION

1. Write job descriptions that accurately identify the "essential functions" of each position.
2. Focus on results. In most cases the desired results can be obtained in a number of ways.
3. When developing job descriptions, ask these questions:
  - a. Why is the task performed?
  - b. How is the task performed?
  - c. What tools/equipment are used?
  - d. What level(s) and type(s) of physical exertion will be required?
4. Be specific about physical requirements.

## PHYSICAL EXAMINATIONS

Physical examinations should be required for all new employees based on the job description. The examination should be performed by a county selected doctor who is familiar with local operations, the work demanded of the individuals and also has a copy of the job description. The local physician should, based on local operations and job descriptions, complete the pre-employment physical

examination form in line with the requirements as he/she sees them. The physical exam may include such things as range of motion and flexibility, visual examination of the back, chest x-ray, back x-rays and blood test.

Under the ADA, employers can require medical exams after a conditional offer of employment, but prior to commencement of the job if: (1) physicals are required of all entering employees in same job classification; (2) information is kept confidential in separate file and (3) employer can prove that physicals are job related.

## **MOTOR VEHICLE RECORDS (MVR)**

With regard to vehicle operators, we want to be sure that the people we are allowing to operate these vehicles are capable of doing so safely. One tool which can help to establish a potential driver's suitability is the Motor Vehicle Records (MVR).

It is recommended that MVR checks be conducted for all job applicants who will operate county vehicles if hired. Further, MVRs should also be conducted on an annual basis for current vehicle operators.

## **IMPORTANCE OF THE MOTOR VEHICLE RECORDS (MVR)**

A driver's past record provides the best clues to his/her future performance as a safe driver. Drivers with a history of vehicle accidents and traffic violations are likely to continue that pattern. Statistics show drivers with two or more accidents or convictions in a three-year period are at least 2 1/2 times more likely to have an accident than a driver with a clear record.

## **TYPES OF VIOLATIONS**

Violations vary in significance and are of three types.

1. **Statutory Violations** reflect moral hazards and are generally licensing or registration offenses; operating an unregistered vehicle, using false registration or license and driving while the license is under suspension.
2. **Major Violations** are serious convictions that indicate a disregard to public safety; driving under the influence of alcohol or drugs, reckless driving where bodily injury or property damage results and hit and run.
3. **Moving Violations** reflect improper attitudes and poor driving habits; speeding, failure to yield right-of-way and driving too fast for conditions.

There is a wide variation among the states in the percentage of accidents and traffic violations reflected on MVRs. On the average, 73 percent of all convictions and 72 percent of all accidents involving an injury or a death are found on MVRs.

## **How To Use MVRs**

A check on an applicant's driving records should be made in each state in which he holds a license and, if possible, in each one in which he drives regularly.

Hiring only drivers that have clear three-year records is difficult. However, this should be the goal in any driver selection program.

If it is not possible to hire an employee with a clear driving record, then the number and types of violations, as well as the extent and type of driving involved, must be carefully evaluated to determine which applicants have the best driving records.

Compare the driving records of applicants with the records of current employees performing similar duties. If fleet accident experience is to be improved, only applicants with better histories than those of current employees should be hired.

An applicant whose MVR reflects a major violation such as "driving under the influence" should be immediately disqualified. In evaluating other violations, recent history is more important than past history. The driver who had two or three convictions three years ago but has had no recent convictions is generally a better risk than the driver that has had convictions within the last 12 months.

## **MVR's: PART OF A TOTAL PROGRAM**

A policy of checking MVRs of all driver applicants is invaluable to management. However, such checks do not reduce the importance of other aspects of a driver selection program such as an interview, reference checks and testing.

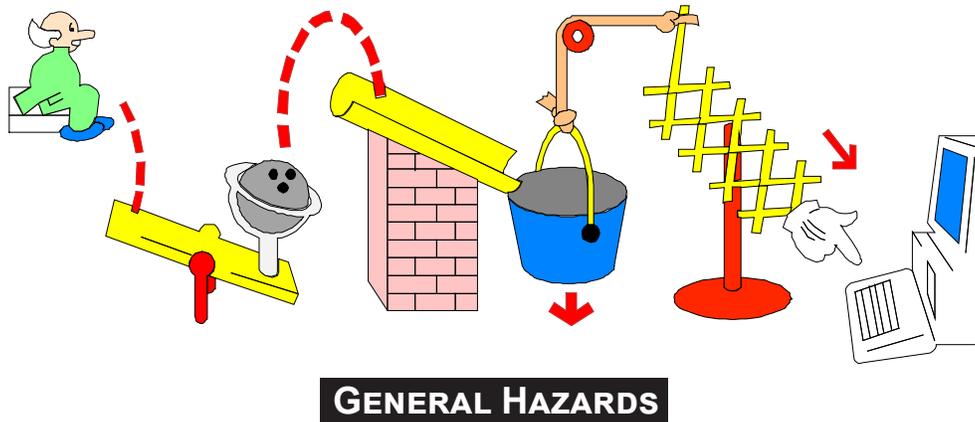
MVRs should be reviewed for all drivers on an annual basis to verify they are maintaining good driving habits and remain qualified to drive.

# INTRODUCTION TO ERGONOMICS

What is ergonomics? Simply stated, ergonomics is the process of designing for human use. More specifically, it is the systematic and practical application of scientific knowledge about the physical, psychological and social attributes of people in the design and use of all the things that affect a person's working conditions: furniture, equipment, workspace layout, environment and the organization of work and training.

Although ergonomics is a science new to most of us, it actually dates back to 1949. It was first implemented by the automobile industry in the early 1970's to design car interiors that were more functional and easier to use. Also referred to as human engineering, ergonomics is concerned with helping people interact more comfortably and efficiently with their environment, whether at home, work or on the playing field.

In the early 1980's ergonomic principles were applied to the workplace when companies realized that designing workstations to fit people improved employee well-being, efficiency and safety. Today, implementing ergonomics in the workplace is recognized as one of the best ways to minimize on-the-job stress and strain, and to prevent cumulative trauma disorders (CTDs).



Poor ergonomics leads to a number of serious physical problems. We often brush off the symptoms that could help us identify problems in an early stage, the worst possible thing to do. With the types of physical problems we are seeing in the workplace it is important to deal with them as early as possible. If one waits until the pain is too much to bear, he or she may already have permanent damage.

Probably the most talked-about physical problem resulting from poor ergonomics are CTDs. CTDs are the fastest-growing occupational illness. CTDs develop over long periods of time. They are painful, sometimes even crippling, conditions that affect nerves, tendon sheaths and muscles, especially in the arms, hands and wrists.

CTDs are sometimes called "repetitive motion syndrome" because repetitive motions are one common cause of the problem. Other causes include forceful exertion, vibration and awkward positions or movements. The longer one exposes his or her body to any of these situations the more likely her or she is to develop a painful problem.

One of the most common CTDs is “carpal tunnel syndrome”. The carpal tunnel is a passageway in the wrist. When the nerve that runs through that tunnel gets pinched, it can cause tingling, numbness and pain in the hand, wrist and arm. It can also reduce the strength and mobility of one’s hand and could, in the worst cases, lead to permanent nerve damage and even partial paralysis.

Other CTDs primarily affect the tendons, especially at or near the joints. One common problem is tendinitis, an inflammation that results from using the wrist or shoulder too much or in ways they are not meant to be used. If the condition is bad enough, the tendon fibers may fray even or tear.

The longer CTDs are ignored, the worse they get. In addition, if you let them go long enough, they may not be able to be cured. Failing to take early action may force one to live with the pain and limited use of one’s hand or arm forever. Workers must pay attention to how their arms, necks, shoulders, hands, wrists, and fingers feel. Workers should let someone know immediately if they experience:

1. Pain or achiness
2. Numbness or tingling
3. Stiffness
4. Burning
5. Swelling
6. Weakness

Another type of ergonomic problem relates to vibration. Repeated, prolonged exposure to vibration may cause Raynaud’s syndrome or white finger. This means the skin and muscles are not getting enough oxygen from the blood.

If you work with pneumatic tools, grinders, chain saws or other tools that vibrate, you have to be very alert. If you work with these tools when it is cold or if you smoke, you are particularly at risk. Symptoms you should watch for are:

1. Tingling
2. Numbness
3. Pain
4. Fingers turning white and losing feeling
5. Loss of finger dexterity

## **OSHA REGULATIONS AND FREQUENT VIOLATIONS**

OSHA has been studying ergonomics very closely for a number of years. While the agency has not yet issued a regulation on this problem, it has issued ergonomic guidelines for meatpacking plants (OSHA 3123) where CTDs are very common. These guidelines are also useful for many other kinds of industries.

Just because OSHA does not have an ergonomics regulation does not mean OSHA inspectors ignore it. In fact, the agency has cited many companies for ergonomic violations in recent years and big penalties are not uncommon.

OSHA has issued these citations for violations of the “General Duty Clause” of the Occupational Health and Safety Act of 1970 that created OSHA. This clause (Section 5) states clearly that “each employer shall furnish to each of his employees, employment and a place of employment which are free from recognized hazards that are causing or likely to cause death or serious physical harm to its employees.”

Since poor ergonomics are now recognized as a hazard, OSHA believes they definitely qualify as violations of its regulations.

## **IDENTIFYING HAZARDS**

Poor ergonomics means forcing one’s body into unnatural movements and positions. When this occurs, the body uses pain, achiness, numbness, etc., to tell a person there is a problem. It is crucial that each worker be alert to those symptoms, because if he or she keeps moving in an unnatural way, their body will finally send signals so strong the worker cannot ignore them—and the worker may have to live with the results for the rest of his or her life.

The study of ergonomics has identified a number of tasks and positions that are most likely to lead to CTDs and other physical problems.

Among the risk factors for CTDs of the arm and hand are:

1. Repetitive activities—making the same motion, over and over (The longer you repeat the same movement, the greater the risk.);
2. Forceful exertions, particularly with the hands (The combination of repetitive motion and force—such as pushing on a tool over and over—is a particular risk.);
3. Staying in the same position, whether sitting or standing, for an extended time;
4. Awkward body postures, such as reaching above your shoulders or behind your back or twisting your wrists to perform tasks;
5. Continued physical contact between hands or arms and a work surface or surface edge;
6. Excessive power tool vibration;
7. Hand tools that either do not fit the job or do not fit the hand.

Poor ergonomics can also injure the back. Among the factors that raise the risks of back injury are:

1. Bending continually from the waist;
2. Lifting from below the knees or above the shoulders;
3. Twisting at the waist, especially while lifting;
4. Lifting or moving objects that are too heavy or awkward;

5. Sitting for long periods of time, especially if you have poor posture.

## **PROTECTION AGAINST HAZARDS**

In the ergonomic guidelines for meat packers, OSHA explains there are four parts to a good ergonomics program: (1) worksite analysis; (2) hazard prevention and control; (3) medical management and (4) training and education.

By including training and education, OSHA is emphasizing that good ergonomics is everyone's responsibility. But only the worker can use that information to do his or her job the proper way. Each worker also plays a key role in both worksite analysis and hazard prevention and control. We cannot analyze the work area and its ergonomics without the workers input and cooperation. We may not even know something could be a problem unless workers tell us. And while different equipment can reduce some ergonomic stresses, many of the steps taken to prevent injuries require the worker to change the way he or she is doing things in order to give the body a rest.

## **ADMINISTRATIVE CONTROLS**

Implementing administrative controls is yet another way in which ergonomic hazard in the workplace can be tackled. Administrative controls can be used to reduce the duration, frequency and severity of exposure to ergonomic hazards. Some examples of frequently employed administrative controls include:

1. Offering job rotation as a means to alleviate physical fatigue and stress to a particular set of muscles and tendons (To be effective, employees should be rotated to jobs that utilize different muscle-tendon groups. Job rotation in this regard is used as a preventative measure, not in response to symptoms of CTDs.);
2. Incorporating frequent breaks into the workday to relieve fatigued muscles and to reduce stress and strain on various muscle groups;
3. Decreasing production rates and limiting overtime work are two ways to reduce the total number of repetitions per employee;
4. Increasing the number of employees assigned to a task can help alleviate severe work conditions.

## **TOOL USE AND SELECTION**

Tools are another important part of ergonomics. First and foremost, select a tool that fits the job. If a tool is too small or not really designed for the intended purpose, the worker is going to be forcing the tool—and themselves—into bad positions. It is also a good idea to use a power tool rather than a hand tool when possible. Another suggestion is to use the lightest tool available for the job. Other ergonomically desirable things to look for in tools include:

1. Padded handles
2. Textured grips, rather than grips with pre-cut finger-hold grooves

3. Triggers that are operated by more than one finger
4. Tools that can be supported by two hands or an overhead suspension system

## **SAVING YOUR BACK**

When it comes to avoiding back problems, the most important thing is to lift properly—letting the knees rather than the back do the work. The details of back safety, including proper lifting, are important enough for their own safety meeting. But in general, remember to:

1. Avoid lifting—whenever possible use material handling systems;
2. Do not lift objects that are too heavy for you or whose size and shape are too awkward to allow a good grip;
3. Do not twist while lifting or carrying a load—that is one of the fastest routes to back injury.

Vibration-related injuries can be permanently crippling if the worker does not catch them early. To minimize vibration and its negative physical effects:

1. Operate tools at the lowest speed possible without lengthening the time it takes to do the job;
2. Keep tools well maintained;
3. Hold tools as loosely as safety permits;
4. Wear gloves designed to protect against vibration;
5. Use offset or spring-loaded handles or shock-absorbing exhaust mechanisms to reduce vibration;
6. Use mechanical aids rather than your hands to grasp and hold pieces;
7. Avoid bending your wrists or placing your hands and arms in awkward positions;
8. Keep your body—especially your hands—warm;
9. Try to alternate tasks so you do not spend all day operating a vibrating tool.

## **SUMMARY**

Each individual body is different in terms of size, shape, and capability. Each of us sits, stands and moves in different positions. So any effort to make our workplace really ergonomic—to adapt jobs to people and not force people to fit to the job—must involve every single person.

We cannot identify problems or develop effective solutions without the workers cooperation. We will not know about symptoms that signal possible injuries unless the worker tunes into what their body is saying—and reports it.

Once aware that a worker is having problems with a particular tool, task or position, we will work with him or her to identify exactly what is causing the strain or pain. Every effort will be made to remove or limit the risks. This may include rearranging the workstation or changing the tools to helping find a new position in which to perform certain tasks. It may involve rotating the worker from one task to another. In some cases, it may even be necessary to temporarily place the worker in a different job until the hurting body part has time to heal.

If a worker ignores symptoms for too long, they may eventually be unable to perform their current job. They may have to permanently transfer jobs, undergo physical therapy or even have surgery. In the very worst cases, they may develop such a major—and painful—disability that they are unable to work.

We recognize the importance of ergonomics and are making every effort to make sure the workers do too. Workers must pay attention to how their body feels when they are working. Workers should cooperate with their supervisor to make sure the workplace is free of ergonomic hazards.

# ERGONOMICS

## **RULES OF GOOD ERGONOMICS**

1. Adapt the job to your body—do not force your body to fit the job;
2. Be alert to symptoms of ergonomic injury and report them immediately, before there is serious or permanent damage;
3. Be prepared to change positions and movements to reduce the risk of ergonomic injury;
4. Report upper body physical symptoms related to poor ergonomics, including:
  - a. Pain or achiness
  - b. Numbness or tingling
  - c. Stiffness
  - d. Burning
  - e. Swelling
  - f. Weakness
  - g. White fingers, possibly with loss of feeling
  - h. Loss of finger dexterity
5. Be Alert to Ergonomic Risk Factors:
  - a. Repetitive activities
  - b. Forceful exertions, particularly with hands and/or combined with repetitive motion
  - c. Prolonged time in one position
  - d. Awkward body postures
  - e. Continued contact between hands or arms and work surface
  - f. Excessive power tool vibration
  - g. Hand tools that either do not fit the job or do not fit the hand
  - h. Bending continually from the waist
  - i. Lifting from below the knees or above the shoulders
  - j. Twisting at the waist, especially while lifting
  - k. Lifting or moving objects that are too heavy or awkward
6. Improve Personal Job Ergonomics:
  - a. Arrange workstation so tools and materials are within easy (20 inches maximum) reach.
  - b. Set work surface at about waist height.
  - c. Keep elbows down on work surface; do not lean on elbows.
  - d. Work with palms down, wrists straight.
  - e. Shift positions periodically to prevent prolonged sitting or standing.
  - f. Perform tasks with two hands, not one.
  - g. Grip objects with whole hand and fingers.
  - h. Avoid using center of palm to apply pressure.
  - i. Use material handling systems rather than manual lifting whenever possible.

- j. Lift so that knees, not back, do the work.
- k. Do not try to lift objects that are too heavy or awkward.
- l. Do not twist while lifting or carrying a load.

7. Tools:

- a. Select the right tool for the job.
- b. Select a tool that fits your hand.
- c. Use a power tool rather than a hand tool whenever possible.
- d. Look for tools with padded handles and textured grips.
- e. Look for tools with two-finger trigger.
- f. Look for tools that can be supported with two hands or overhead suspension.

8. Vibrating tools:

- a. Operate at lowest speed possible without lengthening the job.
- b. Keep tools well maintained.
- c. Hold tools as loosely as safety permits.
- d. Wear gloves designed to protect against vibration.
- e. Reduce vibration with offset or spring-loaded handles or shock-absorbing exhaust mechanisms.
- f. Use mechanical aids, not hands, to grasp and hold pieces.
- g. Keep body—especially hands—warm.
- h. Alternate vibrating tool jobs with other tasks.

# WORKING WITH COMPUTER TERMINALS AND OFFICE ERGONOMICS

A practical checklist for ergonomics training in the office can help employees work more comfortably and effectively.

## **Adjust the Chair**

1. Adjust the height of the chair's seat so that thighs are horizontal, feet rest flat on the floor and arms and hands are comfortably positioned at the keyboard.
2. If the chair is too high, use a footrest. This takes pressure off the back of the thighs.
3. Armrests should be adjustable up/down and inward/outward and padded.
4. Adjust the back rest so that it supports the lower back and fits the curvature of the spine. Seat pans should be adjusted for proper slope and comfort.
5. Seat cushions should be firm, not soft.
6. Utilize chair mat to decrease carpet resistance and provide more maneuverability.

## **Adjust the Display**

1. Position the screen to minimize glare and reflections from overhead lights, windows and other light sources. Place the screen so windows are not directly in front of or behind the employee when seated.
2. Adjust the display so the top of the screen is slightly below eye level when sitting at the keyboard. The top of the screen should not be above eye level.
3. Set the contrast or brightness of the screen at a comfortable level (This may have to be done more than once a day, as the light in the room changes.).
4. Where it is impossible to avoid reflections or adjust lighting, an antiglare filter placed over the screen can be helpful. Filters may affect the clarity of the image on the screen and should be tried only after other methods of reducing glare have been exhausted. An electrically grounded nylon micromesh glare filter is also effective in removing the static charge from a screen.

## **Adjust Lighting**

1. Draw the drapes or adjust blinds to reduce glare.
2. Adjust desk lamp or task light to avoid reflections on the screen. Light sources should come at a 90 degree angle, with low-watt lights rather than single high watt.
3. The task lighting should not be less than light at screen.

4. Reduce overhead lighting, where possible, by turning off lights or switching to lower wattage bulbs.
5. Use indirect or shielded lighting where possible.
6. To limit reflected glare, walls should be painted a medium or dark color and not have a reflective finish.

### **Adjust Document Holder**

1. Position document holder close to screen and at the same level and distance from the eye to avoid constant changes of focus.
2. Rotate position of document holder to opposite side of screen periodically.

### **Work Smart**

1. Encourage employees to change position, stand up, or stretch whenever they start to feel tired. Encourage a soft touch on the keyboard, keeping hands and fingers relaxed, wrists and body in neutral positions.
2. Become aware of other tasks, such as manual stapling, sorting through large volumes, and mail sorting, where repetition and awkward positions may contribute to repetitive motion injuries. Seek alternate ways to perform the tasks, reduce the load, or rotate jobs.

### **Consider Posture**

1. The head should be straight and balanced over the spine while looking forward at the screen. Eliminate the flexed-neck position.
2. Elbows should be bent at 90 degrees when hands are on the keyboard.
3. Wrists should be in neutral position. Utilize wrist rests at the edge of the keyboard for support. Keyboards should be detachable from VDT and slightly sloped at about 10-15 degrees.
4. Utilize a back rest for support in the lumbar area of the back.
5. Feet should rest flat on the floor or a foot rest should be utilized.

**NOTE:** Although the information and recommendations contained in this manual have been compiled from sources believed to be reliable, KWORCC makes no guarantees and assumes no responsibility for the correctness, sufficiency or completeness of the information or recommendations. Other or additional safety measures may be required under particular circumstances.

# OFFICE ERGONOMICS

## Hand and Wrist Exercises

The following exercises have been developed by Dr. Colt Murphy, Exercise Physiologist in the Live for Life program at the Johnson & Johnson Health Fitness Center in conjunction with Dr. G.W. Lutz, Medical Director and Mrs. J. Greenhalgh, Occupation Health Specialist, part of the medical staff at ETHICON, a Johnson & Johnson company involved in the marketing of surgical sutures, hemostats and surgical mesh products.

There are two categories of recommended exercises. The first category is for flexibility and the second is for strengthening. The exercises will provide an increased range of motion for the fingers, hands and wrists.

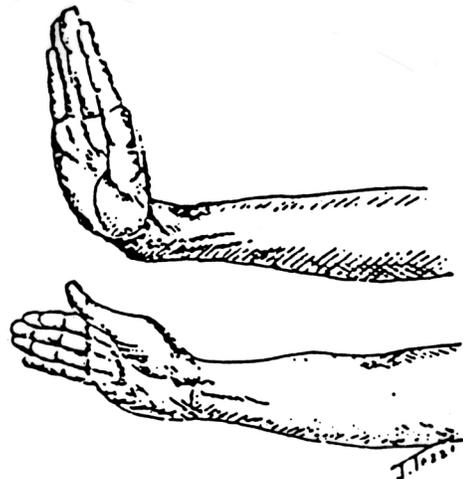
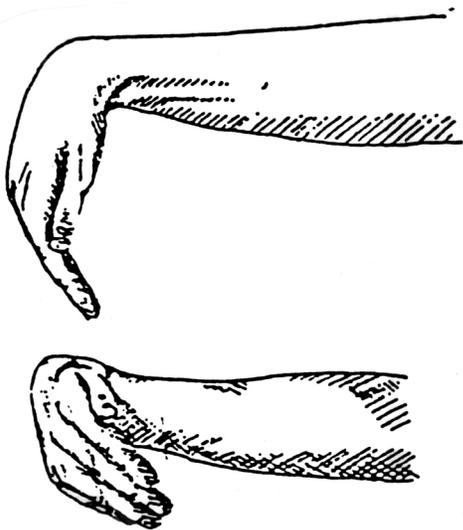
### Flexibility Exercises

There are five flexibility or warm-up exercises. Each exercise should be done at least three times for a minimum of five seconds. The flexibility exercises will use a sustained held stretch, also known as a static stretch. When performing these exercises, workers shall only go to the point where you feel the stretch, not pain. The exercises should be performed on both hands.

Remember, the flexibility exercises must be performed before the developmental exercise.

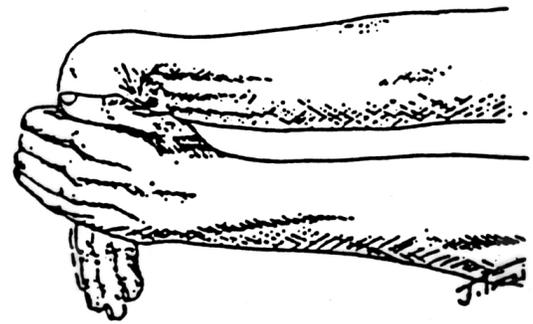
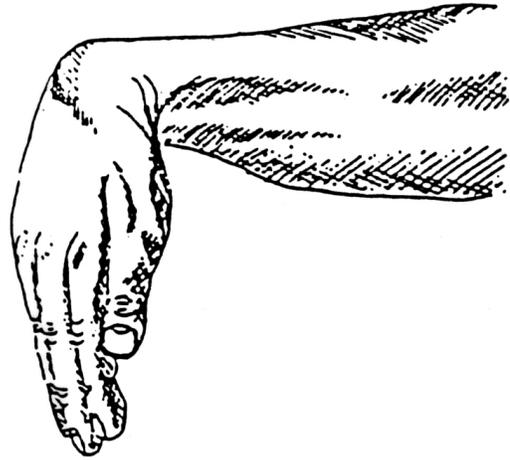
#### THE WRIST CIRCLE

With both arms stretched outward, draw a circle with your fingertips, five movements to the left, then five to the right.



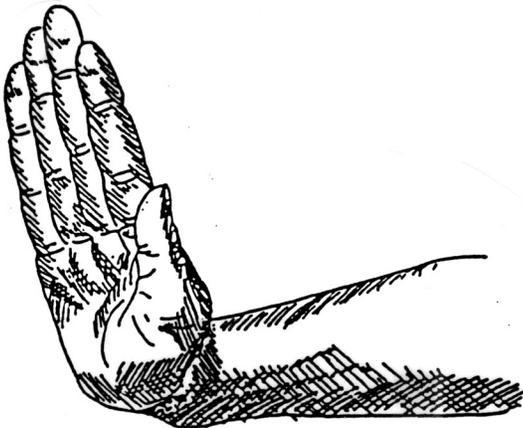
## THE WRIST CURL

Starting with the right arm, drop the hand downward from the wrist. Then, using the palm of the opposite hand, apply pressure against the back of the dropped hand. Hold the position for approximately five seconds—relax—and repeat twice more for a total of three repetitions. This exercise will stretch the muscles in the back of the forearm.



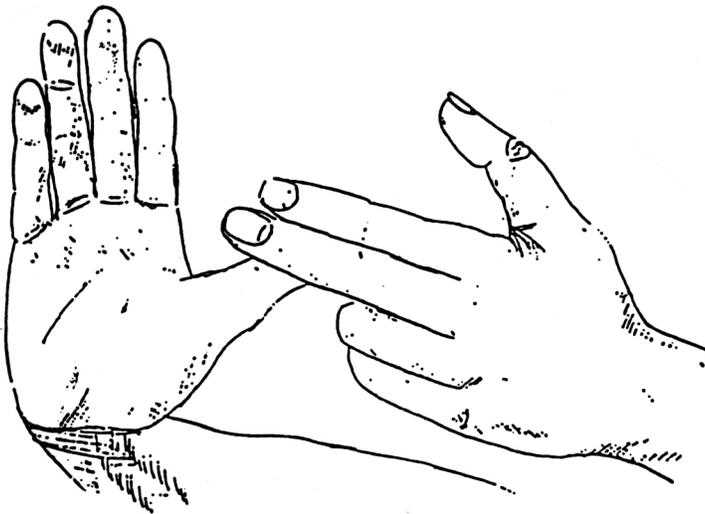
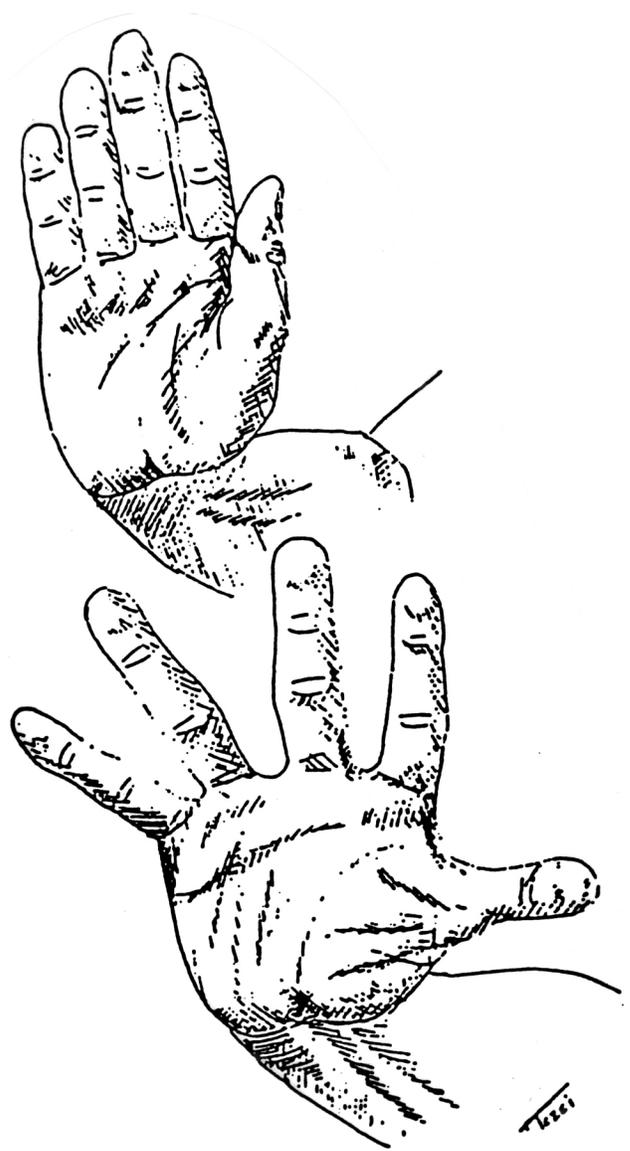
## THE WRIST EXTENTION

Hold the right hand in the up position. Then using the left hand, press the palm against it. Hold the position for approximately five seconds—relax—and repeat twice more for a total of three repetitions. This exercise will stretch the muscles in the front of the forearm.



## THE FINGER STRETCH

Spread the fingers of both hands far apart. Hold for five seconds—relax—and repeat twice more for a total of three repetitions.



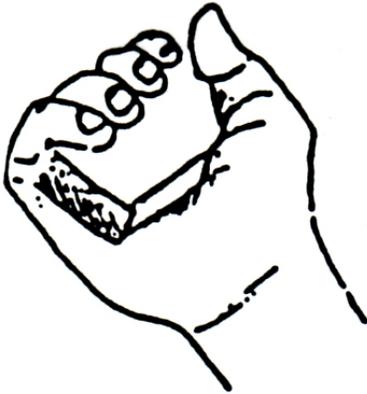
## THE THUMB STRETCH

With the right hand out stretched in front of you, gently pull the thumb down and back until you feel the stretch. Hold for five seconds—relax—and repeat twice more for a total of three repetitions.

## DEVELOPMENTAL EXERCISES

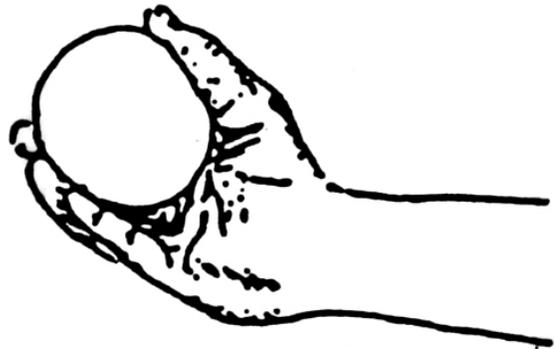
The following four exercises are developmental or muscle strengthening exercises. Each of these exercises has a goal of twenty to thirty repetitions.

Remember, these exercises must be done on both hands.



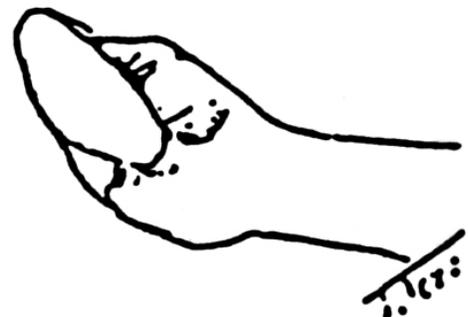
### THE HAND GRIP

Squeeze the gripper as many times as possible with a goal of 20 to 30 continuous repetitions. This exercise will develop the finger and hand muscles.



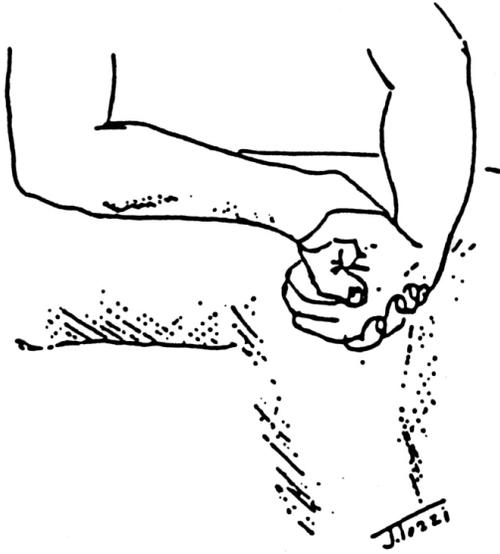
### THE THUMB SQUEEZE

With the ball located in the palm of your hand, press the ball with your thumb, toward the fingers. Do not press the ball with your fingers. This exercise will develop the thumb muscles.



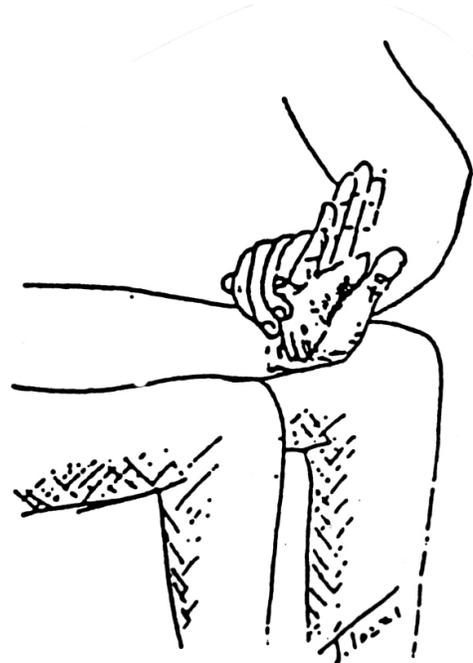
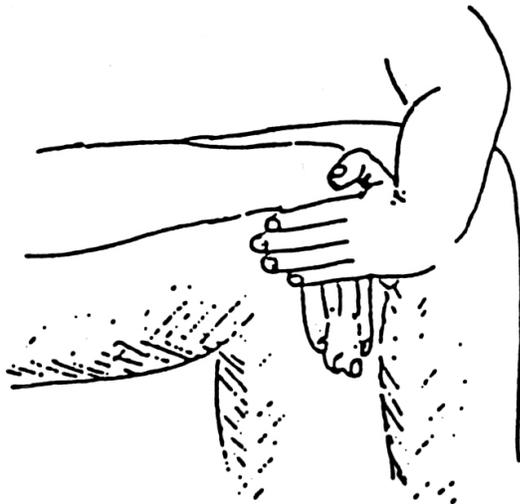
## THE WRIST CURL

Place the right arm on your thigh with your hand hanging in front of your kneecap, palm up. Next, grasp the palm with the opposite hand. The palms of both hands should now be together. While applying resistance with the top hand, attempt to curl the bottom hand upward. Do not raise your forearm off the thigh, keep it in the same position. This exercise develops the wrist flexor muscles.



## THE WRIST EXTENSION

Place the right forearm on your thigh with the palm of the hand facing downward. Next, place the palm of the opposite hand over the back of the bottom hand. While applying resistance with the top hand, raise the bottom hand upward. This exercise develops the wrist extensor muscle.



# FIRE EXTINGUISHERS: YOUR SMALL-FIRE DEFENSE

## EXTINGUISHERS HAVE THEIR LIMITS

A portable fire extinguisher can save lives and property by putting out a small fire or containing it until the fire department arrives. Portable extinguishers are not designed to fight a large or spreading fire. Even against small fires, they are useful only under the right conditions.

1. An extinguisher must be large enough for the fire at hand. It must be available and in working order, fully charged.
2. The operator must know how to use the extinguisher quickly, without taking time to read directions during an emergency.
3. The operator must be reasonably strong to lift and operate the extinguisher.

## BUY EXTINGUISHERS CAREFULLY

A fire extinguisher should be “listed” and “labeled” by an independent testing laboratory.

The higher the rating number on an A or B extinguisher, the more fire it can put out. But high-rated units are often the heavier models. Make sure you can hold and operate the extinguisher before buying one.

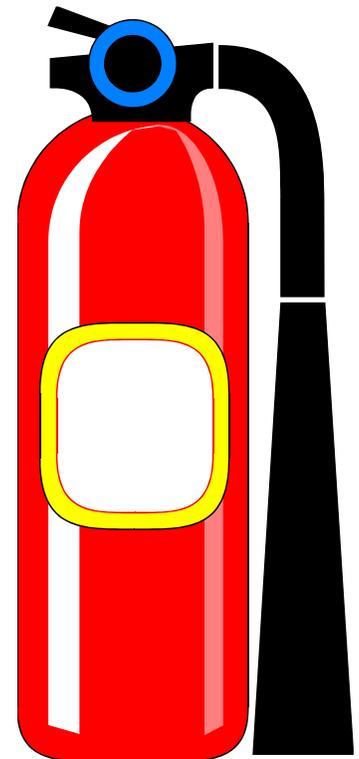
Remember, extinguishers need care and must be recharged after every use. For a pressurized extinguisher, ask an authorized dealer how to have it serviced and inspected. It must be recharged after any use: a partially used unit might as well be empty.

If the purchase of a disposable fire extinguisher is being considered, keep in mind that it can be used only once. Then it must be discarded and replaced.

The purchase of more than one extinguisher may also be needed. For example, in the home one extinguisher may be kept in the kitchen as well as one to be kept in the garage or workplace.

Each extinguisher should be installed in plain view near an escape route and away from potential fire hazards such as heating appliances. Ask the local fire department for advice on the best locations.

Also ask the fire department about training and practice in the use of portable fire extinguishers. Many departments offer training sessions for the public.



## WHEN TO FIGHT A FIRE

Fight the fire only if *all* of the following are true.

1. Everyone has left or is leaving the building.
2. The fire department is being called.
3. The fire is small and confined to the immediate area where it started (wastebasket, cushion, small appliance, etc.).
4. The fire can be fought with one's back to a safe escape route.
5. The extinguisher is rated for the type of fire being fought and is in good working order.
6. The worker has had training in the use of the extinguisher and is confident that he or she can operate it effectively.

If you have the slightest doubt about whether or not to fight the fire—**DON'T!** Instead, get out, closing the door behind you.

## WHEN FIGHTING FIRES, REMEMBER THE WORD *PASS*

1. PULL. Pull the pin. Some extinguishers require releasing a lock latch, pressing a puncture lever or other motion.
2. AIM. Aim low, pointing the extinguisher nozzle (or its horn or hose) at the base of the fire.
3. SQUEEZE. Squeeze the handle. This releases the extinguishers agent.
4. SWEEP. Sweep from side to side at the base of the fire until it appears to be out.

Watch the fire area in case fire breaks out again, repeating these steps if necessary. Most portable extinguishers work according to these directions, but some do not. Read and follow the directions on each make or model of your extinguisher(s).

## EXTINGUISHER MUST FIT THE FIRE

1. Type A. Ordinary combustibles—wood, cloth, paper, rubber, many plastics and other common materials that burn easily.
2. Type B. Flammable liquids—gasoline and other flammable liquids, oil, grease, tar, oil-based paint, lacquer and flammable gas.
3. Type C. Electrical equipment—energized electrical equipment, including, wiring, fuse bases, circuit breakers, machinery and appliances.
4. Type D. Combustible metals—metal and metal dust, often used in industry.

Using an extinguisher that is not rated for the fire you are fighting may make the fire worse! **IT IS PARTICULARLY DANGEROUS TO USE WATER OR A TYPE A EXTINGUISHER ON A GREASE OR ELECTRICAL FIRE.**

Multipurpose extinguishers are rated for more than one type of fire. An ABC extinguisher puts out most types of fires that could start in the home—wood, paper, cloth, flammable liquid and electrical fires.

### **Protect Yourself At All Times!**

Stay low. Avoid breathing the heated smoke and fumes or the extinguishing agent. If the fire starts to spread or threatens your escape route, get out **IMMEDIATELY!**

### **When Not to Fight a Fire**

There are times when it is reckless to fight a fire with a portable extinguisher.

1. If the fire is spreading beyond the immediate area where it started or is already a large fire.
2. If the fire could block the escape route.
3. If the worker is unsure of the proper operation of the extinguisher.
4. If the worker has any doubt whether the extinguisher is proper enough for the type of fire at hand.

If even one of these conditions is true, leave immediately, close off the area and leave the fire to the fire department.

### **Remember...**

Knowing how to use a fire extinguisher is only one aspect of good fire safety. Other key elements are:

1. Install and maintain smoke detectors.
2. Have an escape plan and practicing it regularly.
3. Keep your property as fire safe as possible, both indoors and out.

# FORKLIFT OPERATOR TRAINING

## INTRODUCTION

The American Society of Mechanical Engineers (ASME) defines a powered industrial truck as a mobile, power-propelled truck used to carry, push, pull, lift, stack or tier materials. Powered industrial trucks—more commonly known as pallet trucks, rider trucks, fork trucks or lift trucks that can be ridden or controlled by a walking operator. They can be powered through electric or combustion engines and designed for a variety of applications.

## BACKGROUND

The Occupational Safety & Health Administration (OSHA) estimates that industrial truck accidents cause roughly 101 fatalities and 94,570 injuries annually. The adoption of training requirements for industrial truck operators will prevent 11 fatalities and 9,422 accidents annually. In addition, an annual savings of \$83 million in direct costs associated with lost workdays attributed to industrial truck accidents will be realized beyond the direct savings.

## TRAINING REQUIREMENTS

The OSHA training requirements incorporate safe operation, training-program implementation, training-program content, refresher training and evaluation, avoidance of duplicate training and certification.

## SAFE OPERATION

The employer must ensure that every powered industrial truck operator is competent in the operation of a truck prior to operating as proven by the successful completion of the required training.

## TRAINING PROGRAM CONTENT

All operator training and evaluation must be conducted by individuals who have knowledge, training and experience to train and evaluate potential operators. Refresher training will be conducted so employees retain ability to safely operate an industrial truck. An evaluation of the performance of each powered industrial truck operator will be conducted every three years.

## AVAILABILITY

A KWORCC loss prevention representative will provide the necessary training for certification of your powered industrial truck operators. Contact the KWORCC Administrative office to schedule a class (1-877-357-1069).



# HAZARD COMMUNICATION

Hazard communication or “right-to-know” regulations were created because employees do have a right to know about any hazardous chemicals they may be exposed to in the course of their employment. The purpose of the OSHA Hazard Communication Standard is to help identify hazards of chemicals and to provide information to allow employees to handle chemicals safely.

The following sample “Hazard Communication Program” (**See Attachment C.**) is intended to comply with the major requirements of the OSHA Hazard Communication Standard.

While counties do not come directly under OSHA’s jurisdiction at this time, the Kansas Department of Human Resources can use OSHA standards for enforcement purposes.

The Hazard Communication Standard is categorized into five major areas:

1. Product Warning Labels (**See Psge 83.**)
2. Material Safety Data Sheets\MSDS
3. Hazardous Chemicals List (**See Hazardous Chemicals in Forms folder.**)
4. Employee Training
5. Written Hazard Communication Program (**See Page 85.**)

## PRODUCT WARNING LABELS

The labeling system will consist of the manufacturer’s and/or distributor’s warning labels affixed to the container. Someone should be assigned to coordinate the labeling procedure. Persons who purchase and/or receive incoming containers of hazardous chemicals should ensure labels are affixed to all containers. Labels should include the name of the chemical, warnings of the chemical’s hazards, necessary protective equipment and the manufacturer’s name.

**Hazard Warning** means any words, pictures, symbols or combination thereof which convey the hazard(s) of the chemical(s) in the containers. Specific information regarding physical and health hazards is required.

If a chemical is transferred from a labeled or bulk container to a portable container, the portable container must also be labeled. An **exception** to this rule is made if the portable container is only for the immediate use of a person who does the transferring on the same work shift; in that case a label is not needed.

Definitions of the language on labels include:

1. **Danger:** The word danger means the chemical can cause immediate serious injury or death.
2. **Warning:** The word warning means the chemical can cause potentially serious injury or death.
3. **Caution:** The word caution means the chemical can cause potentially moderate injury.
4. **Red:** The color red refers to a fire hazard.
5. **Blue:** The color blue refers to a health hazard.
6. **Yellow:** The color yellow refers to a reactivity hazard.
7. **White:** The color white refers to a specific hazard or personal protection.

## MATERIAL SAFETY DATA SHEETS (MSDS)

Manufacturers are required by the standard to develop and provide Material Safety Data Sheets (MSDS) on each chemical. If a chemical arrives without an MSDS, a written letter should be sent requesting an MSDS from the manufacturer/distributor.

MSDS's for each chemical must be readily accessible during each workshift to employees when they are in their work area. MSDS's should be listed in book form and alphabetized for easy reference.

A MSDS should be attained and employee training provided for any new products entering the workplace.

## HAZARDOUS CHEMICAL LIST

A list of all hazardous chemicals used in each work area should be maintained. This list is to be updated as needed and is to be available to each employee that may be exposed to the chemicals in the work area.

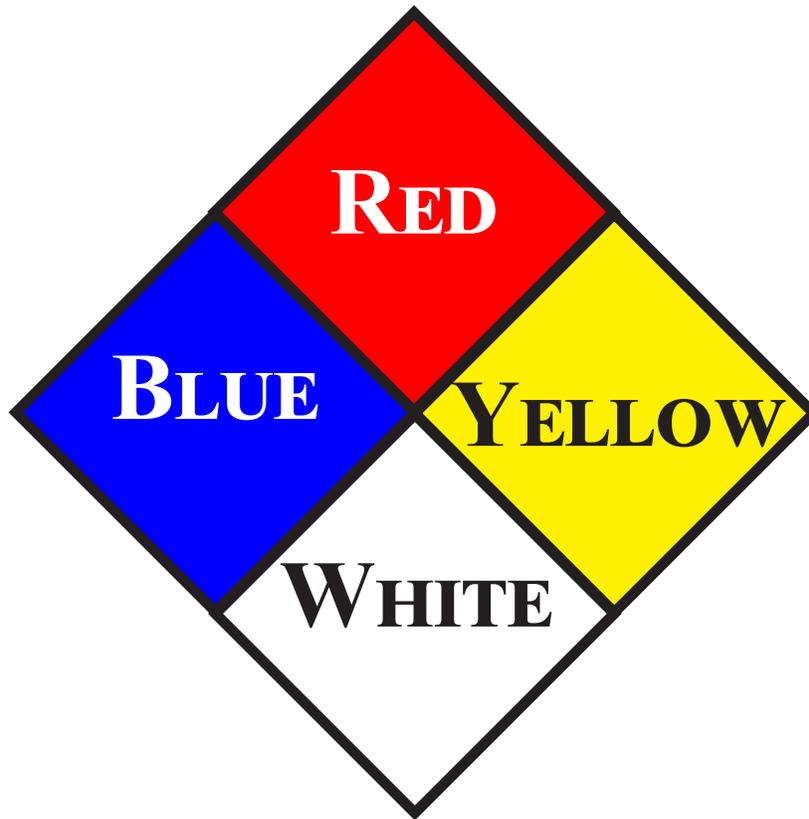
**Hazardous Chemical** is defined as any chemical which is a physical hazard or health hazard. A physical hazard is one which can cause injury outside the body. A health hazard is one which can cause injury internally to organs of the body.

## EMPLOYEE TRAINING

Employees must be provided information and training on hazardous chemicals in their work area at the time of their initial assignment, whenever a new chemical hazard is introduced into their work area and whenever they are working with chemicals on non-routine tasks.

## WRITTEN HAZARD COMMUNICATION PROGRAM

A written program should address the chemicals used in the workplace, labeling of chemicals, material safety data sheets, employee training, non-routine tasks and the use of outside contractors working on site.



### NFPA Fire Diamond and Rating System

Red	Flammability	4	Extreme
Blue	Health	3	Serious
Yellow	Reactivity	2	Moderate
White	Specific Hazard	1	Slight
		0	Minimal

**Remember, all buildings need to be identified with an appropriate NFPA Fire Rating System Placard!**

# HAZARDOUS COMMUNICATION PROGRAM

The following county departments are hereafter referred to as “the county”: the road, noxious weed and medical services departments and the courthouse.

The County shall make the written “Hazardous Communication Plan” available to employees and their designated representatives in accordance with the requirements of OSHA 29 *CR 1910.20* (E). This program outlines sections E, F, G & H of OSHA 1910.1200. Those sections are addressed below.

## SECTION E—CHEMICAL LIST/NON-ROUTINE TASKS

1. A list of hazardous chemicals known to be present using an identity that is referenced on the appropriate Material Safety Data Sheet (MSDS).
2. The methods the employer will use to inform employees of the hazards of non-routine tasks and the hazards associated with chemicals contained in unlabeled pipes in their work area.

## SECTION F—LABELS AND OTHER FORMS OF WARNING

All chemical manufacturers, importers or distributors are required to label each container of hazardous chemicals leaving their premises with the following information: (1) appropriate hazard warning and (2) name and address of chemical manufacturer, importer or other responsible party

Should any container of chemicals be shipped without appropriate markings, the county or designated agent is instructed not to accept the container, unless the label(s) are transmitted with the initial shipment or with the MSDS that is to be provided prior to or at the time of the first shipment.

The county shall ensure that each container of hazardous materials in the work place is labeled, tagged or marked with the following information: (1) identity of the hazardous chemical(s) contained therein and (2) appropriate hazard warning

### Information

All employees shall be informed of the following:

1. The requirements of this section;
2. Any operations in their work area where hazardous chemicals are present and
3. The locations and availability of the written Hazardous Communication Plan including the list or lists of hazardous chemicals and MSDS.

## **Training**

Employee training shall include the following minimum requirements:

1. The methods and observations that may be used to detect the presence or release of a hazardous chemical in the work area (The primary methods of detection are visual appearance or odor of hazardous chemicals upon being released to the air. Any questionable signs shall be reported to the supervisor in charge.)
2. The physical and health hazards of the chemicals in the work area.
3. The measures employees can take to protect themselves from these hazards, such as appropriate work practices, emergency procedures and personal protective equipment.
4. The details of the hazardous communication training program developed by the County including sections E, F and G of OSHA regulation *1a910.1200*:
  - a. *Section E*—Availability of a written Hazardous Material Communication Program
  - b. *Section F*—Label identification
  - c. *Section G*—Material Safety Data Sheets (MSDS)

A copy of this plan shall be kept in the following locations with the County:

1. County engineer's office
2. County clerk's office in the courthouse
3. Noxious weed department office and shop
4. Road department shop
5. Landfill shop
6. Emergency medical services building

The County may use signs, placards, process sheets, operating procedures or other such written material in lieu of affixing labels to individual stationary process containers. The written materials shall be readily accessible to the employees in their work area and throughout their work shift.

The County is not required to label portable containers into which hazardous chemicals are transferred from labeled containers which are intended only for the immediate use by the employee performing the transfer. All other portable containers must be labeled.

Neither the County nor its employees shall remove or deface existing labels on incoming containers of hazardous chemicals unless the container is immediately marked with the required information.

The County shall ensure labels or other forms of warning are legible in English and prominently displayed on the containers or readily available in the work area throughout each work shift. The County shall not need to affix new labels to comply with this section if existing labels already convey the required information.

## **SECTION G—MATERIAL SAFETY DATA SHEETS (MSDS)**

Chemical manufacturers and importers shall obtain or develop an MSDS sheet for each hazardous chemical they produce or import. The County shall have an MSDS for each hazardous chemical which they use and will not question any MSDS or have the product covered by the MSDS retested.

The County shall ensure that a copy of this plan and related MSDS sheets will be provided for each hazardous chemical and will be readily available during each work shift of all employees. A copy will be available in each department.

## **SECTION H—EMPLOYEE INFORMATION AND TRAINING**

The County shall provide employees with information and training on hazardous chemicals in their work area at the time of their initial assignment and whenever a new hazard is introduced into their work area.

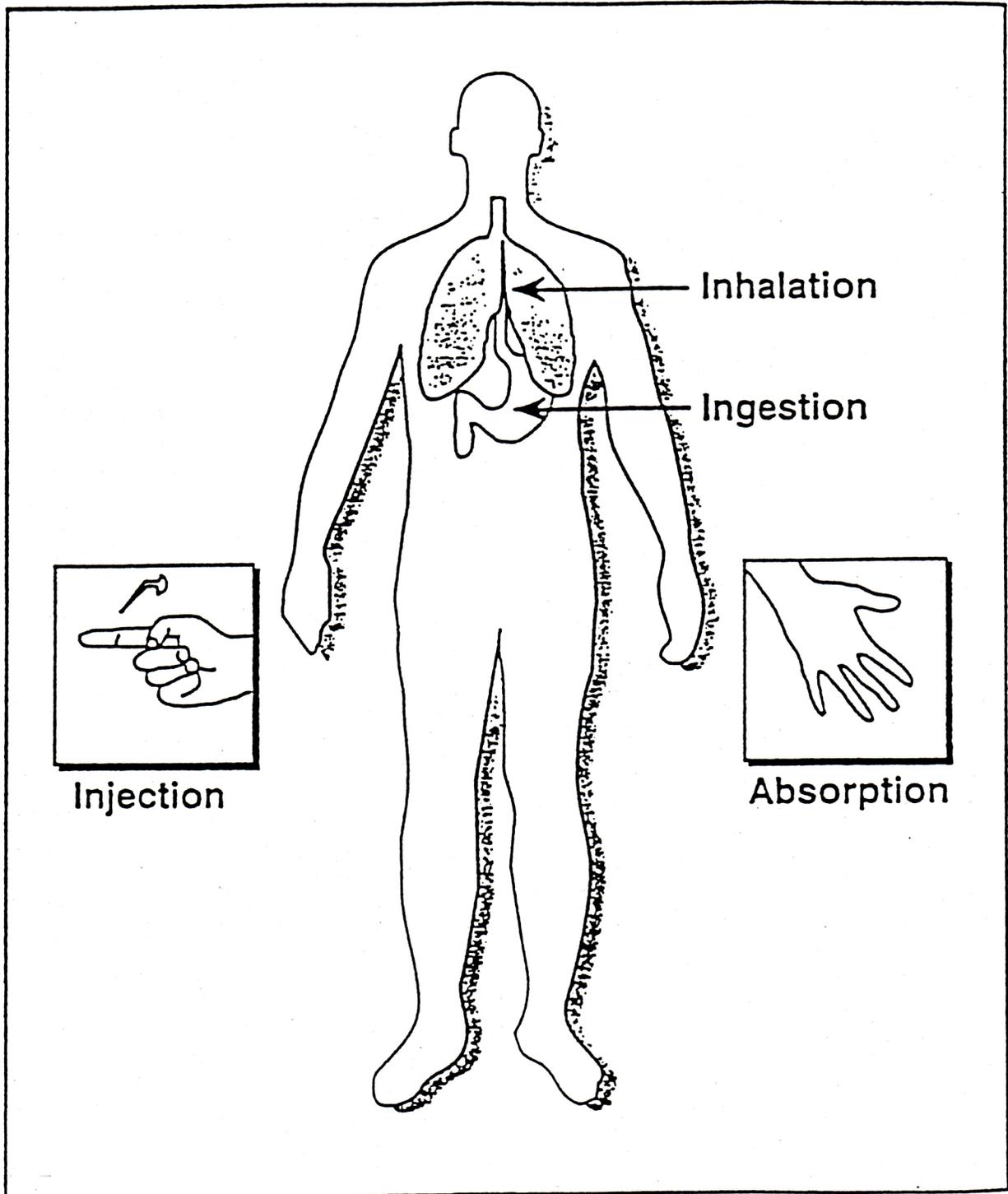
The following personnel will have a copy of this document.

1. County engineer—hazardous materials coordinator
2. Road superintendent
3. Road department shop foreman
4. Noxious weed director
5. Emergency medical services director
6. Landfill operator
7. County clerk
8. Courthouse custodian

OSHA requires all employers to make information on any hazardous chemicals in their workplace available to all employees. Vital information about the nature of these substances, safety precautions and emergency procedures may be found in the MSDSs.

# Routes of Entry

Hazardous materials can enter the body through four routes. In many cases, material may enter the body before exposure is detected.



# HEAT STRESS

## What Is “Heat Stress”

Heat stress is a potentially dangerous condition that occurs when the body is unable to regulate its temperature.

## Why Should I Know About It?

Because excessive heat can affect your:

1. **Health**—Results of heat stress can range from headache, nausea or dizziness to death.
2. **Safety**—Heat can make you feel tired and irritable. It can also reduce your ability to concentrate. This can increase the risk of accidents.

## How the Body Reacts to Heat

Normal body temperature is about 98.6 degrees Fahrenheit. An increase of 2 to 3 degrees can make you feel sick; more can be extremely dangerous. To maintain normal temperature, your body will increase bloodflow and increase perspiration.

## HOW HEAT STRESS CAN OCCUR

In extreme heat, strenuous activity or too much exposure can overload the body’s temperature-regulating system.

1. When more blood flows to the skin for cooling, less blood is available for the brain, internal organs and working muscles.
2. Through perspiration, the body can lose large quantities of fluids and salt.
3. When high heat is accompanied by high humidity, perspiration does not evaporate, so the body is not cooled.



4. The body generates more heat than it loses through sweat evaporation.
5. In extreme circumstances, the temperature-regulating system can fail and sweating stops completely.

**NOTE:** One or all of these conditions can cause different kinds of heat stress disorders, ranging from mild to severe.

# HEAT STRESS DISORDERS

## Mild Disorders

1. Fainting can indicate that the body is having difficulty coping with the heat. People can be hurt if they fall.
  - a. First aid: Have the person lie down in a cool place. Get medical help if he or she does not recover completely in a few minutes.
  - b. Prevention: When in hot temperatures, move around and stretch to improve circulation. This decreases the risk of fainting.
2. Cramps usually affect the muscles that do the hardest work, especially when its hot.
  - a. First aid: Give a mild salt solution (1 tsp. salt in 1 qt. water), unless the person is on a salt-restricted diet. Gently massage the cramped muscle.
3. “Prickly heat” is a skin rash caused by heat and humidity. When sweat does not evaporate, sweat ducts become clogged and sweat glands become inflamed.
  - a. Prevention: Keep the skin as dry as possible; shower often and wear fast-drying cotton clothing.

**NOTE:** Severe and prolonged rash can cause complications such as infection that should be treated by a physician.

## Heat Exhaustion

Heat exhaustion is a more serious disorder. It is caused by failing to replenish fluids lost in perspiration. Symptoms may include: (1) sweating, (2) clammy skin, (3) pale or flushed complexion, (4) weakness, (5) dizziness and (6) nausea.

To administer first aid: (1) have the person rest in a cool place; (2) give a mild salt solution and (3) get medical help.

## Heat Stroke

Heat stroke occurs when the body cannot cool itself because its temperature-regulating system is overloaded.

Heat stroke is a medical emergency. It can cause permanent damage to the brain and vital organs and death. Heat stroke can occur suddenly, with little warning. Symptoms may include: (1) lack of perspiration; (2) high temperature (105 degrees or more); (3) hot, dry, flushed skin; (4) confused, delirious behavior, and (5) loss of consciousness or coma.

Hospitalization is required without delay. To administer first aid: (1) move the victim to a cool place and (2) soak the victim's clothing in cool water and fan the body to encourage cooling.

## **HOW TO AVOID HEAT STRESS**

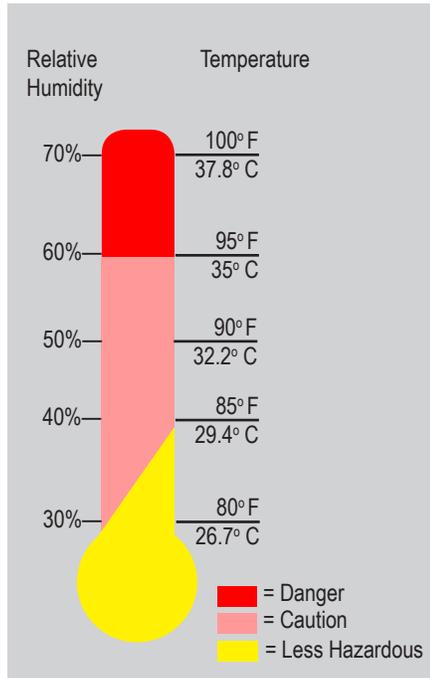
There are three steps to avoiding heat stress:

1. Acclimatize! Allow your body to adjust. Acclimatization is lost when you have been away from the hot environment for a week or more.
2. Adopt special habits; these tips can help you with heat:
  - a. Drink water
  - b. Avoid alcohol
  - c. Plan ahead
  - d. Eat lightly
  - e. Rest often
3. Use personal protective equipment; protect yourself during:
  - a. Indoor work: In hot areas, wear protective equipment designed for the job. Use fans to increase air circulation.
  - b. Outdoor work and recreation: Wide-brimmed hats, sunglasses, light, reflective and cotton clothing, sweatbands and proper foot gear are all important.

## THE HEAT EQUATION

HIGH TEMPERATURE + HIGH HUMIDITY + PHYSICAL WORK  
= HEAT ILLNESS

When the body is unable to cool itself through sweating, **serious** heat illnesses may occur. The most severe heat-induced illnesses are **heat exhaustion and heat stroke**. If actions are not taken to treat heat exhaustion, the illness could progress to heat stroke and possible **death**.



## HEAT EXHAUSTION

### What Happens to the Body:

HEADACHES, DIZZINESS/LIGHT HEADEDNESS, WEAKNESS, MOOD CHANGES (irritable, or confused/can't think straight), FEELING SICK TO YOUR STOMACH, VOMITING/THROWING UP, DECREASED and DARK COLORED URINE, FAINTING/PASSING OUT, and PALE CLAMMY SKIN.

### What Should Be Done:

- Move the person to a cool shaded area to rest. Don't leave the person alone. If the person is dizzy or light headed, lay them on their back and raise their legs about 6-8 inches. If the person is sick to their stomach lay them on their side.
- Loosen and remove any heavy clothing.
- Have the person drink some cool water (a small cup every 15 minutes) if they are not feeling sick to their stomach.
- Try to cool the person by fanning them. Cool the skin with a cool spray mist of water or wet cloth.
- If the person does not feel better in a few minutes call for emergency help (Ambulance or Call 911).

*(If heat exhaustion is not treated, the illness may advance to heat stroke.)*

## HEAT STROKE—A MEDICAL EMERGENCY

### What Happens to the Body:

DRY PALE SKIN (no sweating), HOT RED SKIN (looks like a sunburn), MOOD CHANGES (irritable, confused/not making any sense), SEIZURES/FITS, and COLLAPSE/PASSED OUT (will not respond).

### What Should Be Done:

- Call for emergency help (Ambulance or Call 911).
- Move the person to a cool shaded area. Don't leave the person alone. Lay them on their back and if the person is having seizures/fits remove any objects close to them so they won't strike against them. If the person is sick to their stomach lay them on their side.
- Remove any heavy and outer clothing.
- Have the person drink some cool water (a small cup every 15 minutes) if they are alert enough to drink anything and not feeling sick to their stomach.
- Try to cool the person by fanning them. Cool the skin with a cool spray mist of water, wet cloth, or wet sheet.
- If ice is available, place ice packs under the arm pits and groin area.

### How to Protect Workers

- Learn the signs and symptoms of heat-induced illnesses and what to do to help the worker.
- Train the workforce about heat-induced illnesses.
- Perform the heaviest work in the coolest part of the day.
- Slowly build up tolerance to the heat and the work activity (usually takes up to 2 weeks).
- Use the buddy system (work in pairs).
- Drink plenty of cool water (one small cup every 15-20 minutes).
- Wear light, loose-fitting, breathable (like cotton) clothing.
- Take frequent short breaks in cool shaded areas (allow your body to cool down).
- Avoid eating large meals before working in hot environments.
- Avoid caffeine and alcoholic beverages (these beverages make the body lose water and increase the risk for heat illnesses).

### Workers Are at Increased Risk When

- They take certain medication (check with your doctor, nurse, or pharmacy and ask if any medicines you are taking affect you when working in hot environments).
- They have had a heat-induced illness in the past.
- They wear personal protective equipment (like respirators or suits).

# RULES FOR LADDER SAFETY

Ladder accidents account for over 65,000 accidents and 300 fatalities each year. Most of these accidents are preventable. Whether at work or at home be aware of ladder safety and prevent a senseless accident from injuring you.

## PART I—LADDER SELECTION

Proper ladder selection is vital to ladder safety. A good starting point is to determine how much weight can safely be placed on a ladder.



### Weight Capacity

The following weight capacity chart follows standards set down by ANSI. It conveniently shows you how to determine the strength of the ladder that you will need.

Light Duty: Can support up to 200 pounds—RATINGS III

Medium Duty: Can support up to 225 pounds—RATINGS II

Heavy Duty: Can support up to 250 pounds—RATINGS I

Heavy Duty: Can support up to 300 pounds—RATINGS IA

To determine the weight capacity that you will be using on the ladder, follow this simple formula to determine the strength of the ladder needed for the job.

**YOUR WEIGHT + TOOLS + MATERIALS = TOTAL WEIGHT**

### Decals

Decals are found on the side of ladders and list the rating, as well as the weight capacity, for each particular ladder.

### Common Types of Ladders

1. **Stepladder:** The stepladder is ideal for many custodial, painting and maintenance jobs. It provides a solid platform and allows workers to set materials on it while working.
2. **Extension Ladder:** The extension ladder provides workers with the means to reach heights that would be impractical for step ladders.
3. **Pruning or Orchard Ladder:** The pruning, or orchard ladder is designed for use when pruning trees, trimming bushes or doing other types of landscape work. It is used primarily by landscape workers. It is also widely used by agricultural workers.
4. **Fixed Ladders:** Safety issues for fixed ladders can easily be overlooked because they are already in place.

## Choosing the Right Ladder for the Job

1. Choosing the right ladder for the job is one of the most important factors in ladder safety.
2. A critical consideration is to make sure to take the time to SWITCH from one type of ladder to another when the job requires it. Do not make the mistake of trying to use a ladder for a purpose it was never intended. That is how accidents occur.

## Ladder Material

Ladders are made of several types of materials. The most common being wood, metal and fiberglass. An essential safety consideration when choosing a ladder is to make sure never to use a metal ladder when working around electricity. Metal conducts electricity but wood and plastic do not. This is particularly important when working near power lines.

## **PART 2—MAINTAINING AND INSPECTING LADDERS**

Inspecting a ladder before using it is a necessity. You do not want to be suspended 15 feet in the air and look down to find out the spreader is broken or damaged.

## Suggested Checklist

1. **Step Ladder:** Gently rock a stepladder to see if it appears solid and well grounded. If it appears to wobble badly, check the spreader and the rungs to see if the hardware is loose. Tightening the hardware may solve the problem. If it does not, tell your supervisor and let the maintenance department know there is a problem.
2. **Ladder Rungs:** Do a quick check of the rungs to see if there are any damaged or broken rungs. If you find a missing rung or badly damaged rung TAKE THE LADDER OUT OF SERVICE. Do not make temporary repairs. A temporary or poorly made repair is more dangerous because it may hide a defect that an unsuspecting worker is not aware of.
3. **Mud or Grease on the Rungs.** If you inspect a ladder and find mud or grease on the rungs of the ladder, make sure you clean it off before using it. Remember, a slip on a ladder carries consequences a lot more serious than a slip at ground level.
4. **Older Wooden Ladders.** An older wooden ladder that has lost its varnish should not be painted. Paint will cover up any obvious defects. To preserve it, use a heavy duty clear varnish, NOT PAINT.
5. **Extension Ladders.** Extension ladders have many parts to them. Before starting to use an extension ladder make sure all of the parts are in good working order. TEST EACH PART BEFORE STARTING TO USE THE LADDER.
6. **Destroy Unsafe Ladders.** Make sure to destroy ladders that are no longer safe. It is a good idea to clearly label a broken ladder so an unsuspecting worker will not use it before there has been a chance to dispose of it.

## PART 3—PLACING LADDERS

Ladders, in order to be safe, must be properly angled. Setting a ladder at too steep an angle means that you can lose your balance when climbing up the ladder.

### 4-1 Rule

1. A standard rule for properly angling ladders is called the “4-1 Rule.” It simply means that your ladder should be 1 foot away from the wall for every four feet of working ladder height. Follow this rule and your ladder will be properly angled.
2. One method to check the 4-1 Rule is to place your toes against the bottom of the ladder and then extend your arms straight out. The palms of your hands should touch the top of the rung at shoulder level.

**Ladders Are Awkward To Handle, So Remember To Use Proper Body Mechanics Whenever You Pick Up Or Place A Ladder.**

## PART 4—PREPARING TO CLIMB

Here are several safety issues you should pay close attention to before starting to climb. Each one of these issues is critical to worker safety and the safety of the public.

1. **Bracing the Ladder and the Buddy System.** When climbing up a ladder it is desirable to have someone bracing the ladder as you climb. This is known as the buddy system. Take advantage of it whenever you can.
2. **Ladder Extension.** Always extend ladders at least three feet above the roof or platform you are trying to reach. Do not ever stand on the top rung of a ladder. This can lead to a loss of balance resulting in a fall.
3. **Preventing Shifting.** When climbing on an extension ladder, one must make sure the ladder does not shift during your climb. To prevent shifting either tie the ladder to a roof support or get a co-worker to brace the ladder during your climb.
4. **Barrier Cones.** If you are working in a congested area with lots of foot traffic, use barrier cones to protect the ladder from a bystander accidentally banging into the ladder while you are working on it.
5. **Working Near a Doorway.** If you are close to a doorway when working on a ladder, make sure that the door is locked and you can control the access.
6. **Non Slip Soles.** Make sure the soles of your shoes can grip the rungs—only non-slip soles should be worn.
7. **Clean Off Debris.** Clean off any dirt or debris found on the rungs of the ladder before starting to climb.

8. **Check for Stability.** Check the ladder to make sure it is not wobbly or unsteady. For a stepladder, make sure the spreader is locked into place.
9. **Free Hands.** Do not carry tools or materials in your hands when climbing a ladder. Your hands must always be free to grasp the ladder's rails.
10. **Carrying Tools.** Use a tool belt, apron or bucket when it is necessary to carry materials while climbing a ladder.
11. **Public Safety.** Be sure not to drop tools or materials to the ground from the ladder. This can endanger people on the ground as well as damage the equipment.
12. **Heavy or Bulky Material.** If you need to place heavy or bulky material on a ladder, do so before you begin climbing or use a bucket to lift materials to where you will be working.
13. **Damaged or Missing Rungs.** When you are climbing up a ladder and encounter rungs that are either damaged or missing, descend the ladder and take it out of service until it can be repaired.
14. **Windy Conditions.** Windy conditions are a hazard for anyone working on a ladder. Do not chance it by working in these conditions.
15. **Avoid Drugs.** Be careful to avoid using drugs, alcohol or prescription medicine when you are working on a ladder. Remember your equilibrium is crucial to your safety.
16. **Fear of Heights.** Many people have an intense fear of heights. They should never be forced or encouraged to climb ladders.

## **PART 5—MAKING THE CLIMB**

1. **Facing the Ladder.** When climbing up or down a ladder you must always face the ladder. Do not ever climb down a ladder facing away from the ladder. Facing away from a ladder means you have no way to balance yourself or effectively use your hands to gain a secure grip.
2. **Gripping the Ladder.** Be sure to grip the ladder tightly with your hands and place your feet solidly on the rungs of the ladder.
3. **Three Points of Contact.** When you are working on a ladder, try to maintain three points of contact. This means that whenever possible, one hand should be in contact with the ladder. When it is necessary to use both hands make sure that your legs are securely positioned on the ladder. Go back to three points of contact as soon as you complete your task.

4. **Climbing on a Stepladder.** When you are climbing on a stepladder, do not climb past the top two rungs of the ladder. If you do climb past the top rungs of the stepladder there is no place for you to grip the ladder. This is a serious mistake and could easily lead to a fall.
5. **Overreaching.** It is important to never over reach when you are working on a ladder. If you extend yourself to far away from the side rails, you risk losing your balance and falling.
6. **Check Your Belt Buckle.** A good rule of thumb is that if your belt buckle extends further than the side rail, you are out to far. If this is the case, descend the ladder and reposition it.
7. **Do Not Rush.** Do not rush when working around ladders. Trying to reposition a ladder while standing on it could easily result in a serious accident.
8. **Moving the Ladder.** When you need to move a ladder do not walk it over to the next location in its upright position. This could result in the ladder tipping over and hitting a bystander. It could also damage the ladder. Instead, fold up the ladder and carry it over to the next location.

### **A FEW REMINDERS ON CARRYING LADDERS**

1. Always carry a ladder horizontal to the ground. If the ladder is too long for one person to carry, get some help. Remember, when picking up a ladder, use proper body mechanics or else you could injure your back.
2. The paint shelf on a stepladder can usually handle about 40 pounds of weight. Do not jeopardize your safety by trying to stand on it. It may collapse.
3. Take a break when you become fatigued. Many accidents are caused because a worker does not feel like he or she should take a break. Remember that when you are working 10 feet or more off the ground, there is no room for error.
4. Body position is always important whether you are climbing or working on a ladder. Keep yourself centered between the side rails. Make sure that only one person works on a ladder at a time.
5. Remember this. Working on a ladder means that you must always stay focused. One mistake means a very serious injury. Alertness and taking nothing for granted are the keys to avoiding ladder accidents.

Ladders make work easier and faster. Be sure to use good safety practices around any ladder. **REMEMBER, YOUR SAFETY AND LIFE DEPEND ON IT!**

# LOCKOUT/TAGOUT

## TYPICAL MINIMAL LOCKOUT SYSTEM PROCEDURE

### General

Lockout is the preferred method of isolating machines or equipment from energy sources. To assist employees and contractors in developing a procedure which meets the requirements of the federal and state standards, the following is deemed adequate and shall be used when there is a limited number or type of machines or equipment or there is a single power source.

If more complex systems are encountered, an appropriate procedure is to be developed, documented and utilized for that system. If a contractor or employee encounters a facility that cannot adequately be locked out under this policy, he or she should contact the county engineer for alternative methods of protection.

## LOCKOUT PROCEDURE

### Purpose

This procedure establishes the minimum requirements for the lockout of energy isolating devices. It shall be used to ensure that the machine or equipment is isolated from all potentially hazardous energy and locked out before employees perform any servicing or maintenance activities where the unexpected energization, start-up or release of stored energy could cause injury. Types of energy sources to be locked out include, but are not limited to, the following devices:

1. Electrical circuits
2. Diesel and gasoline powered vehicles
3. Hydraulic and other mechanically driven devices
4. Air compressors
5. Any machine or power source owned or operated by the county where unplanned release of stored energy could cause injury

### Responsibility

Appropriate employees shall be instructed in the safety significance of the lockout procedure. These shall include all maintenance personnel conducting work on property belonging to the county. Outside contractors shall contact county employees who are familiar with the procedure or the county engineer before work commences.

## Preparation for Lockout

Make a survey to locate and identify all isolating devices to be certain which switch(es), valve(s) or other energy isolating devices apply to the equipment to be locked out. More than one energy source (electrical, mechanical or other) may be involved on each device. Types of isolating means are:

1. Remove ignition keys from diesel and gasoline powered equipment by the mechanic involved, provided that no other keys are generally available to that machine;
2. Obtain a padlock from the shop foreman or other source for isolating electrical circuits;
3. Make it the responsibility of the supervising maintenance person to insure the device is locked out and access to keys is restricted only to personnel directly involved.

## Sequence of Lockout System Procedure

1. Notify all affected employees that a lockout system is going to be utilized and the reason therefor. The authorized employee shall know the type and magnitude of energy that the machine or equipment utilizes and shall understand the hazards thereof.
2. If the machine or equipment is operating, shut it down by the normal stopping procedure (depress stop button, open toggle switch, etc.).
3. Operate the switch, valve or other energy isolating device(s) so that the equipment is isolated from its energy source(s). Stored energy (such as that in springs, batteries, elevated machine members, rotating flywheels and hydraulic systems and air, gas, steam or water pressure, etc.) must be dissipated or restrained by methods such as repositioning, blocking, disconnecting, bleeding down, etc. (i.e., discharging capacitors, bleeding hydraulic pressures, lowering hydraulic jacks onto blocks, disconnecting battery terminal, releasing spring tensions, slackening cable tension, bleeding air lines, etc.).
4. Lockout the energy isolating devices with assigned individual lock(s) or remove and isolate control mechanisms so passersby cannot accidentally energize the system being worked on.
5. After ensuring that no personnel are exposed, and as a check on having disconnected the energy sources, operate the push button or other normal operating controls to make certain the equipment will not operate (i.e. elevator controls, starter circuits, toggle switches, starter relays, etc.). CAUTION: Return operating control(s) to "neutral" or "off" position after the test.
6. Place identifying tag on energy source to identify person responsible for lockout procedure and time lockout began.
7. The equipment is now locked out.



## **Restoring Machines or Equipment to Normal Production Operations**

1. After the servicing and/or maintenance is complete and equipment is ready for normal production operations, check the area around the machines/equipment to ensure that no one is exposed.
2. After all tools have been removed from the machine/equipment, guards have been reinstalled and employees are not in the area, remove all lockout devices. Operate the energy isolating devices to restore energy to the machine/equipment.

## **Procedure Involving More Than One Person**

1. If more than one individual is required to lockout equipment, each shall place his or her own personal lockout device on the energy isolating device(s).
2. When an energy isolating device cannot accept multiple locks, a multiple lockout device (hasp) may be used.
3. If lockout is used, a single key may be used to lockout the machine/equipment with the key being placed in a lockout box or cabinet which allows the use of multiple locks to secure it. Each employee will then use his or her own lock to secure the box or cabinet.
4. As each person no longer needs to maintain his or her lockout protection, that person will remove their lock from the box or cabinet.
5. If the device is a machine with a single ignition key, the service personnel in charge shall keep the key in their possession until work is completed.
6. If more than one key exists, then a separate lockout method shall be used.
7. Employees authorized for a group lockout of equipment shall be any employee or group of employees so authorized under the supervision of the county engineer as each situation occurs.

## **Basic Rules for Using the Lockout System Procedure**

1. All equipment shall be locked out to protect against accidental or inadvertent operation when such operation could cause injury to personnel.
2. Do not attempt to operate any switch, valve or other energy isolating device when it is locked out.
3. If questions arise at any time about this procedure, contact the county engineer or foreman in charge of the area being worked on.

# PERSONNEL EVALUATION PROGRAM ENFORCEMENT

## **SAFETY PERFORMANCE EVALUATIONS**

As part of periodic job performance evaluations, safety performance should be included. The key word here is “performance,” not “attitude.” The manner in which a department head, supervisor or employee conducts his day-to-day job activities, as measured against a standard (job description), should be considered. Examples could be:

1. Is the employee aware of the safety and health hazards associated with the job duties?
2. Does the employee follow the safety and health rules when carrying out job duties?
3. Has the employee made suggestions to improve the processes and/or facilities?
4. Does the employee follow the safety guidelines and rules for the department and county?
5. Does the employee follow the rules concerning the wearing of adequate and proper clothing to safely perform job duties? (i.e., personal protective equipment, etc.)
6. Does the employee normally adhere to the rules of wearing personal protection when and where required?
7. Does the employee report accidents/near misses promptly?
8. Does the employee offer safety suggestions?
9. Does the employee contribute to various safety activities? (i.e., first-aider training, safety committee volunteer work, emergency team participant, off-the-job safety committee member, safety training, etc.)

## **DISCIPLINARY ACTIONS**

Simply stated, discipline is having a set of rules and enforcing those rules. There are four simple, fundamental steps to developing a safety culture. They are: (1) develop a County Safety Rules, Policies and Procedures Manual; (2) train all employees in these rules, policies and procedures; (3) identify and correct safety hazards and conditions and (4) enforce all safety rules.

In an ideal world, each person would willingly follow all rules and regulations, especially those designed for his or her own benefit. You would expect that each person should have enough respect for himself or herself that he or she would want to follow safety rules and make sure all his or her actions were completed with safety in mind. However, some people think, for whatever reason, they are above the rules. These people believe accidents will only happen

to other people, and even if they are involved in an accident, they believe it does not affect anyone else.

Supervisors not only have a responsibility to deal with these types of people before an accident occurs, they have the responsibility to protect the legal position of the county. All supervisors and department heads should assist the county in developing general safety rules for the county and job specific safety rules for their departments. Once those policies and procedures (safety rules) have been developed, it is essential that all employees understand that these rules will be enforced. The county may offer safety counseling to the employee or develop a safety counseling statement (See ***Employee Counseling*** in the general forms folder for an example of an employee warning notice.) This form can also be used as a vehicle for counseling, safety training and documentation, but does not have to become the first step in a progressive discipline procedure.

**Disciplinary actions for violations of safety rules should be consistent with disciplinary action policies for violation of other county policies.**

# PERSONAL PROTECTIVE EQUIPMENT (PPE)

## INTRODUCTION

The Occupational Safety and Health Administration (“OSHA”) and Kansas Department of Human Resources (KDHR) require employers to protect their employees from workplace hazards such as machine, work procedures and hazardous substances that can cause injury. The preferred way to do this is through engineering controls or work practice and administrative controls, but when these controls are not feasible or do not provide sufficient protection, an alternative or supplemental method of protection is to provide workers with personal protective equipment (PPE) and the know-how to use it properly. In this section we will use information from the OSHA publication, “A Guide for Small Business Employers”.

Many types of PPE are available today for various types of hazards. Some of these would include hard hats, eye protection, gloves, hearing protection, protective footwear and safety clothing. Each department head should examine the personal needs of his or her own department then set policy as to what PPE will be required in what situations. Simply making PPE available to employees, rather than requiring it, will not prevent injuries. Most employees feel they are not going to get injured and the personal protective equipment is for the “other guy” who is not as skilled or careful as they are. There are many excuses for not wearing PPE when necessary, but there are no good reasons.

Each member county is urged to look closely at their personal protective needs, to construct a policy with regard to what and when PPE is required then clearly communicate this to all employees. Enforcement of the PPE rules should include disciplinary action taken where necessary for those employees who feel they are above the rules. Keep in mind such employees are not only a danger to themselves but to other employees as well.

This guide is to assist the pool member in properly selecting the appropriate PPE for the task at hand.

## EYE PROTECTION

You must provide eye protection for employees whenever they are exposed to potential eye injuries during their work if work practice or engineering controls do not eliminate the risk of injury. Some of the things that might cause eye injuries include the following:

1. Dust and other flying particles, such as metal shavings or wood fibers;
2. Molten metal that might splash;
3. Acids and other caustic liquid chemicals that might splash;
4. Blood and other potentially infectious body fluids that might splash, spray or splatter;

5. Intense light such as that created by welding arcs and lasers.

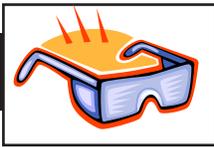
### **Types of eye and face protectors and their uses**

1. **Safety spectacles.** These protective eyeglasses are made with safety frames constructed of metal and/or plastic and are fitted with either corrective or plain impact-resistant lenses. They come with and without side shields, but most workplace operations will require side shields.
2. **Impact-resistant spectacles.** This eyewear can be used for moderate impact from particles produced by such jobs as carpentry, woodworking, grinding and scaling.
3. **Side shields.** These protect against particles that might enter the eyes from the side. Side shields are made of wire mesh or plastic. Eye-cup type side shields provide the best protection.
4. **Goggles.** You may choose from many different types of goggles, each designed for specific hazards. Generally, goggles protect eyes, eye sockets and the facial area immediately surrounding the eyes from impact, dust and splashes. Some goggles fit over corrective lenses.
5. **Welding shields.** Constructed of vulcanized fiber or fiberglass and fitted with a filtered lens, these protective devices are designed for specific hazards associated with welding.

**NOTE: Welding curtains are required when welding operations are being performed in an open-shop scenario.**

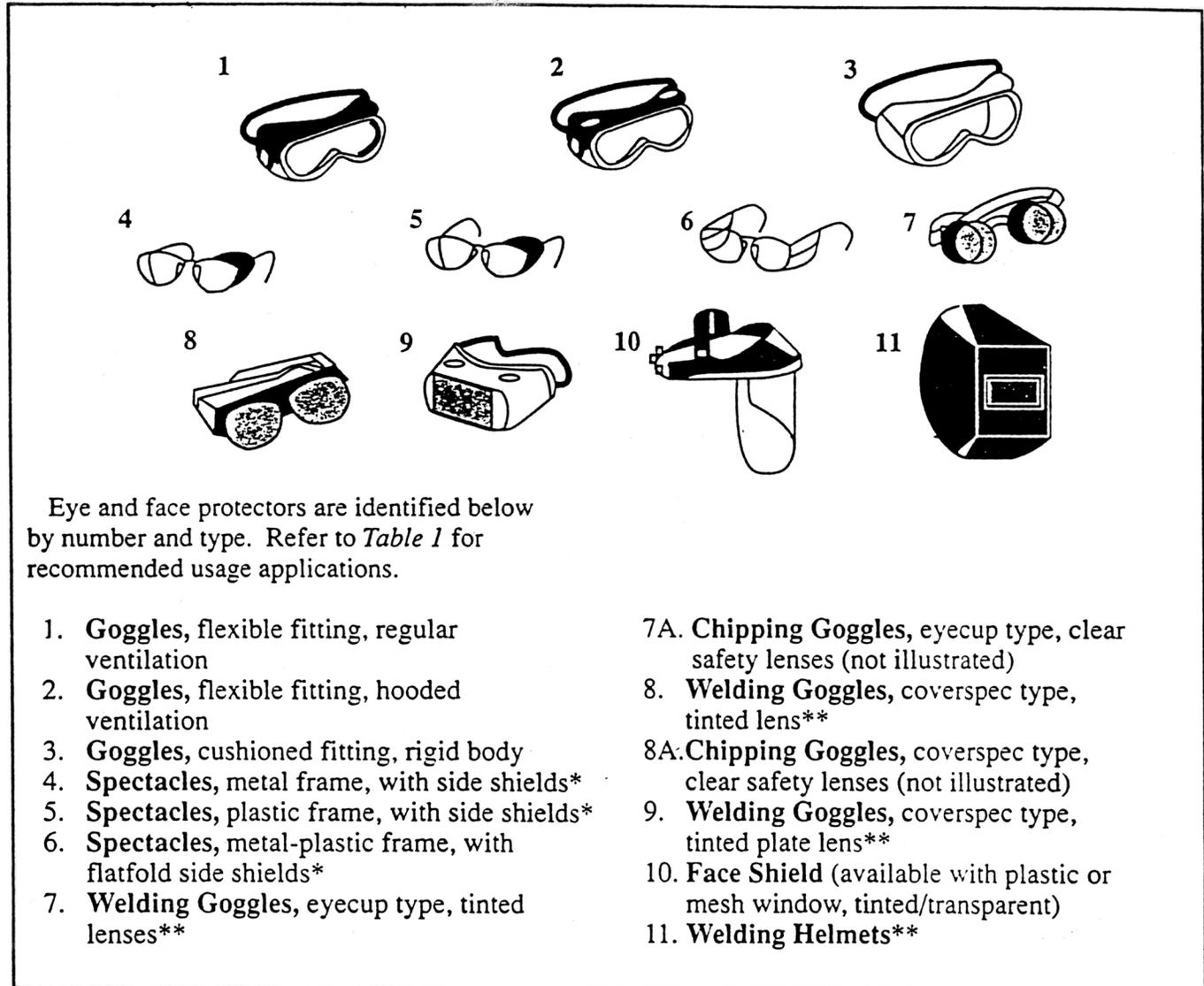
6. **Face shields.** These transparent sheets of plastic extend from the brow to below the chin across the entire width of the employee's head. Some are polarized for glare protection. Choose face shields to protect your employee's faces from nuisance dusts and potential splashes or sprays of hazardous liquids. Face shields do not protect employees from impact hazards. You may use however, face shields in combination with goggles or safety spectacles, to protect against impact hazards, even in the absence of dust or potential splashes, for additional protection beyond that offered by goggles or spectacles.

**OSHA requires that all protective eyewear you purchase for your employees meet the requirements of American National Standards Institute (ANSI) Section Z87.1-1989.**



# Eye and Face Protection

Figure 1. Recommended Eye and Face Protectors



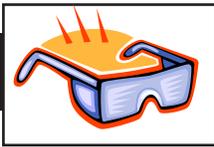
Eye and face protectors are identified below by number and type. Refer to *Table 1* for recommended usage applications.

1. **Goggles**, flexible fitting, regular ventilation
2. **Goggles**, flexible fitting, hooded ventilation
3. **Goggles**, cushioned fitting, rigid body
4. **Spectacles**, metal frame, with side shields\*
5. **Spectacles**, plastic frame, with side shields\*
6. **Spectacles**, metal-plastic frame, with flatfold side shields\*
7. **Welding Goggles**, eyecup type, tinted lenses\*\*
- 7A. **Chipping Goggles**, eyecup type, clear safety lenses (not illustrated)
8. **Welding Goggles**, coverspec type, tinted lens\*\*
- 8A. **Chipping Goggles**, coverspec type, clear safety lenses (not illustrated)
9. **Welding Goggles**, coverspec type, tinted plate lens\*\*
10. **Face Shield** (available with plastic or mesh window, tinted/transparent)
11. **Welding Helmets\*\***

Source: 29 CFR 1926.102 (a)(5) Table E-1.

\*These are also available without side shields for limited use requiring only frontal protection.

\*\* See Table 2, Filter Lenses for Protection Against Radiant Energy.



# Eye and Face Protection

**Table 2.**  
**Filter Lenses for Protection Against Radiant Energy**

Operations	Electrode size in 1/32" (0.8mm)	Arc current	Minimum* protective shade
Shielded metal arc welding	<3	<60	7
	3-5	60-160	8
	5-8	160-250	10
	>8	250-550	11
Gas metal-arc welding and flux-cored arc welding		<60	7
		60-160	10
		160-250	10
		250-500	10
Gas tungsten-arc welding		<50	8
		50-150	8
		150-500	10
Air carbon arc cutting	(light)	<500	10
	(heavy)	500-1,000	11
Plasma arc welding		<20	6
		20-100	8
		100-400	10
		400-800	11
Plasma arc cutting	(light)**	<300	8
	(medium)**	300-400	9
	(heavy)**	400-800	10
Torch blazing			3
Torch soldering			2
Carbon arc welding			14
Gas welding:			
Light	<1/8	<3.2	4
Medium	1/8-1/2	3.2-12.7	5
Heavy	>1/2	>12.7	6
Oxygen cutting:			
Light	<1	<25	3
Medium	1-6	25-150	4
Heavy	>6	>150	5

Source: 29 CFR 1910.133(a)(5).

\*As a rule of thumb, start with a shade that is too dark to see the weld zone. Then go to a lighter shade which gives sufficient view of the weld zone without going below the minimum. In oxyfuel gas welding or cutting where the torch produces a high yellow light, it is desirable to use a filter lens that absorbs the yellow or sodium line in the visible light of the (spectrum) operation.

\*\* These values apply where the actual arc is clearly seen. Experience has shown that lighter filters may be used when the arc is hidden by the workpiece.

## Hard Hats

Safety hard hats will be worn by all employees when duties are being performed at plant sites, bridge sites and all other sites where potential hazards exist from fixed, falling or flying objects. The employees will be responsible for having their safety hard hats available in the event their duties are changed and their new duties require the use of a safety hard hat.

As with devices designed to protect the eyes, the design construction, testing and use of protective helmets must meet standards established by ANSI. Protective helmets must meet the *ANSI Z89.1-2009* standard.

Hard hats are divided into three industrial classes:

1. **Class A.** These helmets are for general service. They provide good impact protection but limited voltage protection. They are used mainly in mining, building construction, shipbuilding, lumbering and manufacturing.
2. **Class B.** Choose Class B helmets if your employees are engaged in electrical work. They protect against falling objects and high-voltage shock and burns.
3. **Class C.** Designed for comfort, these lightweight helmets offer limited protection. They protect workers from bumping against fixed objects, but do not protect them from falling objects or electric shock.

Look at the inside of any protective helmet you are considering for your employees; you should see a label showing the manufacturer's name, the ANSI standard it meets and its class.



*\*ANSI Z89.1, Protective Headwear for Industrial Workers.*

## FOOT AND LEG PROTECTION

The type of foot and leg protection you provide your employees will depend upon the specific workplace hazards you identify and specific parts of the feet or legs exposed to potential injury. Safety footwear must meet minimum compression and impact performance standards and testing requirements established by ANSI.

Safety shoes have impact-resistant toes and heat-resistant soles that protect against hot work surfaces common in paving operations. The metal insoles of some safety shoes will provide protection against puncture wounds.

Leggings (chaps) should be used to protect the lower legs and feet during brush or tree cutting operations.

It is recommended that KWORCC Member Counties established a footwear policy. A sample policy can be found in the sample policy section (**Section C**) of this manual.

## HAND AND ARM PROTECTION

Where needed, employees will wear gloves which are suited to their work. The nature of the hazard(s) and the operation to be performed will determine your selection of gloves. The variety of potential occupational hand injuries may make selecting the appropriate pair of gloves more difficult than choosing other protective equipment. Take care to choose gloves designed for the particular circumstances of your workplace.

Employees working with drill presses, power saw and similar rotating machinery should not wear gloves.

Employees working around skin irritant materials such as acids, creosote, tar, grease, insulating materials, etc., are required to wear gloves as well as long-sleeved clothing.

## FLUORESCENT VESTS AND HATS

Safety fluorescent vests and hats will be worn at all times while engaging in operations upon or adjacent to a highway open to traffic. The information below provides a summary of the new *ANSI 107-2004* standards for garments. At the very minimum, employees should be required to wear fluorescent vests when working upon or adjacent to highways.

## MUTCD STANDARD HIGH VISIBILITY SAFETY APPAREL

### Standard:

For daytime and nighttime activity, flaggers shall wear safety apparel meeting the requirements of ISEA "American National Standard for High-Visibility Apparel" and labeled as meeting the ANSI 107-2004 standard performance for Class 2 risk exposure. The apparel background (outer) material color shall be either fluorescent orange-red or fluorescent yellow-green as

defined in the standard. The retroreflective material shall be either orange, yellow, white, silver, yellow-green, or a fluorescent version of these colors, and shall be visible at a minimum of 300 meters (1,000 feet). The retroreflective safety apparel shall be designed to clearly identify the wearer as a person.

#### Guidance:

For nighttime activity, safety apparel meeting the requirements of ISEA “American National Standard for High Visibility Apparel” and labeled as meeting the ANSI 107-2004 standard performance for Class 3 risk exposure should be considered for flagger wear (instead of the Class 2 safety apparel in the Standard above).

When uniformed law enforcement officers are used, high-visibility safety apparel as described in this section should be worn by the law enforcement officer.

## Hearing Protection

Determining the need to provide hearing protection can be tricky. Employee exposure to excessive noise depends upon a number of factors:

1. How loud is the noise as measured by decibels (dBA)?
2. What is the duration of each employee’s exposure to the noise?
3. Do employees move between separate work areas with different noise levels?
4. Is noise generated from one source or multiple sources?

Generally, the louder the noise, the shorter the exposure time before you must provide hearing protection. For instance, employees may be exposed to a noise level of 90 dBA for eight hours per day before hearing protection is required for them. However, if the noise level reaches 115 dBA in your workplace, hearing protection is required if the anticipated exposure exceeds 15 minutes.

### What kinds of devices protect against high noise levels?

1. **Single-use earplugs.** Made of waxed cotton, foam, or fiberglass wool, these ear plugs are self-forming and, when properly inserted, work as well as most molded earplugs.
2. **Preformed or molded earplugs.** Sometimes single use and disposable, these plugs must be individually fitted by a professional. Nondisposable plugs should be cleaned after each use.
3. **Earmuffs.** Earmuffs require a perfect seal around the ear. Glasses, long sideburns, long hair and facial movements such as chewing may reduce the protective value of earmuffs. You may purchase special earmuffs designed for use with eyeglasses or beards.

Permissible Noise Exposures	
Duration per day, hours	Sound level dBA slow response
8	90
6	92
4	95
3	97
2	100
1 1/2	102
1	105
1/2	110
1/4 or less	115

*Source: 29 CFR 1910.95 Table G-16*

As with other types of hazards, you must implement feasible engineering controls and work practices before resorting to PPE such as earplugs or earmuffs. If engineering and work practice controls do not lower employee exposure to work-place noise to acceptable levels, then you must provide employees with appropriate PPE. Please refer to the table above for permissible noise exposure levels.

## **SELECTING AND ENFORCEMENT**

You must consider many factors when selecting PPE to protect your employees from workplace hazards. With all of the types of operations that can present hazards and all of the types of PPE available to protect the different parts of a worker's body from specific types of hazards, this selection process can be confusing and at times overwhelming. Because of this, supervisors should assess the hazards in their workplace and select the appropriate PPE that will protect their workers. As part of your PPE program you should follow these steps:

1. Assess the workplace to identify equipment, operations, chemicals and other workplace components that could harm your employees.
2. Implement engineering controls and work practices to control or eliminate these hazards to the extent feasible.
3. Select the appropriate types of PPE to protect your employees from hazards that cannot be eliminated or controlled through engineering controls and work practices.
4. Inform your employees why the PPE is necessary and when it must be worn.
5. Train your employees how to use and care for the selected PPE and how to recognize PPE deterioration and failure.

6. Require your employees to wear selected PPE in the workplace.

Supervisors and foremen will ensure that PPE is worn where hazards may be encountered capable of causing injury or impairment to the body. If an employee avoids or disregards an order to wear protective clothing or equipment required on a job, corrective or disciplinary action must be administered in accordance with established county disciplinary policies.

At the discretion of the supervisor, employees may be required to wear protective equipment while engaging in work activities other than those specified in this manual.

# RIGGING AND OVERHEAD LIFTING

It has always been the policy of the KWORCC self-insurance pool to require the use of hardhats when workers are lifting items overhead, but there is more to a safe lift than just putting on a hardhat.

Overhead lifting is a special event and should be treated as such. Risk is created every time we lift a load off the ground. The basic requirements for rigging safety can be found in OSHA regulations. However, compliance to OSHA alone is not sufficient for good risk management. Utilization of the ANSI/ASME (American Society of Mechanical Engineers) standards and the manufacturers recommendations are critical as well. Special tools, special methods and a special "mind set" is required. Every lift should be planned from start to finish.

## THE BASIC RIGGING PLAN

1. Who is responsible (designated person) for the rigging?
2. Is the equipment in acceptable condition?
3. Are the working load limits adequate?
  - a. What is the weight of the load?
  - b. Where is the center of gravity?
  - c. What is the sling angle?
  - d. Will there be any side loading?
  - e. Capacity of the gear?
4. Will the load be under control?
  - a. Is a tag line available?
  - b. Is there any possibility of fouling?
5. Are there any unusual loading or environmental conditions?
  - a. Adverse weather, etc.?
6. Your special requirements?

## OSHA FACT SHEET

### **Cranes and Derricks in Construction Final Rule**

The U.S. Department of Labor's Occupational Safety and Health Administration (OSHA) released a historic new standard, addressing the use of cranes and derricks in construction and replacing a decades old standard. The significant number of fatalities associated with the

use of cranes and derricks in construction and the considerable technological advances in equipment since the publication of the old rule, issued in 1971, led the Labor Department to undertake this rulemaking.

In 1998, OSHA's expert Advisory Committee on Construction Safety and Health (ACCSH) established a workgroup to develop recommended changes to the current standard for cranes and derricks. In December 1999, ACCSH recommended that the Agency use negotiated rulemaking to develop the rule. The Cranes and Derricks Negotiated Rulemaking Committee (C-DAC) was convened in July 2003 and reached consensus on its draft document in July 2004. In 2006, ACCSH recommended that OSHA use the C-DAC consensus document as a basis for OSHA's proposed rule, which was published in 2008. Public hearings were held in March 2009, and the public comment period on those proceedings closed in June 2009.

- The rule becomes effective 90 days after August 9, 2010, the date the final rule was published in the *Federal Register*. Certain provisions have delayed effective dates ranging from 1 to 4 years.
- The final rule was published on August 9, 2010 by the Federal Register, and can be found at [http://www.osha.gov/FedReg\\_oshapdf/FED20100809.pdf](http://www.osha.gov/FedReg_oshapdf/FED20100809.pdf).
- A copy of the regulatory text is available at: <http://www.osha.gov/doc/cranesreg.pdf>
- This new standard will comprehensively address key hazards related to cranes and derricks on construction worksites, including the four main causes of worker death and injury: electrocution, crushed by parts of the equipment, struck-by the equipment/load, and falls.
- Significant requirements in this new rule include: a pre-erection inspection of tower crane parts; use of synthetic slings in accordance with the manufacturer's instructions during assembly/disassembly work; assessment of ground conditions; qualification or certification of crane operators; and procedures for working in the vicinity of power lines.
- This final standard is expected to prevent 22 fatalities and 175 non-fatal injuries each year.
- Several provisions have been modified from the proposed rule. For example:
  - o Employers must comply with local and state operator licensing requirements which meet the minimum criteria specified in § 1926.1427.
  - o Employers must pay for certification or qualification of their currently uncertified or unqualified operators.
  - o Written certification tests may be administered in any language understood by the operator candidate.
  - o When employers with employees qualified for power transmission and distribution are working in accordance with the power transmission and distribution standard (§ 1910.269), that employer will be considered in compliance with this final rule's requirements for working around power lines.

- o Employers must use a qualified rigger for rigging operations during assembly/disassembly.
- o Employers must perform a pre-erection inspection of tower cranes.
- This final rule requires operators of most types of cranes to be qualified or certified under one of the options set forth in § 1926.1427. Employers have up to 4 years to ensure that their operators are qualified or certified, unless they are operating in a state or city that has operator requirements.
- If a city or state has its own licensing or certification program, OSHA mandates compliance with that city or state's requirements only if they meet the minimum criteria set forth in this rule at § 1926.1427.
- The certification requirements in the final rule are designed to work in conjunction with state and local laws.
- This final rule clarifies that employers must pay for all training required by the final rule and for certification of equipment operators employed as of the effective date of the rule
- State Plans must issue job safety and health standards that are "at least as effective as" comparable federal standards within 6 months of federal issuance. State Plans also have the option to promulgate more stringent standards or standards covering hazards not addressed by federal standards.

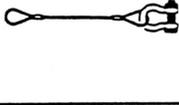
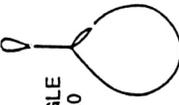
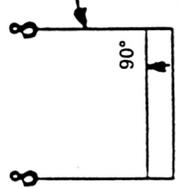
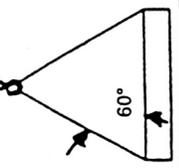
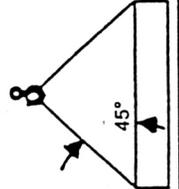
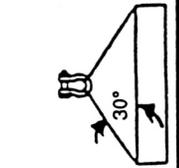
**OSHA 1926 SUBPART N  
CRANES, DERRICKS, HOISTS, ELEVATORS AND CONVEYERS**

This section of the OSHA code sets out the general requirements for the operation of cranes and derricks. *Section 1926.550(5)* of the code states that an employer shall designate a competent person who shall inspect all machinery and equipment prior to each use and during each use to make sure it is in safe operating condition. Any deficiencies shall be repaired, or defective parts replaced, before continued use.

**WIRE ROPE SLING CAPACITIES (LBS.) – FLEMISH EYE – ANSI B30.9**

6 X 19 AND 6 X 37

IMPROVED PLOW STEEL – IWRC 5/1 DESIGN FACTOR

WIRE ROPE SIZE	SHACKLE SIZE Q & T CARBON SHACKLE MINIMUM SHACKLE SIZE FOR A D/d > 1 AT LOAD CONNECTION		ANGLE 120 		60 DEGREE SLING ANGLE 	45 DEGREE SLING ANGLE 	30 DEGREE SLING ANGLE 
	SHACKLE SIZE	VERTICAL (SINGLE LEG)	CHOKER	TWO LEG OR BASKET HITCH	60 DEGREE SLING ANGLE	45 DEGREE SLING ANGLE	30 DEGREE SLING ANGLE
1/4	5/16	1120	820	2200	1940	1500	1100
5/16	3/8	1740	1280	3400	3000	2400	1700
3/8	7/16	2400	1840	4800	4200	3400	2400
7/16	1/2	3400	2400	6800	5800	4800	3400
1/2	5/8	4400	3200	8800	7600	6200	4400
9/16	5/8	5600	4000	11200	9600	7900	5600
5/8	3/4	6800	5000	13600	11800	9600	6800
3/4	7/8	9800	7200	19600	16900	13800	9800
7/8	1	13200	9600	26400	22800	18600	13200
1	1-1/8	17000	12600	34000	30000	24000	17000
1-1/8	1-1/4	20000	15800	40000	34600	28300	20000
1-1/4	1-3/8	26000	19400	52000	45000	36700	26000
1-3/8	1-1/2	30000	24000	60000	52000	42400	30000

• RATED CAPACITIES BASED ON PIN DIAMETER OR HOOK NO LARGER THAN THE NATURAL EYE WIDTH (1/2 X EYE LENGTH) OR LESS THAN THE NOMINAL SLING DIAMETER

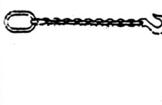
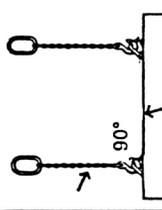
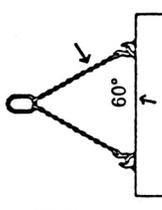
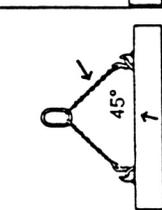
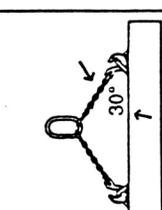
REFER TO ANSI B30.9 FOR FULL DETAILS

HORIZONTAL SLING ANGLES OF LESS THAN 30 DEGREES ARE NOT RECOMMENDED



# CHAIN SLING CAPACITIES (LBS.) – ANSI B30.9 DESIGN FACTOR 4/1

4

CHAIN SIZE						<b>Crosby</b> QT ALLOY	
CHAIN GR - 8 DESIGN FACTOR 4/1	VERTICAL (SINGLE LEG)	TWO LEG OR BASKET HITCH	60 DEGREE SLING ANGLE	45 DEGREE SLING ANGLE	30 DEGREE SLING ANGLE	SINGLE LEG MASTER LINK SIZE	DOUBLE LEG MASTER LINK SIZE
1/4 - (9/32)	3500	7000	6050	4900	3500	1/2	1/2
3/8	7100	14200	12200	10000	7100	3/4	3/4
1/2	12000	24000	20750	16950	12000	1	1
5/8	18100	39200	31350	25500	18100	1-1/4	1-1/4
3/4	28300	56600	49000	40000	28300	1-1/2	1-1/2
7/8	34200	68400	59200	48350	34200	1-1/2	1-3/4
1	47700	95400	82600	67450	47700	1-1/2	1-3/4
1-1/4	72300	144600	125200	102200	72300	1-1/2	1-3/4

## CHAIN – FACTS

INSPECTION AND REMOVAL FROM SERVICE PER ANSI N30.9

- FREQUENT INSPECTION**
- DAILY CHECK CHAIN AND ATTACHMENTS FOR WEAR, NICKS, CRACKS, BREAKS, GOUGES, STRETCH, BENDS, WELD SPLATTER, DISCOLORATION FROM EXCESSIVE TEMPERATURE, AND THROAT OPENINGS OF HOOKS.

- CHAIN LINKS AND ATTACHMENTS SHOULD HINGE FREELY TO ADJACENT LINKS.
- LATCHES ON HOOKS, IF PRESENT SHOULD HINGE FREELY AND SEAT PROPERLY WITHOUT EVIDENCE OF PERMANENT DISTORTION.

**PERIODIC INSPECTION - INSPECTION RECORDS REQUIRED**

- NORMAL SERVICE - YEARLY
  - SEVERE SERVICE - MONTHLY
- THIS INSPECTION SHALL INCLUDE EVERYTHING IN A FREQUENT INSPECTION PLUS EACH LINK AND END ATTACHMENT SHALL BE EXAMINED INDIVIDUALLY, TAKING CARE TO EXPOSE INNER LINK SURFACES OF THE CHAIN AND CHAIN ATTACHMENTS
- WORN LINKS SHOULD NOT EXCEED VALUES GIVEN IN TABLE 1 OR RECOMMENDED BY THE MANUFACTURER
  - SHARP TRANSVERSE NICKS AND GOUGES SHOULD BE ROUNDED OUT BY GRINDING AND THE DEPTH OF THE GRINDING SHOULD NOT EXCEED VALUES IN TABLE 1
  - HOOKS SHOULD BE INSPECTED IN ACCORDANCE WITH ANSI B30.10
  - IF PRESENT, LATCHES ON HOOKS SHOULD SEAT PROPERLY, ROTATE FREELY, AND SHOW NO PERMANENT DISTORTION

**TABLE 1**

**MAXIMUM ALLOWABLE WEAR AT ANY POINT OF LINK**

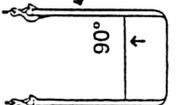
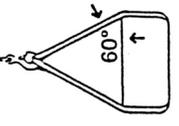
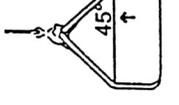
NORMAL CHAIN OR COUPLING LINK CROSS SECTION

9/32	.037
3/8	.052
1/2	.069
5/8	.084
3/4	.105
7/8	.116
1	.137
1-1/4	.169

**REFER TO ANSI B30.9 FOR FULL DETAILS  
HORIZONTAL SLING ANGLES OF LESS THAN  
30 DEGREES ARE NOT RECOMMENDED**

# WEB SLING CAPACITIES – ANSI B30.9 – DESIGN FACTOR 5/1

5

					
VERTICAL (SINGLE LEG) 100% OF SINGLE LEG	CHOKER 80% OF SINGLE LEG	TWO LEG OR BASKET 200% OF SINGLE LEG	60 DEGREE SLING ANGLE 170% OF SINGLE LEG	45 DEGREE SLING ANGLE 140% OF SINGLE LEG	30 DEGREE SLING ANGLE SAME AS SINGLE LEG

## WEB SLING

### INSPECTION AND REMOVAL FROM SERVICE PER ANSI B30.9

#### FREQUENT INSPECTION

THIS INSPECTION SHALL BE MADE BY THE PERSON HANDLING THE SLING EACH DAY THE SLING IS USED

#### PERIODIC INSPECTION WRITTEN INSPECTION RECORDS SHOULD BE KEPT FOR ALL SLINGS

THIS INSPECTION SHOULD BE CONDUCTED BY DESIGNATED PERSONNEL, FREQUENCY OF THE INSPECTION SHOULD BE BASED THE FOLLOWING:

1. FREQUENCY OF SLING USE
2. SEVERITY OF SERVICE CONDITIONS
3. EXPERIENCE GAINED ON THE SERVICE LIFE OF SLING USED IN SIMILAR APPLICATIONS
4. AT LEAST ANNUALLY

#### REMOVAL CRITERIA

1. ACID OR CAUSTIC BURNS
2. MELTING OR CHARRING OF ANY PART OF THE SLING
3. BROKEN, TEARS, CUTS, OR SNAGS
4. BROKEN OR WORN STITCHING IN LOAD BEARING SPLICES
5. EXCESSIVE ABRASIVE WEAR
6. KNOTS IN ANY PART OF THE SLING
7. EXCESSIVE PITTING OR CORROSION, OR CRACKED DISTORTED OR BROKEN FITTINGS
8. OTHER VISIBLE DAMAGE THAT CAUSES DOUBT AS TO THE STRENGTH OF THE SLING

- DO NOT "BUNCH", OR "PINCH" THE SLING IN FITTINGS
- DO NOT PLACE EYE OVER A PIN OR HOOK GREATER THAN 1/2 TIMES EYE LENGTH

REFER TO ANSI B30.9 FOR FULL DETAILS

HORIZONTAL SLING ANGLES OF LESS THAN 30 DEGREES ARE NOT RECOMMENDED

(TP3D page 1)



# SAFE LIFTING AND BACK CARE

The Occupational Safety and Health Administration (OSHA) has called back injuries the nation's number one workplace safety problem. Many back injuries are extremely painful and can result in long-lasting disability or loss of work. The financial costs of back injuries can be devastating.

OSHA says that 80 percent of all Americans will suffer a back injury in their lifetime that will require medical attention. If you suffer a back injury, you are four times more likely to suffer from back pain again. Back injuries keep more workers off the job and are the cause of more lost wages than any other ailment. Back pain causes more than 70 million people to suffer and back problems cost Americans billions of dollars each year.

So how do we prevent back injuries? Most back injuries are lower back problems. Therefore, it is essential that you maintain good body posture when sitting or standing. Whether you are operating a dump truck or a personal computer, your lower back needs support. If your seat does not provide good lower back support, use a pillow, roll up a jacket or put a piece of foam at the lower back to increase this support.

The first rule of lifting is "only lift as a last resort." Push it, slide it or use a cart, lift truck, crane or hoist. Get assistance from others instead of lifting by yourself. If you have a choice between pushing and pulling, push. Pushing allows you to keep your spine in a more balanced position so there is less chance of injury. If you think an object might be too heavy to lift safely, try tilting it first to get an estimate of its weight. Get a good grip on the object, then slowly tilt it up. If it is hard to move, then it is also too heavy to lift.

Back injuries can be prevented by following a few simple safety tips. **(See Pag 120 & 121)** Before attempting a lift, you should take the time to determine if it is something you can handle and how you are going to perform the lift.

A good exercise program and a balanced diet can help keep your back healthy by giving key muscle groups flexibility and strength. Included in this section is a set of four exercises that will help you strengthen your legs, stomach and back muscles **(See Pages 122-126)** Whatever exercise you choose, the following suggestions will help you perform them safely.

1. If you have a history of back problems, consult your doctor before beginning any exercise program.
2. Exercise regularly.
3. Warm up thoroughly before starting any vigorous exercise and cool down afterward.
4. Maintain good posture throughout your workout.
5. If the exercise starts to cause pain, **STOP**.

# TIPS TO HELP YOU LIFT SAFELY AND CARE FOR YOUR BACK

1. Lift only what you can handle. If possible, use a mechanical device or ask for help.
2. Lift the load smoothly, do not jerk the load. Remember to use a firm grip.
3. Keep the load close to your body.
4. Keep your feet separated, bend your knees and keep your back vertically straight.
5. Tighten up your stomach muscles prior to the lift.
6. Most of all, remember to lift with your legs, not your back.
7. After the load is lifted, do not twist your body; move your feet instead.
8. Make sure you are able to see where you are going.
9. Good posture and a proper diet contribute to a healthy back.
10. A regular exercise program helps keep your back in good shape.

# THE BIG FOUR PROTECTIVE MEASURES



**1**

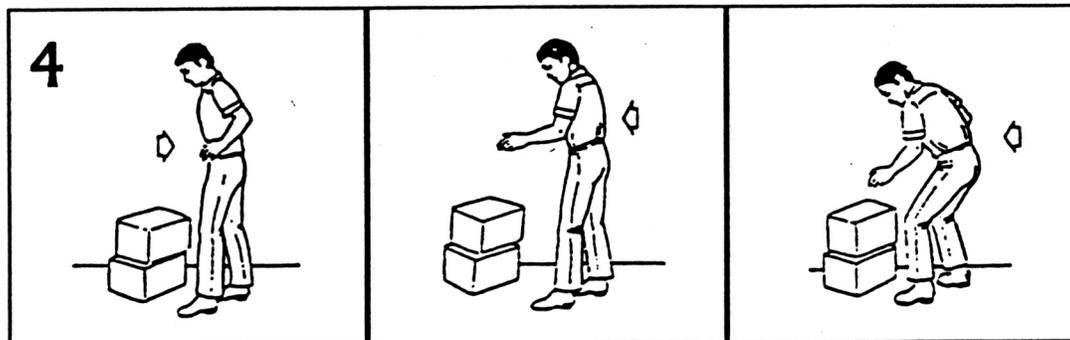
**Avoid overloading**  
Check the load's:  
1. Weight  
2. Size  
3. Shape

**2**

**Never Twist**  
1. Turn feet in direction of turn  
2. Turn body as one unit

**3**

**Position the load**  
1. Tighten the stomach  
2. Pull load close  
3. Position feet around load  
4. Hold corners

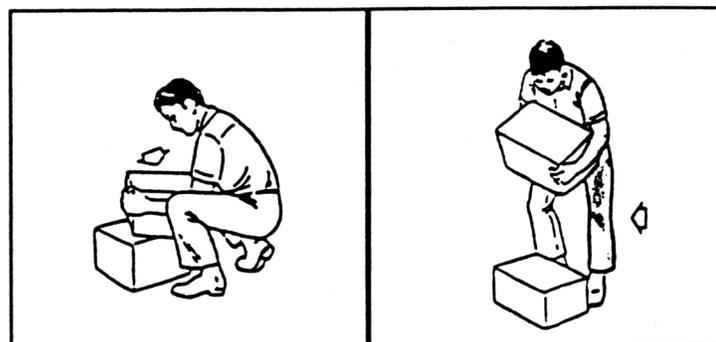


**4**

**Lift the right way**  
1. Tighten stomach

**2. Straigten back**

**3. Bend at hips**

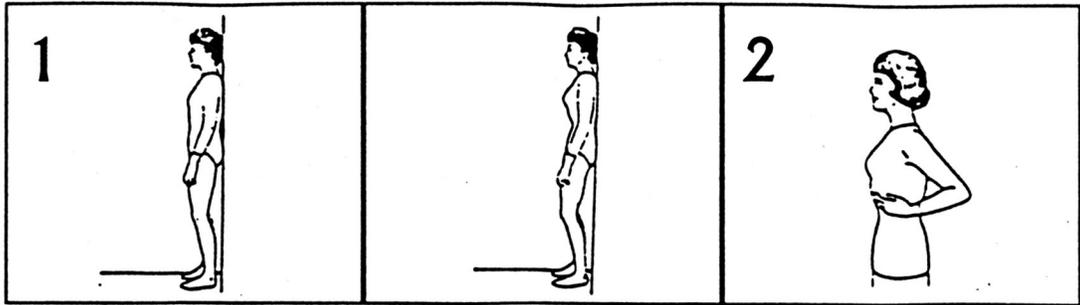


**4. Bend at knees**

**5. Lift with legs**

If you have had a recent back injury, check with your doctor before beginning these or any other exercises.

# Four Ways to Stronger Legs, Stomach and Back



### 1 Pelvic tilt

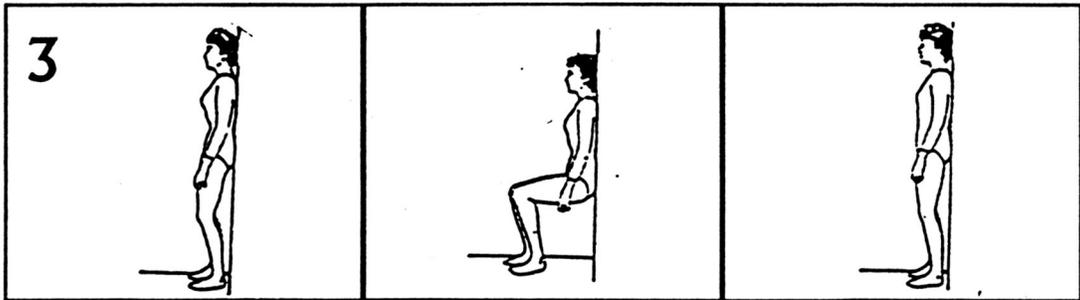
1. Back flat against the wall
2. Feet six inches from the wall

3. Slightly bend at knees
4. Tighten stomach

Hold for Ten Seconds

### 2 Stomach tightener

1. Stand straight
  2. Place fingers under the ribs
  3. Tighten stomach muscles by pushing against the fingers
- Hold for Ten Seconds

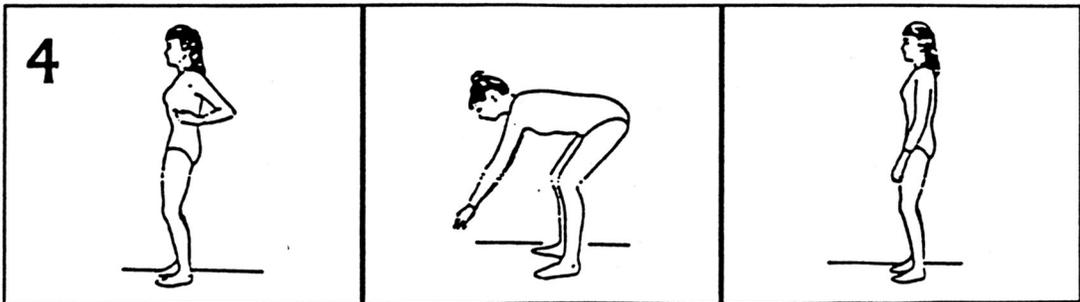


### 3 Wall Slide

1. Get into pelvic tilt position

2. Slide down one-third the wall and hold

3. Slide back up wall
- Hold for Ten Seconds



### 4 Straight back bend

1. Tighten stomach muscles

2. Bend knees keeping back straight

3. Stand up straight

If you have had a recent back injury, check with your doctor before beginning these or any other exercises.

# BACK EXERCISES

Build up to all exercises. Then build up to where all exercises are done ten times. Do exercises slowly and relax in between. They should not increase back pain.

## Lying On Your Stomach

Lie face down with your arms beside your body and your head alternatively turned from one side to the other for five minutes making sure to relax completely.

## Elbow Raise (Sphinx)

Remain face down, but now lean on your elbows and stay in this position for five minutes making sure you relax your lower back completely.



## Press Up (Cobra)

While still on your stomach place your hands by your shoulders and press the top half of your body up as far as pain permits, remembering to keep your hips and legs relaxed to allow the back to sag. Then lower your body down.



## Superman

Lie face down on the floor with your legs together and your arms extended above your head. Keep your limbs straight and lift your arms and legs to form a gentle curve. Remember to breathe! Hold the position and release – works the lower back



## Swimming

Lie facedown with arms and legs outstretched. Head in line with spine. Lift left arm and right leg off the floor, lower them and lift right arm and left leg off the floor. Repeat. Works the lower back.



## **Backward Crunches**

Lie facedown legs together and extended with hands behind neck. Exhale and lift the upper body off the ground, hold for a couple seconds then slowly lower as you inhale. Repeat. Works the lower back.



## **Hamstring Tightening**

Lie on your stomach. Keep your right leg straight. Now lift the entire right leg off the floor. Keep your knee straight. Alternate legs.

## **Buttock Tightening**

Lie on your stomach. Bend your right knee such that the sole of your foot is facing toward the ceiling. Do not bend the knee any farther. Lift right leg toward the ceiling lifting the thigh off the floor. Alternate legs.

## **Airplane**

Lie on your stomach with arms outstretched to the sides like airplane wings. Lift head, arms and chest off the floor extending your back. Hold for a count of three.

## **Banana**

Lie on the floor with legs together and arms extended over the head. Slowly raise the arms and legs off the ground to form a gentle curve. Hold for 30 seconds and release Remember to breathe! Works the abs.



## **Crunches**

Lie on the floor on your back with knees bent and hands behind your head. Feet should be flat on the floor and there should be space under your chin. Exhale and raise your chest until your shoulders leave the floor. Inhale as you lower back down. Repeat. Works the abs.



### **Crunch with a Twist**

Use the same starting position as for crunches. As you exhale, lift your upper body and rotate it reaching your elbow towards the opposite knee. Do not lift the knee or use your arms to help you lift. Works the abs and obliques.



### **Partial Sit Ups**

Lie on your back with your arms next to your body. Lift your head and shoulders off the floor. Do not lift any higher. Hold this position for a count of three; then lower your shoulders and then head to the floor.



### **Reverse Crunch**

Start in the same position as for the crunch. Lift your knees up to straight above your hips keeping your legs bent. Pull your knees towards your chest as you exhale and back to over your hips as you inhale. Repeat. Works lower abs.



### **Bicycle Crunch**

Start in the same position as for the reverse crunch with your knees above your hips. Move your legs in a bicycling motion reaching towards your left knee with your right elbow as it is closest to your chest. Repeat alternating sides. Works the abs and obliques.



### **Pelvic Tilt**

Start in the same position as for the crunch. Tighten your stomach and pull your low back to the floor, hold for 10 seconds and release. Repeat. Works the lower abs.



## **Leg Lift**

Lie on your back with one leg straight and the other bent at the knee. Slowly raise your straight leg as far as you can, hold for 10 seconds and lower your leg to the floor. Repeat several times and then move to the other side.



## **Knee Rolls (Spinal Twist)**

Lie on your back with arms away from your sides. Bend your knees up and place your feet flat on the floor. Allow your knees to drop to the side and turn your head to look at to the opposite side, return to up position and then drop knees to the other side. Keep your shoulders and upper body on the floor.

## **Knees to Chest**

Lie on your back with your knees bent and feet on the floor. Draw both of your knees to your chest. Grasp your arms around your knees and pull gently toward your chest for about 20 seconds. Lower your legs to starting position.

## **Back Bends (Extensions) Done Last**

Stand upright and place your hands in the small of your back and bend backwards at the waist. Return to upright position.

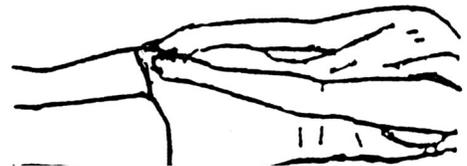
## **Neck Glide**

To strengthen the muscles in the back of your neck, simply glide your head straight back. Keep your nose level with your ears. You are doing this exercise right if it gives you the feeling of a double chin. Hold for 20 counts and repeat 5-10 times.



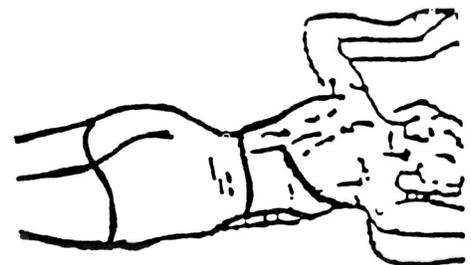
## **Shoulder Stretch**

While lying on your stomach, or while standing, clasp your hands behind your back and pinch your shoulder blades together strongly. Hold for five seconds and relax.



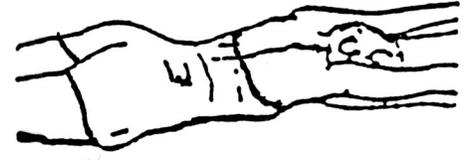
## **Pectoral Stretch**

While lying on your stomach, or while standing, with your arms overhead and elbows bent at shoulder level, pinch shoulder blades together and raise arms, maintaining a right angle at shoulders and elbows. Hold for five seconds and relax



## **Front Body Stretch**

While lying on your stomach, or while standing, stretch your arms overhead being sure to keep thumbs pointing toward ceiling and forehead resting on the floor. Raise both arms as high as possible. Hold for five seconds and relax.



# TIPS FOR IMPROVING POSTURE

1. Support your arms and keep your shoulders level while sitting.
2. Change position when doing an activity for a prolonged period of time.
3. Don't just wear your stomach muscles—pull them in.
4. When driving, move your car seat forward so that your knees are bent. Keep seat upright at a 90-degree angle. A small pillow placed at your back can also help. And when your are driving for long periods, be sure to stop frequently and get out to stretch.
5. Think tall when standing.
6. While carrying a heavy load, don't arch your lower back or twist your body—try to have your arms and abdominal muscles bear the weight.
7. Sit in a chair with a straight back with your back supported and feet flat on the floor.
8. Wear comfortable shoes. Avoid high heels.
9. Keep your weight down and exercise regularly.
10. Finally, sleep on a firm mattress. Don't lie on your stomach, because this increases swayback. Instead, try to sleep on your side with your knees bent.

# BACK BELTS DO THEY PREVENT INJURY?

The National Institute for Occupational Safety and Health (NIOSH or Institute) is part of the Centers for Disease Control and Prevention (CDC) within the Department of Health and Human Services. NIOSH is the federal institute responsible for conducting research and making recommendations for the prevention of work-related injuries and illness.

## INTRODUCTION

Back injuries account for nearly 20 percent of all injuries and illnesses in the workplace and cost the nation an estimated 20 to 50 billion dollars per year. NIOSH believes that the most effective way to prevent back injury is to implement an ergonomics program that focuses on redesigning the work environment and work tasks to reduce the hazards of lifting.

However, in response to the increasing human and economic costs of back injury, companies have implemented numerous other measures, either in conjunction with or in place of sound ergonomics programs. For instance, there has been a dramatic increase in the use of industrial back belts.

The decision to wear a back belt is a personal choice; however, NIOSH believes that workers and employers should have the best available information to make that decision. This section outlines the current state of scientific knowledge on back belts and stresses the importance of an overall ergonomics program. Companies should not rely on back belts as a “cure all” for back injury, but should begin to undertake prevention measures that reduce the risks of lifting tasks.

## DO BACK BELTS PREVENT INJURY?

In recent years, there has been a dramatic increase in the number of workers who rely on back belts to prevent injury during lifting. Back belts, also called “back supports” or “abdominal belts,” are currently worn by workers in numerous industries, including grocery store clerks, airline baggage handlers and warehouse workers. As their use has risen, NIOSH has increasingly been asked for advice on back belt selection. In response to these inquiries, the Institute decided to address a more fundamental question. Rather than ask “Which belt will best protect workers?” NIOSH researchers began with the question “Do back belts protect workers?”

Employers relying on back belts to prevent injury should be aware of the lack of scientific evidence supporting their use.

## A LACK OF SCIENTIFIC SUPPORT

After a review of the scientific literature, NIOSH has concluded that, because of limitations of the studies that have analyzed workplace use of back belts, the results cannot be used to either

support or refute the effectiveness of back belts in injury reduction. Although back belts are being bought and sold under the premise that they reduce the risk of back injury, there is insufficient scientific evidence that they actually deliver what is promised.

The Institute, therefore, does not recommend the use of back belts to prevent injuries among workers who have never been injured.\* If you or your workers are wearing back belts as protective equipment against back injury, you should be aware of the lack of scientific evidence supporting their use.

\*Because the Institute's primary focus is on the prevention of injury, NIOSH did not address the use of back belts as medical treatment during rehabilitation from injury.

### **How did NIOSH come to these conclusions about back belts?**

NIOSH systematically reviewed published peer-reviewed scientific literature on back belts to determine if they actually reduce the risk of back injury. Because there were few studies regarding the association between workplace use of back belts and injuries, NIOSH also reviewed studies of the relationship between back belt use and forces exerted on the spine during manual lifting. In other words, much of the existing research is based on theories of what causes back injury rather than on the actual rates of workplace injury with and without back belt use.

For a detailed technical report on the studies NIOSH reviewed, call 1-(800)-35-NIOSH to request "*Workplace Use of Back Belts: Review and Recommendations*" (Publication No. 94-122).

### **What about the claims that back belts work?**

It is claimed that back belts reduce internal forces on the spine during forceful exertions of the back; increase intra-abdominal pressure which may counter the forces on the spine; stiffen the spine which may decrease forces on the spine; restrict bending motions (range of motion); remind the wearer to lift properly; have reduced injuries in certain workplaces?

While all of these claims have been put forth as support for the use of back belts, they remain unproven. There is currently inadequate scientific evidence or theory to suggest that back belts can reduce the risk of injury. Moreover, even if back belts produced the biomechanical effects listed above, there is no proven link to injury prevention.

NIOSH searched the peer-reviewed literature for studies investigating these claims and evaluated the scientific evidence they produced. A summary of the findings is provided on the following pages.

## **I HEARD THAT BACK BELTS...**

### **Reduce Forces on the Spine**

Lifting may produce a variety of forces within the body which contribute to the pressure on the spine, termed "loading." Many of the studies NIOSH reviewed sought to examine the impact of

back belt use on loading. None of the studies provide sufficient data to indicate that industrial back belts significantly reduce loading during lifting. In fact, there is little evidence to suggest that these forces could be reduced with a back belt.

### **Increase Intra-Abdominal Pressure (IAP)**

While this theory remains controversial, some believe that if the pressure is increased within the abdomen, it will counterbalance the compressive force being exerted downward on the spine. The studies NIOSH reviewed were inconclusive, and the relationship between IAP and spinal compression is not well understood. Therefore, even if a back belt increased IAP, there is, as yet, no evidence that it would reduce forces on the spine or decrease back injury.

### **Remind Workers to Lift Properly**

At this point, there is little scientific evidence that back belts remind workers to avoid awkward postures and heavy loads.

### **Stiffen the Spine**

Numerous ligaments, tendons and other soft tissues surround the spine and help hold it in place. The theory is that if back belts increase this support, they would decrease the motion allowed between segments of the spine and therefore decrease damage to the discs in the lower back. There is no conclusive evidence that back belts increase the stiffness of the spine and no proven relationship between this stiffness and the reduction of injury.

### **Reduce Bending Motions**

Loading on the spine increases when a person has to bend as far forward as possible. If the ability to bend this far forward could be restricted by a back belt, the risk of injury would possibly be decreased. It would appear that abdominal belts help restrict the range of motion during side to side bending and twisting. However, they do not have the same effect when the worker bends forward, as in many industrial lifting situations.

### **Reduce Injuries in Certain Workplaces**

There have been anecdotal case reports of injury reduction in workplaces using back belts. However, many companies that have instituted back belt programs have also implemented training and ergonomic awareness programs. The reported injury reduction may be related to these or other factors. On the basis of available evidence, the potential effectiveness of back belts in reducing the occurrence of low back injuries remains unproven.

### **Why is so little known about the utility of back belts?**

Back belts were initially used in medical settings. These belts, termed "orthoses," resemble the corsets worn by women in the 19th century and are typically used to provide additional back support during rehabilitation of injuries. Subsequently, athletes began using leather belts for weight-lifting.

Only in recent years has the “industrial back belt” been widely used. While there are more than 70 types of industrial back belts, the typical abdominal support used in workplaces today is a lightweight, elastic belt worn around the lower back, sometimes held in place with suspenders.

Because of the recent emergence of back belt use in the workplace, there have been few published studies of the rate of injury among workers using the belts. These studies suffer from design flaws and have not produced sufficient support for, or against, the use of back belts. NIOSH encourages efforts to more adequately determine the association between back belt use and the prevention of low back injury and is committed to supporting further research in this area.

### **Could wearing a back belt increase the potential for injury?**

At this point, there are no definitive studies on either the beneficial or harmful effects of wearing back belts. Just as there is speculation that back belts may help, there is also concern that they may harm workers. As a result of the NIOSH review, the Institute is concerned with the potentially harmful effects associated with a false sense of security that may accompany back belt use.

There is some research showing that workers believe they can lift more when wearing a back belt. If workers falsely believe they are protected, they may subject themselves to even greater risk by lifting more weight than they would have without a belt.

### **How should workers be protected?**

Rather than relying solely on back belts, companies should begin to implement a comprehensive ergonomics program that strives to protect all workers. The most effective way to prevent back injury is to redesign the work environment and work tasks to reduce the hazards of lifting. Training in identifying lifting hazards and using safe lifting techniques and methods should improve program effectiveness.

If you are putting all your prevention resources into back belts, you are not adequately protecting your workers.

### **How can an ergonomics program be implemented?**

A first step in implementing an ergonomics program would be to evaluate jobs that require frequent lifting; twisted or bent postures; or pushing or pulling. Redesign these tasks so that:

1. The load is close to the body.
2. The load is between shoulder and knee height.
3. Twisted lifts are eliminated.
4. Gravity moves the load when possible.
5. Slides, chutes, hoist and hand trucks are used to move heavy loads.
6. Weight is reduced to the lowest feasible level.

For more information on how to implement an ergonomics program, call 1-(800)-35-NIOSH (1-800-356-4674).

To obtain a copy of the NIOSH Lifting Equation, a useful tool for redesigning lifting tasks, call the National Technical Information Service at 1-(800)-553-6847. Please reference order number PB94176930LJM.

### **What if I still decide to use back belts?**

NIOSH believes that the decision to use back belts should be a voluntary decision by both employers and employees. Back belt use should not be a mandatory job requirement. If your workforce continues to wear back belts, you should remember the following points:

1. There is a lack of scientific evidence that back belts work.
2. Workers wearing back belts may attempt to lift more weight than they would have without a belt. A false sense of security may subject workers to greater risk of injury.
3. Workers and employers should redesign the work environment and work tasks to reduce lifting hazards, rather than rely solely on back belts to prevent injury.
4. The research needed to adequately assess back belt effectiveness will take several years to complete. In the interim, workers should not assume that back belts are protective.

### **Have other groups questioned the effectiveness of back belts?**

NIOSH is not alone in questioning the effectiveness of back belts. Other institutions issuing similar statements include the American Industrial Hygiene Association, the Bureau of Mines, the Army Office of the Surgeon General, the State of Washington Department of Labor and Industries, the Alberta Ministry of Occupational Health and Safety (Canada), the United Brotherhood of Carpenters and the Construction Safety Association of Ontario.

# PRESS RELEASE

December 5, 2000

Contact: Centers for Disease Control and Prevention (CDC)  
National Institute for Occupational Safety and Health (NIOSH)  
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## **NO EVIDENCE THAT BACK BELTS REDUCE INJURY SEEN IN LANDMARK STUDY OF RETAIL USERS**

Washington, DC—In the largest study of its kind ever conducted, the Centers for Disease Control (CDC) and Prevention's National Institute for Occupational Safety and Health (NIOSH) found no evidence that back belts reduce back injury or back pain for retail workers who lift or move merchandise, according to results published today in the *Journal of the American Medical Association (JAMA)* December 6<sup>th</sup> Issue.

The study, conducted over a two-year period, found no statistically significant difference between the incidence rate of workers compensation claims for job-related back injuries among employees who reported using back belts usually every day, and the incidence rate of such claims among employees who reported never using back belts or using them no more than once or twice a month.

Similarly, no statistically significant difference was found in comparing the incidence of self-reported back pain among workers who reported using back belts every day with the incidence among workers who reported never using back belts or using them no more than once or twice a month. Neither did the study find a statistically significant difference between the rate of back injury claims among employees in stores that required the use of back belts, and the rate of such claims in stores where back belt use was voluntary.

# PREVENTING SLIPS, TRIPS AND FALLS

Falls are a leading cause of accidental death in the country today. You could be the victim—or the cause—of a fall-related accident. Take time to learn how to prevent falls in the workplace and at home. The life you save could be your own.

Take into consideration every step you take is a controlled fall. Think about it. Every time you take a step, you rest your weight on the supporting leg while you swing the other leg forward. Information about your body's position is sent to the brain which tells your other foot where it should be placed to prevent a fall.

Slips, trips and falls are the result of unsafe acts and unsafe conditions. Some examples of unsafe acts or unsafe conditions are as follows:

## UNSAFE ACTS

### Unsafe Actions

1. Running in the workplace, such as up and down stairs
2. Horseplay
3. Climbing when fatigued or ill
4. Inattention when walking or climbing
5. Tilting backward in chairs
6. Changing directions suddenly or stopping quickly
7. Jumping from mobile equipment



### Not Following Safety Procedures

1. Using makeshift equipment, such as boxes, instead of ladders
2. Using ladders or other equipment that are in disrepair

### Wearing Improper Footwear

1. Wearing dirty or greasy shoes
2. Not wearing the proper shoes for floor conditions
3. Wearing shoes in disrepair
4. Wearing shoes with untied laces

### **Careless Materials Handling**

1. Carrying loads that are too large
2. Carrying loads that block vision

### **Poor Housekeeping Practices**

1. Leaving tools or equipment scattered on floors
2. Not using designed storage locations
3. Leaving briefcases, handbags and other obstacles in aisles
4. Leaving drawers open
5. Not cleaning up a spill

## **UNSAFE CONDITIONS**

### **Unsafe Walking and Working Surfaces**

1. Wet walkways
2. Unshoveled snow and ice
3. Polished surfaces
4. Loose or torn carpeting
5. Chipped tiles
6. Holes, trenches and open manholes
7. Uneven flooring
8. Loose treads on stairs



### **Blocked Walkways**

1. Objects left in aisles
2. Cables, hoses and cords stretched across walkways
3. Using aisles as storage areas
4. Poorly lit walkways or stairwells

### **Unsafe Equipment**

1. Ladders or scaffolds in disrepair
2. Platforms or catwalks without guardrails

All county employees have the obligation to report unsafe acts or conditions to their supervisor for immediate corrective action.

# TRAINING

A typical employee training program should cover the following:

1. Duties to be performed
2. Prohibited acts (safety rules)
3. Risk involved in the employees duties
4. Ways to minimize risk or injury

The first line of defense against accidents and loss is a good training and supervision program. You should have a program with clearly defined policies, rules and responsibilities.

A training program may comprise several stages.

## ORIENTATION

The first stage of training consists of providing general information about the organization and its policies and procedures, apart from the employee's specific assignment. During this training, emphasize your safety programs, accident reporting procedures, safety inspections and predetermined safety rules and procedures.

Safety indoctrination is best done during employee orientation as emphasis can be placed on safety along with other employment duties. **Follow-up** with new employees is essential to be sure they know and are following safety procedures when performing tasks.

If an accident does occur, the employee should know the procedure for reporting it. The employee should also be told to report hazardous conditions that may produce an accident.

At this stage, you are trying to convey the organization's concern about employee safety. Your task is to get the employee interested in his or her job and the safety procedures required. The employee should come away from this initial training with a good idea of the organization's commitment to risk management and safety.

## JOB SPECIFIC TRAINING

In the second stage of training, the immediate supervisor provides instruction on the technical aspects of the job. Here, the instructor describes the proper techniques to do a job along with safety measures to prevent injuries. This training should include things such as specific departmental safety rules, proper ways to handle machinery and tools, care of vehicles, driver training, ways to extinguish fires and routine first aid.

During this training the instructor should accomplish the following:

1. Explaining and illustrating each step clearly and completely;
2. Having the employee repeat each step;
3. Having the employee actually carry out the task with the instructor talking the employee through each step;
4. Making sure employees understand all elements of the task before they 'solo'.

## **OUTSIDE TRAINING AND EDUCATIONAL COURSES**

Depending on the nature of the job, employees may need to enroll in special courses that will refine their skills. Each department head is encouraged to examine the skill needs of his or her department and to set forth minimum training requirements for his or her people. Although efforts are generally made to hire only experienced people, this practice does not assure that your employees have had adequate training to perform their jobs in a safe manner for the county. Some examples of desirable training from a loss control standpoint would be:

### **Department Heads and Supervisors**

1. Accident investigation
2. Supervisory training
3. First aid (all employees)

### **Vehicle Operators**

1. Defensive driving courses (geared to specific vehicles and drivers such as passenger cars, sheriffs' vehicles, fire department vehicles, trucks, all terrain vehicles, etc.)
2. Heavy equipment operation (often provided by equipment manufacturer—should include a review of the operation manual)

### **Law Enforcement Personnel**

1. Forty hours of training (as required by statute)
2. Departmental policy

### **Road and Bridge/Highway Personnel**

1. Proper signing
2. Work zone traffic control

3. Equipment safety

### **All Employees**

1. Hazard recognition
2. Back injury prevention
3. Slip, trip and fall prevention

Department heads are in the best position to determine training needs and a workable training plan for their employees. This would include establishing guidelines for periodic or refresher training as needed. All training efforts should be thoroughly documented.

## **VOLUNTEERS**

Guidelines concerning use of volunteers for manual tasks at the Member County.

1. The potential volunteer worker shall be required to meet the job qualifications published by the county.
2. Interviews of the potential volunteer workers shall be performed by the county personnel department.
3. Jobs shall be limited to non-professional and non-technical duties, unless specifically agreed to in writing by KWORCC.
4. Documentation shall be placed in the volunteer worker's personnel file showing that the worker received training on any equipment used or procedures to be followed by the workers.
5. All safety procedures and other requirements of county employees shall be followed by the volunteer workers (this includes drug testing), and an agreement to submit to such is to be signed by the volunteer worker.

# WELLNESS

## INTRODUCTION

Wellness is a term that has been created to cover the things you do to stay healthy. It means not being sick, but it is more than that, it is really a way of living that says you care about health and about yourself.

Keep in mind that being healthy does a lot more for you than avoid doctor bills. It makes you feel and look better, gives you more energy and helps you to get more enjoyment out of life now and in the future.

This is not a commercial for high-fiber breakfast cereals or for joining an exercise program. It is an attempt to help you recognize what you do - and do not do - that might be bad for your health.

Wellness is a series of decisions, replacing bad habits with good ones. It is something you do by yourself, for yourself.

## GENERAL HAZARDS

There has been a lot of discussion recently about health hazards and how a wellness program can reduce many of the conditions or hazards from an unhealthy life style.

Among the most common health hazards are heart disease, stroke, high blood pressure, certain cancers and respiratory disease.

There are other conditions or hazards that may lead to one of the preceding if prompt medical attention is not obtained or you do not modify your lifestyle. The conditions being referenced include obesity, exhaustion, shortness of breath, tension and dependence on unhealthy substances (i.e. smoking and excessive drinking).

## IDENTIFYING HAZARDS

The hazards to your health you get from lack of wellness fall into several categories:

### **Food**

Eating too much is a hazard. Being overweight can lead to high blood pressure, heart disease, back problems, diabetes and other serious problems. Eating too much junk food, too much fat and too much salty food are all hazards to your health. You also put your health at risk if you fail to eat a balanced diet with the full range of vitamins, minerals and fiber you need.

### **Drink**

Alcohol is a major health hazard. While most people can drink occasionally, some can not

afford to drink at all. Too much alcohol, whether or not you are an alcoholic, can affect your physical and mental abilities, damage your liver and other organs and shorten your life.

Drinks with large amounts of caffeine can also be harmful, making you jumpy, irritable and unable to sleep.

## **Drugs**

Whether they are prescription or illegal, dependence on drugs can have a bad effect on almost all your physical and mental functions. All use of illegal drugs is hazardous and overuse of prescription drugs can be hazardous.

## **Smoking**

Smoking can cause cancer, heart disease, emphysema, chronic bronchitis and other breathing problems. It is a major health hazard with absolutely no advantages.

## **Stress**

Everybody's life has some stress or tension - at work, at home, in traffic and every time we encounter change. Too much stress is a real health hazard. If you are chronically anxious or try to repress and hold your feelings in, it can lead to headaches, backaches, ulcers, sleeplessness, high blood pressure and heart disease.

## **Exercise**

Exercise helps to strengthen your heart, muscles and bones. Without it, you lack energy, and stamina and your body is more likely to give out on you earlier. Exercise can help fight many health hazards and is an important part of relieving stress and other problems that have a negative impact on wellness.

# **PROTECTION AGAINST HAZARDS**

You protect yourself against the hazards to your health by practicing wellness. Let's see what that means.

## **Food**

Eat the right foods in the right amounts. You need a balanced diet that includes fruits and vegetables (especially fresh ones), whole-grain breads and cereals, poultry, fish and lean meats. What you do not need are candy, cakes and salty snack foods. Limit the amounts of fatty meats, eggs, butter, cheese and cream in your diet.

Try to reach a healthy weight. Be honest with yourself. Your mirror, your belt or your spouse or close friend will probably tell you if you should lose weight. Talk with your doctor about what you should weigh and how to get there.

## **Drink**

Water is best; alcohol and caffeine are worst. Water is the best thing you can drink. It fills you up and helps you digest. It is good for your skin and all other vital organs.

Alcohol on the other hand can be a problem. For most people, a social drink is okay. But needing a drink indicates that you have a problem. If you even suspect you might have a problem, get help. AA is as close as your phone book.

Caffeine is also acceptable in moderation. Try to restrict caffeine to an occasional cup of coffee or tea or an occasional soft drink. Any more can be hazardous to your health.

## **Drugs**

Just say “no” to illegal drugs and take legal drugs only to the degree your doctor says you really need them. Drugs prescribed by your doctor can help with a health problem. But if you are taking drugs just to relax or cope, you need to look for a better way. Illegal drugs are always a mistake. Protect yourself against these serious health and physical hazards by not using them at all. If you are using them, get the help you need to stop.

## **Smoking**

Kick the habit. Smoking is an addiction, but millions of people have beat it. If you cannot quit on your own, find a program to help. If you have tried and failed, try again.

## **Exercise**

Get fit. You do not have to be an athlete to get exercise. You can run, walk play basketball or tennis, join an exercise or weight-lifting program. You can also climb stairs or chop firewood. There is some form of exercise for everyone. Exercise is a key part of wellness and one of the best ways to protect yourself against all kinds of health hazards. It is also not something that you should plunge into if you are out of shape. Consult your doctor and consider getting started in a supervised program.

## **SAFETY PROCEDURES**

As you get into wellness and start shifting from bad habits to good ones, here are a number of tips that might help:

### **Food**

1. Eat smaller portions.
2. Eat raw fruits and vegetables—not junk food for snacks.
3. Eat early in the day so you have time to burn it off.
4. Do not eat before going to bed.

5. Do not eat because you are upset or as a reward.
6. Do not salt your food before you taste it.

### **Drink**

1. Learn your limits with alcohol—and stick to them.
2. Do not make drinking alcohol part of your normal routine.
3. Switch to decaffeinated drinks—or even better, to water.

### **Drugs**

1. Do not use illegal drugs.
2. Do not abuse prescription drugs.

### **Smoking**

Change the habits that make you want to smoke.

1. Keep your cigarettes in an inconvenient place.
2. Put away your ashtrays.
3. Spend time in places that prohibit smoking.
4. Take up hobbies like wood carving that keep your hands busy.
5. Take a walk, instead of lighting a cigarette, after meals.
6. Put off the next cigarette as long as you can.

### **Exercise**

1. Consult a doctor before starting regular exercise.
2. Try to find a type of exercise you will enjoy.
3. Start a regular exercise program slowly, building up your time and effort.
4. Do not feel you need “pain” to get “gain” from exercising.
5. Warm up before exercising.

6. Whenever possible, walk instead of drive. Take stairs instead of elevators. Park at the far end of the parking lot, not next to the door.
7. Do work around the house.

## SUMMARY

Wellness includes different aspects of your life, but they are all things that you can control. Your eating, drinking, smoking, drug use and exercise habits are all yours to keep or to change. There are not many OSHA rules or company rules on these habits. Rather, they are choices you make yourself, for yourself.

If you decide to change in several areas, trying to do them all at once can be too much to cope with and may result in discouragement and your giving up. As with most changes, take it a step at a time. Start with eating less or switching from junky snacks to healthy ones. Drink water instead of other beverages (it is cheaper, too.) Take a walk after lunch instead of having a cigarette. Keep the momentum going forward gradually, methodically, consistently. The little changes don't take much, but they can start adding up and help you feel better and be better. That is what wellness is all about.

# WORKPLACE VIOLENCE

## WHAT IS WORKPLACE VIOLENCE?

Workplace violence is any act or threat of physical violence, harassment, intimidation, or other threatening disruptive behavior that occurs at the work site. It ranges from threats and verbal abuse to physical assaults and even homicide. It can affect and involve employees, clients, customers and visitors. Homicide is currently the fourth-leading cause of fatal occupational injuries in the United States. According to the Bureau of Labor Statistics Census of Fatal Occupational Injuries (CFOI), of the 4,547 fatal workplace injuries that occurred in the United States in 2010, 506 were workplace homicides. Homicide is the leading cause of death for women in the workplace. However it manifests itself, workplace violence is a major concern for employers and employees nationwide.

## WHO IS AT RISK OF WORKPLACE VIOLENCE?

Nearly 2 million American workers report having been victims of workplace violence each year. Unfortunately, many more cases go unreported. The truth is, workplace violence can strike anywhere, anytime, and no one is immune. Research has identified factors that may increase the risk of violence for some workers at certain worksites. Such factors include exchanging money with the public and working with volatile, unstable people. Working alone or in isolated areas may also contribute to the potential for violence. Providing services and care, and working where alcohol is served may also impact the likelihood of violence. Additionally, time of day and location of work, such as working late at night or in areas with high crime rates, are also risk factors that should be considered when addressing issues of workplace violence. Among those with higher risk are workers who exchange money with the public, delivery drivers, healthcare professionals, public service workers, customer service agents, law enforcement personnel, and those who work alone or in small groups.

## HOW CAN WORKPLACE VIOLENCE HAZARDS BE REDUCED?

In most workplaces where risk factors can be identified, the risk of assault can be prevented or minimized if employers take appropriate precautions. One of the best protections employers can offer their workers is to establish a zero-tolerance policy toward workplace violence. This policy should cover all workers, patients, clients, visitors, contractors, and anyone else who may come in contact with company personnel.

By assessing their worksites, employers can identify methods for reducing the likelihood of incidents occurring. OSHA believes that a well written and implemented Workplace Violence Prevention Program, combined with engineering controls, administrative controls and training can reduce the incidence of workplace violence in both the private sector and Federal workplaces.

This can be a separate workplace violence prevention program or can be incorporated into an injury and illness prevention program, employee handbook, or manual of standard operating procedures. It is critical to ensure that all workers know the policy and understand that all claims of workplace violence will be investigated and remedied promptly. In addition, OSHA encourages employers to develop additional methods as necessary to protect employees in high risk industries.