

Heat Related Illness

Symptom	Action
Heat Stroke	
Hot, Dry Red Skin, Rapid Pulse, High Body Temperature, Rapid Breathing, Confusion, Unconsciousness	<p>EMERGENCY!</p> <ul style="list-style-type: none"> -Call 911. -Quickly move the person to a cool, dry place AND -Apply ice packs to neck, wrists, ankles and arm-pits OR -Remove excess clothing and wrap in a cool, wet sheet.
Heat Exhaustion	
Heavy Sweating, Vomiting, Fainting Dizziness, Headache Nausea, Weakness, Cold-Clammy Skin	<p>SERIOUS SITUATION</p> <ul style="list-style-type: none"> -Can lead to heat stroke, seek help. -Move to a cool place. -Apply cool, wet cloths to neck, face and arms. -Sip water slowly.
Heat Cramps	
Abdominal & Extremity cramps, Heavy Sweating, Mild Nausea	<ul style="list-style-type: none"> -Move to a cool place. -Drink cool water.
Heat Rash	
Skin irritation in red cluster of pimples or small blisters	<ul style="list-style-type: none"> -Move to a cool place. -Keep affected area dry. -Apply talcum powder.

Cold Related Illness

Symptom	Action
Late Hypothermia	
No Shivering Blue Skin Dilated Pupils Slow pulse / breathing Loss of consciousness	<p>EMERGENCY!</p> <ul style="list-style-type: none"> -Call 911. -Quickly move the person to a warm place and remove wet clothing AND -Warm body core first with electric blanket or body heat. -Provide CPR as necessary.
Early Hypothermia	
Shivering Fatigue Confusion Disorientation Loss of Consciousness	<p>SERIOUS SITUATION</p> <ul style="list-style-type: none"> -Move to a warm place. -Remove wet clothing. -Warm core first. -Drink warm beverages (no alcohol). -Seek medical attention as needed.
Frost Bite	
Numbness Tingling Stinging Aching Bluish-waxy skin	<ul style="list-style-type: none"> -Move to a warm place. -If on the feet, do not walk. -Immerse in WARM water. -Use arm-pit if necessary (hands). -Do not rub. -Seek immediate medical attention.

Workplace Violence

Workplace violence affects all work sites. The traveling public can get angry that road work is disturbing their trip. This frustration can turn to hostility directed at flaggers and other road workers. The NYS Public Employer Workplace Violence regulation requires affected employers to:

- Assess the workplace for risk factors that can lead to violence.
- Implement protective measures.
- Annually train all workers.

Guidance

- If training has not been conducted, speak to a supervisor or union representative.
- Report all incidents of workplace violence.
- Report unidentified risk factors to a supervisor.
- Provide for communication at work sites.
- Make sure flaggers aren't left out of sight and sound.

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Back, Muscle & Joint Pain

Back injuries are one of the most common injuries in road work and are caused by strains and sprains from heavy lifting, lowering, carrying, pushing or pulling materials. The risk increases if workers must twist, bend or work in awkward postures. Moving loads, using hand-tools and other tasks can damage the hands, wrists, elbows and shoulders. Musculoskeletal disorders include carpal tunnel syndrome, tendinitis, sprains and strains.

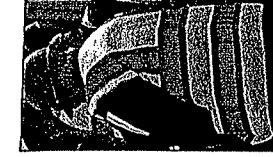
- Use lifts, hoists, dollies, jacks, carts, hand-trucks and other devices to lift and move materials.
- Avoid loads greater than 25 pounds if lifting alone.
- Reduce the distance objects need to be carried.
- Raise the load to waist level if possible.
- Use lifting straps or other devices to get a good grip.
- Keep walkways free of obstructions, clean and dry.
- Reduce repetitive tasks.
- Use tools that fit comfortably in the hand.
- Wear gloves to reduce vibration when using power tools.
- Use tools that require the least amount of force.
- Apply plastic or rubber grips on tools and equipment.
- Use long-triggered, low-vibration power tools.
- Take rest breaks.
- Consult your physician for restrictions.

Heavy Equipment

Heavy equipment, other vehicles and workers are all operating in close proximity to each another. Backing operations are particularly dangerous. Planners need to consider how workers and equipment will access the work area. Workers are at risk of being struck, crushed and pinned by vehicles and equipment, overhead hazards, slips, trips and falls.

- Vehicles and equipment must be equipped with high intensity signal lights, strobes, beacons and back-up alarms.
- Mark out and restrict access to areas specifically set aside for vehicle movement.
- Mark the swing-radius of equipment.
- Direct the flow of movement around, into and out of the work area in one direction to eliminate or reduce vehicles backing-up.
- Establish work practices for operators to ensure it's "clear" before backing or swinging.
- Train all workers.
- Use signal persons and spotters.
- Wear required high visibility garments.
- All workers must have an out (escape route).
- Additional training on specific operations, vehicles and equipment is required.
- Keep heavy equipment more than 10 feet away from overhead power lines.

High Visibility Apparel



- All workers near an active roadway must wear an ANSI approved Class 2 high visibility garment (this is non-negotiable and a violation of state and federal labor regulations if not enforced).
- Working at night requires a Class 3 garment if the work area or flagger station is not illuminated.
- Classification of the garment depends on the amount and placement of retroreflective striping.
- The striping is designed to identify the wearer as a person from all directions.

Chain Saw Use

Chain saw hazards include cuts, noise and fuel handling.

The primary ways to protect workers when running a chain saw are to know how to use that particular saw and to wear the right personal protective equipment (PPE).

Three important operating rules:

1. Training in proper saw use.
2. Be sure the saw is sharp.
3. Check that all of the safety devices are in place.

When using chain saws you should always wear:

- Safety glasses.
- Hard hat (with a mesh face shield and ear muffs).
- Cut and vibration resistant gloves.
- Leather jacket.
- Safety toe shoes (with protection for the top of your foot if large tree sections are being cut).
- Chaps (if your legs are not protected some other way).

For fuel handling and storage information see pg. 7.

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Welding

Welding hazards depend on the type of welding used (oxygen/fuel gas and arc).

Common welding hazards include: fire, light from arc welding (can cause skin cancer & cataracts), hexavalent chromium from stainless steel, metal fume fever from galvanized steel. Painted surfaces can release lead and other hazards (pg. 8).

- Consult the SDSs for the metals used.
- All cylinders must be secured when in use (when not in use, cylinders must be secured with oxygen & fuel gas cylinders stored 20 feet apart).
- Remove or shield things in the area that could catch fire from the heat or sparks.
- Use a permit system with a fire watch (continued 30 minutes after the operation is completed).
- Have fire extinguishing equipment present.
- Use curtains or other shields to protect other workers in the area from an arc flash.
- Welding should be done in an open area.
- For enclosed areas, ventilation or respiratory protection (pg. 25) will probably be needed.
- Paint should be manually removed before welding.