



**HEALTH, SAFETY &
ENVIRONMENTAL PROGRAM**

Section: Safe Work Practices

PREPARED BY: Health and Safety Team

COR Elements: 2, 3

APPROVAL DATE:
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SAFE WORK PRACTICES

External Factors

General

- The biggest external hazards on jobsites are weather related
- Working in extreme heat, cold, active weather, and high UV days are all workplace hazards not often thought about
- While some of these practices/policies are not explicitly legislated, the general duty clause applies
- Heavy physical work coupled with extra clothing or PPE in a humid environment can greatly affect a worker's ability to cope with the heat. This is especially true for an individual who is not acclimatized.

Heat Stress

Heat stress is the challenge your body faces due to hot conditions. If your body is unable to cool itself, you can suffer heat related illnesses, which in some cases can lead to death.

All workers need to recognize the early signs and symptoms of heat stress and know how to treat heat-related illnesses.

HEAT STRESS DISORDERS

ILLNESS	SIGNS AND SYMPTOMS	FIRST AID
Heat rash	Red, bumpy rash with severe itching.	Change into dry clothes and avoid hot environments. Rinse skin with cool water.
Heat cramps	Painful, involuntary cramps commonly in the most worked muscles which occur at work or later at home. They are serious because they are a warning of other more serious illnesses	Move to a cool area; loosen clothing; gently stretch affected muscles and drink an electrolyte sports beverage (i.e. Gatorade). If the cramps persist, get medical aid.
Fainting	Sudden fainting after at least two hours of work. Cool, moist skin. Weak pulse	GET MEDICAL ATTENTION. Assess the need for CPR. Move person to a cool area. Loosen clothing. Have the person lie down and if conscious, offer sips of cool water. Fainting may be caused by another illness.
Heat exhaustion	Heavy sweating; cool moist skin; body temperature over 38 degree C; weak pulse; normal or low blood pressure; person is tired and weak and has nausea and vomiting; is very thirsty; breathing rapidly or panting; vision may be blurred.	GET MEDICAL ATTENTION. This condition can lead to heat stroke, which can kill. Move person to a cool shaded area; loosen or remove excess clothing; provide cool water to drink; fan and spray with cool water. Do not leave affected person alone.
Heat stroke	High temperature (over 41 degree C) and any one of the following: person is weak, confused, upset or acting strangely; has hot dry, red skin; a fast pulse; headache or dizziness. In later stages a person may pass out and have convulsions.	CALL AMBULANCE. This condition can kill a person quickly. Move the person out of the sun and into shade or air-conditioning. Remove excess clothing. Fan and spray the person with cool water if they are conscious.



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Personal Risk Factors

It is difficult to predict who will be affected by heat stress and when; because individuals vary.

However, certain physical conditions reduce the body's natural ability to withstand high temperatures:

- Overweight
- Poor physical condition
- Previous heat illnesses
- Age (over 40)
- Heart disease or high blood pressure
- Recent illness
- Alcohol consumption (previous 24 hrs.)
- Certain medications
- Lack of acclimatization- the body will adapt when exposed to heat for a few days. It usually takes six or seven days. Although acclimatization may be lost in as little as three days.

Heavy physical work coupled with extra clothing or PPE in a humid environment can greatly affect a worker's ability to cope with the heat. This is especially true for an individual who is not acclimatized.

How Can Heat Stress be Controlled?

Management shall:

- Train and educate employees on the hazards, risks, symptoms, first aid measures and controls for heat stress and heat stress illnesses.
- Advise supervisors on the procedures for assessing and controlling heat stress hazards.
- Provide the necessary resources to control heat stress hazards (i.e. water).
- Allow sufficient time for workers to become acclimatized.
- Enforce this policy as needed.

Supervisors shall:


- Employ work procedures to help limit the risks of working in hot environments including giving workers extra breaks, cool water and scheduling work for cooler parts of the day.
- Monitor workers for any heat stress symptoms and react accordingly when workers complain of heat stress. Job shutdown may be required.
- Advise management of any heat stress illnesses.

Workers shall:

- Follow instructions and training for controlling heat stress.
- Be alert to symptoms in yourself and others. Advise your supervisor of any heat stress.
- Get plenty of rest and drink small amounts of water regularly.

Assessing Heat Stress Hazards using the Humidex

The following four steps are designed to help determine whether conditions require action to reduce heat stress.

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Supervisors will monitor their crews and follow these steps as needed

Step 1: Training

- Measurements alone cannot guarantee worker protection from heat stress. It is essential workers learn to recognize the early signs and symptoms.
- The ideal heat stress response plan would let workers regulate their own pace by “listening to their body”.

Step 2: Workplace humidex

- A thermal hygrometer is a simple way to measure the temperature and relative humidity, however these are rarely available to supervisors. In the case where a hygrometer is not available, use the local weather data.
- Once you have the temperature and humidity, use Table A to determine the humidex value.
- From Table B select *Humidex 1* or *Humidex 2* according to the amount of physical activity involved and the level of acclimatization. Although the Heat Stress Response (Table B) is based on workplace measurements not weather reports, it can be used where specific measurements are unavailable.

Step 3: Adjust for clothing

- The humidex plan assumes workers are wearing regular summer clothes (light shirt, pants, underwear, socks and workboots).
- If workers are wearing cotton overalls on top of clothing - add 5 ° C. to the workplace humidex measurement.
- Estimate the correction factor for other clothes or PPE.

Step 4: Adjust for radiant heat

- For outdoor work in direct sunlight between 10 am and 5 pm – add 1-2 ° C to your humidex measurement. Adjust for cloud cover.

The Heat Stress Plan is only a guide. Never ignore a person’s signs and symptoms. Workers should always “listen to their body”.



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TABLE A- HUMIDEX: The Humidex value is where the temperature row and humidity column meet.

Humidex																				
Relative Humidity (in %)																				
Temp (in °C)	100	95	90	85	80	75	70	65	60	55	50	45	40	35	30	25	20	15	10	Temp (in °C)
49																			50	49
48	-																		49	48
47																		50	47	47
46																		49	46	46
45																	50	47	45	45
44																	49	46	43	44
43																49	47	45	42	43
42															50	48	46	43	41	42
41															48	46	44	42	40	41
40														49	47	45	43	41	39	40
39													49	47	45	43	41	39	37	39
38												49	47	45	43	42	40	38	36	38
37										49	47	45	44	42	40	38	37	35	34	37
36								50	49	47	45	44	42	40	39	37	35	34	33	36
35							50	48	47	45	43	42	40	39	37	36	34	33	31	35
34						49	48	46	45	43	42	40	39	37	36	34	33	31	30	34
33				50	48	47	46	44	43	41	40	39	37	36	34	33	32	30	29	33
32		50	49	47	46	45	44	42	41	40	38	37	36	34	33	32	30	29	28	32
31	50	49	48	47	45	44	43	42	40	39	38	37	35	34	33	32	30	29	28	31
30	48	47	46	44	43	42	41	40	39	37	36	35	34	33	31	30	29	28	27	30
29	46	45	43	42	41	40	39	38	37	36	35	33	32	31	30	29	28	27	26	29
28	43	42	41	40	39	38	37	36	35	34	33	32	31	30	29	28	27	26	25	28
27	41	40	39	38	37	36	35	34	33	32	31	30	29	28	27	26	25			27
26	39	38	37	36	35	34	33	33	32	31	30	29	28	27	26	25				26
25	37	36	35	34	33	33	32	31	30	29	28	27	26	26	25					25
24	35	34	33	33	32	31	30	29	28	28	27	26	25							24
23	33	32	31	31	30	29	28	28	27	26	25									23
22	31	30	30	29	28	27	27	26	25	25										22
21	29	29	28	27	26	26	25													21
	100%	95%	90%	85%	80%	75%	70%	65%	60%	55%	50%	45%	40%	35%	30%	25%	20%	15%	10%	



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TABLE B- RESPONSE

Humidex 1 moderate unacclimatized and heavy acclimatized work	Response Never ignore someone's symptoms no matter what you measure!	Humidex 2 light unacclimatized work (sitting/standing doing light arm work)
30-37	Low • Alert workers to potential for heat stress. • Ensure access to water.	34-41
38-39	Medium • Reduce physical activity (e.g., slower pace, double up, breaks). • Drink a cup of water every 20-30 minutes.	42-43
40-42	Moderate • Reduce physical activity further. • Drink a cup of water every 15-20 minutes.	44-45
43-44	High • Ensure sufficient rest and recovery time. Severely curtail physical activity. • Drink a cup of water every 10-15 minutes.	46-48
45 or over	Extreme • It is hazardous to continue physical activity.	49 or over

Breaks (as a general guide)- guidelines indicate increasing work breaks for heavy physical activity with high humidex readings as follows: **38-39° C- 15 min /hour; 40-42° C- 30 min/hour; 43-44° C- 45 min/hour; 45+° C- stop work until humidex is 44 ° C or less.**

Light work- sitting with light manual work with hands or hands and arms; standing with some light arm work and occasional walking

Moderate work- sustained moderate hand and arm work; arm and leg work or arm and trunk work; light pushing or pulling; normal walking

Heavy work- intense arm and trunk work; carrying; shoveling; pushing and pulling heavy loads; walking quickly.

Acclimatization- a person becomes acclimatized when the body adjusts to long-term heat exposure.

Workers performing "heavy work" could probably be considered acclimatized once we are well into the heat of summer.

Employees shall follow these guidelines

- Wear light, loose clothing
- Drink cool water - 8 oz.(250ml) – every ½ hour
- Take rest breaks as required
- Avoid coffee, tea, alcohol, drugs
- Avoid eating hot, heavy meals
- Don't take salt tablets unless a doctor prescribes them... AND LASTLY

Everyone reacts differently. Listen to your body and stop when you need to



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COLD STRESS

Cold stress can affect workers who are not protected against cold. When the body is unable to warm itself, serious cold-related illnesses and injuries may occur, leading to permanent tissue damage and even death.

Air temperature, wind speed and humidity (wetness) are all challenges for a worker and must be counterbalanced with proper clothing, physical activity and controlled exposure.

What is the wind-chill temperature?

At any temperature, you feel colder as the wind speed increases. It can be used as a general guideline for deciding clothing requirements and the possible health effects of cold.

WIND CHILL CHART										
		Ambient Temperature (°C)								
		4	-1	-7	-12	-18	-23	-29	-34	-40
Wind km/h	Velocity mph	Equivalent Chill Temperature (°C)								
Calm										
0	0	4	-1	-7	-12	-18	-23	-29	-34	-40
8	5	3	-3	-9	-14	-21	-26	-32	-38	-44
16	10	-2	-9	-16	-23	-30	-35	-43	-50	-57
24	15	-6	-13	-20	-28	-36	-43	-50	-58	-65
32	20	-8	-16	-23	-32	-39	-47	-55	-63	-71
40	25	-9	-18	-26	-34	-42	-51	-59	-67	-76
48	30	-16	-19	-22	-36	-44	-53	-62	-70	-78
56	35	-11	-20	-29	-37	-46	-55	-63	-72	-81
64	40	-12	-21	-29	-38	-47	-56	-65	-73	-82
Adapted from: Threshold Limit Values (TLV™) and Biological Exposure Indices (BEI™) booklet; published by ACGIH, Cincinnati, Ohio		Little danger in less than one hour exposure of dry skin			DANGER – Exposed flesh freezes within one minute			GREAT DANGER – Flesh may freeze within 30 seconds		
		Maximum danger of false sense of security								

Exposure to cold causes 2 major health risks: **hypothermia and frostbite**.

Hypothermia can affect workers not protected against the cold. When the body is unable to warm itself and maintain its core temperature, serious illnesses and injury can occur, leading to permanent tissue damage or even death.

HYPOTHERMIA STAGES	SIGNS AND SYMPTOMS
Mild	Shivering, blue lips and fingers, poor coordination
Moderate	Mental impairment, confusion, disorientation, inability to take precautions from the cold, heart slowdown, slow breathing
Severe	Unconsciousness, pulse difficult to find or irregular, no shivering, no detectable breathing. In severe cases, hypothermia resembles death. Treat patients as though they are alive.



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First Aid:

- Carefully move person to shelter. Sudden movements can upset heart rhythm
- Keep person awake
- Remove wet clothing and wrap person in warm covers
- Re-warm neck, chest, abdomen and groin. Do not re-warm extremities
- Apply direct body heat or use safe heating devices
- Give warm, sweet drinks, but only if conscious
- Administer CPR if necessary
- Call for emergency medical help or transport person carefully to hospital

FROSTBITE

Frostbite is a common injury caused by exposure to severe cold or contact with cold objects

It occurs more readily from touching cold metal than cold air

Body parts most affected include face, ears, fingers and toes

Symptoms vary, are not always painful, but often include a sharp prickling sensation

First indication is waxy looking skin that feels numb

Once tissues become hard, it becomes a severe medical emergency

Severe frostbite results in blistering that usually takes about 10 days to subside

Once damaged, tissues will be more susceptible in future

First Aid:

- Warm frostbitten area gradually with body heat. Do not rub
- Don't thaw hands or feet unless medical aid is distant and there is no chance of refreezing. Parts are better thawed at hospital
- Apply sterile dressings to blistered areas
- Get medical attention

How can Cold Stress be Controlled?

Management shall:

- Train and educate employees on the risk factors, signs and symptoms, first aid measures and controls of cold stress and cold stress related health issues.
- Advise supervisors on the measures for controlling cold stress hazards.
- Provide the necessary resources to control cold stress hazards (i.e. heated shelters).
- Enforce this policy as needed.



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Supervisors shall:

- Employ work procedures to help limit the risks of working in cold environments including giving workers sheltered breaks and backup as needed.
- Monitor the wind-chill and temperature readings at your jobsite. See Table 1
- Monitor workers for any cold stress symptoms and react accordingly.
- Advise management of any cold stress illnesses.

Workers shall:

- Follow instructions and training for controlling cold stress.
- Be alert to symptoms in yourself and others. Advise your supervisor of any cold related health issues.
- Select proper clothing to perform the job. Be prepared.

Employees shall follow these guidelines

- Work should be paced to avoid excessive sweating.
- Clothing should be worn in multiple layers and kept dry and clean as possible.
- For work in wet conditions, the outer layer of clothing should be waterproof.
- Almost 50 percent of body heat is lost through the head. A wool knit cap or a liner under a hard hat can reduce excessive heat loss.
- Gloves should be used below -7°C for moderate work. For work below -17°C, thin polyester gloves should be worn under protective gloves.
- Have extra socks available so you can dry your feet and change socks during the day.
- Face protection, a balaclava or hard hat liner should be used.
- Eat properly and frequently. Working in the cold requires more energy than in warm weather.
- Drink fluids often. Hot non-alcoholic beverages or soup are suggested. Caffeinated drinks such as coffee should be limited.
- Alcohol should not be consumed as it impairs the body's ability to regulate temperature.
- Any worker shivering severely should come out of the cold.
- If you get hot, open your jacket but keep hats and gloves on.
- Wear one thick or two thin pairs of socks. Don't restrict blood flow with tight fitting footwear.

Exposure Limits

Ontario has no legislated limits for work in cold environments; however, Table 1 below was developed to indicate threshold limit values for properly clothed workers (dry clothing) in below freezing temperatures:



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Air temperature (sunny sky)		No noticeable wind		8 km/h wind (5 mph)		16km/h wind (10 mph)		24 km/h wind (15mph)		32 km/h wind (20 mph)	
°C (approx.)	°F (approx.)	Max work period	No. of breaks	Max work period	No. of breaks	Max work period	No. of breaks	Max work period	No. of breaks	Max work period	No. of breaks
-26° to -28°	-15° to -19°	Normal breaks	1	Normal breaks	1	75 minutes	2	55 minutes	3	40 minutes	4
-29° to -31°	-20° to -24°	Normal breaks	1	75 minutes	2	55 minutes	3	40 minutes	4	30 minutes	5
-32° to -34°	-25° to -29°	75 minutes	2	55 minutes	3	40 minutes	4	30 minutes	5	Non-emergency work should stop	
-35° to -37°	-30° to -34°	55 minutes	3	40 minutes	4	30 minutes	5	Non-emergency work should stop			
-38° to -39°	-35° to -39°	40 minutes	4	30 minutes	5	Non-emergency work should stop					
-40° to -42°	-40° to -44°	30 minutes	5	Non-emergency work should stop							
-43° and below	-45° and below	Non-emergency work should stop									

Source: Occupational Health and Safety Division, Saskatchewan Department of Labour

Notes

- a) This table applies to any 4-hour work period of moderate-to-heavy work with warm-up periods of ten minutes in a warm location and with an extended break (e.g., lunch) at the end of the 4-hour work period in a warm location. For light-to-moderate work (limited physical movement) apply the schedule one step lower. For example, at -35°C (-30°F) with no noticeable wind (row 4), a worker at a job with little physical movement should have a maximum work period of 40 minutes with 4 breaks in a 4-hour period (row 5).

Storms

If you are outdoors:

- If you hear thunder, then lightning is close enough to be dangerous. Move immediately to a place of shelter. Go to a well-constructed, enclosed building. Small, open structures do not provide protection from lightning.
- If no building is available, stay inside your vehicle or machine cab.
- Avoid water, high ground, isolated trees and power lines.
- There isn't a place outside that is safe during a thunderstorm. Make every effort to get into a solid shelter or metal-topped vehicle. If neither is available, find a low-lying area away from tall, pointy, isolated objects, crouch down and put your feet together. Do not lie down. Cover your ears to reduce the threat of hearing damage from thunder.

Legislation

- Occupational Health and Safety Act, Section 25(2)(h)

(All tables and information taken from the "Heat Stress" / "Cold Stress" guidelines in the I.H.S.A. Construction Health and Safety Manual)



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LADDER USE

- Select a ladder that is the correct size and type for the job
- Step ladders should only be used on a stable, level surface, with the braces locked
- Ensure that all ladders used on site are class 1A or higher (JAG allows class 2 or higher for use in offices only)
- Never carry any tools or material up or down a ladder – use a rope or pass them to another worker
- When ascending or descending a ladder always face the ladder and maintain three point of contact
- Keep ladders clean and rungs free from snow, mud, ice, grease, and other slip hazards
- Never use an aluminum ladder around any electrical equipment
- Extension ladders must be angled correctly – 4:1 ratio
- If using a ladder as a means of access/egress, ensure that it is secured at both the top and the bottom. It must also extend at least 900mm past the top surface.
- Keep the areas at the top and bottom of a ladder clear of material or debris
- Inspect the ladder before use. Tag and remove any defective ladders from service
- Do not stand on the top two rungs of a step ladder
- Work being performed on a ladder should not affect the ladders stability. If it does find another means to complete the task or reposition the ladder
- Ladders should never be used as a work surface
- Before working from a ladder conduct a ladder hazard and risk assessment
- If working from a ladder has the worker at a height of 9 feet or greater, the worker must be tied off to a sufficient anchor point independent of the ladder



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RAMPS, PLATFORMS, RUNWAYS

- Generally – a ramp, runway, or platform must be able to support 2.4 kilonewtons of force and
- be at least 18" wide
- Maximum slope must not exceed 1:3
- Ramps that are not nearly horizontal need 1"x2" cleats spaced regularly (18") secured to the walking surface
- If there is a danger of falling material the ramp, runway, or platform must be protected by a canopy of adequate strength
- If it is possible to fall from the runway, ramp, or platform from 8 feet, or into water, or another hazard, guardrails must be installed



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ASBESTOS IN THE WORKPLACE

General

- Asbestos is a designated substance in the province of Ontario
- Asbestos fibres don't break in half across their diameter (width), but rather split into thinner and thinner needle-like fibres along their length.
- An asbestos fibre can remain airborne for a long time and can easily become airborne again after it has settled if there is any air movement.
- The average diameter of an airborne asbestos fibre ranges from 0.11 to 0.24 µm, depending on the type of asbestos and are invisible to the eye.
- JAG does not perform asbestos abatement/containment in-house. If a worker comes across suspected asbestos during work; work should be stopped immediately, and JAG supervision should be notified.
- Typically for all repair, demolition or alteration projects, the owner must complete a report indicating whether any material that is likely to be handled, dealt with, disturbed, or removed is asbestos-containing material (ACM), or to be treated as ACM. The report (including drawings and plans) must show the location of the ACM and be provided to all contractors bidding on the job.
- If during work, suspicious material is discovered and not found in the report, then the constructor must report it to the Ministry of Labour. No work is allowed until the material is tested for the presence of asbestos unless the material is treated as ACM.


Asbestos Containing Products

Common asbestos containing products include:

- Asbestos cement products
 - This is the most typical asbestos product encountered by JAG worksites in the form of asbestos concrete pipes
- Sprayed-on fireproofing
- Pipe and boiler insulation
- Loose fill insulation
- Acoustical plaster and tiles
- Vinyl asbestos products
- Roofing felts/shingles
- Asphalt/asbestos limpet spray
- Drywall joint-filling compound
- Coatings and mastics

Legislation

Ontario Regulation 278/05 (Designated Substance—Asbestos on Construction Projects and in Buildings and Repair Operations) outlines safe work procedures and respiratory protection for

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workers who may encounter asbestos-containing material (ACM). The Ministry of Labour uses factors to categorize the asbestos-related activity into one of three types:

- Type 1
- Type 2
- Type 3

Anybody who works in a Type 1, Type 2, or Type 3 asbestos operation must be trained by a competent person on the following:

- the hazards of asbestos exposure
- the purpose, inspection, maintenance, use, fitting, cleaning, disinfecting, and limitations of respirators
- personal hygiene and correct procedures for work with asbestos
- how to use, clean, and dispose of protective clothing

Health Effects


- Inhalation of the airborne asbestos fibers is what causes asbestos-related diseases:
 - Mesothelioma
 - Lung cancer
 - Asbestosis
 - Other illnesses

Procedures

- If ACM is known to exist on a project based on a report given at the bidding stage, appropriate measures to handle or work near the ACM will be in place prior to work starting.
- If ACM is discovered at a project with no advanced or prior knowledge, it must be reported to the JAG Project Supervisor. **The Supervisor must:**
 - Notify the JAG Project Manager and Constructor;
 - Notify all affected workers on site;
 - Stop work and restrict access at the location of the ACM and
 - Do not proceed with ACM related work until a plan is developed

JAG must:

- Notify the Ministry of Labour if required;
- Notify the Owner and/or Constructor;
- Develop a plan for any ACM related activity. Depending on the type of operation (1, 2 or 3), this may involve using trained JAG workers or using trained and certified subcontractors.

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ERGONOMICS AND MUSCULOSKELETAL DISORDERS

Musculoskeletal disorders (MSD's) are injuries of the muscles, nerves, tendons, ligaments, joints, cartilage or spinal discs.

MSD's do not include injuries that are the direct result of a fall, vehicle collision etc....

MSD's are the number one lost-time injury reported in Ontario

Some recognized risk factors are:

1. Forceful Exertion- lifting, pushing, pulling and gripping tools exert force or muscle effort.
2. Repetitive Movements- performed over and over again. Painting, nailing, grinding are examples.
3. Awkward Postures- postures in which joints are held or moved away from the body's natural position. Examples include stooping, bending, kneeling and reaching.
4. Secondary Risk factors-
 - a. Contact Pressure- which is any external pressure applied to soft tissues. Holding tools that press into parts of the hand is an example.
 - b. Vibration- can cause damage to nerves and blood vessels and other soft tissues.


Controls

Engineering Controls- are preferred measures to physically modify the forcefulness, repetitiveness, awkwardness or vibration levels of a job.

Administrative Controls- are management directed work practices to reduce or prevent exposures to risk factors. They include changes in job rules like more rest breaks or job rotation.

What can you do to reduce or prevent MSD's?

- Use carts, dollies, chains or cranes to carry materials
- Break loads into smaller units
- Exercise and stretch before starting work
- Get another person to help
- Work on materials at waist height
- Take mini rest and stretch breaks
- Use handles on tools that are more comfortable
- Use tools that are low torque, low kickback and lightweight
- Don't sit in the same position too long. Take a break and change positions

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Whole Body Vibration

Heavy equipment operators are exposed to vibration from all types of heavy equipment. The 3 main sources of WBV are:

- low frequency vibration caused by tires and terrain
- high frequency vibration from the engine and transmission
- shock from running into potholes or obstacles

Sort term exposure to WBV can include abdominal and chest pain, headaches, nausea and loss of balance. Long term exposure can cause serious health problems related to the spine and gastrointestinal system.

Workers should be aware of the following to reduce WBV:

- Maintain the suspension system and correct tire pressure. This will help reduce WBV.
- Maintain a seat with hydraulic and air shock absorbers.

Manual Material Handling

General

- Do not rush
- Use gloves if there is a risk of laceration or puncture
- Never handle material if using/ascending/descending a ladder
- Never put your fingers/hands into pinch points or create a potential pinch point when lifting heavy material manually
- Before lifting consider if there is a tool/equipment/safer workflow that could be done instead

Safe Lifting Practices

- Try and keep neutral posture throughout the lift
- If possible, use equipment or an assistive device – like a dolly or pump truck – to help move the load
- Before lifting get as close to the load as possible
- Brace with your core and lift the load with your legs. Try and keep the back out of it as much as possible
- Use your feet to pivot and turn, do not twist your back
- Lower the load slowly, try and keep the back in a neutral position
- Try and keep the load balanced between both sides of the body when possible
- When lifting objects such as lumber or pipe try and balance the load on your shoulder

External Factors

- Extra care should be given during adverse weather conditions and extreme heat and cold



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SAFE WORK PRACTICES

MOUNTING AND DISMOUNTING EQUIPMENT

- Keep treads, steps, stairs on equipment/vehicles clean
- Keep boots as clean as possible
- Always mount/dismount facing the vehicle
- Always keep 3-points of contact when mounting/dismounting
- Do not carry items if unable to maintain 3-point contact when entering/exiting equipment/vehicles
- Avoid distraction when mounting/dismounting. Avoid being on your phone



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SAFE WORK PRACTICES

RESPIRATOR CARE, USE, MAINTENANCE

General

- Reusable respirators are available as an increased level of protection and comfort for tasks which expose workers to respiratory hazards
- Employees must consult with their supervisor or the safety team to ensure the selection of a proper respirator for the task
- All tight fitting respirators must be fit tested. Contact the health and safety team to arrange for fit testing. More detailed instructions on the specific model will be provided at this time
- The respirator should be inspected before each use for defect. If any defects are found, tag and remove from service immediately
- Examine all plastic parts for cracking/wear/damage
- Examine the face seal for cracks, tears, or dirt build up. Dirt build up can break the seal
- Examine exhalation valves for distortion, cracks, tears
- Ensure the correct filters or cartridges are selected for the hazard – typically for dust/silica, P100 filters are acceptable

Fit

- Respirators should be fit tested as required
- Workers requiring a respirator should be clean shaven around the face seal. Facial hair can cause a loose seal
- A negative and positive pressure check should be conducted each time a respirator is donned

Cleaning

- To safely clean your respirator, remove all cartridges/filters. Disassemble the respirator. Immerse it in warm, plastic safe, cleaning solution (ie soap/water). Scrub with a soft bristle brush or cloth until clean. Solution/water should not exceed 49 degrees Celsius. Rinse in fresh warm water. Place dry respirator in a clean bag when not in use.



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SILICA IN THE WORKPLACE

General

- Silica is a designated substance in the province of Ontario
- Silica exists in several forms, crystalline silica is the most concerning
- Exposure to silica can cause Silicosis. This is the most significant lung disease caused by breathing mineral dusts

Silica Containing Products


- Common silica containing products include:
 - Concrete
 - Cement
 - Mortar
 - Brick
 - Asphalt
 - Sand
 - Stone
 - Natural rock
 - Fill, top-soil

Activities of Concern

- Many activities on worksite can generate silica dust. Some of which include:
 - Crushing, loading, hauling, and dumping of rock, sand, gravel, concrete
 - Cutting, chipping, drilling, and grinding of concrete, rock, or masonry
 - Demolition
 - Road construction
 - Tunneling, excavation, and earthmoving of soils with high silica content

Health Effects

- Prolonged inhalation of respirable dust containing silica may result in silicosis.
- The severity of silicosis depends on the concentration of silica dust to which a worker is exposed and the duration of exposure
- Crystalline silica inhaled in the form of quartz or cristobalite is carcinogenic to humans.
- There are three major types of silicosis: chronic, accelerated, and acute.
 - Chronic silicosis is most common. Symptoms may not appear for a long time, usually more than 10 years, and may progress and worsen over a period of many years. The effects are irreversible.
 - Accelerated silicosis is almost the same as chronic silicosis. However, it develops more quickly, and the lung scars show up sooner.

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- Acute silicosis develops rapidly. As few as 8 to 18 months may elapse from the time of first exposure to the onset of symptoms, which include progressive shortness of breath, fever, cough and weight loss. There is a rapid progression of respiratory failure.

Controlling the Hazard

Workplace exposure to silica can be controlled by several strategies depending on the existing facilities, equipment and work practices. A combination of controls should include the following:

- engineering controls
- work practices and hygiene practices
- respirators and personal protective equipment
- training.

Engineering Controls

Engineering controls are methods to control silica at the source and minimize the amount that gets into the workplace air. They include:

- Workplace design which minimizes or eliminates the spread of dust
- Equipment selection and modifications
- Dust suppression (i.e. spraying water)
- Mechanical or natural ventilation

Work Practices and Hygiene Practices


Work practices and hygiene practices are on-the-job activities that reduce the exposure potential from contaminated surfaces and work areas.

- Housekeeping. Keep indoor areas clean and dust free
- Dry sweeping and air-blowing should be avoided
- Clean all dirty clothes at end of shift
- Wash hands before lunch or breaks
- No eating, drinking, smoking in dusty areas.
- Equipment air filter replacement as required
- Keep roads maintained with dust control measures (i.e. water, calcium)

Personal Protective Equipment

When the engineering controls and work practices cannot lower the concentrations of silica, then personal protective equipment must be used. Primarily, respirators must be used to prevent the inhalation of dust. Where respirators are provided, they should be appropriate for the type and the concentration of airborne silica. Workers will be trained in the use and care of the respirator. The following general use, care, and maintenance procedures should be followed whenever respirators are required:

- respirators should be used and maintained in accordance with the manufacturer's specifications
- proper seal of respirators should be checked prior to each use
- storage of respirators should be in a clean and sanitary location
- respirators assigned for the exclusive use of one worker, should be cleaned, disinfected and inspected after each shift
- any respirator parts that are damaged or that have deteriorated should be replaced before the respirator is used.

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Each worker must be fit-tested for each type of respirator to be worn. Most fit-testing can be done in-house by the qualified testers. Written records will be kept for each worker and their test results.



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SAFE WORK PRACTICES


LOCK-OUT/TAG-OUT

All workers must know when and how to lockout and tag a vehicle, machine or tool due to a defect, hazard or because of maintenance.

- Lock-out and tagging is used to de-energize equipment and prevent unscheduled or accidental starting, moving or operating.
- Lock-out and tagging ensures a safe work environment that would normally be dangerous if equipment were to shift or operate. This is required on all equipment when performing repairs, inspections or any other time a machine is shut-down to perform work on it and the worker may be injured because of the nature of the work performed.
- Lockout will also be required when a machine is unsafe to use because of a defect or hazard (ie. no brakes on a loader).
- Small tools must be tagged out and removed from service when they are defective or hazardous (ie. a broken ladder, broken chain, leaking fuel tank on a generator). Bring all small tools to the shop for evaluation.
- Normal maintenance (ie. checking oil) does not normally require lockout because the worker has not removed any safeguards and the procedure is part of a normal daily routine. The worker is not generally exposed to any hazards. Follow manufacturer instructions for more details.
- If a guard must be removed, lockout is required.

The following steps shall be taken:

1. Identify all energy sources (ie. Hydraulic, Mechanical, Electrical, Chemical, Kinetic, Thermal).
 2. Identify the parts to be locked out and the method to lock them out.
 3. Notify all affected personnel.
 4. Shut the power OFF. Make sure all equipment has been de-energized.
 5. Check the moving parts to make sure they have stopped and make sure no material is rolling or falling.
 6. Install your own lock and tag at each place you isolate an energy source. If more than one worker is working, each person must install their own locks and tags.
 7. Check all switches, valves, and gauges. Try operating controls after lock-out to confirm all power is off and locked out.
 8. Turn off all controls again.
 9. Neutralize all stored energy if present
 10. Perform repairs, maintenance and all necessary work.
 11. Remove only your lock and tag
 12. Check all workers are cleared from the moving parts area. Use loud start signal (ie. horn) if possible.
 13. Start-up equipment again.
- The lock's key is only carried by the person who installed the lock.
 - If the lock has 2 or more keys that can open the lock, keep only one key and throw away the rest.
 - Remember: ONE PERSON, ONE LOCK, ONE KEY.
 - The tag shall include the name of the person, the date and the reason for the lockout.
 - Both lock and tag need to be applied.

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- Scissor locks will be used for multiple lockouts.
- For electrical powered equipment, the correct breaker(s) must be shut off and locked out at the electrical panel (ie. shop machinery, electric conveyors).
- Battery boxes will be used on fuel (gas, diesel) powered equipment for lockout. The positive battery cable will be removed from the battery and secured in the lock box. In a series of batteries, use the cable from the battery with wires leading to the starter motor or starter relay.

NOTE:

Always refer to the manufacturer instructions for their detailed lockout procedures if available.

- The specific procedures may vary slightly depending on the equipment and set-up.
- Advise your supervisor that the equipment is locked out.

Multiple Lockouts

When groups of workers are required to lockout and tagout at the same location, certain devices must be used so that multiple locks and tags can be installed at the same time.

These are primarily referred to as scissor lock devices. They allow multiple individual locks/tags to be installed and removed without affecting other worker's lock and tags.

Example:



Scissor locks can be used for electrical equipment at the breaker panel and on diesel equipment on the battery box. JAG supplies scissor locks to workers as needed.


NOTE:

Always refer to the manufacturer instructions for their detailed lockout procedures if available.

- The specific procedures may vary slightly depending on the equipment and set-up.
- Advise your supervisor that the equipment is locked out.

WHEN IN DOUBT, ASK SOMEONE WHO KNOWS



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SAFE WORK PRACTICES

HAND AND POWER TOOLS

General:

- Only trained and/or experienced employees may use/operate tools or equipment
- Tools and equipment shall not be modified, and they are to be used only for their designed purpose
- It shall be the responsibility of the employee to inspect tools and equipment prior to use and to use all tools and equipment in a safe manner
- Employees observed abusing, altering, modifying or misusing tools or equipment shall be subject to disciplinary action
- Employees shall wear all appropriate personal protective equipment while using tools and equipment
- If a tool or piece of equipment is found to be defective, the tool/equipment shall be tagged, taken out of service and sent for evaluation

Procedures:

1. General Tool Safety

Many serious injuries have resulted from the improper use of tools and equipment. Many of these injuries could have been prevented if the rules were followed:

Inspection and Maintenance

- All tools will be kept in good working condition with no modifications
- The employee using the tool, must inspect it for good condition prior to use
- If the tool needs repair, send it in to Aaroc Equipment for evaluation
- If the tool is lost or missing, notify your supervisor immediately

Selection

- Use the right tool for the task instead of trying to make the wrong one fit.

Use

- When applying force with a tool, remember that it may slip, break. Watch your hands and your balance to avoid injury.
- Select the right protective equipment for the task and use it properly.
- Do not use tools and equipment that you have not been trained or are experienced in using.

Care

- Take proper care of your tools and equipment. Keep them stored where they will not get damaged and will not present a hazard.
- Check your tools and equipment prior to use for defects, wear, or damage. Immediately remove from service and tag any defective tools.



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SAFE WORK PRACTICES

2. Hand Tool Safety

- Hand tools shall only be used for the purpose for which they are intended.
- All appropriate PPE will be worn while using hand tools.
- Self-retracting utility knives can be used when cutting certain items. They are safer than conventional utility knives or box cutters.
- Wrenches, including adjustable, pipe and socket shall not be used when jaws are sprung to the point of slippage.
- Pipe wrench parts (i.e., jaws) are not to be removed and used for anything other than the manufactured use.

Hand tools shall be tagged and removed from service if any of the following defects are present:


- Impact tools, such as hammers, chisels, with visible signs of mushrooming, cracking or bending.
- Wooden handle tools, such as hammers, picks, shovels, and brooms with visible sign of cracking, loosening or splintering of the handle.
- Wrenches, such as adjustable, combo and pipe with visible signs of bending, cracking, defective handles or other defects that impair their strength.

A portable ladder shall,

- (a) be free from broken or loose members or other faults;
 - (b) have non-slip feet;
 - (c) be placed on a firm footing;
 - (d) where it,
 - (i) exceeds six metres in length and is not securely fastened, or
 - (ii) is likely to be endangered by traffic,
- be held in place by one or more workers while being used; and
- (e) when not securely fastened, be inclined so that the horizontal distance from the top support to the foot of the ladder is not less than 1/4 and not more than 1/3 of the length of the ladder.

3. Electrical Power Tool Safety

- All appropriate PPE will be worn while using power tools.
- Use only tools that are polarized or double insulated. Make sure the casings of double-insulated tools are not cracked or broken.
- Make sure that tool cords, extension cords, and plugs are in good condition.
- Use only 3-pronged extension cords.
- Make sure that extension cords are the right gauge for the job to prevent overheating,
 - voltage drops, and tool burnout. A 12-gauge extension cord is ideal.
- Always use a Type A ground fault circuit interrupter (GFCI) with portable electric tools
 - used outdoors or in damp or wet locations. GFCI's detect current leaking to ground from a tool or cord and shut off power before damage or injury can occur.
- Do not connect electrical power unless the operating switch is turned off.

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- Employees shall avoid loose fitting clothing when operating power tools.
- The power source on tools shall be physically disconnected prior to attempting any repairs or attachment replacement.
- Protective guards on power tools shall not be removed, altered or modified.
- Trigger/switch locks on power tools are prohibited.
- Electrical tools shall not be hoisted or carried by their power cords.
- Cords are tripping hazards. Route them so as to minimize interference in walkways.

A grinding wheel shall be,

- (a) marked with the maximum speed at which it may be used;
- (b) checked for defects before mounting;
- (c) mounted in accordance with the manufacturer's specifications;
- (d) operated at a speed which does not exceed the manufacturer's recommendations;
- (e) provided with protective hoods that enclose the wheel as closely as the work will permit;
- (f) operated only by workers protected by eye/face protection; and
- (g) stored where it will not be subjected to,
 - (i) extreme heat or cold, or
 - (ii) damage from impact.

A work rest for a grinding wheel shall,

- (a) have a maximum clearance of three millimetres from the grinding wheel;
- (b) be in a position above the centre line of the grinding wheel; and
- (c) not be adjusted while the grinding wheel is in motion.


Electrical power tools shall be tagged and removed from service if any of the following defects are present:

- Power cord is frayed, cut or damaged. The use of electrical tape to cover damage to cords is **prohibited**.
- Defective or faulty on/off switches.
- Loose or defective components

4. Air Power Tool Safety

- All hoses exceeding 1/2" inside diameter shall have a safety device at the source of supply or branch line to reduce pressure in case of hose failure.
- Chicago fittings shall be pinned.
- Attachments on air tools shall be secured by retainer pins and rings.
- Do not connect air unless the operating switch is turned off.
- Do not disconnect tool until air supply is shut off and air pressure is bled off.
- Air power tools shall not be hoisted or carried by their hoses.
- Hoses are tripping hazards. Route them so as to minimize interference in walkways.

Air power tools shall be tagged and removed from service if any of the following defects are present:

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- Air power tools, such as air power grinders, impact wrenches with visible signs of deformities in the body of the tool, improperly functioning actuator, bent or deformed blades, or any signs of obvious damage to the air supply line fittings.
- Hoses must be visually inspected for cracking, signs of aging, worn or damaged connecting fittings, or any other obvious deformities, such as blistering or bulges.



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SAFE WORK PRACTICES

HOUSEKEEPING

Poor housekeeping and storage account for a significant percentage of accidents and injuries in construction.

Construction rubbish is often irregular in shape, hard to handle, and full of sharp objects. One of the biggest problems is packaging. Too often it gets removed from material and left wherever it falls. This creates tripping and slipping hazards. It also makes other hazards hard to see. Workers may also be responsible for relocating residential garbage on reconstruction projects, which can also present hazards.

Handling Garbage Bags and Containers

Please use the following safety procedures:

- Wear cut resistant gloves when handling waste
- Scan the garbage bag/can before you handle it for any obvious hazards
- Lift the garbage bag at the top / lift the garbage can by the handles
- Do not let the garbage bag swing across your legs/body – keep separation
- If items are heavy or awkward, get help
- Clean with sanitizer or soap/water afterwards

General Housekeeping Onsite

- Clean up as work proceeds. Check the site at the end of each day.
- Keep equipment clean and the areas around equipment free of scrap and debris.
- Secure loose or light material to keep it from blowing away in the wind.
- Keep debris and materials away from excavation and trench edges.
- Put all garbage and scrap in designated waste containers. Empty waste containers regularly.
- Keep job/office trailers clean and organized. Store materials in their appropriate locations.
- Pile or stack materials in a manner that prevents them from tipping or collapsing. Organize and store all materials, tools in proper locations.
- Try and incorporate the “3 R’s” hierarchy into site waste management:
 - Reduction
 - Reuse
 - Recycle

Flammable and chemical materials

- Remove flammable rubbish and debris immediately from the vicinity of welding, flame cutting, propane heating, grinding and other ignition sources.
- Store fuel only in containers approved by the Canadian Standards Association (CSA) or Underwriters' Laboratories of Canada (ULC).
- Refer to the safety data sheet (SDS) for specific information on each chemical product.



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- Follow manufacturer's recommendations for chemical storage.
- Observe all restrictions concerning heat, moisture, vibration, impact, sparks, and safe working distance for chemicals.
- Have equipment ready to clean up spills quickly.
- To keep them separate for special handling and disposal later, store empty chemical containers in secure areas away from full containers.



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PROPANE HANDLING

- Workers using, handling, storing, and transporting propane require TSSA approved training.
- Ensure that you have valid training before working with propane
- Propane must be secured upright – with appropriate signage – and stored outside.
- Appropriate gloves must be worn when changing a liquid propane tank
- Full and empty cylinders must be stored separately
- Fuels must be stored and carried in approved containers. Pails or loader buckets are not approved storage containers.
- No smoking is permitted within the vicinity of flammable liquids or gases.
- All tanks, cylinders and containers must be fully closed after use.
- Ensure temporary heaters are set up in a way that does not restrict access or egress to a work area
- Combustibles must be stored no closer than 10' to temporary heaters
- Temporary heaters and propane tanks must be inspected regularly for defects. Any defects found must be reported to JAG supervision as soon as possible
- Temporary heat and powered equipment can create atmospheric hazards. If you have any questions or concerns consult your supervisor or the JAG health and safety team

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SAFE WORK PRACTICES

OUTSIDE HEALTH HAZARDS

Animal Bites

The most common bites are from household pets, with dogs, and cats causing the most. Dogs are more likely to bite than cats; however, cats are more likely to cause infection. Bites from non-immunized animals and wild animals carry the risk of rabies. Rabies is more common in raccoons, skunks, bats, and foxes than in cats and dogs.

- Determine if the outside pet shows signs of aggressive behavior and is on a leash.
- If the pet is determined to be aggressive, contact the homeowner and ask for the pet to be placed inside of the house until the work has been completed. This will allow you to focus and be more efficient on the job. Do not attempt to complete the work if no homeowner is available to control the pet. Never leave your comfort zone.
- Cats typically mind their own business and will watch from a distance. Dogs tend to be more curious. Large dogs can knock a human to the ground. Never approach an animal that is in the process of eating.

In some cases, the bite will not break the skin but may cause damage to underlying tissue and joints. If the skin is broken, there is the additional possibility of infection as well to tendons and nerves. Dogs have powerful jaws and can cause crushing injuries to muscles, tendons, ligaments, and nerves.

Signs of an infection includes:


- Swelling
- Pain
- Discharge
- Redness around the puncture wound
- An inability to bend or straighten the finger
- A loss of sensation over the tip of the finger

First Aid

- Don't put the bitten area into your mouth! You will just be adding the bacteria in you.
- If the bite breaks the skin, treat it as you would a minor wound. Use soap and water or an antiseptic, or alcohol and cover it with a clean bandage
- Get tetanus immunization as soon as possible
- If the bite creates a deep puncture or the skin is badly torn and bleeding, apply pressure to control the bleeding and get medical attention right away

Insect Bites

The two most serious health effect from insect bites in Ontario are West Nile Virus and Lyme Disease.

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West Nile Virus

West Nile virus is a mosquito-borne virus contracted by mosquitoes that feed on the blood of infected birds. The mosquito then passes the virus to a human host.


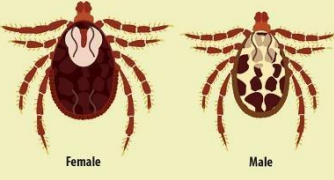

Avoiding Mosquito Bites

- Use insect repellent on exposed skin when you go outdoors. Use an insect repellent such as those with Deet, or oil of lemon eucalyptus.
- Get double protection by wearing long sleeves during peak mosquito biting hours, and spray repellent directly onto your clothes.
- Remove standing water that may be present around the jobsite

Lyme Disease

TICKS 101

A quick guide to Indiana tick vectors

<p>Black legged/Deer/Lyme disease tick (<i>Ixodes scapularis</i>) Transmits Lyme disease, anaplasmosis, babesiosis and Powassan encephalitis Widely distributed in the Northeast and upper Midwest Bite risk: Nymphs active late spring-early summer, adult females active late summer and again in early fall, but note that adults may bite whenever temperatures are above freezing</p>	 <p>Female Male</p>
<p>American dog tick (<i>Dermacentor variabilis</i>) Transmits Rocky Mountain spotted fever and tularemia Widely distributed east of the Rocky Mountains and in limited areas of the Pacific Northwest Bite risk: Adult females most likely to bite humans and are active spring-summer</p>	 <p>Female Male</p>
<p>Lone star tick (<i>Amblyomma americanum</i>) Transmits ehrlichiosis, tularemia and Southern tick-associated rash illness (STARI) Widely distributed in the southeastern and south central U.S. Bite risk: Nymphs and adults are active spring-summer</p>	 <p>Female Male</p>


Images are not actual size. This information is intended as a general guide only. Please consult the CDC, your state or local Department of Health or Extension Specialist for further information regarding tick identification and risks associated with exposure to ticks and tick-borne diseases. Sources: Catherine Hill, Professor of Entomology/Vector Biology, Purdue University; Centers for Disease Control and Prevention, http://www.cdc.gov/ticks/geographic_distribution.html
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Lyme Disease is commonly transmitted through tick bites.

Ticks usually live in woods or tall grasslands. Ticks infected with bacterium can spread disease when they feed on blood from the host. Ticks cannot fly - they hang onto small bushes or tall grasses and are usually found close to the ground. They wait for an animal or person to pass near them and when the animals or person make contact, the ticks attach themselves to the skin to feed.

In Canada, there are two species of ticks known to transmit Lyme disease:

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The western blacklegged tick, which is known to be established in parts of southern British Columbia; and

The blacklegged tick (often called a deer tick), which is known to be established in parts of southern and eastern Ontario, southeastern Manitoba and Nova Scotia.

These ticks vary in size and colour, depending on their age and whether they have been feeding. Before feeding, they are about 3-5 mm in length, and are red and dark brown in colour. Young ticks in the pre-adult stages are smaller and lighter-coloured. When they are full of blood, adult le ticks can be as large as a grape.



Exposure to Lyme

The risk of contact with ticks begins in early spring when the weather warms up and lasts through to the end of fall. Ticks may also be active in winter in areas with mild temperatures (4°C and above) and no snow.


There is no evidence that Lyme disease can spread from person-to-person. Although cats and dogs can get Lyme disease, there is no evidence that they can pass the infection to people.

Signs and Symptoms

Tick bites are usually painless and most people do not know they have been exposed to Lyme disease until it has had time to advance.

In the first stage, one of the first signs of infection is a circular rash, often referred to as a "bull's eye" rash because it will have rings spreading from the bite site.



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Additional symptoms include:

- Fatigue
- Chills
- Fever
- Headache
- Muscle and joint pain
- Swollen lymph nodes

As the disease progresses, chronic symptoms may develop. Fatalities from Lyme disease are rare.


Lyme disease can be difficult to recognize, and it has been confused with other diseases. It is important for people to consult with their doctor if they feel it is possible that they have Lyme disease.

Treating Lyme Disease

Lyme disease can be treated effectively with antibiotics. A full recovery is more likely when treatment begins in the early stages of the disease. Undiagnosed Lyme disease which develops into chronic illness can be difficult to treat.

Protection from Tick Bites

- Wear protective clothing to prevent ticks from attaching to your skin. Wear long sleeveshirts that fit tightly around the wrist, and long- legged pant tucked into your socks or boots.
- Use insect repellents containing DEET to repel ticks. Apply to both clothes and skin. Always read the label and follow instructions for use.
- If possible, avoid contact with low bushes and long grasses.
- Wear light coloured clothing to help you to find the ticks more easily.
- Check for ticks on and under clothing, especially after being in areas where ticks may live.
- A daily skin inspection greatly reduces the risk of infection as ticks may take several hours to two days to attach to the skin and feed. Check areas including armpits, in and around hair, navel, groin, and behind the ears and knees.
- Wash clothes promptly and put them in the dryer with heat to help kill any ticks that may remain.
- Carefully remove ticks found attached to the skin. Gently use fine pointed
- (needle-nose) tweezers to grasp head and mouth parts of the tick as close to the skin as possible. Pull slowly to remove the whole tick. Try not to squash or crush the tick this can help bacteria to get into the body.
- Keep the tick for testing by placing it in a small sealed container or double zip lock bags. Place a moist paper towel or tissue with the tick to help keep it alive. Dead ticks can be tightly sealed in rubbing alcohol. Bring the tick to your doctor.

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- Wash affected area with soap and water or disinfect (with alcohol or household antiseptic) after removing ticks.
- Know how to identify ticks and know the signs and symptoms of Lyme disease.
- Contact a doctor immediately if you have an illness that resembles Lyme disease.

Sharps and Biological Hazards

Work in public spaces will occasionally involve hazards from needles/other sharp objects. These may expose a worker to biological hazards.

JAG has developed the following to help control these hazards:

Why should sharps be handled safely?

- Sharps can contain blood from other people and this blood can carry blood-borne infections like hepatitis B, hepatitis C, and HIV.
- HIV can live on a needle for up to several hours. Hepatitis B and C can live on a needle for weeks.
- Accidental puncture wounds from a sharp can allow the entry of infection through the skin, resulting in blood-borne infections such as hepatitis B, hepatitis C and HIV.

How should I handle and dispose of found needles or other sharps?

Use caution. Treat all found needles and other sharps as contaminated. Do **not** try to put the cap back on a needle.

- Do not touch the sharp with your bare hands.
- Use needle tongs available through your supervisor.
- Disposable gloves must be worn when working with sharps.
- Always hold sharp or cutting edges down and away from you.
- Put the container on a stable surface next to the sharp. Do not hold the container in your hand when placing the sharp inside. If picking up a needle, put the needle in the container point down. Do not force sharps into the container or overfill it.
- Close the container securely.
- Ensure that the contaminated end of the needle tongs are put back into the storage bag and the bag is properly secured.
- Remove gloves by taking them off inside out to ensure your hands are not contaminated.
- Wash hands with soap and water and/or an alcohol-based hand rub after all handling sharps, containers, used equipment, and after removing gloves.

