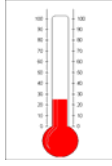


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As Grounds employees, the majority of your time at work may be spent in hot environments, especially during summer months. Working in hot environments can induce heat stress in exposed individuals. When heat is combined with other stresses such as hard physical work, loss of fluids or some medical conditions, it may lead to heat related illness. It is important for supervisors and workers to recognize the conditions that can lead to heat stress and to ensure that appropriate controls are taken to minimize such effects.

Potential health problems associated with prolonged work in hot environments include:

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- Heat exhaustion is a milder form of heat-related illness that can result after several days of exposure to high temperature, from loss of fluids through sweating when worker has failed to drink enough fluids or take in enough salt or both.
- Signs and symptoms include weakness, visual disturbances, dizziness, intense thirst, headaches, nausea, vomiting, diarrhea, breathlessness, muscle cramps, tingling and numbness of the hands and feet, and palpitations (feeling irregular heartbeats).
- The affected worker should rest in a cool place and drink cool water. Severe cases involving workers who vomit or lose consciousness may require longer treatment under medical supervision.
- If left untreated, heat exhaustion may progress into heat stroke (see next page).

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- Sharp muscle pains that result from a failure to replace the body's salt that is released through the sweat.

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- Tiny red spots on the skin that can cause a prickling feeling during heat exposure.
- Caused by humid environments where sweat is not easily removed from the skin, leaving it continuously wet.
- Can be prevented by resting in a cool place and allowing skin to dry.

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- Brain does not receive enough oxygen because the blood pools in the extremities in an effort to cool the body.
- May be a problem for individuals not used to working in the heat who are immobile and standing.

- The skin may appear pale and sweaty but is generally moist and cool. The pulse may be weakened, and the heart rate is usually rapid. The body temperature is normal.

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- It is the most severe amongst heat-related syndromes. Heat stroke occurs when heat exhaustion is left untreated and the victim's core body temperature continues to rise as a result of failure of the body's internal mechanism to regulate its core temperature
- Signs include hot skin that is dry (due to failure of sweating); mental confusion, complete or partial loss of consciousness
- Can be fatal and requires immediate first aid and medical attention

Appropriate training will be scheduled by your supervisor in conjunction with the Office of Environmental Health and Safety.

Prevention:

In hot environments:

- Follow the standard operating procedures if available.
- Work at a reasonable pace and take frequent breaks.
- Thirst is a delayed response. By the time you feel thirsty, your body has already undergone some level of dehydration. Drink 1 cup of cool water every 20 minutes.

Report any conditions that may lead to heat stress (e.g. high heat, high humidity) to your supervisor.

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As Grounds employees, a large part of your work takes place outdoors. During the wintertime, you will be working in cold environments for possibly long periods of time. Two types of cold hazards are hypothermia and frostbite.

hypothermia:

- Results from the cooling of the deep inner body to a temperature below 34.5°C because of prolonged exposure to the cold
- Can be fatal
- Victims lack energy, become confused, and make little effort to stay warm
- Victims should be immediately warmed; wrap them in blankets and move them to a warm room. Body heat (from cuddling) is the most effective way to warm a hypothermia victim.
- Severe cases of hypothermia may warrant immediate medical care
- † Alcohol does not increase a person's tolerance to cold. Consuming alcohol *increases* the risk of hypothermia!

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- Results in freezing of the body from extremely cold temperatures, or contact with extremely cold metallic objects
- When the windchill temperature is -32°C or lower, the skin should not be exposed for more than a few minutes.

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- For temperatures below 0°C, metal bars and handles should be covered by thermal insulating material. In addition, employees should wear their gloves/mittens.
- Wearing layers of dry, lightweight, loose fitting clothing provides greater protection from the cold than simply wearing one thick layer of clothing.
- Wear waterproof clothing for working in wet conditions.
- Eye protection should not fog or frost from exhaled moisture. Separate your eye protection from your nose and mouth.
- Felt-lined, rubber-bottomed, leather-topped boots with removable felt insoles are the best choice for working in the cold.
- Almost 50% of our body heat is lost through the head when the rest of the body is covered. The head should be covered with a liner under a hard hat, or with a wool cap.

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Grounds employees spend a large amount outdoors as part of their job. From time to time, weather conditions outside are severe enough to affect working conditions (e.g. tornado warnings, thunder/lightning storms, blizzards). During these severe weather conditions, extra precautions should be taken. Workers should openly discuss these concerns with their supervisors. Where necessary, supervisors and managers should consider alternate work until the weather improves.

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Reduced visibility (e.g. snow, rain, fog, etc.)	Driving (cars, vans, tractors, etc.)
Thunder or lightening storms	Using metal objects /equipment Using electrical equipment
Slippery conditions (e.g. snow, ice, rain) Wind	Slippery surfaces Reduce ground visible (slip/trip hazards) Flying objects, debris

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As Grounds employees, you may be exposed to various insects. These insects may bite or sting humans with varying consequences.

Two types of bites and stings exist -- non-venomous and venomous.

Non-venomous insects bite and normally inject anti-coagulant saliva in order to feed on your blood. Symptoms of non-venomous bites include:

- Itching
- Mild swelling or redness

Examples of non-venomous insects include:

- Mosquitoes (for more information about mosquitoes and West Nile Virus, see section on West Nile Virus)
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- Always consult a pest removal professional if a stinging insect's nest must be removed from a work area.

What is West Nile Virus?

West Nile Virus (WNV) is a mosquito-borne virus that infects birds, some animals and humans. The risk of infection is low, and less than 1% of people infected become seriously ill.

What are the symptoms?

The majority of people infected with WNV show no symptoms. About one in five people infected with WNV

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Care should be taken when handling dead animals and birds to prevent the spread of disease.

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1. Inform your supervisor of the finding.
2. Confirm the animal is dead by prodding with a long-handled tool.
3. Injured or dying animals may show aggressive behaviours. Do NOT attempt to catch the animal. Call your supervisor, Campus Police and your local Animal Services Centre:
 - City of Toronto (St. George and Scarborough Campuses): 416-338-7297
 - City of Mississauga: 905-896-5858

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If the animal is too large for you and your co-workers to reasonably handle while maintaining minimal contact, do NOT attempt to handle it. Contact your local Animal Centre (see above). If the animal is small and can be easily handled, use the following procedures:

1. Wear thick, gauntlet-style (covers your forearms) rubber gloves. If your clothes or other body parts are likely to contact the dead animal, wear disposable coveralls.
2. If possible, use a tool such as a shovel to pick up the dead animal or bird. Avoid directly touching the animal with your hands as much as possible. Do NOT allow contact with your bare skin.
3. Place the dead animal in a plastic garbage bag and double bag it. Label the bag.
4. Call your local Animal Centre (see above) to arrange for pick up.
5. Keep the dead animal in a safe place (unlikely to be disturbed by others) until it can be picked up by your local Animal Centre.

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1. Dispose of gloves and if applicable, coveralls. Double bag this waste.
2. Wash your hands with soap and water.
3. Disinfect any re-usable tools with a freshly made solution of bleach and water (9 parts bleach, 1 part water). NOTE: Bleach is corrosive and eye protection and gloves should be used during the cleaning.

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Birds may carry West Nile Virus and some Public Health offices will collect and test dead birds to track the spread of West Nile – see the West Nile Virus section for more information.

Contact your City's Public Health Department:

- The City of Toronto (St. George and Scarborough Campus) can be contacted at 416-338-7600 to collect the dead bird.
- However, Peel Region, for the City of Mississauga (UTM), stopped collecting dead birds in 2009. Use the procedures for Collecting

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Birds, bats, their feathers, droppings, nesting and roosting sites can host many diseases. Precautions should be taken to reduce the risk of disease transmission.

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1. Histoplasmosis

Histoplasmosis is an infectious disease caused by breathing in spores of a fungus called *Histoplasma capsulatum*, which are found in bird manure, bats and bat manure. Birds do not become infected and fresh bird droppings are at a low risk of the fungus; it is the older bird droppings which may become infected with the fungus.

Histoplasmosis affects the lungs. The majority of people do not have any symptoms but where symptoms occur, they include: fever, chest pain, dry cough, headache, loss of appetite, shortness of breath, joint or muscle ache and chills. These symptoms are similar to those for the flu and a chest X-ray is needed to differentiate this disease from the flu.

2. Cryptococcus neoformans

This is a fungus that grows in dry bird manure that is NOT in direct sunlight. It is commonly associated with pigeons but can be found in droppings from other types of birds and from bats. If inhaled, this fungus can cause a respiratory infection called Cryptococcosis.

3. Baylisascaris infection

Baylisascaris is an intestinal roundworm that develops in raccoon intestine. The roundworms release eggs that are passed in to raccoon feces. Eggs can infect animals and humans, becoming infectious 2-4 weeks after its released. The eggs are also very resilient and can survive for years in the feces. Symptoms in humans include nausea, tiredness, liver enlargement, loss of coordination, lack of attention to people and surrounds, loss of muscle control, coma and blindness.

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The most effective method is to prevent birds, bats and raccoons from roosting and nesting in the area by sealing entry points into the area and eliminating sources of food. Other forms of pest control such as traps, ultrasonic devices and chemical repellants are available in the market. Consultation with a pest control specialist may also be helpful.

