



## Ontario Paramedic Services Section 21 Committee

### Paramedic Services Guidance Note #18

#### Issue: Heat Stress

**Note:** On February 28, 2023 the Minister of Labour, Immigration, Training and Skills Development announced the creation of the Paramedic Services Section 21 Committee. Prior to this announcement, the Emergency Medical Services (EMS) Section 21 Sub-Committee of the Health Care section 21 Committee had developed Guidance Notes to inform Ontario's paramedics of hazards they may encounter. The notes developed by the previous Sub-Committee are in the process of being reviewed and updated to reflect the new status of the Paramedic Services Section 21 Committee and may continue to be referred to in the interim as EMS Guidance Notes.

#### Preamble

Paramedic Services in Ontario work in an environment that has drastically changed due to climate change increasing the temperatures in Ontario to levels that affect the health and safety of Paramedic Services workers and how they perform their duties.

#### Background

Extreme Heat Warnings are issued by Environment Canada and are increasing yearly due to climate change. The increase in temperatures, combined with the humidity and urbanization is creating extreme working conditions for Paramedic Services workers.

#### Addressing Hazards

The **R.A.C.E. method—Recognize, Assess, Control, Evaluate**—is a practical approach to identifying and managing workplace hazards. While **all workplace parties** (employers, supervisors, workers, and the Joint Health and Safety Committee or Health and Safety Representative) have a role to play, their responsibilities differ based on their level of authority and influence. Collaboration and communication throughout the process are essential for success.

## Applying R.A.C.E to Heat Stress

### Recognize

Identify potential hazards related to heat stress in the workplace. All workplace parties should be able to recognize the conditions that are related to heat stress, which may include:

- Heat stroke
- Heat exhaustion
- Heat syncope (fainting)
- Heat cramps (dehydration)
- Heat rash
- Heat edema
- Sunburn

As well, conditions that combined could increase symptoms of heat stress include:

- Physical work/environment
  - Loss of fluids/dehydration
  - Fatigue
  - Medications
  - Pre-existing medical condition(s)
  - Age
  - Physical fitness
- **Employers and Supervisors:** Conduct regular inspections and review work processes to spot heat stress hazards.
  - **Workers:** Must report heat stress hazards promptly and share observations from daily tasks.
  - **JHSC/HSR:** Monitor trends and review reports to identify systemic issues.

### Assess

All workplace parties have a role in assessing the risk associated with heat stress.

- **Employers:** Conduct a risk assessment of the potential hazard of heat stress.
- **Supervisors:** Analyze the hazard of heat stress in their areas and prioritize corrective actions.
- **Workers:** Provide input on how heat stress affects tasks and suggest practical solutions.
- **JHSC/HSR:** Participate in assessments and recommend improvements.

### Control

Implement measures to eliminate or reduce heat stress hazards, following the **hierarchy of controls** which include, (in order from most effective to least effective):

**Elimination** → **Substitution** → **Engineering** → **Administrative** → **PPE**

It is recommended that workplace parties implement the following control measures (listed in order of effectiveness) to prevent heat stress in the workplace:

**Elimination** :The primary method of control is the elimination of the hazard, where possible. While the elimination of exposure to heat stress may not always be possible due to nature of the work, heat stress hazards should be eliminated where they can be.

**Substitution:** Substitution is not applicable to this hazard.

- **Employers:** Allocate resources and approve control measures to control heat stress in the workplace. Some examples of controls may be:
  - **Engineering**
    - Should provide equipment to reduce the physical strain on paramedics (e.g., stair chairs, power stretchers, mechanical CPR devices, etc.).
    - Where possible provide air-conditioned vehicles and rest areas for workers.
    - Consider providing temperature-controlled devices (e.g., coolers, mini fridges for vehicles) to store water or electrolyte replenishment fluids securely in an area of the vehicle not exposed to biological, chemical or other sources of hazards.
  - **Administrative**
    - The employer shall create a heat stress plan that should include a hot weather plan.
    - Weather forecasts and heat advisories should be monitored.
    - Consider creating operational policies for call-in measures for workers who work alone.
    - Consider moving vehicles from on the road standby locations (Code 8) and parking vehicle in climate-controlled environment closest to the identified standby location.
    - Scheduling non-emergency activities to early morning or evening hours where possible (e.g., washing of vehicles, replenishing supplies).
    - Consider providing fluids including water and electrolyte replenishment fluids.
    - Policies related to crew relief should consider exposure reductions on scenes in environments that might escalate the extreme temperatures. For example:
      - Vehicle collisions on roadways with no shade – prolonged extrications
      - Remote, backcountry or rural calls with long response times
      - Events or festivals with prolonged sun exposure
      - Specialized rescues in confined spaces
      - Wearing full PPE for extended periods
  - **PPE**
    - Provide appropriate apparel to assist workers in preventing heat stress. For example:
      - light, breathable uniforms that are appropriate for the season (e.g., weight of material, garment length, colour, fit)
      - Consider the use of cooling towels, vests or ice packs
      - Provide sunscreen
- **Supervisors:** apply controls in daily operations and must train workers about heat stress hazards.
  - **Engineering**
    - Consider the use of equipment provided to reduce the physical strain on paramedics.
  - **Administrative**
    - Workers must be trained on the employers heat stress plan and hot weather plan.
    - Review the heat stress plan and hot weather plan.

- Weather forecasts and heat advisories should be monitored.
    - Facilitate the scheduling non-emergency activities to early morning or evening hours where possible.
    - Consider providing fluids including water and electrolyte replenishment fluids.
    - Facilitate crew relief on scenes in environments that might escalate the extreme temperatures.
  - **PPE**
    - Ensure workers use or wear the equipment, PPE or clothing that the employer requires to be used or worn.
- **Workers:** Use controls properly and follow safe work procedures.
  - **Engineering**
    - Must use the equipment provided by the employer to reduce physical strain.
  - **Administrative**
    - Drink plenty of water throughout the day and avoid caffeinated beverages that can dehydrate.
    - Stay in air-conditioned environment as much as possible.
  - **PPE**
    - Must use the equipment provided by the employer to help reduce heat stress and physical strain (e.g., stair chairs, power stretchers, mechanical CPR devices, etc.).
    - Must wear clothing provided by the employer that helps control heat.
- **JHSC/HSR:** Advise on effectiveness and compliance.

## Evaluate

Review how well the controls are working and make adjustments as needed.

- **Employers:** Audit and review the overall effectiveness of the heat stress program and hot weather plan as often as necessary.
- **Supervisors:** Monitor day-to-day performance and report issues.
- **Workers:** Provide feedback on control measures and report recurring hazards.
- **JHSC/HSR:** Conduct inspections and recommend improvements.

## Some Relevant Occupational Health and Safety Act Requirements

Employers are required by the *Occupational Health and Safety Act* (OHSA) to:

- Ensure that the equipment, materials, and protective devices provided by the Employer are maintained in good condition - OHSA clause 25(1)(b)
- Provide information, instruction, and supervision to a worker to protect the health or safety of a worker - OHSA clause 25(2)(a)
- Acquaint a worker or a person in authority over a worker with any hazard in the work and in the handling, storage, use, disposal and transport of any article, device, equipment or a biological, chemical or physical agent - OHSA clause 25(2)(d)
- Take every precaution reasonable in the circumstances for the protection of a worker - OHSA clause 25(2)(h)

Supervisors are required under the OHS Act to:

- Ensure that a worker uses or wears the equipment, protective devices or clothing that the worker's employer requires to be used or worn - OHS Act Clause 27(1)(b)
- Advise a worker of the existence of any potential or actual danger to the health and safety of the worker of which the supervisor is aware - OHS Act Clause 27(2)(a)
- Take every precaution reasonable in the circumstances for the protection of a worker – OHS Act Clause 27(2)(c)

Workers are required under the OHS Act to:

- Work in compliance with the provisions of the Act and the Regulations - OHS Act Clause 28(1)(a)
- Use or wear the equipment, protective devices, or clothing that the worker's employer requires to be used or worn - OHS Act Clause 28(1)(b)
- Report to his or her employer or supervisor the absence of or defect in any equipment or protective device of which the worker is aware and which may endanger himself, herself or another worker - OHS Act Clause 28(1)(c)
- Report to a supervisor or employer any contravention of the Act or Regulations or the existence of any hazard of which he or she knows - OHS Act Clause 28(1)(d)

## References and Resources

[Occupational Health and Safety Act](#)

[Managing heat stress at work | ontario.ca](#)

OHCOW Documents:

- [Heat Stress Toolkit - OHCOW](#)
- [Heat Stress Calculator - OHCOW](#)

Public Services Health and Safety Association (PSHSA) Resources:

- [How to Prevent Heat Stress and Protect Workers](#)
- [Heat Stress Awareness Toolkit](#)

Workers Health and Safety Centre (WHSC) Resources:

- [WHSC hazard bulletin Heat Stress: Cool Solutions](#)
- [Heat Stress: Cool Solutions](#)

Guidance Notes

- [GN #13 - Atmospheric Hazards and/or Confined Space Response](#)
- [GN #15 - Weather Hazards](#)

Government of Canada

- [Extreme Heat Events Guidelines - Technical Guide for Health Care Workers](#)

## Distribution and Use

This document should be:

- Shared with the workplace Joint Health and Safety Committee (JHSC) or Health and Safety Representative (HSR).
  - Incorporated into the workplace Occupational Health and Safety policy and program, where appropriate.
  - Posted on the Public Services Health & Safety Association (PSHSA) and Workers Health and Safety Centre (WHSC) websites and other relevant stakeholder websites.
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## Support and Assistance

The Public Services Health & Safety Association (PSHSA) can provide assistance with developing and implementing occupational health and safety programs, training, and specialized services: <http://www.pshsa.ca/>

The Workers Health & Safety Centre (WHSC) is an occupational health and safety training centre. It offers comprehensive support to workers, employers, supervisors, and health and safety representatives across industries and workplace sizes: <https://www.whsc.on.ca/>

For more information, contact the Ministry of Labour, Immigration, Training and Skills Development (MLITSD) Health and Safety Contact Centre: toll-free: 1-877-202-0008

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## Disclaimer

This guidance note is intended to help workplace parties understand some of their obligations under the Occupational Health and Safety Act (OHSA) and its regulations. It does not replace the OHSA or its regulations. Always refer to the official legislation for complete requirements.

Compliance with the legislation is the responsibility of workplace parties. This document does not constitute legal advice. For interpretation of the legislation or its application to specific circumstances, consult legal counsel.

While this guidance note will be available to MLITSD inspectors, enforcement of the OHSA and its regulations will be based on workplace conditions and facts as they may find them in the workplace. This document does not limit or affect inspector discretion in any way.