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**Key Messages:**

- Extreme heat can cause heat-related illness and death, especially in individuals with chronic illness, elderly, infants, children, youth, pregnant women, those working or exercising outdoors, those with occupational risks, people experiencing homelessness, social and/or economic marginalization, and individuals taking specific medications.
- The use of certain classes of medication can affect vulnerability to heat; information on heat-related risks to be shared with patients.
- *Listeria monocytogenes* outbreak in Ontario linked to certain refrigerated, plant-based beverages.

**Revised: Heat-related Illness and Associated Risks for At-risk Populations**

Heat impacts the ability to thermoregulate, which can increase the risk of heat-related illness, and death. The risk of heat-related morbidity and mortality increases with the intensity of the heat (both day and night-time temperatures) and the duration of the heat event. In Peel, the Medical Officer of Health issues a heat warning to community partners and agencies who work with at-risk populations when temperatures are forecasted to reach 31°C with overnight of at least 20°C for a duration of two or more days, or a humidex of 40. When a heat event extends into a third day, an extended heat warning is called.

As climate change continues to impact weather patterns and temperature, the number and intensity of heat events are expected to increase.

**Presentations of Heat Related Illness**

Heat exposure can result in direct illnesses including heat edema, heat rash, cramps, syncope, and heat exhaustion. These can be self-limiting but should be addressed with treatment.

Exertional heat stroke and classic heat stroke are medical emergencies and require immediate action from a health care worker and hospitalization.

Exposure to heat may also present as exacerbation of cardiovascular, renal, pulmonary, or psychiatric illnesses.

Patients with these presentations should be assessed for heat-related illness and provided with information on how to mitigate it. This information can be found on [Peel Public Health's webpage](#).

**At-Risk Populations Associated with Taking Certain Medications**

- **Older adults** (especially >75 years)
- **Challenging living conditions** (confined to bed, social isolation, reduced income, malnutrition, reduced access to cooling options)
- Those having chronic diseases including:
  - **Cardiovascular disease** (hypertension, coronary artery disease, heart conduction disorders)
  - **Mental and behavioural disorders** (due to psychoactive substance use, alcohol use)
  - **Mental illness** (dementia, depression, schizophrenia, Alzheimer's)
  - **Neurological disease** (Parkinson's disease)
  - **Respiratory illness** (COPD, asthma)
  - **Renal disease** (renal failure) **Metabolic conditions** (diabetes, obesity)

Some medications increase heat associated health risk. Table 1 provides details on these medications and how they increase risk of heat-related illness.

**Table 1. Medications that Increase Health Risks Associated with Heat**

Medication	Mechanism
Antiadrenergics and Beta-Blockers (e.g., Atenolol, Metoprolol)	Can decrease cardiac output, and therefore shunting of warm blood from body core to periphery, limiting cooling.
Anticholinergics (e.g., Scopolamine)	Can prevent sweat glands from functioning properly (i.e., inhibit rate of sweating and therefore rate of cooling).
Antidepressants (e.g., Prozac, Zoloft, other SSRIs)	Many have anticholinergic properties (see above) and some can raise the brain's thermal set-point decreasing centrally induced thermoregulation. SSRIs can increase the risk of hyponatremia.
Antihistamines (e.g., Brompheniramine)	Can inhibit the sweating mechanism.
Anti-Parkinson's agents (e.g., Benztropine, Levodopa, Trihexyphenidyl)	Can inhibit the sweating mechanism.
Antipsychotics (e.g., Olanzapine)	Can inhibit the sweating mechanism. Can induce a hyperthermic syndrome (neuroleptic malignant syndrome) on their own, which would be compounded by the effects of heat.
Sympathomimetics (e.g., Pseudoephedrine)	Can prevent dilation of the blood vessels in the skin of the periphery (hands, feet, face) reducing the ability to dissipate heat by convection.
Diuretics (e.g., Lasix)	Can lead to dehydration and hyponatremia
Several drug	Can provoke diarrhea and/or

classes (e.g., cholinesterase inhibitors, antiarrhythmics, calcium blockers)	vomiting, leading to dehydration.
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Note: This table was adapted from "[Acute Care During Extreme Heat Recommendations and Information for Health Care Workers](#)." Health Canada 2018.

### Resources

Following a heat warning being issued by the Medical Officer of Health, the municipalities in Peel will extend swimming and splash pad hours and will open cooling centres. Access the details at the following links: [Mississauga](#), [Brampton](#), [Caledon](#)

Specific resources are also available for individuals experiencing homelessness or are underhoused. Services include light food options, health and social services access, addiction support and access to showers. Additional information on accessing these programs can be found at: [Open Hub Mississauga](#), [Compass Mississauga](#), [Regeneration Brampton](#).

### New: Listeria Outbreak and Recall of Various Refrigerated, Plant-based Beverages

There is currently an outbreak of *Listeria monocytogenes* in Ontario linked to **Silk and Great Value brands'**, refrigerated, plant-based beverages. A [voluntary recall](#) of the products has been initiated.

As of July 8, 2024, there have been nine confirmed cases associated with the outbreak, including five hospitalizations, with most cases occurring since June 2024. For information on clinical testing, refer to the [Public Health Ontario Labstract](#). For additional information on Listeria refer to the June 16, 2023 Health Professionals Update: [2023-06-16-Listeria-Vol-16-No-20-v2.pdf \(peelregion.ca\)](#).

Listeriosis is a reportable disease. Immediately report all suspected and confirmed cases to Peel Public Health at 905-799-7700.