



## **POLICY NUR-80: Heat Related Illness Prevention and Management Plan**

### **Nursing Department**

**Approval Date:** September 28, 1988  
**Approval Authority:** Administrator, Norview Lodge  
**Effective Date:** September 28, 1988  
**Revision Date/s:** February 18, 2015, November 13, 2016, November 29, 2018, April 9, 2021, May 7, 2021, June 3, 2021, August 6, 2021, April 11, 2022, May 17, 2022, June 23, 2022, February 8, 2023, April 12, 2024

#### **Purpose:**

Compliance with legislative and Ministry of Health and Long Term Care Guidelines for the Prevention and Management of Hot Weather Related Illnesses in Long Term Care Homes.

To ensure appropriate measures are taken, to manage the risk of Residents/ Staff related to heat related illnesses, in the event of cooling system failure, and high environmental temperatures for the protection of Residents and Staff.

Hot Weather Season in Ontario is May 1<sup>st</sup> to September 30<sup>th</sup> in Ontario.

#### **Definitions:**

Heat Warning Information System:

Heat Warnings: Are issued 18 to 24 hours in advance of an extreme heat event when two consecutive days of weather that meets or exceeds the criteria set for Humidex and temperature (daytime highs and nighttime lows) as expected.

Additional terms used by Public Health Units may be: "extended health warning", "prolonged heat event" or a "heat emergency".

Humidex - is an index (a computed value as opposed to a measured value) developed to describe how hot or humid weather feels to the average person. The humidex combines the temperature and humidity into one number to reflect a perceived temperature. The Meteorological Service of Canada uses humidex ratings to inform the general public when conditions of heat and humidity are possibly uncomfortable.

The HWIS includes criteria incorporating ambient air temperature for both day time highs and night time highs or a Humidex value for at least two days. See table below.

Heat Warning** Region	Condition	Duration
Extreme Southwestern Ontario (Essex & Chatham-Kent Counties)	Tmax* ≥ 31°C and Tmin ≥ 21° C  <u>OR</u>  Humidex ≥ 42	2+ days
Remainder of Southern Ontario (including District of Parry Sound)	Tmax* ≥ 31°C and Tmin ≥ 20° C  <u>OR</u>  Humidex ≥ 40	2+ days
Northern Ontario	Tmax* ≥ 29°C and Tmin ≥ 18° C  <u>OR</u>  Humidex ≥ 36	2+ days

\*\* Tmax represents maximum daily temperature. Tmin represents minimum nighttime temperature.

\*\* A heat warning is for a two-day event.

**Procedure:**

1. Registered staff shall complete a Heat Risk assessment in Resident Documentation Software Program by May 15<sup>th</sup> of each year and a plan of care will be implemented on all Residents regardless of their risk level. Heat Risk assessments are completed quarterly from May 15<sup>th</sup> to September 15<sup>th</sup> as per the RAI scheduler.

Residents will be identified as:

1. At increased risk during hot weather. (Identified on assessment as “moderate or high”)
2. Potentially at increased risk during hot weather. (Identified on assessment as “low”)

2. Since Residents independently enter and exit the home, staff will be able to recognize the signs and symptoms of the adverse effects of high environmental characteristics of heat related illness.

Central Air Conditioning is available in the home. The temperature is maintained at a minimum of 22 degrees Celsius.

Norview Lodge will implement their Heat Related Illness Prevention and Management plan every year from May 15<sup>th</sup> to September 15<sup>th</sup> and:

- Any day on which the outside temperature forecasted by Environment and Climate Change Canada for the area in which the home is located is 26 degrees Celsius or above at any point during the day; and
- Anytime the temperature in areas of the home in which measurements are required by the Regulation reach 26 degrees Celsius or above, for the remainder of the day and the following day.

Temperatures are measured 3 times a day (every morning, afternoon between 12-5pm and every evening) and documented electronically in the following areas of the home:

1. A. 2 Bedrooms-1 bedroom on the east side of the home on the second floor.  
B. 1 Bedroom on the west side of the home on the first floor.
2. A. 2 common areas on each floor of the home-1 Resident home area corridor on the west side of the home on the first floor.  
B. 1 Resident home area corridor on the east side of the home on the second floor.

This documentation of temperatures will be kept for 1 year.

The Facilities Services Supervisor or designate will print out a report monthly or as requested or required.

**Preventative measures will be taken during hot weather as follows:**

1. Monitor Residents for heat related illness.
2. Promote cooling by keeping Residents out of direct sunlight as much as possible.
3. Assess and implement body cooling strategies as follows:
  - Draping wet towels on the body (on forehead, neck).
  - Taking cool showers or baths
  - Contacting POA/Family regarding providing appropriate hot weather clothing and accessories.
4. Wearing only loose, light-weight clothing, preferable cotton (non-polyester).
5. Provide the Residents with appropriate additional skin care due to hot weather.
6. Program staff to do programs in cool areas/refrain from physical activity – incorporate rest breaks, fluids, - provide sun blocking accessories.
7. Keep shades, drapery or window coverings closed.
8. Turn off unnecessary lights.

9. Avoid/minimize excessive physical activity, especially in the sun and during the hottest times of the day.
10. Maintain adequate intake of fluids, including water, fruit or vegetable juice, and especially before and during physical activity. This will occur on a 24 hour basis 7 days per week as required. May need to increase additional beverage passes.
11. Encourage Residents not to leave the home for extended periods of time by wheelchair or motorized assistive devices.
12. Ensure Residents wear hats, sunscreen and take additional fluids with them if they insist on leaving the home.
  - Residents who resist increased fluid intake may be given popsicles, juice, slush, Jell-O.
  - To encourage increased intake, fluids should be readily available in all Resident areas at all times.
  - Avoiding beverages which can act as diuretics and are dehydrating (ie: tea, coffee, alcohol, pop).
13. Refer to Dietitian as required for risk of dehydration and or heat related illness to implement enhanced hydration program.
14. Assess the need to modify menus to reduce heat generating equipment.
15. Indoor temperatures are monitored electronically by the cooling/heating automation system.
16. Provide fans for cooling if needed.
17. Keep windows closed if heat and humidity are higher outside (over 26°C and 50%).
18. HVAC system maintenance.

**During prolonged severe hot weather the following interventions will take place:**

- Heat Warning alerts will be communicated to staff via e-mail by the Administrator and/or designate. The Administrator/or designate will determine when the contingency plans are to be implemented.
- Notify Physician of any Resident suspected or assessed to have heat related illness.
- A referral will be made to the Dietitian for those Residents experiencing degree of heat related illness (example to correct electrolyte imbalances).
- Program staff will avoid/cancel outdoor programming that does not provide for air conditioning settings.
- During Programs if Resident status changes, immediately notify Registered Staff and obtain assistance.

There are several additional risk factors (refer to Table A) that place some Residents at an increased risk of hot weather-related illness. It should be noted that the following list of additional risk factors is not exhaustive, and the factors are not in any particular order.

**Resident Risk factors RIT Heat Related Illness:**

- Ambient temperature and humidity in the home.
- Health and functional status of the Resident.
- Clothing
- Level of activity
- Hydration-do not drink sufficient fluids
- Nutrition
- Older adults may not recognize the signs of thirst
- Difficulty regulating body temperature
- Decreased awareness of their body’s needs
- Medication that increases fluid loss, affect sweat production or impairs the body’s ability to regulate internal temperature.

**Table A: Additional Risk Factors**

Risk Category	Risk Description
History of Heat Related Illness or Heat Intolerance:	History of: <ul style="list-style-type: none"> <li>• Heat related illness or heat intolerance (i.e. heat exhaustion, heat stroke)</li> <li>• Infection with or without fever</li> <li>• Poor fluid intake or dehydration</li> <li>• Failure to thrive or malnourishment</li> </ul>
Functional Status:	<ul style="list-style-type: none"> <li>• Dysphagia</li> <li>• Severe general debility/bedridden</li> <li>• Significant decline in activities of daily living</li> <li>• Cognitive impairment including poor judgment</li> <li>• Enteral/tube feeds</li> </ul>
Medical Status:	<ul style="list-style-type: none"> <li>• Obesity</li> <li>• Cardiovascular disease</li> <li>• Respiratory disease</li> <li>• Endocrine disorders</li> <li>• Renal disease</li> <li>• Skin disease</li> <li>• Combination of two or more of the following medications; diuretics, anticholinergic drugs, psychotropic medications, tricyclic anti-depressants, and antihypertensive medications.</li> </ul>

Residents who are assessed and diagnosed to be suffering from Heat Related Illness should receive care in accordance with their assessed needs. Such care may include but is not limited to:

- a) Absolute bed rest with head elevated
- b) Placing Resident in a cool area in a supine position with head lowered or knees drawn up.
- c) Cooling down by sponge bathing with cold water or placing wet/cold towels over the neck, chest, axilla and groin. More drastic measures, such as immersion in a tub filled with ice water, may be instituted on the order of the Physician. The temperature is monitored every 10 minutes.
- d) Replacing restrictive clothing with loose and lightweight clothing, preferably cotton and non-polyester.
- e) Pushing fluids, and monitoring intake until a net gain is achieved.
- f) Promoting circulation by massaging extremities and back, and changing positions frequently.
- g) Keeping Residents comfortable by various measures, including changing bed linen as necessary.
- h) Administering antipyretics, oxygen and other therapeutic measures, as prescribed by Physician.
- i) Monitoring signs and symptoms, temperatures and fluid intake.
- j) Monitoring outputs for amount, colour and concentration.
- k) Recording of Resident's signs and symptoms, temperatures, fluid intake and output and Resident's responses.
- l) Review Resident's current medication to determine those that adversely affect heat regulations, i.e.; diuretics, laxatives and phenothiazine, inform Physician and hold medications if ordered to do so.
- m) Keeping Resident's Physician informed of Resident's condition and progress.
- n) Transferring to Hospital when clinically indicated, and on the order of the Physician.

**Note:**

- a. When monitoring Resident's temperature:
- b. It is necessary to establish a baseline for each individual Resident and to compare his temperature readings with his established baseline.
- c. Monitoring should be continued even after the heat alert is over.

17. Resident's care should be coordinated amongst all involved disciplines or departments, including medicine, nursing and dietary.

**Heat Related Illness**

The chart below describes various conditions and interventions of heat related illness and factors that contribute to their development.

Condition	Description	Symptoms	Steps to Take
<p><b>Heat Rash</b>  <b>“Prickly heat”</b></p>	<p>A skin irritation caused by excessive sweating with exposure to hot, humid weather. Sweat glands become clogged with sweat trapped beneath the skin surface unable to evaporate causing a mild inflammation or rash.</p>	<p>Cluster of red bumps.</p> <p>Likely to appear on neck; upper chest; groin areas; under the breasts; and in elbow creases.</p> <p>May feel itchy, or sore, with prickly sensation.</p>	<p>Provide a cooler, less humid environment.</p> <p>Keep the affected area dry.</p> <p>Do not use creams or lotions on the affected areas.</p>
<p><b>Heat Cramps</b></p>	<p>Heat cramps are muscle pains or spasms. Excessive sweating depletes the body’s salt and moisture. The low salt level in the muscles causes painful cramps.</p> <p>Heat cramps may occur in association with strenuous activity.</p>	<p>Painful muscle cramps or spasms, usually felt in the abdomen, arms, or legs.</p> <p>Heat cramps may also be a symptom of heat exhaustion.</p>	<p>Seek medical attention for heat cramps:</p> <ul style="list-style-type: none"> <li>a) If cramps do not subside in one (1) hour.</li> <li>b) If heart problems known.</li> <li>c) If person is on low sodium diet.</li> </ul> <p>If medical treatment not necessary:</p> <ul style="list-style-type: none"> <li>a) Stop all activities and rest quietly in a cool place.</li> <li>b) Provide beverage of clear juice or sports beverages.</li> <li>c) Avoid strenuous activities for a few hours after the cramps subside as may lead to heat exhaustion or heat stroke.</li> </ul>

<p><b>Heat Exhaustion</b></p>	<p>Heat exhaustion is a milder form of heat-related illness that can develop after several days of exposure to high temperatures and inadequate or unbalanced replacement of fluids.</p> <p>Those most prone are elderly people with high blood pressure, and those working or exercising in a hot environment.</p>	<p>Warning signs of heat exhaustion:</p> <ul style="list-style-type: none"> <li>• Heavy sweating,</li> <li>• Paleness,</li> <li>• Muscle cramps,</li> <li>• Tiredness,</li> <li>• Weakness,</li> <li>• Dizziness,</li> <li>• Headache,</li> <li>• Nausea or vomiting,</li> <li>• Fainting,</li> <li>• Skin may be cool and moist</li> <li>• Pulse rate fast and weak,</li> <li>• Breathing fast and shallow.</li> </ul>	<p>Steps to cool the body during heat exhaustion:</p> <p>Drink cool, non-alcoholic beverages.</p> <p>Rest. Cool shower, bath, or sponge bath.</p> <p>Provide air-conditioned or air cooler environment.</p> <p>Wear lightweight clothing.</p> <p>If heat exhaustion is untreated, it may progress to heat stroke.</p> <p>Seek medical attention if symptoms worsen or last longer than one hour.</p>
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<p><b>Heat Stroke</b></p> <p><b>*If you see any of these signs you may be dealing with a life threatening emergency*</b></p>	<p>Is the most serious heat-related illness. It occurs when the body becomes unable to control its temperature:</p> <p>The body temperature rises rapidly; sweating mechanism fails; body is unable to cool down, and body temperature may rise to 41.1 degrees Celsius or higher within 10 to 15 minutes.</p>	<p>Warning signs of heat stroke vary but may include:</p> <ul style="list-style-type: none"> <li>• Body temperature above 39.4 degrees Celsius,</li> <li>• Red, hot, and dry skin (sweating),</li> <li>• rapid strong pulse,</li> <li>• throbbing headache,</li> <li>• dizziness,</li> <li>• nausea</li> <li>• confusion</li> <li>• unconsciousness</li> </ul>	<p>Heat stroke can cause death or permanent disability if emergency treatment is not provided in a timely manner. Have someone call for immediate medical assistance while you begin to cool the person rapidly. Do not give the person alcohol to drink.</p> <p>Get medical assistance as soon as possible.</p>
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**Residents who are assessed and diagnosed to be suffering from Heat Stroke/Heat Exhaustion should receive care in accordance with their assessed needs. Such care may include but is not limited to:**

- a) Heat Stroke: Absolute bed rest with head elevated Heat Exhaustion: Placing Resident in a cool area in a supine position with head lowered or knees drawn up.
- b) Cooling down by sponge bathing with cold water or placing wet/cold towels over the neck, chest, axilla and groin. More drastic measures, such as immersion in a tub filled with ice water, may be instituted on the order of the physician. The temperature is monitored every 10 minutes.
- c) Replacing restrictive clothing with loose and lightweight clothing, preferably cotton and non-polyester.
- d) Pushing fluids, and monitoring intake until a net gain is achieved.
- e) Promoting circulation by massaging extremities and back, and changing positions frequently.
- f) Keeping Residents comfortable by various measures, including changing bed linen as necessary.
- g) Administering antipyretics, oxygen and other therapeutic measures, as prescribed by physician.
- h) Monitoring signs and symptoms, temperatures and fluid intake.
- i) Monitoring outputs for amount, colour and concentration.

- j) Recording of Resident's signs and symptoms, temperatures, fluid intake and output and Resident's responses.
- k) Review Resident's current medication to determine those that adversely affect heat regulations, ie; diuretics, laxatives and phenothiazine, inform physician and hold medications if ordered to do so.
- l) Keeping Resident's physician informed of Resident's condition and progress.
- m) Transferring to Hospital when clinically indicated, and on the order of the physician.

**Note:** When monitoring Resident's temperature:

- a. It is necessary to establish a baseline for each individual resident and to compare his temperature readings with his established baseline.
- b. Monitoring should be continued even after the heat wave is over.

### **Protecting LTC Staff in Hot Weather Conditions**

1. It is recommended that staff members split up their break times to allow for shorter, more frequent break periods throughout the day as it pertains to daily routines and job coverage.
2. A staff member will be re-assigned for the day to deliver juices and cool snacks to staff members and or a supply of fluids/beverages will be available to staff in each RHA.
3. In some cases, consideration may be given to re-allocate the hours of start and finish in the laundry department.
4. Preventative action will be taken as follows:
  - a) Remember to avoid direct sunlight as much as possible, use air-conditioning and borrow electric fans from dining rooms and resident activity rooms. As well, draping wet towels on the body, wearing only loose, lightweight, clothing, preferably cotton (non-polyester), minimize excessive physical activity and alter routines for the day as approved by supervisor, especially in the sun and during hottest times of the day. Keep blinds lowered and drapes closed.
  - b) Maintain adequate intake of fluids, including water that will be provided in all the dining room serveries.
5. Staff are encouraged to report any signs and symptoms of heat related illness to their supervisor or designate immediately.
6. The home will investigate all staff heat related incidents

**In the event of complete cooling system failure in high temperature alerts issued by Environment Canada, the following will occur:**

Preventative action will be taken as follows:

1. Promoting cooling by keeping Residents out of direct sunlight as much as possible.
2. Draping wet towels on the body.

3. Taking cool showers or baths
4. Wearing only loose, light-weight clothing, preferable cotton (non-polyester).
5. Programs will need to be notified to determine cancellation of outside activities/trips.
6. Close drapes and/or blinds.
7. Turn off unnecessary lights.
8. Avoiding/minimizing excessive physical activity, especially in the sun and during the hottest times of the day.
9. Maintaining adequate intake of fluids, including water, fruit or vegetable juice, and especially before and during physical activity.
10. Use of fans.

**Note:**

- a) Thirst is not a reliable indicator of need;
- b) Residents who resist increased fluid intake may be given popsicles, juice, slush, Jell-O;
- c) To encourage increased intake, fluids should be readily available in all resident areas at all times.
- d) Avoiding beverages which can act as diuretics and are dehydrating (ie; tea, coffee, alcohol, pop).

**CONTINGENCY FOR MALFUNCTIONING AIR CONDITIONING**

No.	Task	Responsibility	√ / NA
1.	Identify that air conditioning has malfunctioned and notify Maintenance or Maintenance department on call.	R.N. Charge Nurse / Management/ Maintenance	
2.	Communicate to all departments via e-mail that air conditioning has malfunctioned.	R.N. Charge Nurse / Management/ Maintenance	
3.	Determine cause of malfunction and provide an estimate of duration of malfunction.	Maintenance	
4.	Back-up air conditioner for “cooling” centers for every 40 Residents. (Portable – designate rooms)	R.N. Charge Nurse / Maintenance	
5.	Copy of the list of Residents susceptible to heat stroke/exhaustion will be supplied to Nutritional Services and Programs Department.	R.N./R.P.N. per RHA	
6.	Large group or high energy programs will be discouraged.	Programs Supervisor / R.N.	

7.	Programs staff will be assigned to assist in providing fluids and cool nourishments to Residents.	Programs Supervisor	
8.	Nutritional Services will set out water jugs at each unit servery to allow Residents and all staff members access to ice water. Nursing staff will increase fluids as per Heat Related Illness Prevention and Management Plan.	Dietary Aide / Nursing	
9.	Inform Hairdresser not to use hair dryers.	Manager of Nursing and Personal Care/ or Delegate	
10.	Utilize fans obtained from Facilities Services (Stores and Maintenance). Note: fans must not be in dining room during meal times.	Support Services / Nursing Staff	
11.	Monitor floors for excess moisture due to humidity. Dry mop floors or use extractors for excess moisture.	Support Services	
12.	Rope off dining areas as caution due to slippery floors and utilize the door mats for kitchen and servery floors.	Support Services	
13.	Discourage Residents from opening windows. Encourage Residents to pull curtains and keep blinds closed.	Nursing Staff	
14.	Secure extra staff if required.	R.N. Charge Nurse / Management Team Member	
15.	Ensure Residents are not overdressed. Remove layered clothing.	Nursing Staff	
16.	Turn off unnecessary lights.	Nursing staff	

**Education of Staff on the following related to the Heat Related Illness and Prevention and Management Plan via Surge Learning (annually) and in each new employee information package :**

- Policy-annually
- Signs and symptoms
- Predisposing factors and conditions
- Interventions or engineering controls
- First aid procedures

- Employees responsibilities in avoiding heat related illness
- Heat Related Illness Prevention and Management Plan

### **Annual Plan Review**

The Heat Related Illness Prevention and Management Plan will be evaluated and updated annually in accordance with evidence based practices.

This policy will be reviewed by Family Council and Resident's Council as applicable.

All new volunteers will receive this policy at the start of their volunteering at Norview Lodge.

New Residents will receive a copy of this policy in their Information Package.

This policy will be posted on the Resident/Family Information Board and in the Home's website.

Reference: Guidelines for the Prevention and Management of Hot Weather-Related Illness in Long-Term Care Homes-LTC Inspections Branch-June 2020.