Preparation for Extreme Summer Heat in LTC and AL Facilities: Planning and Management for Residents and Employees

Purpose

Extreme heat events (EHE) commonly known as heat waves can cause significant health risks to vulnerable population. Many Fraser Health LTC and AL sites are older and do not have centralized air conditioning and ventilation systems.

Employees in the past have relied on strategies of using fans/portable air conditioning units, fluids, and cooling cloths to keep residents and themselves cool during the hot days. With COVID-19 outbreaks, the widespread use of floor and table fans can move air and droplets, posing a risk to residents and employees. In addition, the prevention and management of COVID-19 and other respiratory outbreaks, requires employees to wear PPE for long periods and therefore, be prone to becoming overheated and dehydrated.

Principles

- Heat waves can come with little warning in the summer and therefore, planning and education is important.
- Older, frail residents are at greater risk of overheating and possible death. Older, frail persons have impaired sweat mechanisms and therefore, may have difficulty regulating their body temperatures. If the body becomes too warm respiratory conditions, cardiovascular conditions, and delirium can occur; all need prompt medical attention. Many older residents do not recognize when they are hot. Decreased thirst sensation may prevent the intake of fluids to prevent dehydration. In addition, multiple medications may affect their thermal regulation.
- Employees wearing masks, goggles, gowns and gloves are at risk of overheating. The PPE inhibits easy access to airflow and, as a result, may become wet with perspiration. The wearing of face coverings inhibits frequent drinking of fluids to keep cool.
- The management of heat in the facilities and its effects on residents and employees needs to be safe, in consideration of the potential of spreading of COVID-19 and other respiratory diseases.
- Fans are recommended for circulation of cool air (pulling from outside or cool zones), but in very hot temperatures (>35°C), fans can actually be counterproductive and cannot be relied upon as a primary cooling method for vulnerable individuals.

Facility Cooling Options with Recommendations

- Block direct sun from windows by using awnings, thermal curtains/blinds, and/or sun film on windows.
- Open windows (up to 6 inches maximum – windows secured) to bring in fresh air and to help with ventilation.
- Monitor indoor heat temperatures in all areas of the building for follow up care and attention of residents and employees. Ensure indoor temperatures remain below 26°C as per licensing standards.
- Identify cooling options/areas (e.g., cooler room(s), portable air conditioner, cooler shower) if possible, for residents and employees.

Guidelines for Fan Use

- Floor fans or air conditioning units with strong horizontal airflow across the breathing zone should be avoided in resident care areas.
- Ceiling fans are ideal for safe movement of air. May mount portable fans at ceiling height on LOW speed setting to direct air downwards.
- If using floor fans, the direction of the airflow in resident rooms must be directed above their head towards the ceiling, avoiding smoke detectors.

- In non-resident areas, such as nursing stations, airflow should be directed within the area rather than blowing into the hallway or other adjoining rooms.
- Floor fans (the blades/housing portion) shall be mounted on a stand approximately 76 centimeters (30 inches) above the floor. The blades/housing shall not be angled toward the floor in order to avoid high velocity turbulence at the ground level which could result in contamination of adjacent surfaces, equipment and consumables.
- Desk/table top fans shall be suitably placed on a flat horizontal surface, (e.g., a table). The blades/housing shall not be angled toward the floor or across environmental surfaces.
- Appropriate positioning and risk assessment are to be considered to mitigate hazards involved in the use of fans, e.g., trip hazard from electrical cords.
- Electric fans (fixed or portable) shall NOT be used in the following situations:
    - Suspected or confirmed outbreaks
    - Residents colonized with MRSA who have excessive skin shedding/peeling and/or itchy skin
    - During aseptic or clean clinical procedures, wound care and aerosol generating procedures

Please note: if fan and portable AC use is necessary during special circumstances i.e. enhanced monitoring, respiratory outbreaks during EHE, please consult IPC for further guidance.

Fan Cleaning and Maintenance

- Fans should be cleaned regularly, at a minimal once a month with a neutral detergent or wipe after disconnection from the power source. If they are visibly dusty, they should be cleaned immediately. Perform hand hygiene when cleaning and handling air conditioner and fan parts.
- Remove any water sitting in the air conditioner pans when not in daily use - empty, clean and disinfect the drip pan and allow to dry completely before storing.
- Vent the portable AC units out windows, where possible.

Resident Care Considerations

See Clinical Practice Guideline: Prevention, Identification, and Management of Heat-Related Illness in Long-Term Care (LTC) Homes

- Use cooling strategies such as cool cloths for face, hands, and/or back of neck.
- Provide an additional shower or bath.
- Have residents wear lightweight clothing and/or coverings.
- Provide additional fluids and foods high in water content such as fruits and salads.
- Offer residents their fluid of choice.
- Provide ice cubes and popsicles to help with fluid intake.
- Relocate residents to a cooler location if possible during the day or periods of the day.
- Offer hydration during medication administration and during daily care, i.e., AM care, PM care.
- Have HCAs and other staff (e.g. recreation therapists) report any signs and symptoms of dehydration to the nurses, as soon as possible.
- If it is safe for residents to go outside, have residents wear sun protection, hat and sunglasses while outdoors.
- Provide staff education to support the assessment and care of residents during extreme heat.
- Create individualized care plans to assess and treat all residents for signs, symptoms, and risk for heat related illnesses, including but not limited to:
    - Decreased fluid intake or thirst
    - Inability to adapt behavior to keep cool, e.g. those with cognitive losses or immobility

  - Physical factors and chronic diseases, such as; heart conditions, diabetes, respiratory or renal insufficiency, Parkinson's Disease, obesity, and skin disorders that impact sweating
  - Multiple medications particularly anticholinergics, vasoconstrictors, antihistamines, diuretics, antihypertensive and psychoactive drugs.
  - Older age - in particular, women over the age of 75 years
- Observe residents for any signs of heat-related conditions, e.g.:
  - Changes in behavior – headaches, unusual fatigue, sleepiness, weakness
  - Skin moisture – signs of heat rash, fungal rash
  - Difficulty breathing
  - Changes in level of responsiveness
  - Changes in oral cavity – insufficient saliva or unusual dry mouth, difficulty speaking and/or swallowing, nausea and vomiting
- **Provide medical attention promptly for any signs of heat exhaustion or heat stroke.**

Employee Considerations for Keeping Cool

- Provide for frequent rest breaks for hydration and cooling down.
- Have coolers with ice readily available with individual bottled water for ease of access or place water dispensers with disposable cups in staff areas not far from hand hygiene stations
- Individual cooling pads/towels may help cool employees (purchased by employees – available at some larger general stores, fitness stores). The pads/towels are cooled with water, for frequent individual use.
- PPE may need to be changed more often due to perspiration (applicable during enhanced monitoring/outbreak) and need for hydration breaks.

References

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