SUPPORTING VULNERABLE PEOPLE DURING A HEAT WAVE

Advice for all employees working with older persons

June 2017
What is a heat wave and how does it affect health?

Introduction

Heat-related deaths are expected to grow as a consequence of projected further increase in heat wave frequency, intensity and duration, due to climate change. Heat wave results when temperatures remain abnormally high over more than a couple of days. Climate change means heat waves are likely to become more common in Malta. It is estimated that by the year 2030 more than 400 attributable deaths per year occur in several countries within the EU as result of heat.

Caring for older people

Older people are at increased risk of heat related illness, especially if they have medical conditions or take certain medicines, live alone or live in a home where several other residents are in constant demand of care provided by the limited number of carers and nurses. Being frail, not able to move as easily, or having dementia or a mental illness, can affect an elderly person’s ability to take adequate care of themselves in hot weather.

What risks are the elderly exposed to during a heatwave?

Heat waves characterized by long duration and high intensity have the highest impact on mortality. In the nine European cities analyzed by EU (Athens, Barcelona, Budapest, London, Milan, Munich, Paris, Rome and Valencia), the estimated increase in mortality during heat waves ranged from 7.6% to 33.6%. The impact of long heat waves (i.e., more than four days) was 1.5 to 5 times higher than that of short heat waves.

This justifies our concern for a proactive approach. When the ambient temperature is higher than skin temperature, the only effective heat-loss mechanism is sweating. Therefore, any factor that reduces the effectiveness of sweating such as dehydration, lack of breeze, tight-fitting clothes or certain medications can cause the body to overheat. The main causes of illness and death during a heat wave are respiratory and cardiovascular diseases. The main contributor is the effect of heat on the cardiovascular system. In order to keep cool, large quantities of extra blood are circulated to the skin. This causes strain on the heart, which for elderly people and those with chronic health problems can be enough to precipitate a cardiac event. Also sweating and dehydration can result in electrolyte imbalance and this subsequently makes a person more vulnerable to the effects of heat.

Heat-related symptoms

- **Heat cramps** – caused by dehydration and loss of electrolytes, often following exercise.
- **Heat rash** – small, red, itchy papules.
- **Heat oedema** – mainly in the ankles, due to vasodilation and retention of fluid.
- **Heat syncope** – dizziness and fainting due to dehydration, vasodilation, cardiovascular disease and certain medications.
- **Heat exhaustion** – is more common. It occurs as a result of water or sodium depletion, with non-specific features of malaise, vomiting and circulatory collapse, and is present when the core temperature is between 37 and 40ºC. Left untreated, heat exhaustion may evolve into heatstroke.
- **Heatstroke** – can become a point of no return whereby the body’s thermoregulation mechanism fails. This leads to a medical emergency, with symptoms of confusion; disorientation; convulsions; unconsciousness; hot dry skin; and core body temperature
exceeding 40ºC. It can result in cell death, organ failure, brain damage or death.

Most at-risk groups include:

- **Older people**, over 75 years old, especially those who cannot drink water unaided.
- Those with **chronic and severe illness**, including heart conditions, and especially those on medicines that potentially affect renal function, such as diuretics.
- Those who are **unable to adapt their behaviour to keep cool**, especially those who are bed bound.

**Measure to minimize health related problems** - being proactive

**The building and surroundings**

- Check that any south-facing windows can be shaded, preferably by curtains with pale, reflective linings rather than by metal venetian blinds and curtains with dark linings, which can make conditions worse. If these are fitted, check that they can be raised.
- Check that windows can be opened freely while acknowledging security considerations.
- Where possible, increase outside shading, in the form of shutters, shades, trees or leafy plants. Reflective paint can also assist in keeping the building cool. Increase outside greenery, especially in concreted areas, as it increases moisture content and aids cooling as a natural air conditioner.
- Cavity walls and roof insulation help to keep the building warm in winter and cooler in the summer.
- Cool areas can be developed with appropriate indoor and outdoor shading, ventilation, the use of indoor and outdoor plants and, if possible, air-conditioning. A cautionary note: aim at an ambient temperature of 26ºC or slightly below, as although most episodes of hypothermia are initiated outdoors by cold ambient conditions, frail elderly people may become hypothermic while indoors at temperatures in the range of 22 to 24ºC.
- Ensure that employees know which rooms are the easiest to keep cool and which are the most difficult, and review the distribution of residents according to those most at risk (see Additional Notes on page 7 to identify most at-risk groups). Residents on the top floor level may be at particular risk as hot air rises.
- Identify cool rooms or cool areas. High-risk groups that are vulnerable to the effects of heat are physiologically unable to cool themselves efficiently once temperatures rise above 26ºC. Therefore, every care, nursing and residential home should be able to provide a room or area that maintains a temperature at 26ºC or below to accommodate those residents showing heat related symptoms.
- Indoor thermometers should be installed in the rooms in which vulnerable groups spend substantial time in particular their bedroom, and during a heat wave, indoor
temperatures should be monitored at least twice a day.

**Facilities**

- Check that an adequate supply of fans and facilities for tepid sponging is available.

- Check that water and ice cubes are freely available. Ensure that you have a supply of oral rehydration salts, and residents on diuretics have a supply of orange juice and bananas to help maintain their electrolyte balance.

- Make the necessary arrangements to provide cool water to residents at regular intervals throughout the summer months.

- Plan to include cold meals in the resident’s menus (preferably with a high water content, like fruit and salads).

- Check that residents have light, loose-fitting, cotton clothing to wear.

- If you plan to move the person somewhere cooler in the event of a heat wave, consider what equipment or help you might need.

**Working arrangements**

- Ensure that all staff knows who are the residents most at risk so that these vulnerable persons could be effectively monitored more frequently.

- Ensure that you have protocols to monitor residents most at risk and to provide additional care and support (body temperature, pulse rate, blood pressure and dehydration will need to be monitored).

**If a heat wave is forecasted**

- Make sure you have taken the steps outlined above.

- Monitor the current situation by checking the Heat wave Alert issued by the Civil Protection on local weather news.

- Check that employees, and other personnel such as volunteers, know what to address during a heat wave.

**During a heat wave**

**Try to keep the care home as cool as possible**

- Keep curtains on windows exposed to the sun closed while the temperature outside is higher than it is inside.

- Once the outdoor temperature becomes lower than indoors, open the windows. This may not be possible until very late at night or the early hours of the morning.

- Water external and internal plants, and spray the ground outside windows with water (avoid creating slip hazards) to help cool the air.
Regularly monitor ambient temperature at least twice a day (in particular during the hottest part of the day at around 14:30 hours and also at 20:00 hours).

**Monitor residents**

- Discourage residents from engaging in physical activity and going outdoors during the hottest hours of the day (11.00am and 4.00pm).
- Advice residents to stay in the shade, wear hats, apply sunscreen, wear light scarves and light clothing if going outside.
- For high risk residents regularly monitor body temperature, heart and breathing rates, blood pressure and hydration levels.
- Watch for any changes in behaviour, especially excessive drowsiness.
- Watch for signs of headache, unusual tiredness, weakness, giddiness, disorientation or sleeping problems.

**Reduce the health risks of very hot weather.**

- Encourage residents to remain in the coolest parts of the building as much as possible.
- Encourage residents to spend more time in a cool room/area (below 26ºC)
  - give priority and allow more time for high-risk residents or any residents showing signs of distress (including increased body temperature).
- Make the necessary arrangements to have a health professional to check on residents especially those most vulnerable to develop hyperthermia. If possible, do not rely on just telecoms but physically visit all residents, as to ensure that residents are drinking enough water and assess any changes to their physical condition,
- Make sure that residents are equipped with phones that continue to function even during a power failure. If they have a safety alarm pendant, make sure this will work even if the power was off.
- If an older person seems to be suffering from heat related stress, they need to be cooled down immediately. Use cool baths, showers, or place cool, wet towels on their neck and underarms.
- Call a doctor or an ambulance if an older person’s condition does not improve within 30 minutes after taking steps to cool the person down.
- Employees working within Hoes for the elderly also need to make sure that they themselves do not develop any heat related symptoms.
- Encourage residents to use air conditioning if possible.
- Encourage residents to take cool showers or baths if possible.
- Encourage the older person to take simple steps to keep cool such as:
  - rinsing a cloth in cool water and using it to wipe their arms and neck;
  - sleeping with just a sheet over them;
  - putting their feet in a bowl of cool water;
  - making ice cubes from water or cordial and sucking them to keep cool; and/or
  - Putting a bowl of ice cubes in front of a fan to create a cool breeze.
Clothing and personal aids

- Encourage residents to wear light coloured, loose fitting clothing, preferably made from natural fibres like cotton or linen, and to avoid synthetic fabrics.

- Sunscreen should always be worn by an older person, even if they only go outside for a short time, as their skin is much thinner and can burn easily. It should be applied under the sleeves and collar of a blouse or shirt where the neck is exposed, and on the legs when wearing shorts or a dress.

- A wide-brimmed hat that shades the face and covers the head is advisable if going outdoors in the heat.

- Sunglasses should always be worn outside but make sure they are taken off before going inside to prevent an accident. Pausing inside for a few minutes is a good idea to help eyes adjust from the bright sunlight.

- Check that wheelchairs, walkers and other metal equipment that may be used by an older person do not become hot to touch, if left outside, as this can cause a burn.

Eating and drinking

- Older people may not always be able to tell when they are thirsty so encourage them to drink water regularly, unless their doctor has advised them to limit the amount of fluid they drink.

- It is a good idea for an older person to have a water bottle with them at all times in the heat to avoid becoming dehydrated.

- Encourage residents to eat smaller meals more often during hot weather.

- Monitor residents’ fluid intake, providing regular cold drinks, particularly if they are not always able to drink unaided. Oral rehydration salts are suggested for those on high doses of diuretics. Bananas, orange juice and occasional salty snacks can also help replace lost salts due to sweating.

- Advise residents to avoid caffeine (coffee, tea, colas), very sweet drinks and alcohol.

Medicines

- If residents are taking prescribed medicines, they **must** continue to take these during periods of extreme heat.

- Some medicines can make an older person more prone to sunburn and heat stress, so extra care should be taken to watch for signs and symptoms related to very hot weather

**Whatever the underlying cause of heat-related symptoms, the treatment is always the same – move the persons to somewhere cooler and cool them down.**
**Emergency treatment**

If you suspect someone has heatstroke, call for medical assistance (see list of useful Contact Telephone Numbers on page 8).

While waiting for assistance:

- take the person's temperature;
- it is important to move them somewhere cooler;
- cool them down as quickly as possible by giving them a cool shower, sprinkling them with water or wrapping them in a damp sheet, and using a fan to create an air current;
- encourage them to drink fluids, if they are conscious; and
- Do not give aspirin or paracetamol.

Ms Patricia Galea  
Director Healthcare Standards
SUPPORTING VULNERABLE PEOPLE DURING A HEAT WAVE  (2017)

List of useful Telephone Contacts

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<tr>
<th>Service</th>
<th>Contact Information</th>
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<tbody>
<tr>
<td>AMBULANCE</td>
<td>112</td>
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<tr>
<td>MATER DEI HOSPITAL, ADMITTING AND EMERGENCY</td>
<td>2545 4050 or 2545 4041</td>
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<td>CIVIL PROTECTION</td>
<td>2393 0000</td>
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<td>METEOROLOGICAL OFFICE</td>
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<td>HEALTH PROMOTION AND DISEASE PREVENTION DIRECTORATE</td>
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<td>HEALTH CARE SERVICE STANDARDS DIRECTORATE</td>
<td>25953326</td>
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<td>DIRECTORATE FOR ELDERLY</td>
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<td>MINISTRY for HEALTH</td>
<td>21224071</td>
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