



澳門特別行政區政府
社會工作局
GOVERNO DA RAEM
INSTITUTO DE ACÇÃO SOCIAL

Know more about hypothermia

Hypothermia

It is a condition in which the core temperature (i.e. temperature of major internal organs) of human body drops to 35.0 °C or below. Body temperature is usually maintained near a constant level of 37.0 °C.

Hypothermia induces many physiological consequences like affecting blood circulation and heartbeat, slow down neurological processes and causes suffocation.

Common causes of hypothermia in elderly people:

1. Physiological and personal factors

1.1 Very old elderly/aged and infirm

Elderly persons are slow-moving and their rate of metabolism and blood circulation decline with age. The subcutaneous fat diminishes and vasoconstriction is apparent. All these resulted into loss of thermoregulation capability and become vulnerable to hypothermia.

1.2 Mobility impairments

Besides relying on food nutrients as the source of energy required, bodily movements constituted one of the effective ways to produce heat energy. For those who are used to practice sports and exercise, they are more tolerant to cold wintry weather since they enjoy better metabolism and blood circulation. But for elders, who are physically immobile due to bone fracture, apoplexy or other reasons, they experience a decrease in mobility and a loss of body temperature could be possible if they do not put on enough warm and protective clothing.

1.3 Diseases

For elderly with chronic sickness, they suffer from thermoregulatory dysfunction caused by abnormal metabolic activity, endocrine disorders and slow-down of blood circulation. Such a dysfunction is particularly serious in those who are diabetic, hypothyroid, having cardiovascular problems or hypopituitarism. These elders are more prone to hypothermia than average persons since their performance of bodily heat generation is impaired.

1.4 Consumption of alcohol/ alcohol abuse

Most people would think that drinking a bit of alcohol can warm up the body in times of cold weather since it can keep out the cold. But

actually, alcohol causes the subcutaneous blood vessels to dilate and increases the rate of heat dissipation that in turn lowers the body temperature rapidly. For those elderly who are used to excessive drinking, the intake of excessive alcohol caused them to become unconscious, incapable of keeping themselves warm and would easily succumb to hypothermia.

1.5 Pharmaceuticals

For elderly who use psychiatric drugs, they have to pay particular attention since they are prone to lose body temperature.

2. Mental and psychological factors

Mentally-ill persons suffering from Alzheimer's disease, chronic depression, decline in cognitive abilities and elderly with mental retardation are more prone to hypothermia for they could easily overlook weather changes and their self-care abilities are on the decline.

3. Social and economic factors

For elderly people who are living alone and in lack of care, they tend to overlook weather changes and unable to take adequate measures to keep themselves and their living environment warm.

4. Environmental factor

Elderly suffering from asthma, hypertension and heart disease could easily end up in hypothermia since a drop in air temperature would cause tracheal-narrowing and vasoconstriction.

Signs and symptoms of hypothermia by three stages of severity:

First stage: shivering and chills

At the onset of hypothermia, the trunk turns cold, the skin, hands and feet suffer intense coldness and the skin turns pale. Slurred speech, stumbling pace and uncontrollable shivering followed.

Second stage: clouding of consciousness

As the body temperature keeps on falling, shivering might stop and replaced by muscle stiffness. The heart rate slows down and a progressive loss of consciousness.

Third stage: coma, slow or no heartbeat

If the situation worsens, the blood pressure begins to decrease; cardiac dysrhythmia develops and causes the heart to stop beating. The victim falls into a coma and shock that could result into death.

Treating hypothermia:

1. Rewarm the victim;
2. Settle the victim in a warm environment to facilitate a progressive rise in body temperature (preferably at a rate of 0.5°C to 1°C per

- hour for safety purpose);
3. Do not use electric heater or fan heater to increase the environmental temperature instantly. Never place hot water bags, electric blankets or body warming devices on the limbs or other body parts of the victim. Do not bathe the victim in hot water or try to rub his/her hands and feet since a rapid rise in temperature of the limbs and skin would cause the blood to flow instantly to the limbs and bring about a drop in the core temperature and blood pressure, which could be fatal.
 4. If the victim is still conscious, offer him/her some high-calorie hot drinks that are easily absorbable by the body or some hot food. Never give alcoholic drinks for alcohol increases dissipation of body heat.
 5. Apart from the abovementioned immediate treatment, send the victim for medical attention as soon as possible if the hypothermic condition is severe.

Preventing hypothermia:

1. Stay alert to weather changes

Pay close attention to weather changes, particularly when there would be a sudden drop in air temperature within a short time. When the Observatory of Macao issues the Cold Weather Warning, the public should stay alert and take precautionary measures against cold-induced decrease of body temperature. The Observatory of Macao has a 24-hr hotline (1311) for public enquiry.

2. Put on appropriate clothing

Put on adequate dry, light, comfortable and air-permeable clothes that are good for keeping warm. Do not put on clothes that are too bulky or too tight as this may impair blood circulation or hinder body movements. Use cotton underwear and avoid the skin having direct contact with wool fibers clothes which may cause discomfort or itchiness to the dried skin. Change the soiled diapers and pants of incontinent elderly frequently. Be sure to keep the head, neck, hands and feet warm by using hat, scarf, gloves and socks.

3. Cold-resistant diet

Consume hot and easily digestible foods and beverages with higher calories, like hot milk, soup, congee, noodles and rice. Make sure to have sufficient daily food and water intake. Eat frequent but small meals if appropriate. Maintain a well-balanced diet and avoid high

fat and high cholesterol foods. Do not be misled into believing that alcohol is a good means for keeping warm. Though one feels warm right after drinking alcohol, but it actually dilates blood vessels and accelerates the dissipation of body heat.

4. Keep the home environment warm

Keep the home environment warm but well ventilated. Seal off window and door drafts and repair cracks in walls to prevent cold air from seeping in. Ensure adequate indoor ventilation upon using electric heaters and keep them away from the doorway, corridor and combustibles. The oil-filled electric radiator is relatively safer for elders among all types of heater. Do not overload the electricity supply and avoid overheating, which may lead to fire or cause burn injuries. For elderly with diminished sensitivity to heat, such as those with diabetes mellitus and spinal cord problems, they should avoid using hot water bags or body warmers to keep warm.

5. Appropriate activities

Remain indoors or in sunlit places as far as possible. Put on adequate clothing upon going out to keep warm and avoid prolonged exposure to cold or windy environment. Continue with usual daily activities. Do adequate exercise to generate heat, improve blood circulation and maintain flexibility of joints.

6. Take precautions against diseases

Go for regular health checkups and follow-up consultations so that conditions which may predispose to hypothermia, like diabetes mellitus and hypothyroidism, can be detected early and treated in time.

7. Exercise care and concern for the elderly

Caregiving and assistance to elders by their family members and friends work to encourage and remind them to take appropriate precautions against cold weather. If you happen to know of single elders living alone or those with chronic illness, give them a call or pay a visit frequently to make them feel they are being cared for. In case of need, they can take refuge at the Center for Victims of Disaster of the Social Welfare Bureau located at Ilha Verde district.