

Disease Information Sheets

Hypothermia and cold injuries



Introduction

Hypothermia is a drop in the body's core temperature, occurring when the body's heat loss exceeds its heat production. It can come about suddenly, for example by being immersed in cold water, over a number of hours through exhaustion, or over days or weeks through inadequate nutrition, immobility and living in cold environments. In outdoor and travel settings, sudden hypothermia through immersion and exhaustion-related hypothermia are most common.

Frostbite (freezing of body tissue) can occur very quickly if skin is exposed to extreme cold, for example if a glove is removed. Frostbite can also occur underneath clothing, particularly if it is tightly fitting and/or wet.

What illnesses are cold-related?

ILLNESS	DESCRIPTION
HYPOTHERMIA	Loss of core body temperature. When severe, the person may stop shivering and become drowsy or lose consciousness. This constitutes a life-threatening emergency. Specialist first aid knowledge is required in order to manage a severely hypothermic patient appropriately.
FROSTBITE	Localised freezing of the tissues, usually the extremities. Frostnip is a mild form of frostbite.
TRENCH FOOT	Localised tissue injury due to extended immersion or exposure to moisture at temperatures above freezing.

Are travellers and/or expat workers at risk?

Yes. All travellers and expat workers are at risk in colder environments (including the UK). People at *increased* risk include anyone who is unfit, elderly or young, dehydrated, has underlying medical conditions such as heart disease, diabetes or under-active thyroid, people who have consumed alcohol and those taking certain medications. For frostbite, constrictive clothing and previous cold injury are also predisposing factors.

How is hypothermia recognised and managed?

Someone who looks and feels cold is hypothermic, whether or not they are shivering. Hypothermic patients may suffer "the umbles" - mumbling, grumbling, fumbling, stumbling and tumbling - and often do not recognise the condition in themselves, becoming grumpy and withdrawn. The person should be provided with shelter and insulated from the elements. They should be given hot, sweet drinks and food so that they can generate heat themselves, provided they can swallow it safely. Wet clothing should be replaced with dry. Once the person has eaten and drunk, they can be encouraged to exercise to warm themselves up, provided they are able and willing to walk unaided.

How is exhaustion-related hypothermia prevented?

Producing body heat requires adequate food and water in the body. If energy expenditure exceeds energy intake in the form of food, body temperature will drop. As well as wearing appropriate clothing for the environment, adequate rest and food and water intake are therefore critical. Cold people produce more urine (the kidneys are fooled into expelling water as blood is pulled from the periphery to the core to preserve heat), and so dehydration is likely to accompany and exacerbate hypothermia.

How is frostbite recognised and managed?

Frostbitten tissue may be painful or have pins and needles, supple, white or red, with or without blistering (superficial frostbite) or numb, hard, blue/grey with bloody blisters (deep frostbite). Although superficial frostbite *may* be rewarmed in the field the process may be extremely painful, and specialist advice should be taken before attempting it. Do not rub the affected area. In general, it is better for the frozen part to stay frozen until a controlled and complete rewarming can take place. It is also essential that once rewarmed, the part is not allowed to refreeze. Superficial frostbite may resolve completely back to normal. Deep frostbite can result in the permanent loss of the affected tissue.

How is trench foot recognised and managed?

In this painful condition the skin is initially swollen, waxy, sodden and fragile. It then may become red and blister - infection is then a risk. The feet should be kept clean, dry and warm and the person should be well hydrated. The person may have to rest until the condition resolves, and more severe cases will require pain relief and professional medical care.

NEED MEDICAL ADVICE FOR YOUR WORK OR TRAVEL IN REMOTE AREAS?

Sentinel Consulting provides support services for people travelling and working in remote or resource-poor locations. Services include:

- Pre-travel medical screening and advice
- Risk management including risk assessment, emergency response planning and medical facility inspections
- 24-hour medical support from wilderness specialist doctors
- Operational support including call-ins, incident support and liaison
- Medical bags (prescription and non-prescription drugs) and first aid kits

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