

INFORMATION ON HEAT ILLNESSES AND THE FACTORS THAT CONTRIBUTE TO THEIR ONSET - INFORMATION FOR EMPLOYERS -



WHAT ARE HEAT ILLNESSES?

They are clinical conditions related to exposure to high environmental temperatures and heat waves and these include:

1. **HEAT CRAMPS.** They are muscle pain caused by the loss of salts and body fluids during sweating.
What to do: Workers with heat cramps should stop activity and replenish lost mineral salts by consuming salt supplements and eventually be rehydrated with a physiological solution orally or intravenously. It is important to massage the muscles affected by the cramp to reduce pain. If the pain does not go away after an hour of rest, contact the doctor.
2. **SWEAT DERMATITIS.** It is the most common problem in hot working environments. It is brought on by skin maceration brought on by excessive perspiration, which might appear as little pimples or blisters. The skin rash might show up in the creases of the elbows, under the breasts, groin, upper chest, and neck.
What to do: Changing to a colder, less humid workplace is the best course of action. It is important to keep the skin rash region dry. While using ointments or lotions is not advised, talcum powder can be used to relieve discomfort if needed on the affected area.
3. **IMBALANCES IN HYDRATION.** As a result of significant water loss, usually from perspiration and hyperventilation, without sufficient hydration. Consequently, insufficient replenishment of sodium lost through perspiration leads to a sodium deficiency. The signs and symptoms of dehydration are shown in Table 1.
What to do: Encourage the employee to drink plenty of water right away. If you perspire a lot, replace the lost mineral salts with beverages and/or a snack and/or supplements. If the symptoms do not get better, see a qualified physician. If the symptoms are severe, dial 118.
4. **SYNCOPE DUE TO HEAT.** It is caused by severe vasodilation, hypotension, peripheral venous stasis, and insufficient cerebral blood flow. Pallor and dizziness precede a loss of consciousness. Up to 39°C of hyperthermia is possible, but neither perspiration nor movement.
5. **HEAT EXHAUSTION or HEAT STRESS.** It is typified by the heart's and the thermoregulatory system's exhaustion of adaptability, particularly in patients who are not acclimated and are subjected to prolonged physical exertion. The signs and symptoms of heat exhaustion are shown in Table 1.
What to do: the worker has to be moved to a cool place and, if there is no nausea, should be encouraged to drink fresh water with short but frequent sips, to lighten his clothing and to cool his head, neck, face and limbs with cold water. Workers with signs or symptoms of heat exhaustion should be brought to a doctor's observation or emergency room for evaluation and treatment. If symptoms worsen, 118 must be alerted. Until help arrives, it's crucial that a colleague stays by the worker's side for support and assistance.
6. **HEAT STROKE.** It occurs if heat stress is not treated promptly, when the body's thermoregulation center is seriously compromised by exposure to heat and the body temperature rises to critical levels (above 40°C). This is a serious health problem that may result in internal organ damage or even death in extreme circumstances. The signs and symptoms of heat stroke are shown in Table 1.
What to do: In the event a worker exhibits potential heatstroke symptoms, immediately dial emergency services for assistance. Prior to their arrival, promptly ensure the worker is relocated to a cooler, shaded environment. It's essential to reduce the worker's body temperature by removing excess clothing, applying cool water or damp towels to the head, neck, face, and limbs, and facilitating air circulation around them to enhance cooling.

TABLE N°1 SIGNS AND SYMPTOMS OF DISEASES DUE TO HEAT

| Dehydration | Heat stress | Heat stroke |
|--|---|--|
| <p>Sudden drops in blood pressure Sudden weakness Palpitations/tachycardia Irritability, drowsiness Intense thirst Dry skin and mucous membranes Inelastic skin Hypotonic eyes Hyperreflexia, muscle twitches Reduced diuresis Heat stress</p> | <p>High body temperature Sudden general malaise Headache Arterial hypotension Confusion, irritability Tachycardia Nausea/Vomiting Reduction of diuresis</p> | <p>(in addition to those in the previous column) Body temperature >40°C Hyperventilation Sweating block Mental status changes (e.g., delirium) Cardiac arrhythmias Rhabdomyolysis Internal organ malfunction (e.g., renal and hepatic failure, pulmonary edema) Shock</p> |

Fonts: American Family Physician June 1, 2002; Guidelines for the prevention of heat wave effects from the Ministry of Health

FACTORS THAT CONTRIBUTE TO THE ONSET OF HEAT ILLNESSES:

- High air temperature and high humidity levels
- Low consumption of liquids
- Direct exposure to the sun (no shade)
- Limited air movement (no ventilated areas)
- Intense physical activity
- Inadequate power supply
- Insufficient acclimatization period
- Use of heavy clothing and protective devices
- Conditions of individual susceptibility (see brochure).

Authors

Miriam Levi¹, Francesca de' Donato², Manuela De Sario², Emanuele Crocetti³, Andrea Bogi⁴, Iole Pinto⁴, Marco Morabito⁵, Alessandro Messeri⁵ (meteorologo AMPRO), Alessandro Marinaccio⁶, Simona Del Ferraro⁶, Tiziana Falcone⁶, Vincenzo Molinaro⁶ e Michela Bonafede⁶

- 1 UFC Epidemiologia, Dipartimento di Prevenzione dell'Azienda USL Toscana Centro
- 2 Dipartimento di Epidemiologia del Servizio Sanitario Regionale - Regione Lazio
- 3 UFS CeRIMP, Dipartimento di Prevenzione dell'Azienda USL Toscana Centro
- 4 Laboratorio di Sanità Pubblica, Laboratorio Agenti Fisici dell'Azienda USL Toscana Sud-Est
- 5 Istituto per la BioEconomia - Consiglio Nazionale delle Ricerche
- 6 Dipartimento di Medicina, Epidemiologia, Igiene del lavoro ed ambientale – INAIL

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