



Heat Illness and Farm Work

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Because of the nature of their profession, farmers spend a lot of time outdoors—especially in the summer, when the ground is thawed and crop production is in full swing. But while the sun helps sustain crops, its intense heat can cause illness, including a potentially fatal illness. To protect themselves, farm workers should be familiar with the different illness caused by exposure to the heat.

Causes of Heat Illness

Heat illness results when one or more of the body’s natural cooling mechanisms fail. The body has several ways of cooling itself. *Conduction* occurs when heat is transferred between two objects in contact with each other, such as when ice is applied to the skin. *Convection* occurs when air surrounding the skin is replaced by cooler air, which is why fans make it seem cooler. *Evaporation* rids our bodies of heat through sweat. Finally, *radiation* occurs when the body loses heat to cooler surroundings, which is why air conditioning cools us.

Any of these cooling mechanisms may fail if; the air temperature is warmer than your body’s temperature; humidity is high; or the wind is low. The result is heat illness.

Who Is At Risk?

We are all at risk of suffering from heat illness if we don’t protect ourselves, but the following groups may run a higher risk:

- ☐ the elderly
- ☐ infants
- ☐ those with circulatory or heart problems
- ☐ those who are physically unfit or overweight
- ☐ those who have just consumed alcohol and/or drugs (including prescription drugs)
- ☐ anyone who isn’t fully acclimatized to working in the heat

Types of Heat Illness

Heat rash is the least severe heat illness. It is caused when sweat fails to evaporate from the skin, thus clogging pores. If severe, heat rash could develop into an infection. To prevent heat rash, wear clothing made from cool, breathable material, such as cotton. Try to keep your skin dry. If heat rash does develop, treat it with corn starch and rest in a cool place.

Heat syncope, or fainting, affects people who aren’t used to working in the heat or people who sit or stand for long periods of time. It is caused when the body pumps warm blood to the skin surface to remove heat via conduction, radiation, and convection. If a person remains sedentary, blood may pool in the lower body, reducing blood flow to the brain and causing fainting. It isn’t serious, but it can be very scary to the victim or cause secondary injuries from falling.

If a coworker faints, administer the following treatment: get the victim to a cool place, make him/her lie down, elevate the victim’s feet to facilitate blood re-circulation to the heart and brain, and consult a doctor. Heat syncope can be prevented by moving around periodically when you’re doing sedentary work outside, taking periodic breaks, and adjusting gradually to working in heat.

Heat cramps usually affect the stomach and legs and can be excruciatingly painful. They’re caused by a loss of body fluids and electrolytes via sweating, which can upset the body’s chemical balance. Cramps can happen during or after physical activity. To treat them, drink lots of water and massage affected muscles. *Don’t eat salt tablets!* Doctors used to think that because cramps resulted when our bodies lose water and salt via sweating, salt tablets would help prevent them. They now know, however, that too much salt in our system may aggravate heat illness, as

it causes the body to retain water instead of sweating it away. We get enough salt naturally through our diets.

Heat exhaustion is caused by a loss of body fluids and salts from sweating, and decreased blood flow to the brain and other organs. Symptoms include cool, pale, clammy skin; dizziness; headache; cramps; nausea or vomiting; weakness; confusion; or even unconsciousness. To treat heat exhaustion, move the victim to a cool place, elevate his/her feet, and call for medical help immediately. If the victim is able to drink, give him/her plenty of cool fluids while waiting for help to arrive.

Heat stroke, a complete failure of the body's temperature-regulating mechanisms, is a **medical emergency**. Symptoms include hot, dry skin; a 105-degree temperature or higher; confusion; anger; chills; nausea; dizziness; unconsciousness; convulsions; and delirium. The victim may even fall into a coma. **Heat stroke can be fatal if not treated immediately.** If someone around you experiences any of these symptoms, call for medical help immediately. Remove the victim's outer clothing and immerse him/her in cold water. If a pool of water is not available, sponge the victim's body with cold water until help arrives. **Do not** give the victim anything to drink.

Preventing Heat Illness

To prevent heat illness from happening, follow the guidelines listed below when working in the heat:

1. Drink water periodically as you work—about every 15 minutes or so. Don't wait until you're thirsty.
2. Avoid caffeinated and alcoholic drinks, as they cause the body to dehydrate faster.
3. Wear lightweight, loose clothing and light colors that reflect sunlight.
4. Save strenuous work for the cool times of day, such as early morning or evening.
5. Take periodic breaks in the shade—don't push yourself.
6. Adjust gradually to working in the heat. No matter how young or how physically fit you are, you are still susceptible to heat illness.

Summary

Heat illness is a potentially fatal disease affecting those in the farm community. But it can be kept under control. When working outdoors in the summer, drink plenty of water before and during work, take occasional rests in the shade, and pace yourself—adjust gradually to working in the heat.

Heat Illness	Symptoms	Proper Treatment
Heat Rash	Red, blotchy skin rash	Treat with corn starch; rest in a cool place
Heat Syncope	Fainting	Move victim to a cool place; lie down and elevate feet
Heat Cramps	Pain in stomach and legs	Drink lots of water; massage affected muscles.
Heat Exhaustion	Cool, pale, clammy skin; dizziness; headache; cramps; nausea or vomiting; weakness; confusion or unconsciousness	If conscious, give plenty of cool fluids; call for assistance
Heat Stroke	Hot, dry skin; 105°F or higher body temperature; confusion; anger; chills; nausea; dizziness; unconsciousness; convulsions; and delirium	Call for assistance immediately; remove outer clothing; immerse or sponge body with cold water

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