



## THIRSTY NO MORE

Electrolyte replacement drinks are more than simple hydration for hot, hard-working employees. These drinks help them ward off dangerous heat illnesses.

by Heather Walrod and Mike Dalton

Cancer, disease, famine . . . all are proven killers. However, many people are unaware there is a silent killer on the loose that can be just as deadly as any disease if not properly monitored. Many times, this predator is not taken as seriously as it should be, and thus the chances rise that employees will be caught by this looming problem. Why take unnecessary chances when there are proven methods that reduce risks of bodily harm or fatalities? This dangerous and malicious scourge of the workplace is heat stress.

To many employers, heat stress does not seem like a serious problem. It takes a back seat to other safety-related workplace issues. As summer starts its approach and the mercury begins to rise, though, so do workplace injuries--and unfortunately, sometimes the death toll, as well. Heat-related stress becomes a harsh reality for workers in industrial workplace settings, and corporate safety officials are now faced with the task of protecting their work crew.

For today's budget-conscious companies, seasonal safety items must be considered for extreme heat in workplace settings. Safety officials frequently answer the call by providing cool water or water refreshment stations at various locations throughout the worksite, which allow workers to cool off periodically. While the consumption of large amounts of cool water may seem like a given, many companies now combine other proven safety measures--ventilation, shielding, equipment modifications, and protective clothing--with their strict hydration programs and a daily regimen of electrolyte replacement drinks that further protect their employees.



### UNDERSTANDING HEAT'S RISKS

Heat can come from a variety of sources and can affect the body in various ways. Temperature, humidity, radiant heat (such as from the sun or a furnace), and air velocity are four environmental factors that affect the amount of stress an individual faces in a hot work area. The body reacts to high external temperatures by circulating blood to the skin, which increases epidermal temperature and allows the body to give off excess heat through the skin. But if the muscles are being used for physical labor, less blood is available to flow to the skin and release the heat.

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Sweating is another method the body uses to maintain a stable internal body temperature in the face of heat. However, sweating is effective only if the humidity level is low enough to permit evaporation and if lost fluids and salts are adequately replaced. If the body cannot dispose of excess heat, it will store it. When this happens, the body's core temperature rises, the heart rate increases, and if necessary precautions are not taken, a number of traumatic events can occur. Individuals begin to lose concentration and have difficulty focusing on their tasks; they may become irritable or sick and often lose

the desire to drink. The next stage is most often fainting, and even death is possible if the person is not removed from the heat-induced situation.

### **HOW ELECTROLYTES HELP**

How do electrolytes protect employees from heat-induced stress situations? Electrolytes can appear in two forms: simple inorganic salts of magnesium, potassium, sodium, or calcium; or complex organic molecules.

Under ideal situations, electrolytes flow through muscle cells to keep them functioning normally. In heat stress situations, however, these precious minerals are lost through perspiration or other forms of dehydration, which deplete muscle cells of fluids and weaken muscle tissue. While drinking water adequately rehydrates the body, it does not effectively and quickly replace the electrolytes needed to keep the body functioning properly.

Today, many companies have gone beyond keeping cool liquids and water on hand for employees to drink. They have turned to the proven rejuvenating power of electrolyte replacement drinks. Water still reigns as nature's perfect drink, but it takes a back seat to electrolyte replacement beverages in high-heat situations. Research shows that water is absorbed much more slowly by the body and cannot be retained in the extra-cellular cavity.

In fact, the rate of absorption of electrolyte replacement products compared with water is 98 percent faster in the first minute--and when employees are working against heat-related work ailments, time can sometimes be the most critical factor in keeping them safe and protected.

In addition, at the onset of heat stress, many individuals actually experience a marked decrease in their body's natural thirst mechanism, causing them to drink less. Again, most companies keep plenty of water around for everyone to drink, but one of the main reasons companies choose to provide electrolyte replacements is that workers prefer the taste compared to water.

***Faster absorption is important. When employees are working against heat-related work ailments, time can be the most critical factor.***

The more they like the taste, the more likely they are to drink and keep themselves protected against heat-related ailments. If the body's electrolytes are not properly replaced, workers experience a marked decrease in productivity and in many cases place themselves in a hazardous work environment without even knowing it. They will lose energy and be easily fatigued. Poor judgment calls will be made. Muscle cramping, stupor, heat cramps, or exhaustion--and at worst, heat stroke--can occur.

Know the warning signs and keep employees educated to protect themselves and others around them.

### **THE COST OF INJURY AND ILLNESS**

On average, 175 Americans die of heat-related injuries each year--and that's more than tornadoes and hurricanes. It is a tragic figure considering prevention can be relatively easy. Even more, lost time accidents cost employers more than they immediately realize. Arthur J. Naquin, safety consultant and safety instructor for Tulane University in New Orleans, says direct and indirect costs associated with lost time workplace accidents usually are overwhelming. The average cost per worker for a disabling lost-time injury averages about \$28,000, according to 1998 statistics from the National Safety Council. Direct costs are medical and employee compensation costs. Hidden costs can range from time lost from work to loss in earning power, economic loss to the family of the injured employee, lost time by fellow workers, loss of efficiency due to the breakup of the crew, lost time by supervision, the cost of breaking in new employee, damage to tools and equipment, the time damaged equipment is out of service, spoiled work, loss of production, spoilage from fire, water, chemicals, etc., failure to fill orders, and increased overhead cost while the work was disrupted.

While many companies in the industrial market spend thousands of dollars on heat-reducing clothing and equipment, electrolyte replacement drinks provide the most cost-effective prevention for heat stress problems. At an average cost of pennies per ounce, these revitalizing liquids not only reduce heat stress and heat-related injuries, but also increase productivity and promote a more pleasant work environment.

In the long run, adding electrolyte replacement drinks to your heat stress prevention program will be a wise overall investment and one well accepted by your workforce.