



BEAT THE HEAT

BY DR. CHRISTOPHER MCSTAY & MAYURI BHAKTA, FNP-BC

Heat-related illness can happen to anyone working in extreme temperatures, and Medcor is thinking about all the hard-working crews we support throughout these hottest weeks of summer! In this week's Medcorner episode, Mayuri Bhakta, FNP-BC, and Christopher McStay, MD have a conversation about heat-related illnesses. Keep reading to learn who is at risk, and what you can do!

Dr. McStay: We're here today to talk about heat-related illness in the occupational health space. And I think for a lot of Americans right now, heat is top of mind. Where I am, it's in the mid-nineties- it is hot! So let's talk about heat-related illness. Mayuri, can you give us a little bit of an intro? Who's at risk and why are we worried about it?

Mayuri: Heat-related illnesses affect people who are exposed to high environmental heat, and their bodies can't regulate their core temperatures to acclimate to that heat. People at risk include those who are exercising, involved in activities outside where it's hot or involved in activities even indoors, like working in a manufacturing site or a plant where the temperature may not be ideal and there may not be great air circulation.

There are a couple of groups that are at higher risk of developing heat-related illnesses. Those include people who are less than 15 years of age, people who are greater than 65 years of age, people who are pregnant or obese, and people who drink alcohol or use illicit drugs. Also, people who aren't very physically active may be at higher risk.

There are also some environmental factors that contribute to heat-related illness. That includes high heat, high humidity, lack of shade, not enough breaks at work, especially when working indoors where there's not great air ventilation. Or outside workers like construction workers, people who work in landscaping. Also, when people are not staying hydrated when they are outdoors, that can definitely set them up for heat-related illnesses.



Dr. McStay: I think of a classic example of a young, healthy male in a workplace environment where it's hot, it's the first heat wave of the season, and he's wearing safety gear. It just seems like a set-up for someone when they are exerting themselves in safety gear in a hot environment to really get themselves into trouble. There are thousands of emergency department visits annually for people in the workplace that suffer from heat-related illness, and a large number of deaths as well. So it's something to really think about and be attuned to.

Mayuri: And it's important for employers to educate their employees and their supervisors on what heat-related illnesses are, what the symptoms are, how to monitor for those symptoms, and then what to do if you do see some symptoms.

Dr. McStay: One thing I wanted to ask is about acclimatization. Does the human body adapt to heat? And over time, do we get better as individuals at dealing with heat?

Mayuri: Yes, it's very important that employers are aware of acclimatization and what that is. It's basically when someone's body gets used to being in an environment or a climate that they're not used to. In this case, it is heat. It could also be things like going to higher elevations like mountains. But let's talk a little bit more about heat and getting acclimated. Our bodies can get acclimated to heat. The key is to start employees off working in these environments in shorter bursts of time until their bodies get used to the heat or that environment.

Dr. McStay: Let's talk about the different types of heat-related illness and the degrees of severity.

Mayuri: The first one I'd like to talk about is the least severe, heat rash. It is a rash that appears usually on the torso, the limbs, the neck, the groin, and they can look like small red bumps or even small pus-filled bumps known as pustules. If you notice these, it is important to move to a cooler environment and also keep the affected area dry. That can help with the heat rash.

The next type of heat-related illness is heat cramps. And these are basically severe muscle cramps. If you notice these and you're out in the heat, it's important to sip on cool liquids that contain electrolytes. If not available, then drink water. It's important to sip on the cool liquids and not just chug them down. To treat this, you would want to move once again to a cooler environment and someone who's experiencing heat cramps can gently try to massage the area.

The next type of heat-related illness I'd like to discuss is heat exhaustion. Signs and symptoms of heat exhaustion include weakness, dizziness, lightheadedness, headaches, nausea, and vomiting. This person can have an elevated core temperature of 101 to 104 degrees. They may be thirsty. They may have an elevated heart rate. As you can see, those symptoms are more severe. If you think that you or someone is experiencing symptoms of heat exhaustion, it's important to first move that person into a cooler environment. Try cool washcloths on their forehead, their neck, try to bring that temperature down. Then offer sips of liquids, preferably liquids that contain electrolytes like sports drinks, and if not, then water.



And you want to make sure that you stay with that person. Anyone who has symptoms of heat exhaustion should be evaluated by a health care provider before they are cleared back to activity or work. Sometimes this can progress on and become more severe. Sometimes it can lead to heat stroke, which is the most severe form of heat-related illness. In a heat stroke, people can have a loss of consciousness, they can have altered mental status. They can be confused. Sometimes they have seizures. Usually, their core body temperature is a little bit higher. It can be over 104 degrees. If somebody has signs or symptoms of heat stroke, it is important to call 911 right away.

Dr. McStay: Heat stroke is not a stroke in the classic sense of the word, but it is a medical emergency and time really is of the essence. The sooner that someone can reach definitive health care and the sooner they can be cooled off, the vastly better the outcome will be.

Mayuri: Absolutely. Things that you can do while help is on the way -if you have ice packs, you can place those under the person's underarms, their groin, their neck that can try to help bring that body temperature down. If the person is alert and it is available, you can try to put them in a bath of ice water. Obviously, if the person has lost consciousness, you don't do that because it's not safe.

It's important to stay with the person and be prepared. Sometimes people who have heat stroke go into cardiopulmonary arrest and you may need to start CPR, so it is important to stay with that person.

And I think the key takeaway here is recognizing signs of heat-related illness early and then intervening as soon as possible.

Dr. McStay: I completely agree. And in a setting where we suspect you are concerned about heat-related illness, any alteration of mental status, level of alertness and certainly collapse, confusion, those kinds of things are-- drop what you are doing, call 911 and get the person the definitive care immediately. In the meantime, do whatever you can to get them out of the hot environment, get their clothes off, get ice, cold water, a fan, anything like that can make a big difference.

Let's move to what employers can do to help prevent heat-related illness. We talked a little bit about acclimatization, but what else can we do?

Mayuri: I think the most important thing is education and preparing their employees and supervisors. Knowing the signs and symptoms of heat-related illness, how to monitor for those symptoms, and what to do. In terms of prevention, what can be done is engineering control. If you have an indoor environment where you have little or no air conditioning, installing fans to help increase the airflow, and installing heat absorbing or reflective barriers can help in trying to reduce the ambient humidity in that environment. For people who are working in environments where they're exposed to heat, whether outside or inside, offer cool liquids. Electrolyte-containing liquids like sports drinks are preferable, if not water, and make sure that people take frequent breaks.



If you have an individual who works solo, then make sure that they're checking in with someone on a regular basis. Another thing that employers can do is alternate schedules so that people have limited exposure to that heat. That is depending on the type of work they're doing and if it's possible.

Dr. McStay: It sounds like there is a lot that employers can do to help monitor and prevent heat-related illness. Individuals need to take a little bit of responsibility in this space as well to make sure that they are hydrating themselves appropriately. If they do begin to feel signs or symptoms, slow down, take a break, or let their employer know. If you see your coworker out on a hot day or in a situation where you worry about heat-related illness and they don't

feel well, look well, and certainly, if they become acutely sick, be prepared to intervene quickly.

Mayuri: Yes, absolutely. It's important to act fast, like you said. So being able to recognize those signs and symptoms and then intervene as soon as possible is very important. And we are all here to take care of each other, right?

Dr. McStay: Exactly! Well, Mayuri, thanks so much. We really appreciate your time here at Medcorner and hope you have a wonderful -- and cool day!