

Watch out for the summer heat!

Congratulations to all of you who participated in the 5/3 River Bank Run! Training and competing in this iconic Grand Rapids event is an impressive accomplishment.

As you continue to run during the summer, it is important to train smartly, especially in the heat and humidity. The risks of heat injury rise right along with the temperature. The body has an amazing ability to deal with changes in temperature, but you must pay attention.

There is a fine balance between the environmental heat stresses around you and your heat loss. Heat stresses are the sun, ground heat, air temperature, humidity and your body heat production. Heat loss comes from your breathing, sweat evaporation, convection from the wind and heat radiation from the body. Heat injury can occur if any of these are out of balance.

Mild heat injuries include heat cramps and prickly heat. These are easily reversible.

- **Heat cramps** are caused by excessive sweating, dehydration and an imbalance of salt in the body, leading to severe pain, mostly in the calves and thighs. If heat cramps occur, hydrate with water or sports drinks, get to a shaded and cool place and stretch the affected area. If cramping continues, you are not hydrating enough prior to or during your exercise.
- **Prickly heat** is an itchy red rash caused by blocked sweat glands on the surface of the skin. To avoid prickly heat, wear moisture wicking/loose clothing and avoid lotions that might block pores on the skin. If prickly heat occurs, take a cool shower and use calamine lotion or steroid creams to decrease inflammation and irritation.

The more serious heat injuries are heat exhaustion and heat stroke.

- **Heat exhaustion** is caused by excessive loss of water and salt from the body during exercise. The loss of fluid can cause an increase in body temperature because the regulatory system of the body can't cool it down. This can lead to headaches, nausea, fatigue, excessive sweating, clammy skin, confusion and rapid breathing. If you have these symptoms you should stop exercising, move to a shaded area and hydrate immediately. You can also remove any extra layers of clothing and douse yourself in water. If these symptoms occur, I recommend you stop exercising for a few days and allow your body to return to normal regulation.
- **Heat stroke** is a dangerous and life-threatening diagnosis. Essentially, it is a complete shutdown of the body's ability to control and reset its cooling system, resulting in severe headaches, delirium, severe confusion, dry skin, fainting and seizures. If these symptoms occur, immediately call 911, remove excess clothing, douse the body in cold water and, if possible, apply ice to the groin, armpits and neck. Heat stroke can cause permanent organ damage, a permanent decrease in exercise tolerance and may even lead to death.

Now, here's what you can do to avoid heat injury. The best prevention starts before your exercise.

- **Acclimatization/conditioning:** If you have taken some time off from exercising, it is not a good idea to run 10 miles in 95-degree heat. Many people sustain heat injuries due to lack of conditioning, so condition yourself slowly. Acclimatization is also important. Running in Denver is going to be different than running in San Diego. Once again, go slow as you acclimate to your environment.
- **Train in the morning or evening:** Temperature and humidity levels are lower in the morning and evening. Be mindful of the weather reports and pay special attention to the heat index, which is a combination of temperature and humidity. I recommend not training when the heat index approaches the high 80s or low 90s.
- **Hydrate, hydrate, hydrate!** Proper hydration starts hours before and should continue during activities in the heat. If you are sweating excessively, more hydration, including sports drinks, should be consumed. When training in high temperatures, I also recommend avoiding a lot of caffeine, energy drinks or alcohol, as these can affect your hydration level. Monitor your urine as well. If your urine is a darker yellow to orange, you are not hydrating enough.
- **Wear moisture-wicking clothing:** Moisture-wicking clothing whisks sweat away from the body, allowing it to cool down more quickly and easily. Cotton tends to soak up sweat and block it from evaporating. Also, avoid wearing too much clothing.
- **Use sunscreen:** Although sunburn is not technically a heat injury, any injury to the skin can cause an issue with the body's ability to sweat and maintain its temperature. You'll want to use sunscreen with the highest spf as you can find. Sunscreen also prevents skin cancer.
- **Train with a partner:** If you train with a partner, you can monitor each other. You should also have a plan of action if there is an issue or injury during your training.

Also, if you experience any injuries or orthopedic issues during your summer training, please do not hesitate to reach out to one of our sports medicine physicians at Spectrum Health Orthopedics at (616)267-8860. You can also find more information about our orthopedic program and providers on our website at <https://www.spectrumhealth.org/patient-care/orthopedics>.