Kids have more trouble sweating, and cooling down, than grown-ups.

Preseason training is killer—sometimes literally. Heat stroke is the third-leading cause of death in high school athletes. Kids are especially vulnerable to heat stroke. Why? Well, they generate a lot of body heat when exerting themselves. And one way the body cools itself is by sweating—water in sweat evaporates from skin and takes heat into the surrounding air with it. Maybe you’ve noticed that grown-ups perspire more than younger people. Kids have a higher temperature threshold for a sweat response—meaning they have to get really hot before they start sweating.

More bad news: On steamy days, when the body’s ability to regulate temperature may already be out of whack, kids can have other problems cooling down. Compared to adults, they have more surface area (mostly skin) than body mass (innards and the whole shebang). In other words, more of a kid’s body is exposed to the environment. Conversely, on frigid days, kids are more prone to getting dangerously cold. (Listen to your mom and put a coat on!)

So if you find yourself running around in beastly weather, beware. Heat stroke can start with cramps, clammy skin, tiredness, or dizziness. These symptoms mean you’re in the danger zone. Head for shade; get some help; and cool down with an ice bath or packs, ASAP. —Jenifer Lienau Thompson

Pitt med prof Tanya Hagen (a chill sports medicine doctor) filled us in on this hot topic. For more kid-friendly science, visit How Science Works at www.howscienceworks.pitt.edu