

Dear Student Engineers,

Heat-related illnesses such as heat stroke and heat exhaustion have been a threat with the extremely hot temperatures we've been facing this past summer. Colorado is about to set a record for most consecutive 90-degree days. Being outside in 90-degree heat is enough to raise the body temperature to dangerous levels, but when people take part in athletic activities or don't pay attention to their body's heating cues, the threat of heat illness rises.

Each year there are about 650 heat-related deaths. The disappointing thing is that these could all be prevented. Appropriate hydration, rest, and saving activity for cooler periods of the day are ways to effectively prevent heat illness. Although we have tried to communicate these safety precautions, we find that people continue to come unprepared for athletic activities, outdoor excursions, and high-heat work-environments.

As a physical therapist and sports enthusiast, I am concerned about the safety of athletes both young and old. My profession encourages people to care for their body so they can continue to participate in the activities they enjoy. I am a partner of The Grommet, a company that encourages citizenship commerce, where everyday people are creating solutions to everyday problems. I believe that heat stroke is an all too common problem in the summer and early fall months of Colorado. The amount of unprepared people has led doctors and scientists to seek a solution to the problem of heat-related deaths. My team is seeking a solution that would utilize an endothermic chemical reaction to cool the body and help prevent heat-related illnesses (ultimately decreasing heat-related deaths). We would like to market a wearable cooling device available for athletes, outdoor workers, and individuals who face dangerous high-heat situations.

My team and I look forward to learning about your solutions and product development.

Thank you in advance for your hard work and engineering creativity,

Dr. Rachel Kroncke, Ph.D.
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