



NAVAL SAFETY COMMAND

SAFETY AWARENESS DISPATCH



SA 24-16

Heat Stress Mishaps II

As we head into summer in the northern hemisphere, the pleasantly warm temperatures of spring are slowly turning to the oppressively hot temperatures of summer. With the heat, black flag* warnings will “go up” at military bases, but some service members will inevitably “go down” from heat-related illnesses. According to the Centers for Disease Control (CDC), more than 1,200 people in the U.S. die from extreme heat every year. We don’t want you to be one of them! In the naval services, we’ve already had nearly 60 heat illness cases, including one fatality, this fiscal year as of June 1st.

While we can’t stop the heat, we can prepare for our activities out in it. Learn how you can prepare for the heat by reading about our fellow service members who didn’t. Every example was preventable.



- **Is This What They Mean by a “Bag Nasty”?** (Note: a “bag nasty” is an issued meal ration nicknamed for its “nasty-ness”). A Marine was concerned about passing the weigh-in, so he decided to cut water weight (this is already not a smart practice, but this devil dog took it to another level). Most people exercise with a sweatshirt and sweatpants combo when trying to get a little “extra burn,” but not this Marine. He decided to go running in the 85-degree southern humidity wearing (wait for it) a ballistic plate carrier and trash bag. He, understandably, passed out on the trail and was found with a temperature of 102. —*Trying to “cut weight” is an unhealthy practice to begin with. Doing so as aggressively as this Marine is not just unsafe, it’s absurd. Instead of taking extreme measures to make a weigh-in, please get in shape before PFT/PRT season; then, you can hydrate like a rational person.*
- **Going From Hot to Hotter.** While on the ship, a Sailor participated in a one-hour unit PT session, where he understandably broke a sweat in the 90-degree workout space. Following PT, he reported for his shift in the main engine room, where the temperature was 105 degrees (basically a free post-workout sauna). After an hour on shift, the Sailor showed symptoms of heat exhaustion and was taken to medical. —*PT is a must, just as your daily shift is a must. Knowing your shift is in a hot engine room makes it even more important to hydrate before, during, and after these events.*
- **“I Can’t Put My Arms Down!”** A Marine started a mountain motorcycle ride in the early morning as the sun came up. With the temperature quite cold at the start of the ride and the added wind chill, he wore several layers of warm clothing (good initial plan). As the Marine rode further down the mountain, the sun kept rising and the temperature rose with it. However, the rider continued with his multi-layered outfit (it was time to rethink the plan). We don’t know if the Marine wore as many layers as Randy Parker from “A Christmas Story,” but they were enough to cause him to eventually black out, fall off his motorcycle, and hit a guardrail. He awoke 15 minutes later in an ambulance. —*We absolutely want motorcycle riders to wear protective clothing, but we want it worn intelligently. Heat stress doesn’t just happen during PT and sports. Motorcycle riding has physical demands of its own. Be aware of how extra layers affect your ride and when to pull over and adjust to changing temperatures.*
- **Can’t Fight the Heat.** A Sailor attending the submarine damage control/firefighting trainer didn’t realize the heat levels he would experience...when dealing with fire...(sigh). The student reported for training at 0800 and received a safety brief about hydration. This brief should have rung some warning bells in his mind, but apparently, it didn’t. His preparation for the course was to get only a few hours of sleep the night before and to fuel his body with an “energy” drink in the morning (and by “energy,” we mean caffeine, which dehydrates you). The sleep, water and food-deprived Sailor donned his firefighting gear and began the training. After only ten minutes in the intense heat training environment, he succumbed to fatigue and

* Black flag conditions mean the Wet Bulb Globe Temperature (WBGT) is 90 degrees or above. WBGT measures the temperature read by a thermometer covered in a wet cloth. As water evaporates from the cloth, evaporation cools the thermometer. This mirrors how the human body cools itself with sweat.

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exhaustion. He was removed from the trainer and treated at medical for heat exhaustion. —*You don't need a doctorate in biology to know that the body needs proper fuel, water, and rest to perform. Even if you're young or in shape, that isn't a reason not to prepare your body for intense physical activities like firefighting. Don't let overconfidence get in the way of proper preparation.*

- **Exhausted Beyond Comprehension.** A Sailor decided to go for a 45-minute run at the end of the day. The temperature had been at black-flag levels for a month, but (or “so”) he thought the weather was suitable for a run. He finished the run at his house, where he encountered his neighbor, who began speaking to him in another

language. The Sailor wasn't feeling well and couldn't understand the neighbor (*they were overseas, but we wonder if the neighbor was actually speaking another language, or the Sailor was just out of it at this point*). The Sailor then passed out. He woke up in the neighbor's house with scrapes on his hand. After reflecting on the day, the Sailor recalled having minimal hydration before the run (*excellent prep for nearly an hour in black flag weather, eh*). —*Black flags on the flagpole aren't for decoration; they're heat condition warnings based on medical science. Don't rediscover the science the hard way. Anytime you're exercising in hot weather and want to remain conscious, we suggest you make a conscious effort to stay hydrated.*

- **Even the Office Can be Dangerous!** The air conditioner in a Marine Corps building broke down one morning (*it happens in our building too*). No one took temperatures in the building, but anyone who has graced the southern states in summer can attest that it must've gotten plenty hot inside. Personnel were authorized to depart halfway through the day, but one motivated civilian decided to finish the day (*Oorah!*). He was only doing clerical work, but when he got home, he promptly succumbed to heat exhaustion and lost consciousness. —*We credit him for his work ethic and being able to finish the workday, but we wonder how he managed to get home safely. Thankfully he didn't collapse while driving. This case is a testament that heat stress can happen anywhere. If it is hot and you are not taking breaks out of the heat, or at the very least properly hydrating, you can go down during any activity.*

Key Takeaways

It's easy to fool ourselves into thinking heat stress only happens during vigorous exercise, but the service members affected by these mishaps learned that it can happen anytime. While your level of physical activity is a big factor, other factors can cause a heat stress mishap too. So, keep these points in mind as the summer temperatures increase.

1. **Hydration, hydration, hydration.** Sweating is your body's primary means of regulating its temperature. It doesn't matter how in shape you are: If you don't hydrate properly, you are asking to go down. Proper hydration starts the day before an event and continues through completion. Make sure you're drinking the right fluids, too. Energy drinks (*that our Marines and Sailors love so much*) aren't it—they dehydrate you. The caffeine in energy drinks (*lots of it*) causes increased urination, and the sugar molecules pull water out of the body and into the bloodstream; together they double up and lead to quick dehydration (*so you might feel energetic...right up till you collapse from dehydration*). Hydrate intelligently. Ask yourself when the last time that you urinated was? What color was it? Brown/Dark Yellow = Bad, Light yellow/Clear = Good.

2. **Know when to cool down.** A little awareness can save lives. Watch for heat stress indicators like headaches, cramps and fatigue. Resting and rehydrating might get the service member back in action. If heat stress isn't treated, it can devolve into dizziness/lightheadedness, nausea and vomiting, an absence of sweating and eventually full-blown heat stroke. Know when to quit and keep an eye out for each other. The worse somebody gets with heat stress, the less likely they can recognize their own symptoms.

3. **Plan appropriately.** Individuals must hydrate (*please see the comment above*) and dress accordingly. Leadership must take extra action. Plan adequate breaks for your events, have places for your personnel to refill water and designate people to monitor your Sailors' and Marines' well-being.

And remember, “Let's be careful out there”