



Naval Safety Center

LESSONS LEARNED



LL 21-18

HEAT-RELATED MISHAPS

“It’s hot. It’s like Africa hot. Tarzan couldn’t take this kind of hot.”

—Private Jerome, “Biloxi Blues”

Now that we’re more than a month into the 101 Critical Days of Summer, temperatures are climbing, and, along with them, heat-related mishaps are too. Heat-related illnesses and injuries such as sunburn, heat cramps, heat exhaustion, and heatstroke can ruin your day, and it did for the Sailors and Marines in this lesson, who fought and lost their battles with the heat.

In the U.S., an average of more than 700 heat-related deaths occurred annually from 2004-2018, according to the Centers for Disease Control and Prevention. And the naval services are certainly not immune. Despite heat index warnings and official procedures addressing heat stress preventative measures, Sailors, Marines, and civilians continue to lose workdays (*and be harmed*) due to heat-related mishaps. This lesson applies to our families too, so read and share before your next excursion into the heat.



- **“PT, It’s Good For You! It’s Good For Me!”** Directly after running morning PT, a Sailor stated he felt faint, and he was breathing very hard, sweating, nauseous, and his chest hurt. He was diagnosed with heat exhaustion and placed on seven days light duty. — *Hot weather can take some getting used to. If you haven’t worked out in the heat for a while, ease into it. It’s actually beneficial to work your way up slowly when exercising out in the heat conditions where you’ll be working. You will be better conditioned for working in hot temperatures. Remember to **Stay Hydrated!***
- **Lesson Not Learned.** A Marine experienced heat exhaustion after completing a three-mile hike. The Marine didn’t hydrate during the 24 hours before the hike and didn’t drink water during the hike. — *One would think he learned his lesson when he did the same thing a year earlier (according to the report), with a similar outcome; a 103.7F temperature and two weeks on light duty. Let’s hope our water-shunning Marine doesn’t go for the third strike. **“Hydrate or die,” isn’t just a saying. It’s real.***
- **Not So Happy Feet.** While on leave, a Sailor was at a water park with his family. He stated that he applied non-waterproof sunscreen, including his feet, before going into the water and only went into the water up to his calves. A few hours later, the Sailor exited the pool and put his shoes back on. The next day his feet started to swell, and he reported to the local military hospital with severe sunburn to both feet. — *This example is a case in point for the saying **“apply and reapply.”** Even the waterproof types of sunscreen may not last all day. Besides the short-term pain, sunburns can have long-term effects such as premature aging of the skin and cancer. Trust us, you don’t want to follow in this unfortunate Sailor’s footsteps (see what we did there?).*



- **A Little Help Here, Please.** A Sailor worked on the flight deck for much of the day in 96-degree temperatures with a heat index of 137. The Sailor recognized that he was showing symptoms of heat exhaustion and sought help before his condition became much worse. He was treated with four bags of intravenous fluids. He was drinking from his camelback, but did not have a break for most of the day. — *Look out for your teams and shipmates folks, especially in extreme heat conditions. That Sailor wasn’t the only one on the entire aircraft carrier who could perform the job.*



• **Speechless.** During a 20-kilometer hike, a Marine fell down and, while he remained conscious, his speech was incoherent (*we're assuming he was coherent before the fall*). He was hospitalized for two days and on light duty for another 14. The report states that he had taken pre-workout supplements before the hike. — *The report doesn't mention which supplements, but many contain high amounts of caffeine, which raises your heart rate and can raise your blood pressure too. Energy drinks can have the same effect. Exercising in the heat also raises blood pressure and heart rate, so you're just asking for trouble. Plain water is usually the best way to rehydrate.*

• **Why Plan When You Can Just Do.** One summer morning, a Marine bicycled from the base to the beach (approximately 20 miles). While at the beach, the Marine completed a workout, then bicycled back to the base in the afternoon. That evening, the Marine's supervisor drove him to the hospital, where he was treated for dehydration and sun exposure. The report noted that the Marine applied spray sunscreen, but only once in the morning, and didn't carry enough water for his ride and workout on the beach. — *This Marine could have planned his fitness day a bit better, starting with the previously mentioned "apply and reapply" of sunscreen. Bringing enough water for the whole trip would have also helped our cycling Marine stay out of the emergency room. Plan, then do.*

• **An Ounce Of Prevention.** According to the report, a Sailor "had a panic attack after his sunburn started burning in response to sunburn cream." The pain was so great that he called an ambulance! He was treated for severe sunburn and released. — *This mishap begs the question, "What kind of cream did he really apply?" Isn't sunburn treatment cream supposed to feel cooling and not painful? Apply sunscreen before you head out (and REapply later), so you won't have to find out for yourself.*

Lessons Learned / Key Takeaways

All of the heat-related mishaps in this lesson learned were preventable. There were no underlying medical conditions or other influences with our fellow Sailors and Marines. We're not going to debate climate change here, but it's safe to say that, in our lifetimes, the weather gets hot ... as do flight decks, engine rooms, galleys, gunnery ranges, etc. It's usually no surprise when we're exposed to those environments, yet our "heroes of the heat" still learned the hard way about what can happen. Here are a few takeaways to help you learn how to beat the heat. You can also check out the 101 Critical Days of Summer presentation for more at: <https://navalsafetycenter.navy.mil> in the Stand Down tab.

1. **Look out for yourself and your teammates.** Our key takeaways often include something about knowing your fitness level, and this LL is no exception. If you're not in the best shape, then strenuous workouts in the heat are probably a bad idea. Even if you are fit, know the signs of heat stress and dehydration like nausea, cramps, headache, and when sweating stops (*a very late sign*). Look out for each other too; exercise good leadership when planning evolutions that require prolonged heat exposure. Long hours in the heat require breaks to let your body cool. Hydration alone will not save you from potential heat exhaustion or heatstroke. Heed the heat index warning flags, and follow your service guidance on mitigating heat stress. Follow the same practices at home too, because the heat doesn't care about duty status!
2. **If you wait, you're too late.** You know when it's going to be hot, so prepare for it. If you wait until you're already feeling the effects of heat exhaustion or sunburn, it's likely too late to catch up. Hydrate days (*not just hours*) early and throughout the time you are in the heat. Apply sunscreen **before** you hit the beach and bring it with you to reapply.
3. **Alcohol does not equal hydration.** Alcohol dehydrates you! It also raises your blood pressure (*it really does*), so go easy on it if you're out in the heat. If you're hungover on a "black flag" heat index day and going to be outside, you'll be playing hydration catch-up all day.
4. **Neither do Energy Drinks.** Energy drinks can also dehydrate you and usually aren't the best rehydration choice when out in the heat. Stick to drinking water, with the occasional sports drinks (not energy drinks).