

Rapid Lesson Sharing



Event Type: Rhabdomyolysis

Date: June 13, 2017

Location: Highline Fire
Payson, Arizona

The Crew EMT began a thorough examination of Bill. He was sweating profusely, his skin was tenting (a slow return of the skin to its normal position after being pinched—which can be a sign of dehydration) for 8-10 seconds and was hot to the touch, although Bill was shaking uncontrollably and feeling cold.

NARRATIVE

On the morning of Tuesday, June 13, a hotshot experienced a case of rhabdomyolysis while hiking into the Highline Fire. This was the hotshot crew's first roll of the season and the second shift of the roll. It had taken two days of driving and one day of staging to get assigned to this fire.

Monday, June 12

On the hotshot crew's first shift on the Highline Fire, they constructed a continuous fuel break for 11 hours. The conditions were hot and dry. The night of June 12, Bill drank three bottles of water, two Gatorades, one protein drink, and a coconut water. Additionally, Bill took three tablets of potassium. That night, Bill had a stomach ache for approximately one hour.

Tuesday, June 13

Bill ate a normal fire camp breakfast supplemented by two bottles of water, two cups of coffee, and one cup of milk. In addition, Bill took two more tablets of potassium and 1,000 mg of ibuprofen.

This day began much like the previous day. At approximately 0930, the crew started their hike up a moderate incline to pick up where they had left off the day before. The end of the hike was 3.5 miles away from their crew vehicles.

Hiking in that day, Bill, 29-years-old, was the Lead Sawyer. He has worked with this hotshot crew for a total of four seasons. He spent the previous 2016 fire season working as a carpenter. Therefore, this being his first fire in more than a year, Bill was excited to be back to work on the fire line. Although the previous shift had been a challenge because this was Bill's first fire shift in more than a year, Bill was feeling good on the day of this incident.

Headache and Upset Stomach

As the crew progressed through the hike that morning, Bill began to feel some symptoms that were not normal. This started with a headache and a moderately upset stomach. Bill initially attributed the stomach ache to having taken those potassium pills that morning that weren't sitting well.

Approximately two miles into their hike, Bill began having trouble walking. His equilibrium was feeling off. He informed his Squad Boss about what was happening and they took a break in the shade.

Still trying to shake off these symptoms, Bill stood again and attempted to finish the remaining 1.5 miles of the hike. Soon after, he began feeling worse. Bill felt as though he was going to lose consciousness.

Once again, Bill, his Squad Boss, and the Crew EMT found some shade, took off Bill's pack and began to cool Bill's body by pouring water on him and having him drink water.

The Crew EMT began a thorough examination of Bill. He was sweating profusely, his skin was tenting (a slow return of the skin to its normal position after being pinched—which can be a sign of dehydration) for 8-10 seconds and was hot to the touch, although Bill was shaking uncontrollably and feeling cold.

Medevac is Necessary

During the next 45 minutes, they monitored Bill's progress, continued to give him fluids, and began assessing the logistics of a medevac.

By 1155, they had determined that a medevac would be necessary. Their plan was to utilize a UTV that was on their Division to extract Bill out to the road where he would be transferred to awaiting paramedics who, upon examination, would transport him to the hospital, located approximately 20 miles from the fire line.

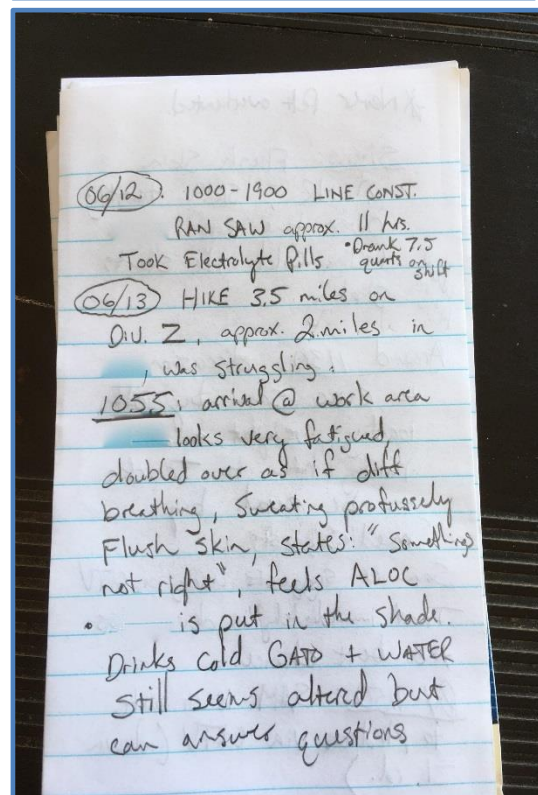
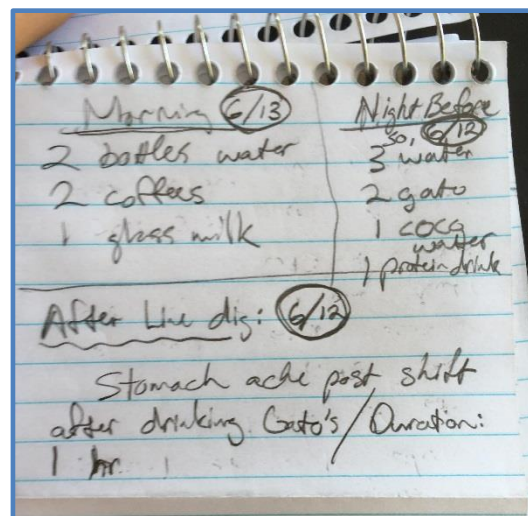
Upon arrival at the hospital, Bill was given a CPK (creations phosphokinase) test and was diagnosed with rhabdomyolysis.

Bill was administered saline fluid via IV and continued to drink fluids. He remained in the care of the hospital until his CPK levels dropped below 1000 IU/L H.

24 hours after his admittance to the hospital, Bill was released. He was demobilized back to his home unit for further recovery.

Pertinent Factors

- ❖ Bill has had no prior heat-related incidents.
- ❖ Bill's diet had not significantly changed leading up to this medical incident.
- ❖ During the days prior to this incident Bill diligently hydrated himself in preparation for the shifts ahead.
- ❖ The crew came on May 1 with a regular PT schedule two hours a day, alternating between running, hiking, and body weight calisthenics. Bill felt he was not in as good of physical shape as he usually had been previous years, but he quickly gained strength during those first few weeks of training.
- ❖ Hiking conditions on the morning of the incident: moderate slope in brush field with no shade. The crew was walking at a moderate pace in preparation of the long shift ahead. There was little wind and the temperature was approximately 70 degrees Fahrenheit.



Notes made by Bill's Squad Boss.

LESSONS

Early recognition of symptoms and receiving treatment as soon as possible are both key.

- ✓ Because of the open culture surrounding communication on this hotshot crew, Bill felt comfortable speaking up about his symptoms.
- ✓ Even if symptoms don't persist or it might not seem like a big deal, it is important to have a culture in which crew members feel free to speak-up about issues.

Rhabdo appears more often at the beginning of the season, especially during the season's first assignment.

- ✓ The fact that this was their first assignment of the season and Bill's first fire assignment in almost two years, possibly made him more susceptible to rhabdomyolysis and heat-related illnesses.

It is important to be aware of the elevated risk to crew members who have not yet acclimated to the current fire environment.

- ✓ This hotshot crew is stationed out of a cooler area at a lower elevation. Although they maintained a frequent PT schedule, being assigned to work in a different environment can still increase the risk for heat-related illness.

Make sure to ask care providers questions about recovery, prolonged symptoms, and timelines for symptoms going away.

- ✓ It is incumbent upon the patient—or patient liaison—that at the hospital discharge a follow-up recovery plan is made clear to the patient—and is in writing.

Make sure you are monitoring and mitigating risk factors.

- ✓ Bill stayed hydrated and monitored his food, drink, and other intake such as ibuprofen, protein, and other supplements.

It is always a good idea to keep a supervisor/patient liaison with the patient.

- ✓ Bill was alert and oriented and able to answer simple questions. Even so, it was clear that his mental state was altered. Because he was in a diminished mental state, it would have been a good idea to keep a supervisor or patient liaison with Bill to maintain an advocate voice.

This RLS was submitted by:

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