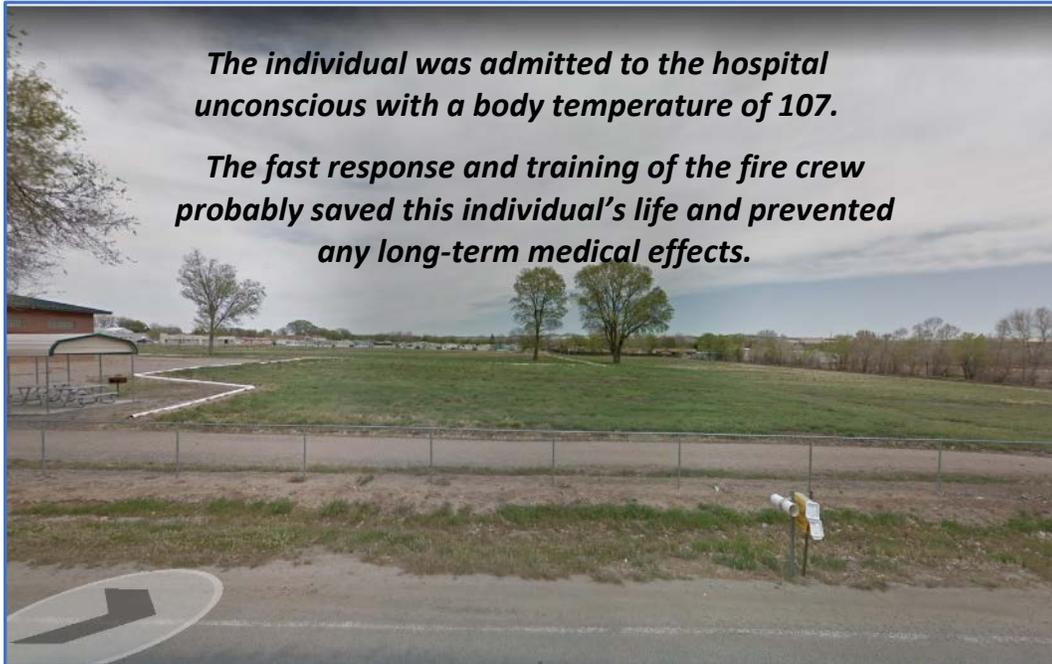


Rapid Lesson Sharing

Event Type: Heat Stroke/Rhabdomyolysis (Rhabdo)

Date: June 21, 2019

Location: Pack Test Track; New Mexico



View of the Pack Test track from the adjacent roadway.

Narrative

This individual's activities prior to taking the Work Capacity Test (Pack Test):

- ✓ For four days prior to the Pack Test this person was basically sitting in a vehicle as a passenger for approximately three hours a day
- ✓ The day before the Pack Test, breakfast consisted of one bowl of fruit. Lunch was a salad with chicken and a small bowl of fruit. Snacked on sunflower seeds throughout the day.
- ✓ Water consumption the day before the Pack Test was approximately one gallon of water throughout the day.
- ✓ The night before the Pack Test, around 1800, consumed 20 ounces of Pedialyte (an oral electrolyte solution designed to promote rehydration and electrolyte replacement) with water. Before going to bed at 2145, took one aspirin for ankle pain from a previous injury.
- ✓ Got up around 0545 the day of the Pack Test. Ate breakfast (oatmeal and a banana) and had one glass of water.

Normal Routine

This person:

- ✓ Usually has one energy drink a week, but during the week of the incident did not have one.
- ✓ Usually drinks one cup of coffee a day, but the day of the incident did not have one.
- ✓ Normally drinks 1-2 Gatorades a day with water at a 2:1 ratio.
- ✓ Normally eats three “average” meals a day.
- ✓ Does not use illicit drugs.
- ✓ Does not use tobacco.
- ✓ Drank alcohol two weeks prior to the Pack Test.

Other Background Information

- ✓ All week prior to the Pack Test, his urine color was clear to light yellow.
- ✓ Approximately one month-and-a-half prior to the Pack Test, this person participated in a weights/cardio circuit workout. He felt “normal” doing them.

Pack Test Timeline

The individual started the Pack Test at the track around 0930. Temperature was in the mid-70s.

He was wearing basketball shorts, t-shirt, socks and running shoes. He had a ring on his left ring finger, was wearing no other jewelry. He used a solid Pack Test vest; it was on loose.

Five laps around the track are necessary to complete three miles. Therefore, with a pace of nine minutes per each lap, the participants will complete the Pack Test on time.

At the beginning of the Pack Test, this person says he felt “really good”. Four fire crew members walked along with the individual during the Pack Test.

Lap One

- Normal feeling for PT exercise. He was sweating.
- Finished first lap in under nine minutes

Lap Two

- Still feeling good.
- Started feeling really hot, but not out of the ordinary. Still sweating.
- Second lap took more than nine minutes to complete—but was still under ten minutes.

Lap Three

- Started feeling fatigued, pace slowed but he was able to pick it up.
- Did not feel like he hit a “wall”. Still sweating, feeling hot. Stayed the same as in Lap Two.
- Finished this lap at around ten minutes.

Lap Four

- Started this lap the same as the previous one: hot, sweating, a little fatigued. (But he felt like he could push through it.)
- In the middle of this lap, started feeling wobbly, felt hotter.

- Pace stayed the same. (He could not remember if he was sweating at this point.)
- Asked for water. They gave him some and he took a couple of sips.
- Once again, finished this lap at around ten minutes.

Lap Five

- Started this final lap with ten minutes left.
- At 1015 hours, 3/4 of the way around the lap, the individual started to stop. The crew members walking with the individual removed his Pack Test vest.
- The individual takes a few more steps, then collapses.
- A fire crew member and the EMT who was one of the individuals walking with him calls on the radio for a medical emergency.
- The Supervisor on scene receives a message on the radio, sends additional EMTs who were nearby, and notifies local emergency Dispatch of the situation.

The individual does not remember starting Lap Five. The other people pacing with him say they remember him stating that he felt dizzy. The individual does not remember when or even saying this.

He does remember his Supervisor telling him that he had 10 minutes to complete the final lap. And he remembers being dizzy for approximately 30 seconds (but does not remember where this occurred on the track).

He remembers having tunnel vision for about 10 seconds. He does not remember collapsing.

The first thing he remembers after the incident is a nurse shaking him to wake him and asking where he was.

- Within minutes (at 1020) Medics arrive on scene and recommend to transfer to local regional hospital.
- At 1030 the individual is loaded onto ambulance and transferred to hospital.
- At 1100 the individual arrives at the hospital.

At the Hospital

- The individual was admitted to the hospital unconscious with a body temperature of 107.
- He regained consciousness later that evening around 1800.
- The doctors did many blood tests and MRIs to determine if there were any internal injuries or unknown illnesses. They determined that he had Rhabdomyolysis, high muscle enzyme counts (around 5,000) and high liver enzyme counts.
- The hospital kept the individual for five days treating the Rhabdomyolysis and to lower enzyme counts to normal. They did this by using IVs to hydrate his system and to “flush” his system of the high enzymes.
- He was released the afternoon of June 26 and is currently at home recovering. Full recovery is expected in approximately two weeks.

Lessons

- ❖ This unit does extensive medical procedure training at the start of the season and throughout the season. This includes patient assessment, care and packaging on backboard, emergency notification procedures, and scenarios, including actual loading of patients onto Life Flight helicopters.
- ❖ This unit had multiple discussions regarding the signs and symptoms of heat-related illnesses and procedures to treat. They sent four crewmembers to the National Outdoor Leadership School (NOLS) Wilderness Medicine First Responders course. They hired an EMT on their fire crew.

- ❖ In addition, this unit also trains and works with local fire departments. During this incident, this collaboration helped to speed-up the process of patient care and transport.
- ❖ The Pack Test's location was specifically chosen because of its close proximity to medical and fire department facilities and resources.
- ❖ Family notification procedures and contacts were all in place at the onset of season. When this incident occurred, this helped to facilitate contacting family members promptly.
- ❖ The fast response and training of the fire crew probably saved this individual's life and prevented any long-term medical effects.
- ❖ We need to have something in place to be able to transport distraught family members to the site. The reason for this is because responding to such a medical incident represents a huge emotional burden for family members and could lead to accidents happening—adding more problems and complexity to the situation.

This RLS was submitted by: Kyle Sahd, Farmington District Fire Management Officer (Acting).

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