

# Rapid Lesson Sharing

**Event Type:** Rhabdomyolysis Awareness

**Date:** July 28, 2017

**Location:** Flat Top Mountain Fire  
Oklahoma

***“This is a case where our work to get info out about Rhabdo and its consequences definitely had a positive impact.”***

**Mark Goeller, Assistant Director  
Fire Management Chief  
Oklahoma Forestry Services**

## **NARRATIVE**

The Oklahoma Forestry Services has been in a Unified Command with a local Volunteer Fire Department on the Flat Top Mountain Fire in southwest Oklahoma.

On Friday, July 28, a firefighter working on this fire from a local Volunteer Fire Department suffered apparent heat exhaustion. The weather at the fire had temps over 100 degrees with relative humidity in the 40-50 percent range. Winds were below 10 mph—which did not provide any relief from these hot, humid conditions.

When the ambulance arrived to transport the firefighter to the hospital, the Oklahoma Forestry Service’s Type 3 Incident Commander (also a Division Supervisor on Poncin’s Type 1 Incident Management Team) recalled a Rhabdomyolysis “Rhabdo” briefing his agency held while he was deployed in Arizona this June.

**The firefighter’s Chief called the Type 3 Incident Commander to thank him for having the presence of mind to request the Rhabdo test. He said that the Emergency Room doctors informed him that this potentially saved the firefighter’s life.**

Before the ambulance left, he told the Paramedics to have the doctors check the firefighter for Rhabdo. Therefore, the Emergency Room doctors performed the Rhabdo test. It came back positive.

That evening, the firefighter’s Chief called the Type 3 Incident Commander to thank him for having the presence of mind to request the Rhabdo test. He said that the Emergency Room doctors informed him that this potentially saved the firefighter’s life.

The firefighter was expected to be released from the hospital the following day.

**Rhabdomyolysis** (often called rhabdo) is a medical condition resulting from the breakdown of damaged muscle tissue. Due to prolonged physical exertion, wildland firefighters are at increased risk for rhabdomyolysis. If not recognized and treated early, rhabdomyolysis can cause permanent disability and may be fatal.

### **What can increase your risk for rhabdomyolysis?**

- Over-the-counter medications such as decongestants and antihistamines
- Certain antibiotics
- Dietary supplements such as creatine
- Some weight loss products
- Cholesterol lowering drugs known as statins
- Excessive caffeine intake

### **What are the signs and symptoms of rhabdomyolysis?**

- Muscle aches or pains out of proportion for the amount of exercise done
- Muscle cramping
- Tea-colored or cola-colored urine

Rhabdomyolysis is often mistaken for heat stress and dehydration. It can occur in well-conditioned athletes doing their usual workouts, so DO NOT ignore these symptoms.

## **What wildland firefighters need to know**

**[What’s Rhabdo? Download NWCG info poster for more info.](#)**

## LESSON

❖ If you suspect a firefighter might be suffering from Rhabdo—Be sure to ask physicians to check for it!

This RLS was submitted by:  
Incident Overhead

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## Handout for Medical Providers

*Print this sheet (below) and carry it in your crew boss kit!*

*Note: Crew leaders should print this page and carry it with them. In the event of a potential case of rhabdomyolysis, bring this sheet with you to the hospital, clinic, etc.*

### Exertional Non-traumatic Compartment Syndrome and Rhabdomyolysis in Wildland Firefighters

This wildland firefighter is presenting to your Emergency Department for evaluation of muscle pain along with possibly heat illness. Our wildland firefighters in the last several years have had an increased incidence of exertional non-traumatic compartment syndrome as well as rhabdomyolysis because of the prolonged exertion during fire response duties and training, carrying heavy loads (up to 110 lbs.) and arduous exertion for long periods of time across steep terrain. Several cases have become permanently disabling.

These firefighters tend to be stoic in regards to their injuries and pain, and don't normally complain of much until they can't deal with it. As a result, the pain tends to be an acute onset complaint. These two diagnoses are rare, often initially misdiagnosed, and difficult to identify, but please consider them high in your differential, so that we can keep these firefighters doing a job they love.

Classic signs/symptoms:

- Muscle pain/cramping
- Swelling of affected area of limb
- Weakness/decreased ROM of affected limb
- Dark, tea colored urine in rhabdomyolysis

Consider:

- Check serum CPK
- Value is considered positive if 5X's greater than the upper limit of that assay's reference range or above 1000 IU/L<sup>2</sup>
- If normal but high suspicion, admit for observance and serial CPK's q6hr x 12-24 hr<sup>1</sup>

1. Criddle LM [2003], Rhabdomyolysis: Pathophysiology, Recognition, and Management. Crit Care Nurse 23(6):14-30.
2. Khan FY [2009], Rhabdomyolysis: A Review of the Literature. Netherlands J Med 67(9):272-283.

Have you experienced a case of Rhabdo?

We need your data:

Report cases  
of Rhabdo