Rapid Lesson Sharing

Event Type: Burn Injury and Patient Care

Date of Injury: April 5, 2021

Initial Location: Laurel Creek Prescribed Fire, Stearns Ranger District, Daniel Boone National Forest

FIRE & AVIATION SOUTHERN REGION U.S. FOREST SERVICE

People Often Say:

"Did you get burned? Well, then go to the burn center."

But this simple answer doesn't always match the reality of those who find themselves working with medical professionals to make that decision in the moment.

The clarification in this RLS around requesting "a consult" vs. "a referral," along with the *"Burn Center Consultation Protocols for Forest Service Wildland Firefighters"* developed by the U.S. Forest Service Risk Management Council, should make getting the right level of care much easier for everyone moving forward.

This Drip Torch Burn Injury Story has ONE Very Important Lesson for Flammable Liquid Ignitions on Clothing and ONE Very Important Lesson for Patient Care Follow-up

The mission for the day was for the four-person crew and their Engine Boss to ignite and hold a portion of the eastern line of the prescribed fire, while another module worked to bring fire in their direction. The crew was made up of one lighter, working directly with a qualified Firing Boss from the local unit, followed by the Engine Boss, and the two other crew members who were holding the line and patrolling back to where ignitions had started earlier in the day.

At approximately 1300, the lighter was burning just off the handline and noticed a spot creeping toward the handline. She decided she was going to go *"dig at that for a second."* She placed her drip torch down and turned to walk to that spot. As she was turning to walk away, the fuel from the drip torch briefly spurted onto her calf.

It took her a few seconds to realize that her pants were on fire.

"In my mind, it was happening quickly and slowly—at the same time."

Lighter, after realizing she couldn't pat out the flames.

She estimates that it took her somewhere between 10-20 seconds to put the fire out. She recalls trying to pat the flames out on the front of her pants with her gloved hand, but that extinguishing the flames eventually took rubbing dirt onto her pants. She recalls being surprised by how much dirt it took to put out the small amount of fuel on the back of her pants. She then rolled up her pant leg and poured all of her canteen water onto the burn to cool it down.

Next, the lighter, who was a qualified EMT, decided to cut her pant leg off and began to be concerned about the portion of her injury that appeared to be *"white"* and *"was starting to feel numb."*

VIDEO

It may be difficult to imagine how hard it is to put out flames from drip torch fuel on Nomex pants if you've never witnessed it.

It's especially difficult to do ***WHEN YOU ARE ON FIRE!***

Watch this short video from the U.S. Forest Service's National Technology Development Program for a refresher on what do to.

Crew Members Respond to Burned Firefighter

At approximately 1315, the Engine Boss was approached by the Firing Boss who told him that the lighter had sustained burns to her leg and that the Engine Boss would need to initiate the Medical Incident Report. The Engine Boss immediately started moving up the line toward the lighter's location and simultaneously called over the radio for an additional crew member (who was also a former EMT) to begin providing patient care. This crew member then assessed the patient, inspected and poured water on the burn, and prepared the patient to walk out.

Within a minute or so of the injury taking place, both the Engine Boss and one additional crew members arrived at the scene of the accident. When the Engine Boss arrived on the scene, he saw the lighter sitting in the fire line with her left pant above her knee. He recalls seeing what appeared to be a *"whiteish burn"* on her left calf. He knew that it "*may not have been a 3rd degree burn, but it was more substantial than an ember strike."*

The Engine Boss directed the other crew member to attend to the lighter. In addition, he immediately called the Burn Boss Trainee (RXB(T)) over the radio to let her know that there had been a burn injury and he would be initiating a Medical Incident Report with Dispatch. With a quick confirmation from the IRPG, he knew to label the incident a "Yellow."

They covered the burn in gauze, soaked the gauze with water and began walking out. As they walked out, they stopped periodically to pour more water on the gauze to keep it as cool as possible. By 1320 the RXB(T) had called Dispatch, letting them know that there was an ongoing medical incident and to standby for the Medical Incident Report.

The RXB(T) called the Engine Boss again, asking if he needed any additional resources. He requested the UTV to give the lighter a ride up the line to an area that could be accessed by standard vehicles. The crew member attending to the lighter confirmed that even though she had received burns to her lower leg, at this time, she would be capable of walking a short distance. They left on foot and were quickly intercepted by the UTV.

At around 1325, the local Duty Officer, who heard the Medical Incident Report on the radio, ordered an ambulance to respond to the prescribed fire. When the Engine Boss initiated the Medical Incident Report with Dispatch, he requested no additional resources other than what was already on scene and in route. He also directed the one remaining crew member to make her way up the fire line and continue on foot to where the engine was parked.

By approximately 1340, the Engine Boss had received confirmation that the lighter had been intercepted by the UTV and that she had been driven to a paved road where the ambulance would meet her. By about 1350 the

ambulance was on scene and the medics were attending to the lighter. After patient care was transferred to the ambulance, the other resources on the fire returned to work the prescribed fire as it was actively burning.

At just about the same time the patient was being attended to in the ambulance, Dispatch contacted the Forest Hospital Liaison and asked her to travel to the hospital, an approximate 1 hour and 45 minute-drive from her office.

Arriving at the Hospital

When the Emergency Room (ER) Doctor first saw the patient, he said the injury was a *"mild burn."* He added, *"if it was a 3rd degree burn, it would be black and charred."* (The current medical standard for labeling burns is by thickness, not degrees, as the Red Book and IRPG both indicate.) The patient was relieved to hear this, although it did not seem to match what she initially thought about the severity of the burn.

Upon hearing this news, the District Ranger called the Hospital Liaison and told her that the patient would be released from the hospital in about an hour. This would be before the Hospital Liaison could arrive. He therefore told her she didn't need to drive to the hospital, but asked her to work with the patient for all of her future needs.

Back in the ER, the District Ranger, who had personally driven to the hospital, approached the ER Doctor and asked if the patient could get a referral to the burn center. The ER Doctor explained that the patient would be sent home with the following: burn cream; directions to change the dressing; and a referral to a "burn center" for follow-up. (The referral to the "burn center" was actually for a "wound care center" for a follow-up.)

"Be sure to inspect the referral paperwork in the discharge process to make sure that what you got was what you asked for."

Fire Staff Officer

The Hospital Liaison Works Diligently to Secure Better Care for the Patient

The Hospital Liaison, at the request of the Daniel Boone Forest Supervisor and the lighter's home unit, began reaching out to the nearest burn centers.

She called the University of Louisville burn center and asked if they could see the patient. They said that they would need a referral. The Hospital Liaison contacted the ER where the patient was originally seen and was told that the ER Doctor who did not provide a referral was not there that day and that the other ER Doctor would not provide the referral without seeing the patient.

At this point, the Hospital Liaison contacted a case manager at OWCP to get further guidance. They discussed getting a referral from the patient's family doctor. Originally, the Hospital Liaison was told that the patient would need to go back to the ER to get the referral because they would not approve a visit to the burn center without a referral.

The Hospital Liaison then had the idea to set up a "telehealth" appointment with the patient's family doctor, who did provide the necessary referral to a burn center. She was scheduled to be seen the next morning.

Patient Needs a Skin Graft

The Hospital Liaison picked up the patient and transported her to the burn center the next morning where the liaison waited for her in the waiting room. Within just a few minutes, the patient called the liaison from the exam room with the news that she was going to have to have a skin graft. The nurse told the liaison that the burn was worse than they expected. The same nurse took photos of the burn for the patient's chart so that they wouldn't have to unwrap her bandages when someone needed to look at it.

The Hospital Liaison contacted OWCP again and reported that the patient would indeed require surgery. OWCP responded that they would make sure all of the paperwork was in order.

> "Workers' compensation benefits may be denied in the event the employee is transported to a specialty care physician/facility without a referral from the attending physician after already being seen by a medical provider. A report prepared by a Physicians' Assistant must be countersigned by a physician to be accepted as medical evidence."
>
> **From the 2021 *Interagency Standards for Fire and Fire Aviation Operations*, p. 179-180**

Over the next nine days, the Hospital Liaison worked to ensure that the patient's mother was able to fly to be with her daughter before her surgery and that all of the proper paperwork was completed. The paperwork alone took at least nine phone calls, 12 emails, and several faxes to complete. The dedication of this Hospital Liaison, her thorough documentation, and her unwavering commitment to see this to the end was exemplary.

Lessons Learned

Getting Your Patient to the Appropriate Level of Care and Avoiding Paperwork Problems and Delays

If a patient or one of the patient's advocates requests a physician to make a "referral" to a burn center and that request is denied or a referral is given for follow-up care but not to a burn center specifically, there is another avenue that can be pursued. (See: *"Consultations, Referrals, and Transfers of Care"* from the American Academy of Family Physicians.)

Requesting a "consult" with the burn center may actually result in getting the patient the appropriate level of care.

A referral is a request from one physician to another to assume responsibility for management of one or more of a patient's specified problems.

A consultation is a request from one physician to another for an advisory opinion. The referral triggers a formal process of approvals, but a consult does not. Further, a burn center cannot turn down a request for a consultation. Knowing this basic—but very important option—can help get patients to the appropriate level of care as well as avoiding paperwork problems or delays.

Burn Injury Incidents are Occurring with Regularity

The Wildland Fire Lessons Learned Center has recorded **more than 60 burn injury incidents** in the past five years (2016-2020).

Many of these incidents involved flammable liquid ignitions.

- Be diligent with safety precautions around flammables.
- Know how to best extinguish flammable liquid fires on clothing.

This RLS was submitted by:

Rebekah Fox and Heath Bell

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a Rapid Lesson to share?
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