Rapid Lesson Sharing

Event Type: Medical Response to Burn Injury

Date: September 10, 2017

Location: Norse Peak Fire, Washington

Do You Remember the 'Telephone' Game?

Do you remember playing the game "Telephone" in grade school? The first person is given a message, who then whispers that message to the next person in line. That person, in turn, passes what they thought they heard to the next person, and so on, until at the end—through a word change here, a word change there—the original message has now evolved into a different message.

At times, this message resembles the original. But other times, the meaning has changed entirely. And yet, no one in this chain of communication had any intent of changing the original meaning. People are not perfect. Through many lessons, we have seen that the human factor is the most difficult to predict and account for, especially in a high-stress and dynamic environment.

On September 10, on the Norse Peak Fire, a firefighter fell into some hot ash and burned both of his hands. A Rapid Lesson Sharing Team (RLS Team) was sent to the fire to have a facilitated dialogue with the participants to capture their story and their lessons learned. As you will see in this RLS report, through this process, the RLS Team started to unravel a textbook case of the Telephone game.

The Norse Peak Fire burning on September 3. Photo by Magallon, courtesy of InciWeb.

The Story

It's September 7. Our nation is at National Preparedness Level 5. Approximately 25,000 firefighters are committed. More than eight million acres have already burned.

A local Task Force has been lent to the Norse Peak Fire with the understanding that there would be a 24-hour notification if they were needed back on their home unit. This Task Force consists of a qualified Task Force Leader (TFLD), a Task Force Leader Trainee, a Type 2 Initial Attack Crew (T2IA), and two Type 3 Engines.

The roles and responsibilities of this commitment have been clearly articulated to the current Incident Management Team (IMT) and the Task Force. It is important to note that the Task Force is not being tracked on the Incident Action Plan (IAP), is not assigned in ROSS, and is not being tracked by the incident via ISuite.

The Task Force is spiking out due to their geographic location on the fire in relation to the Incident Command Post (ICP). The Task Force has been receiving daily briefings from the Division Group Supervisor (DIVS) and is being tracked through the local Dispatch Unit. This process seems to be working pretty well.

On September 8, an IMT transition occurs. The Task Force drives to the Norse Peak ICP to get an updated IAP and conduct introductions. Day-to-day operations for the Task Force don't really seem to be impacted by this IMT transition. The Task Force is still being tracked by the local Dispatch, is still receiving daily operational briefings by the Division Group Supervisor, etc.

Task Force Uses Local Knowledge to Improve Medical Plan

The Task Force used its local knowledge to recognize that the current Norse Peak medical plan and communication plan for their geographic area could be improved. The current IAP medical plan showed that the nearest hospital is in Yakima, which is an approximate 1.5 hour drive from the Task Force's fire line location.

Therefore, the Task Force took the initiative to locate and verify that a hospital (Level 4 Trauma Center) in Enumclaw was 45 minutes closer, could meet all basic medical needs, and had a helipad. This information was then verified with the Task Force's local Dispatch.

The Task Force then developed their own medical plan that identified the new hospital, medivac spots, and a local radio repeater to ensure that their well-being was first and foremost, essentially creating added "margin." (See link to the video "An Introduction to the Concept of Margin" on the right.)

The Task Force shared this information with their Division Group Supervisor and Safety Officer (SOFR). Their impression from this conversation is that the Division Group Supervisor and Safety Officer supported their plan.

Check Out this Video on "Margin":

https://www.youtube.com/watch?v=B5CCqmxgc3s

Logistical Needs Identified

On September 9, the Task Force's second day on this incident, close to the end of their shift, the Task Force and the Safety Officer recognized that they had some logistical needs. The Norse Peak ICP may not have been the best location to fulfill these needs due to the geographic separation and the fact that the Task Force had not "officially" been assigned to the Norse Peak Fire.

"What else can go wrong?"

the Task Force Leader Trainee recalls thinking.

The Task Force communicated this through their local Duty Officer. It was understood that the Task Force could travel down the mountain to where a new ICP was being established for a separate incident, the Sawmill Creek Fire. At this new ICP, the Task Force was able to get food, set up their tents, resupply, etc.

The next day, the Task Force is still operating under the same protocols/procedures that they have been for the previous few days. From their perspective, as a Task Force, things are still moving in a positive direction. (However, a concern that continues to linger in the back of their minds is that there has been a total of two Division Group Supervisor transitions since September 7. And now there are early indicators that their portion of the Norse Peak Fire might be transitioned to a new IMT yet again.)

The fire activity has been active with lots of moving parts and a fair amount of radio communication. The Task Force has been busy working in several locations: directing bucket operations, engaged in felling operations, and prepping roads as containment lines. As if this was not complicated enough, one of the Task Force's Type 3 Engines now has a tire that is going flat.

Burned Hands Medical Incident and Response

At approximately 1600 on September 10, a firefighter (inactive medic) who was using an orange marker panel and a radio to direct bucket operations suffered burns to both hands and wrists when he was clearing the area and fell sideways into hot ash. (See box on right for more information on ash pits, stump holes, and mop-up burn injuries.)

The firefighter's left hand was first to make contact—where he felt his left hand begin to burn. He immediately pulled it back, stabilized with his right hand, and rolled to his knees. He then did a quick self-assessment and hiked approximately 100 feet to the road where he contacted the Crew EMT and requested his assistance.

The Crew EMT evaluated the patient and identified that he was alert, oriented, ambulatory, and had received burns to both his hands and wrists.

The evaluation of the patient (by the EMT and patient) was identified in writing as a "Green" on the Medical Incident Report—with potential to become "Yellow" due to burns continuing to manifest up to 72 hours. During this evaluation, the patient contacted the Crew Boss via radio to have a face-to-face conversation.

Check out this 36"x 48" poster put together by Brad Fisher, a Safety Officer from Australia, along with members of California Team 5: http://www.wildfirelessons.net/HigherLogic/System/DownloadDocumentFile.ashx?DocumentFileKey=ad687693-2ae1-4257-b6ec-0ba8f9f8c122 .

For more information and lessons learned about ash pits, stump holes, and mop-up burn injuries:

https://www.wildfirelessons.net/viewdocument/mop-up-burn-injuries-2015

gacc.nifc.gov

4. SEVERITY OF EMERGENCY, TRANSPORT PRIORITY

SEVERITY	TRANSPORT PRIORITY
▫ URGENT-RED **Life threatening injury or illness.** Ex: Unconscious, difficulty breathing, bleeding severely, 2°-3° burns more than 4 palm sizes, heat stroke, disoriented.	Ambulance or MEDEVAC helicopter. Evacuation need is **IMMEDIATE**.
▫ PRIORITY-YELLOW **Serious injury or illness.** Ex: Significant trauma, not able to walk, 2°-3° burns not more than 1-2 palm sizes	Ambulance or consider air transport if at remote location. Evacuation may be **DELAYED**.
▫ ROUTINE-GREEN Not a life threatening injury or illness. Ex: Sprains, strains, minor heat-related illness	Non-Emergency. Evacuation considered **Routine of Convenience**.

As the Crew Boss made his way out to the main road and tied-in with the patient, he noticed the patient had received medical treatment to his hands by the EMT. The Crew Boss received a face-to-face medical update from the patient (the EMT had remained with the crew).

Injured Firefighter Transported to Nearest Medical Facility

Armed with this information, the Crew Boss contacted the Task Force Leader and Task Force Leader Trainee via radio and asked for a face-to-face meeting. This was approximately 25 minutes after the initial burn injury had occurred.

At this point, first aid treatment had been fully administered by the Crew EMT.

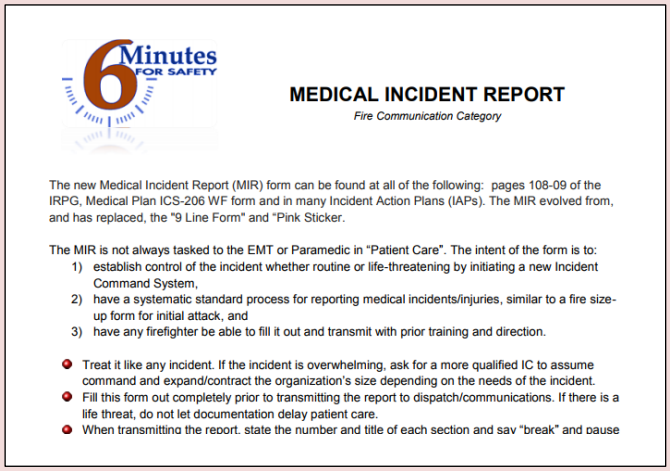
The Task Force Leader arrives at the requested location. Once on scene, the Task Force Leader observes that an injured firefighter, his hands and wrists wrapped in gauze, is preparing to get into a truck for transport.

The Crew Boss, Task Force Leader, Task Force Leader Trainee, and patient have a brief conversation. They discuss what has transpired on this medical incident, including the first aid treatment provided by the EMT, and the transport plan. They also use this meeting to document the incident in writing on a Medical Incident Report, commonly referred to as the 9 Line. (See 6 Minutes for Safety "Medical Incident Report" link on top of next page.)

They determined that a crewmember would transport the patient to the nearest medical facility, located approximately 45 minutes away, as well as being in the direction of the nearest regional burn facility, the Harborview Burn Center in Seattle. Due to the proximity of the Division Group Supervisor, the Medical Incident Report was handed-off for upward reporting by the Task Force Leader within approximately 1.5 hours from the time this burn incident occurred.

The Task Force Leader notified the home unit of this firefighter's burn injury. Because the Sawmill Creek Fire IMT would be assuming command of the Norse Peak Fire's North Zone the next day, the Line Safety Officer notified the Sawmill Creek Fire IMT's Team Safety Officer.

The patient arrived at the hospital where his injuries were evaluated by an emergency physician. The attending physician provided medical treatment and communicated via video conference with a physician at the Harborview Burn Center. This consult resulted in the injured firefighter receiving medical treatment and a follow-up with Harborview was scheduled in five days. Physical therapy (hand stretching) was also prescribed by Harborview during this initial consult to keep the firefighter's skin from tightening up.



6 Minutes FOR SAFETY

MEDICAL INCIDENT REPORT

Fire Communication Category

The new Medical Incident Report (MIR) form can be found at all of the following: pages 108-09 of the IRPG, Medical Plan ICS-206 WF form and in many Incident Action Plans (IAPs). The MIR evolved from, and has replaced, the "9 Line Form" and "Pink Sticker.

The MIR is not always tasked to the EMT or Paramedic in "Patient Care". The intent of the form is to:

1) establish control of the incident whether routine or life-threatening by initiating a new Incident Command System,
2) have a systematic standard process for reporting medical incidents/injuries, similar to a fire size-up form for initial attack, and
3) have any firefighter be able to fill it out and transmit with prior training and direction.

- Treat it like any incident. If the incident is overwhelming, ask for a more qualified IC to assume command and expand/contract the organization's size depending on the needs of the incident.
- Fill this form out completely prior to transmitting the report to dispatch/communications. If there is a life threat, do not let documentation delay patient care.
- When transmitting the report, state the number and title of each section and say "break" and pause

To see this complete 6 Minutes for Safety, click here:

Medical Incident Report

Another IMT Transition

September 11, the Task Force's fourth day on this incident, brings yet another IMT transition. The Task Force is still on the Norse Peak Fire, but continues to stay in the Sawmill Creek Fire camp.

As part of this new IMT transition, the North Zone of the Norse Peak Fire and resources in this Zone will now be managed by the Sawmill Creek IMT. This is the first operational briefing for the Task Force at the Sawmill Creek ICP with the new IMT and a new Division Group Supervisor.

The Task Force is still on loan to the Norse Peak Fire, they are still not on the IAP, and they are still not assigned in ROSS or trackable via Isuite.

Safety Officer Expresses Concern

On this day (the day after his injury), the injured firefighter is back on the fire line, continuing to serve as a Crew Boss Trainee, which minimizes his exposure to the dusty fire environment with his burn injuries fully wrapped.

The Sawmill Creek Fire Safety Officer notices the injured firefighter and expresses concern about his well-being. One of the injured firefighter's hands was bandaged, but the other was not. This raises a concern. The Safety Officer calls together the Task Force Leader, Task Force Leader Trainee, Crew Boss, and the injured firefighter to discuss the events that had occurred the day before.

Three IMT Transitions –
Three DIVS Transitions –
Four Days – Still on Loan

Next, the Sawmill Creek Fire Safety Officer asks the injured firefighter to return to fire camp from the line for an evaluation. At camp, the injured firefighter takes a shower and is seen by the Medical Unit Leader (MEDL). The injured firefighter's burns are evaluated, cleaned, and bandages are reapplied by the Medical Unit Leader. At this time, the injured firefighter is released to his home unit. The IMT expresses concern that policies and procedures may not have been followed and confirm that patient care and well-being is their highest priority.

As planned, five days later, the injured firefighter received a follow-up appointment at the Harborview Burn Center. After this appointment, the injured firefighter was released to full duty. The diagnosis from Harborview was that the firefighter suffered superficial burns to both hands and wrists with some burns approaching "partial thickness." Another way to describe these burns was: "they were first degree burns with small portions bordering on second degree." The Harborview Burn Center doctors said that the firefighter "is expected to make a full recovery with no side effects."

Sensemaking

What were the Participants Thinking?
Encouraging Group Dialogue within the Wildland Fire Community

An injury to a wildland firefighter is an event that should cause pause, reflection, and learning by those involved and within the wildland fire community. In order to understand why actions and decisions made sense at the time on this incident, we have to evaluate the context in which they were made through dialogue.

"Sensemaking" is how we select what is important to address and how we address it. At that moment, we literally "make sense" of the world around us.

The purpose of this section is to learn what the participants were thinking on this incident and to encourage group dialogue within the wildland fire community.

1. Why Wasn't the Medical Report Relayed Over Command?

- The Task Force had identified the close proximity of key leadership that needed to be immediately notified and believed that a face-to-face notification would be appropriate and allow the Division Group Supervisor to communicate upward.
- Members of the Task Force have seen "Green" incidents cause an "over-response" when they are called over the Command frequency. *"All hell can break loose,"* confirmed a Task Force member. They did not want to tie-up critical radio time.
- There was a genuine concern among the Task Force that if this "Green" incident was called out over the Command frequency, the limited number of Line Medics would have been pulled away from a higher priority. The Task Force had the qualified personnel and equipment to adequately provide initial treatment of the injury and medical transport to a higher level care facility.
- From the Task Force's geographic location they could not communicate their medical incident to Norse Peak ICP without the use of a human repeater that was also being used as the lookout for Division Golf. However, the Task Force did have a local nearby Forest repeater programmed into their radio, which allowed them to contact their local Dispatch about the incident and medical transport.

> ***"All hell can break loose."***
> **Task Force Member on the potential "over-response" when a "Green" medical incident is announced on Command.**

2. Why Weren't Incident Medical Resources Used?

- The Task Force had established a medical plan for their geographic area earlier on the Norse Peak Fire and had communicated that. They identified this medical incident as "Green" and implemented their plan.
- Within the Task Force there was one expired paramedic (qualified EMT) and six additional qualified EMTs. The Task Force had built-in this "margin" (see definition on page 2) to take care of themselves. Therefore, a high level of trust had already been established among the Task Force team.
- The participants' past experiences indicated that often there are not enough qualified or capable Line Medics available to support all medical incidents. Several Task Force participants explained how: *"We are supposed to trust these medics when we don't know them and aren't even sure if they can make it up the hill."*
- There was a general perception by Task Force members that processes established by incident personnel can "slow down" the medical response, treatment, and transport. This slow down can occur when the Line Medics are away from where the injury occurred. Thus, contributing to this slow down, there is the required transport

and transfer of the patient, then a stop at ICP to the Medical Unit Leader, and—finally—the transport to the medical facility.

- At the time of the burn injury, the Task Force was still on loan status to the Norse Peak Fire and had been through several Division Group Supervisor transitions as well as IMT transitions. They chose to communicate at the Division Group Supervisor level and the local unit.
- The Task Force was working off of an IAP that was two days old that they had received from the Red IMT before the Norse Fire had been zoned on September 11 (the day of the firefighter's burn injury). This IAP did not consider the geographic location in which they were working. No formal medical plan had been communicated with the Task Force other than what was in the IAP and the one that the Task Force had developed and shared with the Norse Peak Division Group Supervisor and Safety Officer.
- The Medical Incident Report that was filled-out identified the patient as "Green"—that evacuation is considered a "non emergency" "routine of convenience." The Task Force had the capacity to self-transport and not disrupt suppression operations.

What is the standard or accepted terminology for communicating the severity of burn injuries?

3. What are Medical/Burn Policies and Procedures?

- The Medical Incident Report is commonly referred to as the "9 Line." However, the simple fact of the matter is that these are two completely different documents. The Medical Incident Report is the document that establishes scene control, standardizes reporting, and is easy to complete. The 9 Line and/or Dutch Creek Protocol is a pink sticker that was replaced by the Medical Incident Report. It is important to note that both of these documents were in the IAP and available for use. (For more information on the "Dutch Creek Protocol" see this issue of *Two More Chains*.)
- Burn protocols and responses are often assumed. The RLS Team specifically asked participants: *"What is the burn protocol?"* Answers varied greatly among the group:
  - ✓ Some participants suggested that the burn protocols are stated on the Medical Incident Report in Section 4 found on pages 108-109 of the Incident Response Pocket Guide, 2014 (IRPG) and all IAPs. These are defined by first, second, and third degree burns, and categorized by amount of area by palm size.
  - ✓ Others recognized that the IRPG has additional burn injury information on pages 104-105 and suggested this was the burn protocol.
  - ✓ However, very few participants acknowledged there is an approved burn protocol that is found in the 2017 Interagency Standards for Fire and Fire Aviation Operations, pages 171-173. (The decisions made by the Task Force regarding the medical treatment, notification, and transport was within the sideboards of the burn protocol outlined on these pages.)

4. Other Considerations from this Incident's Participants

- Communicating medical emergencies over Command can ensure that appropriate medical treatment and medical response will be sent by the IMT.
  - ✓ This can also ensure that, if need be, radio traffic can be cleared.
- The Sawmill Creek Fire IMT had medically trained staff that were assigned and available to provide medical treatment to injured firefighters in the area of the North Zone of the Norse Peak Fire. They therefore expressed concern that they were not utilized.
  - ✓ They can ensure that all OWCP comps and claims can processed.

- ✓ Medical personnel attached to IMTs may have a broader experience level and better equipment than some crew EMTs.

- Burn injuries can be difficult to diagnose by general medical staff because they can manifest for up to 72 hours. Referral to burn centers can be difficult to obtain. The IMT has the personnel and expertise to help with this process.
- Lending resources is a common practice. How do we ensure accountability for these resources—especially in times of transitions?
- Anytime a medical injury occurs—no matter how minor—there is some level of shock that also occurs. Involved personnel need to remain mindful that self-diagnosing an injury may lead to a less appropriate decision because of this potential shock and impartiality.
  - ✓ If possible, an EMT should remain with the patient during medical transport to the hospital in the event that the injury/illness becomes more severe than first recognized.

LESSONS

- Long, busy fire seasons can be draining mentally, physically, and logistically. They can therefore result in situations where creative solutions need to be developed within the framework of established policies and procedures to successfully achieve the desired end state.
- Terminology seems to create confusion, even among those who think that they understand this terminology:
  - ✓ The Medical Incident Report or the 9 Line?
  - ✓ Burns – First, Second, Third degree or Superficial, Partial Thickness, or Full Thickness?
  - ✓ Transport Priority – Immediate, Delayed, Routine of Convenience or Life Flight, Ambulance, Self-transport?
  - ✓ This video may help demonstrate how quickly a simple terminology can become perplexing.
- For firefighters suffering from burn injuries, what are the appropriate burn protocols?
  - ✓ Medical Incident Report section 4.
  - ✓ IRPG pages 104-105.
  - ✓ 2017 Interagency Standards for Fire and Fire Aviation Operations pages 171-173. (This is not easily available to all fire line personnel in a timely manner.)
- The human factor/decision-making can create a multitude of paths to travel to reach the same end state even when policies and procedures are clearly defined and are available and understood. It is only through deliberate dialogue around these events that we can appreciate and understand the rationale of the decisions being made. And only then can we start to learn from each other's experiences, trainings, and perceptions.
- There are lots of lessons that have been learned, policy and procedures that have been developed, and learning tools that are available to us. Do we train the way we perform, so that we can perform the way we train? In other words, how much time is spent by all fire personnel in understanding policies and procedures and reviewing these past lessons versus the actions of suppressing and managing wildfires?
- It is important to know that there are many systems that we work within each day. These systems are intertwined, which makes a complex system. What appears to be a simple decision on the fire line, can actually impact another system and put into play another layer of decision-making. Next, those decisions will likely put into play another layer of decision-making. *Effective* communication early on relays assurances to *all* concerned parties who are part of these complex systems.

Firefighters line out on the Norse Peak Fire. Photo by Heather Appelhof, courtesy of InciWeb.

CONCLUSION

"Doctrine incorporates principles that form the foundation of human judgment, decisions, action, and behavior. It is authoritative but flexible, definitive enough to guide specific operations, yet adaptable enough to address diverse situations. Far from eliminating firefighters' standard rules of engagement, Doctrine empowers people to use their own judgment 'at the sharp point of the spear' where accidents most often occur."

Thomas L. Tidwell
U.S. Forest Service Chief
June 2009 – September 2017

A Seemingly Benign Incident Can Quickly Evolve into a Complex Situation

This RLS focuses on and spotlights the complex systems in which these participants were involved. Throughout the events that are summarized and described in this RLS, participants were working within the scope of Doctrine. Their actions and decisions were based on their trainings, perceptions, and experiences.

The RLS Team asked the Task Force members: *"What could be done differently next time to improve?"* Their overall response was to communicate the firefighter's burn injury over Command.

After this incident had occurred, the Task Force had the luxury of hindsight. They had the opportunity for facilitated dialogue where lessons were shared and learned. Even so, their decision on how they would handle a similar incident

was not significantly different. All participants shared the same desired end state: *"We just wanted to make sure that the firefighter was getting timely and appropriate care for his injuries."*

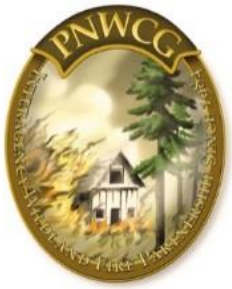
Regardless of how benign an incident may seem at first, due to the human factor element, it can quickly become a very complex situation. This RLS is the result of 10 hours of facilitated dialogue with approximately 12 participants. This dialogue resulted in a magnitude of learning that could not be fully captured within the scope of this RLS. Throughout this RLS, you have noticed several hyperlinks and callout boxes that serve to identify—and communicate—these additional learning opportunities that can occur in response to this incident.

How Do We Learn these Lessons?

So where do the lessons live? Whose responsibility is it to know all of the lessons? And, even more importantly, how do we actually *learn* these lessons? The answer may be closer than you think.

Here's a key "next steps" suggestion for you:

Each time an incident occurs or a decision is made that has the human factor involved, approach it with genuine curiosity. Seek to understand. Take time to comprehend. And remember that every one of us has a personal and professional responsibility to do this in order to have a safe and effective team.



This RLS was submitted by:

PNW RLS Team –
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Do you have a Rapid Lesson to share?
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