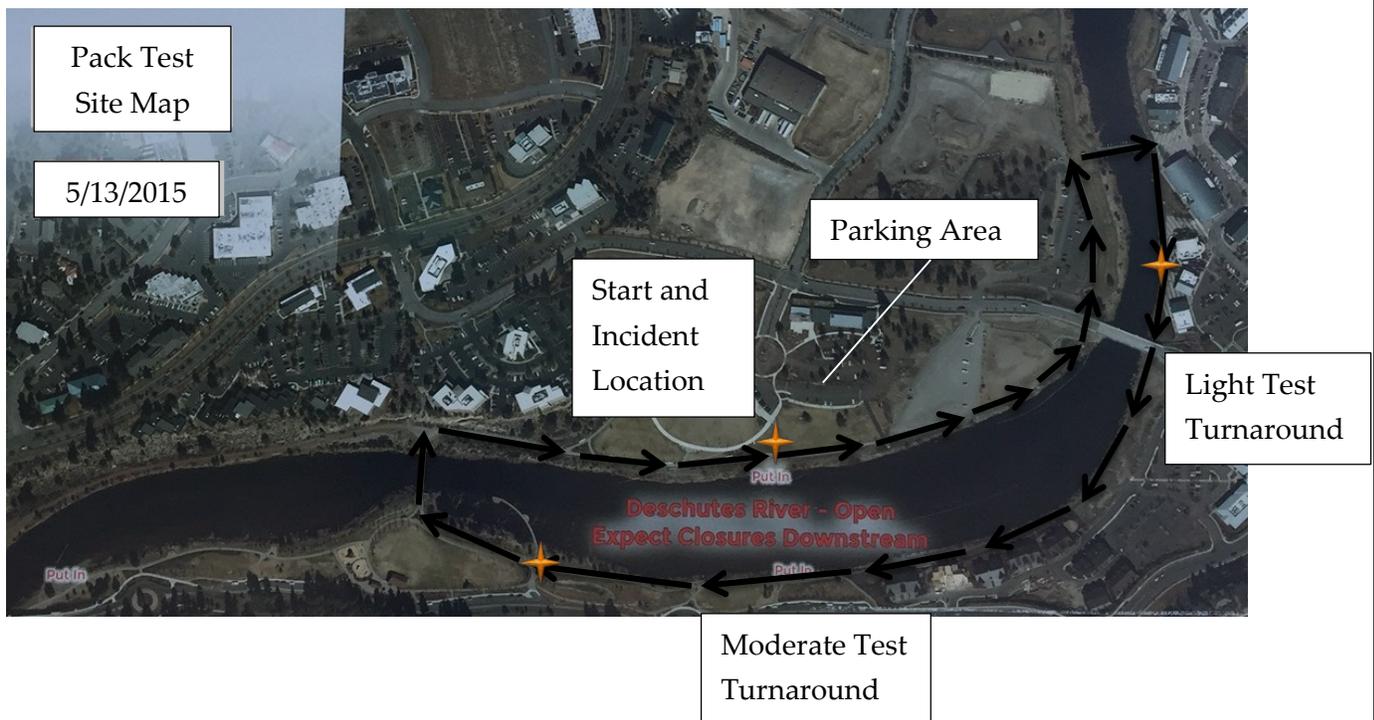


Smokey Bear and the Miracle

Medical Incident and Response

Facilitated Learning Analysis



Bend, OR

May 13, 2015

Summary

On May 13th, 2015, the Deschutes National Forest administered a Work Capacity Fitness Test (light, moderate and arduous Pack Test, from now on referred to as “Pack Test”) in the Bend metro area. The incident that unfolded highlights the work the local unit did to prepare for medical emergencies, and may offer some ideas to other units around the country. The incident also raises several broader questions around Pack Tests, acceptable risk, and assumptions around control. We offer these questions at the end of the document as potential discussion items for both local fire administrators as well as fire overhead and agency administrators.

Narrative

Cool, cloudy, and calm: an ideal forecast for a Pack Test. As crew and staff from the Deschutes National Forest filtered in for the briefing at 0900 the morning of Wednesday, May 13th, most of them looked forward to a pretty standard, maybe even tolerable Pack Test day.

Rick, the Pack Test administrator, had already sent some crew members out to the site to set up the course; this was the 5th test for the year and they knew the drill. He greeted the test-takers and began the briefing. Rick takes the Pack Test seriously, and ran the briefing faithfully: the route, the risks, the medical plan. They signed the JHA and were out the door.

Jimmy woke up that morning feeling normal. He’d had a nice three mile hike with the family on Sunday; the Pack Test was no big deal. In the back of his mind he knew his ankle hurt from a surgery a few years back, but just planned to work as hard as he needed to make time. He got to the course with the others, hopped out of his rig, and walked to the start point at river’s edge to listen to the EMT and responder introductions.

At 0950, Rick called the start of the test and the group set off. The course runs in a loop on a flat, paved trail along both sides of the Deschutes River near downtown Bend—a beautiful park typically overflowing with sun revelers but today mostly quiet due to the clouds. Jimmy and another tester, Logan, were walking the light test, and both made good time. Logan came back in first, and was about to head back to the office when he thought to himself, “why would I head back to the office? I’m going to stay here and cheer everybody on!”



Figure 1: Pack Test Route, looking West



Figure 2: Incident site in grassy foreground; parking lot in background where rig was parked

Not long after, at 1012, Jimmy came in. He, Logan, Rick, and Tyrone, the EMT, all stuck around the finish line chatting. After a couple minutes, the talking naturally ceased. Logan, who had been on his phone texting to make some daycare arrangements, turned back to the group—just in time to see Jimmy fall backwards like a tree, bam! The earth shuddered when he hit the ground, and he let out a great snoring noise.

Tyrone rushed over and knelt down to check on Jimmy, doing a quick patient size-up: labored breathing, a weak pulse, and his face was starting to turn purple. Immediately, but calmly, Tyrone started directing: Rick, call 911, and Logan, go to the truck and grab the AED, oxygen, and trauma kit. Logan dashed off to the truck, 190 feet away, while Rick engaged 911 dispatch. Tyrone called the other Pack Test administrators over the radio: “Come back to the start, we have a Code 99.” “What?” “Code 99. Heart attack.” They tore back down the trail.

Tyrone began high performance (hands-only) CPR on Jimmy while Logan struggled to locate all of the items back at the truck—he said red bag, there’s a million red bags, this is a fire rig! When he came back with the AED, Tyrone looked him in the eye and asked, “do you know how to use an AED?” Logan thought back to his First Aid training, said yes, and started opening it up.

Meanwhile, Rick was working to identify their location with the 911 dispatcher—they couldn’t get clear on the exact location—and continuing to apprise them of the situation. He watched Logan open up the kit and pick up the sealed bag with the AED pads. Logan’s face froze; he hadn’t trained with an AED that looked like this, and in the face of the pressure, all of his training went “out the window”. Logan looked up at Tyrone and said, “I don’t know what I’m doing!” Rick tore open the bag and Tyrone walked him through the steps of applying the pads.

“Things happen. You just can’t foolproof everything.”

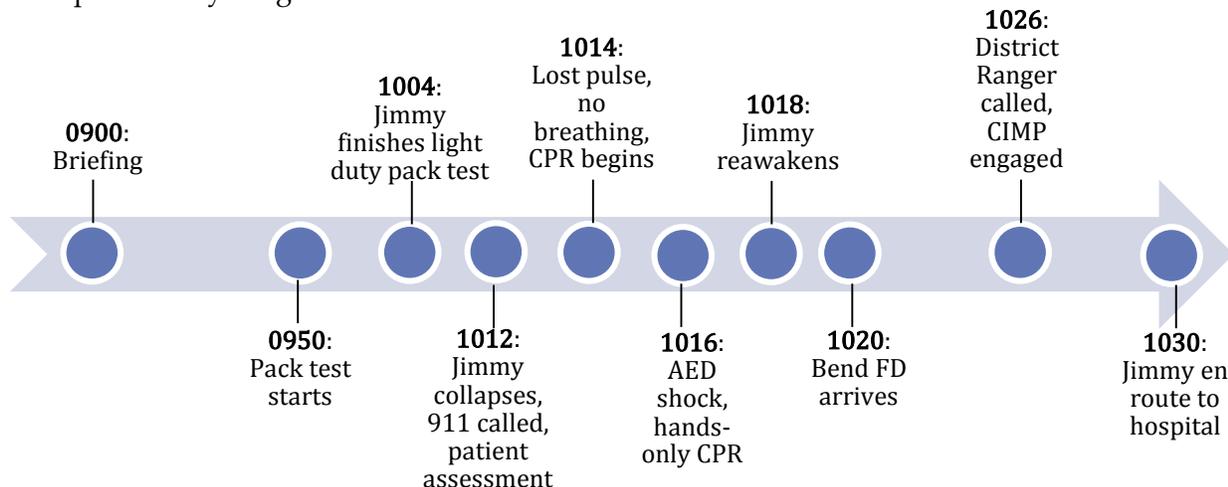
They got them on, it was 1016, the machine analyzed, advised shock... “Clear, everyone clear!”
Beep! Jimmy’s body tensed, then lifted up off the ground with the force of the shock.

The AED asked for more compressions, and Tyrone was back on, working like a machine but getting tired. A minute later, Jimmy’s hand flew up and grabbed Tyrone’s arms, still flying like pistons up and down over his heart. His eyes opened up and he struggled against Tyrone for a moment before Tyrone realized what was going on and stopped. Relieved, Tyrone talked with Jimmy while he continued to take vitals and wait for the ambulance to arrive.

By 1020, Bend Fire Department arrived on scene and the group transferred the patient. Jimmy, who felt as normal as he did before anything happened, walked with assistance to the gurney and was wheeled into the ambulance. The paramedics on scene thanked the crew for the care administered, and took a stable patient to the hospital. “Everything was done right” one of them said afterwards. “The most important thing they did: high performance CPR. That and the AED saved his life.”

Once Jimmy was taken care of, Rick called to notify the District Ranger, who happened to be looking at the newly revised Critical Incident Management Plan (CIMP) on his desk. He grabbed the safety officer and the fire safety and training manager and briefed them on what happened. They carved out a conference room to establish a base of operations, opened up the CIMP, made some assignments, and started working their way down the checklists. “The genius thing in the plan,” said the District Ranger, “is the Process Tracker. We had everything covered and double checked, because of this plan.”

Jimmy, for his part, ended up with two stents and some bruised ribs. He feels fine, other than getting easily winded, and still cannot figure out how he could have known this would happen—he never had any symptoms of any issues. “Things happen,” he said. “You just can’t fool proof everything.”



Lessons Learned

“Jimmy is lucky – these guys were prepared.”

“Everything that could go well, did!” ER Doctor on duty who received Jimmy at the hospital.

“Everything was done right...Training, equipment...Everything!” Operations Chief, Bend Fire Department

These were sentiments shared by many of the participants involved. The incident described in this report stands apart from most others in the growing FLA catalogue: it illustrates a successful, intended outcome in a dramatic, unexpected situation. While the local managers we talked with are already thinking about ways to improve, we see value in asking the question, “why were they successful?” Thus, this lessons learned section reflects more on how the fire and medical program on this unit was uniquely situated to succeed—and may offer insight to other units looking to do the same.

Four functional areas converged in this event to set the stage for success: personnel, equipment, procedure, and environment. In essence, the unit put in place several elements to force the

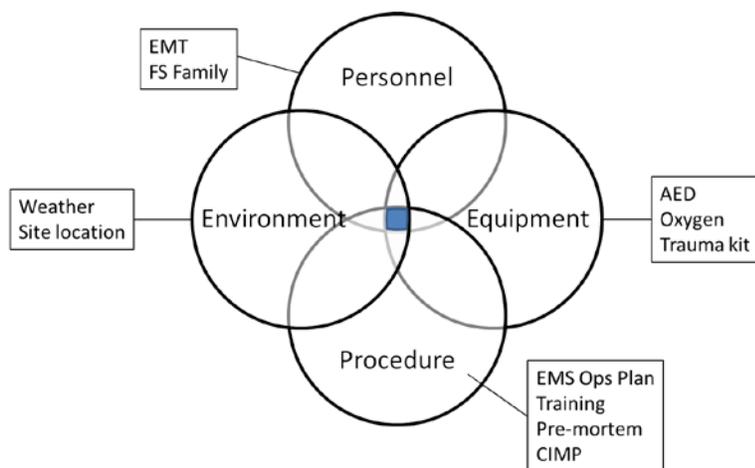


Figure 3: Functional Areas of Success

incident into the “sweet spot” of being able to competently and effectively engage (see Figure 2). We will discuss each in turn.

Personnel

Staff within the Central Oregon Fire Management Service (COFMS), which includes the Deschutes, Ochoco, and Prineville BLM, emphasize the importance of hiring or providing training to employees to become EMTs. There

is a strong cultural value around employees having medical training and capacity for responding to medical events. Further, both Jimmy and Logan spoke to how significant the support was of the “Forest Service Family” during and after the incident occurred. Social support structures play a significant role in our ability to endure traumatic events, and strong relationships among staff meant cohesiveness before, during, and after the event to ensure needs were met.

Equipment

Having appropriate equipment on scene to respond to a critical incident has been a focal area for many in the Wildland Fire community for the past several years. In this case, not only did the test administrators have the required AED on hand, but the EMT also had oxygen and a trauma kit available. In the interviews for this FLA, interviewees universally agreed that the AED was absolutely critical in the outcome of the incident, and that the oxygen likely helped.

Procedure

Years of work preceded the events of this day, and several policies and procedures converged to generate success.

- The Deschutes has an EMS Operations Plan in place that established medical control for the EMTs on the ground and outlined training needs and plans. The EMT program administered through that Plan is funded sufficiently to meet training needs and medical equipment, so that the EMTs on scene were fully empowered and set-up to respond. As one participant said, this plan “allows EMTs to operate legally and allows the agency to do the right thing.”
- The Forest also provides opportunities to attend medical training, such that Wilderness First Responders were on scene and there is general familiarity with medical situations.
- The fire organization on the unit “covers everything really thorough, takes it seriously” when administering Pack Tests. The briefing includes a pre-mortem that details location of medical equipment and roles.
- COFMS developed a CIMP in 2012 that, in a lucky bit of timing, had a revision being rolled out the morning of the incident. This CIMP outlines roles and responsibilities for a critical incident, and provides a thorough checklist for each role as the event unfolds. As the Ranger said, “we likely would have done all of those things anyway, but this way, we had them all lined out and didn’t have to go back later to check a box left hanging.” As a result, the unit had an agency administrator, process tracker, safety manager, and hospital liaison identified and operational within minutes of notification.

Environment

The entirety of the Pack Test route is in an accessible area, in a Bend metro area city park. Emergency services are within a 3 minute response time. While agency staff were able to resuscitate Jimmy before emergency personnel arrived, the advantages of this level of access were apparent to everyone: in case he relapsed, or in case the event had happened on the other side of the river from the AED, help would not have been long in coming. Further, the weather that day was overcast and cool, eliminating heat-related illness concerns.

Points of Discussion

This incident had a positive outcome, and reinforcing those components of the system that worked is important. Many of those components are described in the Lessons Learned. Questions do come up, however, when we look more deeply into the system around Pack Tests and into risk management overall. We offer the following questions for discussion.

Pack Test

While this incident resulted in a positive outcome, the local unit has already identified areas to improve on, including more planning for medical responses along the course route and ensuring responder equipment is set apart and identified proactively to everyone. Their reflections prompted the following, broader questions for other units:

- When selecting the course site, are EMS response times a deciding factor?
- What level of medical planning seems appropriate for your local operations: Pack Tests, local IAs, extended attack?
- How much detail do you include in your briefing/pre-mortem conversations—roles, equipment location, knowledge of the site, walking through worst case scenarios?
- Are regular exercises such as Pack Tests becoming so routine that personnel are trained only for success, and if so, how do you keep or revitalize a fresh perspective?

Risk Management

Jimmy felt fine that morning, and had never experienced any of the symptoms described on the HSQ. However, we found that the HSQ is where many of our minds go when we hear about heart-related incidents. Our many conversations for this FLA explored the HSQ more deeply, driven by the following questions:

- What is the intent or objective of the HSQ (CYA, filter, etc.)? What is its scope?
- Is there a common understanding up and down the fire line of its intent and limits?
- What are the incentives to filling out the HSQ untruthfully (costs, threat to career, process, etc.)?
- Should authority be given to the Pack Test administrator to decline an individual's opportunity to take the test if they determine the individual to be unfit?
- Are casual fire fighters provided adequate training time to prepare for the Pack Test? Should work time to allocated for fitness for non-professional firefighters?

Assumptions of Control

We offer the following, more theoretical questions in the spirit of continued growth and integration of HRO principles into our work and culture.

- Is it a failure not to be prepared, not to have control over, or not to be able to mitigate for every eventuality? At what point have we prepared adequately and do we accept that “things happen, you just can’t foolproof everything”? (Jimmy, victim)
- Does a learning culture and preoccupation with failure contribute to the mythology that we have control over everything, or that we should?

FLA Team

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Josh Cantrell, Assistant Training Manager, Redmond Smokejumpers (Subject Matter Expert)