

# Rapid Lesson Sharing

**Event Type:** Medical Evacuation and Lessons

**Date:** July 13, 2017

**Location:** Grand Mesa Ranger District; Grand Mesa, Uncompahgre and Gunnison National Forests; Colorado

*The purpose of this RLS is not only to understand this event and the conditions that influenced it, but to also put you directly into these peoples' shoes to consider what you can learn from their experience that will enhance your success if you happen to find yourself in a similar situation.*

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U.S. Forest Service Wildland Fire Module and YCC members carry the injured employee through difficult terrain in a Traverse Rescue Stretcher at 2047 hours.

The bull charged again, scattering the crew.

One crewmember ducked behind a tree, glad to have something solid between him and this mad bull. But when he knelt down, he felt something go terribly wrong with his knee. The pain and swelling began immediately.

Sitting under that tree, the injured crewmember tried to get comfortable—as the bull continued to pace in the distance.

Thinking that his knee cap may be dislocated, the other crewmembers tried to push his knee cap back into place. The discomfort was overwhelming. His teeth chattered and the pain drained all color from his face—even in the 85 degree heat.

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## 12-Hour Medical Evacuation Pack-Out

On July 13, a knee injury left a Youth Conservation Corps (YCC) crewmember unable to hike out of the field. A U.S. Forest Service Wildland Fire Module and a County Search and Rescue assisted in carrying out the crewmember.

This RLS tells the story of the 12- hour medical evacuation that transpired after this injury occurred.

The resources involved in this evacuation participated in an After Action Review to discuss what happened, what went well, and what they could do differently next time. The primary lessons learned included:

- ❖ The initial patient assessment has a big influence on the expectations of responding resources.
- ❖ It can take a long time to get someone out of the woods if you have to carry them.
- ❖ Get Search and Rescue involved to help with medical evacuations, they have the equipment and manpower.

After talking and looking over the injury, the Crew Lead realized that they would need to carry this patient out. The Crew Lead tried to contact Montrose Dispatch on the radio, but was not able to reach anyone. They had checked out with Montrose Dispatch earlier that morning using the Montpelier Repeater. But that was before they dropped down into the Blue Creek drainage.

### **Crewmember Bushwhacks Up Hill to Find Cell Reception**

It was about 1500 and this four-person Youth Conservation Corps (YCC) crew had just begun their two-mile hike along the Blue Creek Trail to the intersection with the Mailbox ATV Trail when they encountered this bull. (This is an “open range” area where cattle graze freely. They knew there were cows in the area because they had worked around them most of the day. This particular bull decided to be aggressive when they tried to walk by it. While the bull lingered in the area, it wasn’t a threat throughout the evacuation.)

It was almost another five miles by ATV/UTV to the trailhead where their vehicle was parked.

It had rained intermittently all day as they worked on the trail. Conditions were wet and muddy.

After the Crew Lead tried multiple repeaters and made several calls to “anyone” out there, another crewmember hiked up the hill to try to find cellphone coverage.

During this crewmember’s uphill trek, he noticed that the Mailbox ATV Trail was in relatively close proximity uphill from the accident site. Thinking that this might be a quicker shortcut for extracting the injured crewmember, he placed an “X” with sticks on the Mailbox ATV Trail to indicate that the accident site was downhill from that location.

Finally, at approximately 1600, this crewmember reached a point where he could make a cellphone call to their Supervisor. With only one radio on the crew, the crewmember had to shout back and forth with the Crew Lead to relay information with the Supervisor.

### **Decision Made to Launch Wildland Fire Module**

At the District Office, the Supervisor and other District employees discussed options and made the initial notifications to the District Ranger. They decided to launch a local Wildland Fire Module who had six people available to help out.



Google Earth map shows the approximate injury location, the “shortcut” route, and where the “shortcut” route intersected with the Mailbox ATV Trail.

They agreed to use the Grand Junction Dispatch (GJD) Center partly as a result of the YCC Crew's communication problems with Montrose Dispatch, the location of the incident, and the fact that Grand Junction Dispatch had an active fire that they were working, while Montrose Dispatch was getting ready to sign-off for the evening.

The YCC crewmember remained at the location where he had cell coverage until about 1708, when Grand Junction Dispatch was finally able to connect with the Crew Lead on the Gateway Repeater (which was not a repeater that the crew usually used because it didn't connect to Montrose Dispatch, the center responsible for their check-in/out).

### **Plan A: Walk Out**

By 1700, the Fire Module, including one Emergency Medical Technician (EMT), was on their way to what they understood to be a possible dislocated knee and that the injured employee may not be able to walk out.

By 1800, the Fire Module had reached the trailhead where they were getting their UTVs and gear prepared. It wasn't until 1835 when the Fire Module was able to reach the YCC Crew Lead on the radio. At this point, the Fire Module learned that that the injured employee couldn't move. They would need to carry him out.

At the stick "X" in the Mailbox ATV Trail, three Fire Module members, including the EMT, proceeded down the shortcut on foot, flagging the route with pink flagging. The other Fire Module members continued down the Mailbox ATV Trail with their UTVs to the intersection with the Blue Creek Trail.

When the three Fire Module members met up with the YCC Crew, the EMT used the 9 Line Medical Incident Report form from the Incident Response Pocket Guide (IRPG) to guide him through the patient assessment.

It was determined that the injury was not life threatening. The injured crewmember was alert and responsive. His knee hurt fairly severely when it moved or was bent.

#### **Decision: Scrap Plan A**

At 1912, the update back to Grand Junction Dispatch was: *"1 patient, male, 17-years-old, 250 pounds, conscious and breathing. Mechanism of injury is fall on level surface. Injury is a routine "Green" severity (not a life-threatening injury or illness). Carryout is the transport plan. No additional resources needed at moment."*

It was decided to scrap Plan A—the patient is not walking out.

The EMT stabilized and bandaged the patient's knee, then got him as comfortable as possible on the Traverse Rescue Stretcher (see photo on right).

Two more Fire Module members hiked up from the trail intersection where they parked the UTVs and met the others at the accident location.

### **Plan B: Carry Up the Shortcut Route**

The shortcut was steep, wet, and choked full of dense gamble oak brush. In order to get through with the stretcher, they would need to clear the route with a chainsaw. By 1921 the Module knew that they were going to need more help. They contacted Grand Junction Dispatch to request a wheeled stretcher.

One of the Fire Module members hiked out to the UTVs to go back to the trailhead to the staged ambulance and crew where they hoped to get the wheeled stretcher.



Example of a Traverse Rescue Stretcher like was used on this pack-out incident.



The Module also requested a “crew” to help with the extraction. In their minds, this was a 20-person hand crew. But Dispatch understood this to be the four-person ambulance crew. (This miscommunication wasn’t cleared-up until almost one hour later.)

At 2002, a Sheriff Deputy positioned at the trailhead with the ambulance took over command of the medical extraction. At about this same time, the Fire Module member arrived at the trailhead in the UTV intending to pick-up a wheeled stretcher.

The Sheriff Deputy decided to hold him there until Search and Rescue (SAR) personnel arrived. This was communicated to the Fire Module, as well as the fact that eight SAR personnel plus four additional paramedics would eventually be available to assist.

At this point, the Fire Module and the YCC Crew made the call that they did not have enough manpower to clear and climb the shortcut route . . . on to Plan C.

### **What About a Helicopter?**

The folks at Dispatch considered helicopters and identified a short-haul ship nearby, as well as a Care Flight helicopter. The short-haul crew had already been released for the evening. With sunset and darkness approaching, conversations between the District and Dispatch led to the decision not to use the short-haul ship.

The Care Flight helicopter was declined by the Fire Module on scene as a result of observations on their descent into the injury location when they scouted for possible helicopter landing spots. The slope of the hillside coupled with the amount of shrubbery made a landing zone unlikely. They also considered the fact that this was not a life-threatening injury.

Although the injured YCC crewmember was experiencing pain and swelling in his knee, he was fairly comfortable and in good spirits. Did it really make sense to launch a ship given this situation? (Unbeknownst to Dispatch, the District employees and the Fire Module, Care Flight was requested by the Sheriff Deputy, but they declined the mission due to weather conditions.)

### **Plan C: Carry Out to Trail Intersection**

By 2021 they starting carrying the injured YCC crewmember west down the Blue Creek Trail toward the intersection with the Mailbox ATV Trail.

Two people lifted each side, one person at the head, and one person rested. The distance to the trail intersection where the ATVs and UTVs were parked was approximately 1.75 miles. They also had backpacks and gear to carry. It was slow going.

The trail was narrow, crowded with wet vegetation. Embankments along most of the trail made walking very difficult. By 2037, the sun had gone down and darkness began to obscure their path. Over the course of the next three hours, they carried the injured crewmember approximately 1.1 miles.



**The Wildland Fire Module and YCC members transport the injured employee in the Traverse Rescue Stretcher in difficult terrain at 2151 hours.**

## **Mesa County Search and Rescue Initiated**

Earlier on in the evening—sometime between 1927 and 1957—Search and Rescue was initiated by the Gateway Fire Department, whose ambulance was dispatched and staged at the trailhead.

Knowing that the paramedics with the ambulance were not prepared to go into the backcountry, the Fire Chief contacted the Mesa County Sheriff's Department who manages SAR resources in the county. An eight-person SAR crew arrived at the trailhead at 2149, followed shortly by the Sheriff's Sergeant in charge of emergency services, who assumed command of the evacuation.

Back in town around 2300, the Supervisor had a "light bulb moment" during a conversation with the injured employee's family, updating them on the latest information. Realizing that they hadn't notified the families of the other YCC crewmembers, the Supervisor and the Recreation Specialist headed back to the office to get phone numbers and make some late night calls.

## **Another Half-Mile to the UTVs**

When SAR finally rendezvoused with the Fire Module and YCC Crew, they had traveled about 1.1 miles from the location of the injury. It was now approximately 2330, about 8½ hours after the injury occurred, and 3 hours since they started carrying him out.

It took only minutes to get the injured crewmember settled into the wheeled stretcher that had been provided by SAR. They covered the remaining half-mile in a fraction of the time, arriving at the UTVs in about an hour.



**Example of a wheeled stretcher like the one used in this incident.**

The wheeled stretcher and the fresh people relieved the wet and worn-out crew who had been carrying out the injured party in the Traverse Rescue Stretcher. The wheeled stretcher made a tremendous positive difference in how fast they traveled.

## **Injured Crewmember Transported to Hospital; AAR Held**

Once at the intersection of the Blue Creek and Mailbox ATV trails, they were able to get the injured YCC crewmember sitting upright in the UTV. It was now another five-mile drive back to the trailhead—which took just over an hour.

By 0001, he was finally loaded into the ambulance and headed to the emergency room in Grand Junction.

The YCC Crew Supervisor, Recreation Specialist, and family met the injured crewmember at the ER. After an X-ray was taken and pain medication was administered, he was released with a referral to an orthopedic surgeon.

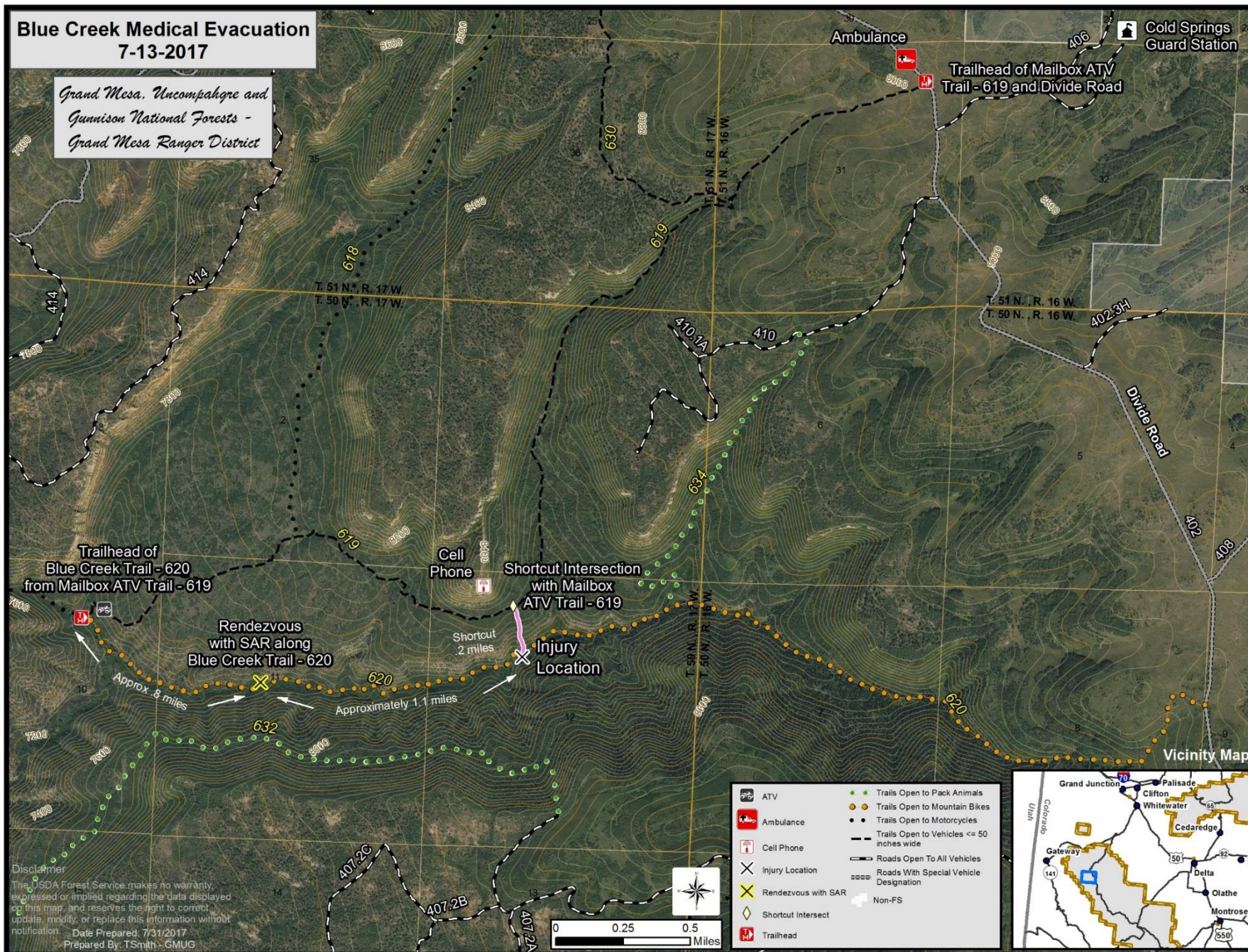
Once the injured employee was taken away by the ambulance, the Fire Module and YCC Crew warmed up, ate some MREs, and then had an After Action Review with the SAR and Sheriff's Sergeant.

After the AAR, both the YCC Crew and Fire Module members were tired, but eager to get home. On the return drive, they kept each other alert with conversation. It was 0003 when they arrived back at the administrative site.



# Blue Creek Medical Evacuation 7-13-2017


Grand Mesa, Uncompahgre and  
Gunnison National Forests -  
Grand Mesa Ranger District





## Incident Summary Timeline

Hour		Time	Event
	3:00 PM	3:00	Injury occurred
	4:00 PM	4:30	Crewmember called Supervisor at District Office on cell phone
Plan A		4:52	Module dispatched to help with medical evacuation
	5:00 PM	5:26	Ambulance dispatched from Gateway
	6:00 PM	6:00	Module arrived at trailhead
Plan B	7:00 PM	7:06	Module began hike down shortcut
		7:12	Patient assessed by Module EMT
		7:21	Module Member returned to trailhead for wheeled stretcher
		7:49?	SAR requested by Gateway Fire Department
	8:00 PM	8:02	Sheriff Deputy assumed control over incident
			Module Member held at trailhead until SAR arrives
		8:21	Module and YCC began to transport along Blue Creek Trail
Plan C	9:00 PM	9:49	8-person SAR arrived at trailhead
			IC changed to different Sheriff Deputy
	10:00 PM		
	11:00 PM	11:29	SAR, Module and YCC crew meet at rendezvous location
		11:37	Patient packaged in wheeled stretcher at rendezvous location
	12:00 AM	12:32	Patient loaded onto UTV, 5-mile drive to trailhead
	1:00 AM	1:42	Patient loaded into ambulance and headed to Grand Junction
	2:00 AM		Module and YCC Crew en route to Grand Junction
	3:00 AM	3:09	Module and YCC Crew back in Grand Junction and out of service. Patient arrived at Saint Mary Regional Hospital's Emergency Room.

  
 Sunset  
 8:37

## Lessons

***If we don't digest these lessons and turn them into action, they remain only available, and not learned.***

A second After Action Review was held four days after this medical injury incident. Representatives from all the groups involved participated and discussed what happened, what went well, and what could be improved.

These lessons are available to all Forest employees to help build an understanding of the challenges that face field-going crews. If we don't digest these lessons and turn them into action, they remain only available, and not learned.

You are encouraged to pick one thing: **Think** about it, **Talk** about it, **Act** on it! Don't let these lessons go unlearned and don't underestimate your leadership influence, regardless of your position or experience.

### **Radio Communication**

#### **THINK**

- The YCC crew only had one radio. When the crew had to split-up to search for cellphone coverage, they had difficulty communicating with each other.
- The Gateway Repeater is a Bureau of Land Management repeater that does not transmit to Montrose Dispatch and cannot be heard on the radio in the District Office. It is a frequency known and used by fire resources on that District because they fall in the Grand Junction Dispatch zone. The YCC Crew was not familiar with this repeater. It was available on the YCC Crew Lead's radio because it contained the "Fire" program. Phone conversations with the Supervisor alerted the YCC crew to use it.

#### **TALK**

- Do you have more than one radio on your crew?
- Do you know where the repeaters are located?

#### **ACT**

- Practice regular radio checks during the day.
- Print out a copy of the Forest's repeater map.

### **Medical Evacuations**

#### **THINK**

- Pre-planning for an emergency evacuation helps identify critical information beforehand such as available radio channels, project coordinates, potential helispot locations, estimated time to the nearest medical facility, and on-scene medical contact.
- The initial patient assessment has a big impact on the response effort, including how many people come to help, what gear they bring, and what other resources are contacted. Make sure that a solid assessment is communicated.
- Carrying out a large person in a Traverse Rescue Stretcher is very difficult and slow. Call in the troops early and get as many people as possible there to help. Mesa County SAR plans for 20 people per mile.

#### **TALK**

- What will we do if someone gets hurt?
- How will we get them out of here?
- How long will it take to get them to medical care?

#### **ACT**

- Practice a medical evacuation with your crew including relaying a patient assessment using pages 108 and 109 in the [Incident Response Pocket Guide \(IRPG\)](#) or the [GMUG 9-Line](#) to guide you through critical information that needs to be shared. (Because this Forest 9-Line link will only work for U.S. Forest Service employees, also see this Forest's 9-Line on next page.)



NINE LINE -- MEDICAL EVACUATION PROCEDURES							
<b>GOAL: TO FACILITATE RAPID MEDICAL RESPONSE AND CARE FOR EMPLOYEES INJURED IN THE FIELD AND TO ENSURE TIMELY TRANSPORT TO AN APPROPRIATE MEDICAL FACILITY.</b>							
<b>1. CONTACT DISPATCH:</b> Ex: "Montrose Dispatch, This is '-----', We have a Medical Emergency on '-----' Project <i>(If life threatening request designated frequency be cleared for emergency traffic.)</i>						<b>DO NOT USE PATIENT'S NAME ON THE RADIO</b>	
<b>2. INCIDENT STATUS:</b> Provide incident summary and command structure.							
Nature of Injury/Illness:					Describe the injury (Ex: Broken leg with bleeding)		
Incident Name:					Geographic Name + "Medical" (Ex: Trout Meadow Medical)		
Incident Commander/Point of Contact:					Name of IC		
Patient Care Provided By:					Name of Care Provider (Ex: EMT Smith)		
<b>3. INITIAL PATIENT ASSESSMENT:</b> This is only a brief, initial assessment. Provide additional patient info after completing this Nine Line Report.							
Number of Patients: _____	1	Male / Female:	Age:	Weight:	Conscious? <input type="checkbox"/> YES <input type="checkbox"/> NO = MEDEVAC!		
	2	Male / Female:	Age:	Weight:	Breathing? <input type="checkbox"/> YES <input type="checkbox"/> NO = MEDEVAC!		
	3	Male / Female::	Age:	Weight:	Conscious? <input type="checkbox"/> YES <input type="checkbox"/> NO = MEDEVAC!		
Mechanism of Injury: What caused the injury?							
Latitude/Longitude Ex: N 40° 42.45' x W 123° 03.24'							
<b>4. SEVERITY OF EMERGENCY, TRANSPORT PRIORITY</b> If unsure, elevate Transport to a Higher Priority							
<b>SEVERITY</b> <input type="checkbox"/> <b>URGENT-RED</b> Life threatening injury or illness. Ex: Unconscious, difficulty breathing, bleeding severely, 2° – 3° burns more than 4 palm sizes, heat stroke, disoriented.					<b>TRANSPORT PRIORITY</b> Evacuation need is <b>IMMEDIATE</b> . Ambulance or MEDEVAC helicopter.		
<input type="checkbox"/> <b>PRIORITY-YELLOW</b> Serious Injury or illness. Ex: Significant trauma, not able to walk, 2° – 3° burns not more than 1-2 palm sizes.					Evacuation may be <b>DELAYED</b> . Ambulance or consider air transport if at remote location.		
<input type="checkbox"/> <b>ROUTINE-GREEN</b> Not a life threatening injury or illness. Ex: Sprains, strains, minor heat-related illness.					<b>ROUTINE OF CONVENIENCE</b> Non-Emergency. Evacuation considered. Utilize Agency Transportation		
<b>5. TRANSPORT PLAN:</b> In addition to a primary plan, also develop an alternate plan in case the first option doesn't work (eg: when using Life Flight have dispatch place a ground ambulance on standby).							
<b>Ground Transport:</b>		<input type="checkbox"/> Carry Out		<input type="checkbox"/> Agency Transportation		<input type="checkbox"/> Ambulance	
<b>Air Transport:</b>		<input type="checkbox"/> Life Flight		<input type="checkbox"/> Short Haul/Hoist		<input type="checkbox"/> Other	
						<b>To Where?:</b>	
						<b>To Where?:</b>	
<b>6. ADDITIONAL RESOURCE AND EQUIPMENT NEEDS:</b>							
<input type="checkbox"/> Paramedic/EMT(s)		<input type="checkbox"/> Crew		<input type="checkbox"/> Cardiac Monitor/AED		<input type="checkbox"/> Other	
<input type="checkbox"/> County Search and Rescue		<input type="checkbox"/> Burn Sheet(s)		<input type="checkbox"/> Splints		<input type="checkbox"/> Other	
<input type="checkbox"/> Law Enforcement		<input type="checkbox"/> SKED/Backboard/C-Collar		<input type="checkbox"/> Wheeled Litter		<input type="checkbox"/> Other	
<b>7. COMMUNICATIONS:</b>							
What Repeater/Channel Are You Using to Talk with Dispatch?							
What Channel Are You Using to Talk on Your Incident (Scene of Action)?							
What Channel Has Dispatch Assigned You for Air to Ground? (To talk with Life Flight, etc)				Transmit Frequency		Receive Frequency	
<b>Montrose Interagency Dispatch</b> <b>970-249-1010</b>		IC's Cell Phone:		Care Providers Cell Phone:		Other Cell Phone:	
<b>8. EVACUATION LOCATION:</b>							
Latitude/Longitude Ex: N 40 42.45' x W 123 03.24'							
Patient's ETA to Evacuation Location:							
Helispot/Extraction Size and Hazards:							
<b>9. CONTINGENCY:</b> <i>If primary options fail, what actions can be implemented in conjunction with primary evacuation method? Be thinking ahead...</i>							
<b>REMEMBER:</b> Confirm ETA's of resources ordered. Act according to your level of training Be Alert. Keep Calm. Think Clearly. Act Decisively.							

- Build a stretcher with gear on hand and try to carry a crewmember down the trail.
- Fill out the [GMUG Medical Emergency Evacuation Plan form](#) for a project. (Because this link will only work for U.S. Forest Service employees, also see this Forest's emergency evacuation plan on next page.)

## Search and Rescue

### THINK

- In Colorado, counties have responsibility for Search and Rescue programs. They offer capabilities such as equipment, communication, personnel, and specialized training to expedite and facilitate medical evacuations. They also have action plans and trigger points pre-planned for certain areas of the county. Enlist the help of SAR early on during a medical evacuation. They can always be stood-down if it turns out they won't be needed.
- Consider filling incident management positions in addition to the Incident Commander, such as Operations, Logistics, and Liaisons (family, Dispatch, County) to help with information sharing.

### TALK

- What conditions might trigger a call to SAR?

### ACT

- Coordinate with your local County SAR coordinator to gain better understanding of their capabilities and standard operating procedures. Invite them to present at a safety meeting.

## Dealing with a Work-Related Injury

### LESSONS TO SHARE

- The workers compensation process is confusing and difficult to understand. Negotiating the process falls heavily on the injured employee and family. Case managers at the Albuquerque Service Center's Workers Compensation group provide minimal direction and are not available on weekends or after-hours. A Forest Service liaison assigned to the injured employee can help troubleshoot and push this process along.
- Enter the injury in eSafety as soon as possible. In order to get an injury claim started, ASC-WC must receive a faxed copy of a signed CA-1, completed and printed from eSafety. This requires initial entry into eSafety (which can be done by someone other than the employee or supervisor) and also supervisory certification in eSafety within 48 hours. The certifying supervisor can be determined during the initial entry and does not have to be the employee's official supervisor. Choose someone in the chain of command who is available, is knowledgeable about the injury, and has access to eSafety.
- Once a CA-1 is received by ASC-WC, they submit a CA-16 (Authorization for Examination and/or Medical Treatment) to the initial treating physician that authorizes them to care for an injured employee. This initial authorization covers most diagnostic examinations performed by the initial treating physician or the referred physician. In this injury incident, no official diagnosis of the injury has been obtained yet. An MRI is currently scheduled for a date that is 20 days after the injury.

**MEDICAL EMERGENCY EVACUATION PLAN**  
**Grand Mesa, Uncompahgre, and Gunnison National Forest**

General Information									
Project Name:					District:				
Dates:					Prepared By:				
Contact Information									
Lead Project Contact:					Work Phone:				
On-Scene Medical Contact:					Work Phone:				
Radio Channel:			Group:		Alt Radio Channel:		Group:		
Project Location									
Legal:				Latitude:				Longitude:	
								Elevation:	
Narrative Description: (including road numbers and major landmarks)									
Helispot Locations									
<i>Helispots should be a minimum of 100 ft. X 100 ft. Advise dispatch of obvious hazards such as power lines.</i>									
1.	Legal:			Latitude:			Longitude:		
2.	Legal:			Latitude:			Longitude:		
3.	Legal:			Latitude:			Longitude:		
Medical Facility									
Nearest Facility:					Phone Number:				
Travel Time by Vehicle:					Address:				
Directions:									
24 Hour Facility:					Phone Number:				
Travel Time by Vehicle:					Address:				
Directions:									



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**This RLS was submitted by:  
The Forest's Occupational Safety  
and Health Manager**

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have a Rapid Lesson  
to share?**

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