A Guide to Effective Emergency Drills for Forestry Operators

BC Safe Forestry Program
Jordan Tesluk
BC Forestry Safety Advocate
Photos: Robin McCullough

Emergency drills are a critical part of every health and safety program. Drills need to be done both in the field and at the base of operations, and should be completed on an annual basis or more frequently. This guide identifies tips and techniques for conducting successful drills to help prepare workers for the types of emergencies they may encounter in forestry and silviculture operations. A set of templates is provided to assist with conducting and evaluating drills.

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Benefits of Emergency Drills

Tests of emergency systems are required by Section 4.14(3) of the Occupational Health and Safety Regulation, and by SAFE Companies SEBASE and BASE audit standards. Other important reasons for conducting drills include:

- **Saving lives - Prepared and drilled staff outperform unprepared staff in a real emergency.**
- Building teams - Drills provide excellent opportunities for team-building exercises and bring staff together in a way that they may not often operate.
- Detecting deficiencies - Regular drills can help identify equipment deficiencies such as empty oxygen tanks and spoiled supplies.
- Mitigating hazards - Drills can be used to help prepare for managing new hazards, such as working around wildlife or travelling through areas with dead timber, and mock scenarios can be built to manage emergencies associated with such items.
- Evaluating staff - Drills provide management with an opportunity to evaluate human resources, identify future leaders, and assess the competency of key staff with safety-sensitive positions.
- Supporting effective scheduling - For seasonal forestry crews, emergency drills can be used to slow the pace of work at the beginning of the year and can make positive use of time during weather delays.
- Identifying corrective actions - Drills can be assigned as a corrective action following a close call, especially when a company is unable to identify a clear deficiency in their own program. Examples of such situations include responding to threats from the public or motor vehicle close calls caused by other drivers. While such events may not always be wholly under a company's control, drills can be used to prepare your staff to respond to these events in the best possible manner.

Making the Most of Drills

While many employers conduct emergency drills, there are several "musts" that apply to how these exercises should be conducted:

1. Drills must go beyond verbal discussion and include physical demonstration of skills.
2. In seasonal operations, drills must be conducted early in the season, so workers are prepared for the season of work ahead of them.
3. Drills must include all available employees to provide a fully prepared crew.
4. Drills must focus on a variety of scenarios and cover more fired and spills. Drills should cover other potential emergencies such as assisting injured workers and dealing with emergencies common in forestry environments such as extreme weather and wildlife encounters.
5. Drills must test the full chain of emergency communication, including verifying the ability to communicate with outside assistance. In some cases, it is best to contact a staff member to simulate the emergency call, to avoid use of important emergency resources. Do not call 911 in a drill.
6. Drills must be followed by a performance analysis to improve safety procedures. This review should IMMEDIATELY follow the drill, in order to gather accurate and complete details.
7. Drills must be performed on an annual basis. However, drills should be done more frequently to prepare crews for different situations, and to ensure all workers participate.

Your Objective

This guidebook provides instructions that will help satisfy these goals and help build your capacity for effective emergency response. The objective is to improve the ability of your staff and your crews to deal with emergencies by building three key dimensions of competency.

1. **Knowledge** – Employees need to be informed of emergency procedures, including their specific roles, where to find information and emergency numbers, and how to identify appropriate options such as choosing a method of evacuation. This knowledge is best provided to workers prior to drills, so they can then apply their knowledge to the exercise. Ensure that your training program educates workers not only about the procedures for dealing with different types of emergencies, but also the roles that they play in these emergencies, and key information such as location of equipment, and emergency numbers and radio channels.

2. **Skill** – Drills are an excellent venue for demonstrating and teaching new skills, and specific acts they are to perform. While first aid attendants learn skills in their certification courses, a different set of skills may be necessary for forestry workplaces. For workers without first aid experience, key skills to demonstrate include actions they may perform as helpers in emergency situations. This guide provides a starters list of skills to focus on during your drills.

3. **Attributes** – Successful emergency response requires workers to maintain the ability to remain cool under pressure, to exercise physical strength and leadership skills, and to be clear communicators. In contrast with other workplace tasks, the key attributes for emergency response are collectively held by the entire crew, not just by individuals.

Identifying the Right Drill for Your Operations

Different types of operations have different drill needs, due to the different hazards they encounter, and the capacity they maintain for response. Smaller companies with field operations that are limited to small numbers of employees such as surveyors and engineers or crews that work in numbers of five or less, generally lack the capacity to manage a major emergency without assistance. Therefore, their drills should include a strong emphasis on establishing communication with outside assistance, identifying sources of mutual aid, and identifying potential barriers to evacuation. Companies that deploy workers in larger crews should test not only the ability of their crews to perform all aspects of a rescue and evacuation, but also potential triage situations with multiple patients.

Regardless of company size, drills should focus on high risk activities and equipment associated with their operations. Examine your close call and incident records to identify common hazards with the potential to cause emergencies for your staff. Companies that regularly work on or over water, or that work at high angles, should conduct drills that deal with emergencies for such circumstances. In addition to common fire and spill drills, emergency drills can focus on scenarios shown below.

Potential Scenarios

- **Injuries in the field:** Testing ERPs in the field is critical for forestry employers. Workers need opportunities to test equipment and their abilities in realistic forestry environments**. If your project is short, and you only have time to do one drill, managing an injury in the field is one of the best options for evaluating your ability to manage the key components of emergency response.**
- **Injuries in a camp:** Camps offer opportunities not only for triage (multi-patient) scenarios, but also for scenarios that require significant preparation and staging, such as motor vehicle incidents. Camp settings are ideal venues for doing large drills to demonstrate key skills to employees, before having them perform smaller crew drills in the field to hone their skills.
- **Hard access extraction:** Evacuation of an injured worker in rough terrain is a challenging task that should be practiced in order to prepare for situations where medical aid cannot easily reach a patient. It is recommended to conduct stretcher practices with a mock patient or dead weight such as firewood, to reduce risk to any worker serving as a patient.
- **Motor vehicle incidents:** Vehicles are a common source of injury in forestry, and special traffic control considerations apply for responding to an emergency involving a motor vehicle.
- **Wildlife encounters and allergic reactions from stinging insects:** It is helpful to perform drills that demonstrate the actual physical actions to perform in a wildlife encounter such as a bear or cougar attack. This can serve as a simple warm-up scenario to get workers engaged with the drill process.
- **High wind events and other disaster scenarios such as flash floods or forest fire:** Rapid evacuations may be necessary in case of major disasters. Workers in remote

accommodations or camps should be trained to muster effectively and in the case of fire or flood. Staff should understand evacuation, convoy, and head-count protocols.

- **Rendering assistance when the lead supervisor or first aid attendant requires aid:** Having an injured leader or first aid attendant is an upset condition that should be practiced to assure workers understand the chain of command and to provide back-up attendants the opportunity to practice their skills. Workers can develop dependence on supervisors and crew bosses and should have opportunities to practice their own leadership skills.
- **Locating a lost worker:** Lost workers drills are particularly important for staff that cover a lot of ground, or who work alone or in smaller groups. This includes survey and forest layout workers, and checkers and supervisors that do block reconnaissance. Lost person exercises can be performed in camp or the field, and should include a thorough test of communication, head-count, and check-in systems.

Setting up Drills for Success

Advance planning is important for achieving positive learning outcomes. Good planning starts with management allocating time on the first possible day for a drill. Companies can experience serious incidents on day one of a job, so it is better to ensure all staff are fully prepared before work begins.

- Tell people to dress warm. Drills may involve a period of watching and learning, so warm clothes are important for keeping the audience comfortable if practicing outside.
- Have prepared documents for setting the drill up, for taking notes, and for reviewing the outcomes. Workers may benefit from having written materials to review as the drill unfolds.
- Set-up documents ideally include a short set of instructions for key participants, including the lead first aid attendant, the back-up or secondary first aid attendant, equipment leaders, transportation leaders, communication leaders, and other helpers. A clear chain of command should be established among the participants.
- A drill-marshal or leader should be appointed to start and stop the exercise and provide information to the crew to assist in the simulation. The marshal may be a safety coordinator, supervisor, or manager.
- The drill should have a template or a basic scenario. Try to avoid scripting events in too much detail, as workers need to learn and test their ability to adapt and meet objectives, rather than merely follow predictable directions. The template should include basic information about the nature of the incident and the conditions that must be managed.
- It is strongly recommended that workers be informed in advance that a drill is being held, and that they are clearly told that the exercise is a simulation. Workers may panic, experience trauma, or pre-emptively call for emergency services if a drill is sprung on them without warning or explanation.

Skills to practice

A key aspect of emergency drills is providing workers a chance to practice rescue and first aid skills. Unlike most tasks, emergency skills are seldom utilized, and mock opportunities help workers to maintain their abilities. There are several categories of skills that can be practiced. Some common groups of skills are listed here.

A) Helper Skills

When first aid attendants conduct certification training, they are assisted by other trained first aid attendants. However, in the field, they may need to rely on other workers without any formal training and will need to instruct them in key tasks. Incorporating first aid helper skills into drills helps prepare workers for these tasks, helps establish smooth communication among staff, and instills confidence in the workers that they can complete these tasks under pressure. Key helper tasks that can be practiced during drills include maintaining c-spine control, applying a sternal clamp during a roll, assisting ventilations, supporting injured limbs, lifting injured workers, assisting with control of bleeding, and identifying and retrieving first aid equipment. It is helpful for attendants to clearly demonstrate these tasks, and to ensure that all workers have a chance to participate or directly view the activity. Remember, workers are less likely to panic in an emergency if they know what they must do and have practiced it before.

B) Communication systems

Communication in emergencies has two parts: on-site and off-site communications.

<u>On-site communication</u>

The first part of on-site communication is the call for help or the muster call. All drills should begin with a test of the mustering procedure. This ensures that workers are paying attention, taking the exercise seriously, and understand where to gather. In some cases (such as forestry worksites) it may be appropriate to have a one signal for gathering at the central muster point, and a different signal to gather at the source of the call in case the primary muster is unsafe or assistance is needed elsewhere. First aid attendants and leaders should practice giving directions in clear, calm, and commanding voices. Some workers may benefit from communication coaching, particularly newer or younger workers that have not previously been responsible for directing other workers.

<u>Off-site communication</u>

During a drill, workers should actively test their emergency equipment to ensure they can reach the parties that they rely upon in an emergency. If the company uses a local helicopter services, they should call the service to indicate they are conducting a drill. If satellite phones or radios are to be used, workers should be provided a clear demonstration on how to operate the equipment. It is also beneficial to complete a drill by notifying the head office (if applicable) to let them know you are testing the emergency system.

C) Transportation and traffic control

Motor vehicle accidents or incidents occurring on roads involve additional hazards to bystanders and helpers. Any drill involving such conditions should have workers assigned to control traffic, using hi-vis clothing, pylons, flares, flats, signs, flagging, and any other appropriate signalling devices. Staff should also be instructed to use local radio channels to notify other road-users of the location of the incident.

Workers can be assigned to help prepare transportation for injured workers. This may include removing unnecessary items from the emergency vehicle (ETV), ensuring all systems and straps are functional and in place, checking the vehicle for deficiencies, and cleaning windshields and lights. Workers should also practice loading a burdened stretcher and spine-board into the vehicle to ensure it fits, can be fastened securely, and will remain secure during transport.

If a drill involves helicopter transportation, workers should be assigned responsibility for clearing a landing spot in a location suitable for receiving an aircraft. This should be the most open level area available, at least 100’ x 100’ with a 50’ x 50’ landing area, with no over head lines or nearby danger trees or tall obstacles. Avoid areas with obstacles such as rocky outcroppings or avalanche run-outs. A wind-signalling flag (such as a 5 ft length of flagging tape) can be securely fastened outside the landing area to assist the pilot in gauging wind direction. Workers should clear all loose or light objects and woody debris and branches way from the landing zone in a 50’ radius. If the landing area is snowed over, workers may need to compress a landing site with snowshoes or other flat items to facilitate landing of the helicopter.

A company should also contact their local helicopter service provider or emergency air service and ask about any special requirements for receiving their aircraft. This may include determining the need for special stretchers, specific positioning of patients on the spine-board (right for flight), requirements for landing areas, loading protocols, and verifying the availability of the aircraft for rescue services.

D) Supporting roles

A key part of drills is ensuring all parties are involved. This ensures workers pay attention in the drill, and that all possible resources are utilized in an emergency. All emergency roles can have back-ups in case the primary person is injured (i.e. back-up first aid attendant or back-up equipment manager). Other supporting roles may include:

- Workers checking on helpers to determine if they require a jacket to stay warm, or a break from an uncomfortable or demanding physical position.
- Reassuring the patient or other upset workers and checking to ensure additional injured workers are not missed.
- Securing dogs, if pets are present at the worksite.
- Clearing a path for the stretcher. This may be crucial in the case of a hard-access extraction.
- Conducting a head-count for all personnel at the scene.

Keeping Drills Fresh

In addition to exploring new scenarios, there are many ways to keep emergency drills fresh and interesting. With young workers it is tempting to have fun with a drill. This can be helpful for achieving buy-in, but there should be limits, and the drill marshal needs to ensure that workers are serious about their tasks. In other words, don't have too much fun. The same consideration applies to overly realistic simulations. Drills can be enhanced by effective simulation of challenging conditions, but this should never introduce real safety hazards. For example, colored flagging can be used in place of live electrical wires. Too much simulation can also distract from the exercise. Excessive fake blood for example, can simply create a mess and may even upset some workers. Also, emergency calls may be made to alternate numbers (such as staff or perhaps pizza delivery) rather than tying up emergency resources such as 911.

The main goal should be to make the exercise real enough to demand full use of skills, but not enough to take away from any learning outcomes. Larger companies can have rodeos or competitions between crews to push for better performance. Another option is to award prizes for best performance or for workers that identify important learning outcomes or deficiencies in the equipment or procedures. Ultimately, the drill should focus on rewarding learning outcomes.

Evaluating Drills

Drills should be evaluated to identify deficiencies and make improvements to the emergency response protocols. This guide identifies 10 key dimensions of drill performance to evaluate. These dimensions are explained below to assist in completing the drill template included in this guide. These lists are not necessarily complete, and safety staff should seek to identify other items and questions that may fit with these headings. It is important to complete the evaluation immediately after the drill so that an accurate and complete level of detail is gathered.

1. Response time

- How quickly do workers evacuate the site?
- How quickly do workers reach the muster station?
- How quickly is equipment is made ready for use?
- How quickly is the emergency initially recognized?

2. Hazard recognition and management

- Are the hazards associated with the emergency properly recognized? - Do the rescuers identify the cause of the emergency, mechanism of injury, and potential dangers to them and others?)
- Are those hazards properly controlled to ensure the rescuers are not put at risk?
- Are other site and situational hazards properly identified? (e.g. road traffic, changing weather)
- Are those hazards properly controlled? (e.g. traffic control in place, or jackets and extra blankets deployed)
- Are any new hazards identified? This could include hazards associated with new equipment (such as heavy gear to lift), hazards associated with rescue processes (such as trees that could be toppled by rescue aircraft), and other previously undetected hazards.

3. Command and control (leadership and decision-making)

- Does the correct person take charge of the situation?
- Do helpers effectively follow directions from their leaders?

4. Equipment management

- Are workers able to identify and locate necessary equipment?
- Are workers able to use the equipment properly?
- Is equipment complete and in ready-to-use condition?
- Are supplies within expiry dates (medications)?
- Are batteries charged and oxygen tanks full?
- Is the ETV ready for use?
- Are there any challenges to retrieving or using the existing equipment?
- Is there any other equipment that would be useful for this scenario?

5. First aid skills demonstrated

- Do first aid attendants demonstrate appropriate skills?
- Are patients handled in an appropriate manner?
- Are helpers able to perform basis assistance tasks such as c-spine, sternal clamp, and bleed control?
- Is any additional training required for helpers?

6. Transportation decision

- Is the patient properly packaged for transport?
- Is a correct transportation (RTC or non-RTC) decision made?
- Is an appropriate mode of transportation selected?
- Are special transportation considerations made? (i.e. right for flight, preparing heli-pad, setting up rendezvous with ambulance)

7. Communication among team members

- Are helpers provided with clear effective directions?
- Do helpers communicate effectively with each other?
- Is a positive (calm, reassuring, and encouraging) manner maintained?
- Is the patient provided with reassurance?
- Are all staff and team members accounted for (person-check or head-count)?

8. Communication with outside help

- Is all emergency contact information available in the site?
- Are team members able to utilize communication systems and devices effectively?
- Are team members able to contact outside emergency services?
- Are team members able to accurately describe/identify their location?
- Is the team leader informed of when outside help will arrive (if necessary)?
- Is head office or upper management contacted to make them aware of the situation?
- Are appropriate communication protocols followed? (e.g. no names over the radio)

9. Supporting roles

- Do all helpers perform assigned duties?
- Is traffic effectively controlled
- Are obstacles removed from the scene or path of transport?
- Is a heli-pad prepared properly (if applicable)?
- Are dogs controlled/removed from the scene (if applicable)?
- Are any new supporting roles identified?

10.Time to complete

Assessing the ability of your crew to complete a drill in a timely manner is an important consideration but should not be the only focus. Drill marshals may decide to time certain parts of the exercise, but there should be adequate time provided to achieve important learning outcomes. In some instances, it may be helpful to momentarily pause or freeze a drill to point out a key issue, demonstrate a skill, or rotate staff through different roles. Timing considerations may nonetheless include:

- How quickly is the patient readied for transportation?
- How successful/close to the “golden hour” is the overall response?
- Are there any steps that could be taken to improve the speed of delivery to medical aid?

Recommendations for Improvement

All observations and evaluations from the drill should be reviewed to identify opportunities for improving the emergency response system. Examples of improvements may include (but are not limited to):

- Changes to existing emergency instructions
- Increased or modified training for staff
- Modification of communication protocols
- Changes to equipment set-up and deployment
- Identification of new equipment needs
- Assignment of new roles or responsibilities
- Identification of new evacuation routes

Drill and Evaluation Templates

The remainder of this guide includes a set of templates for various sizes and types of operations, a blank template for creating your own emergency drill scenario, and an evaluation guide that can be applied to all drills. The scenarios include an estimated “challenge rating” based on the potential difficulty of the scenario. The scenarios have been aimed toward general numbers of workers (2 to 5, 6 to 15, and 16 to 50), based on WorkSafeBC tables for medium-risk operations, more than 20 minutes from medical aid.

Modify or add details to scenarios to best suit your operations and procedures.

Work through different drills, and create new drills based on likely emergencies and common hazards in your workplace.

Drill Evaluation

1. Response time:	
Positive observations	Potential Improvements
2. Hazard recognition and management	
Positive observations	Potential Improvements
3. Command and control (leadership and decision-making)	
Positive observations	Potential Improvements
4. Equipment management	
Positive observations	Potential Improvements
5. First aid skills demonstrated	
Positive observations	Potential Improvements
6. Transportation decision	
Positive observations	Potential Improvements

7. Communication among team members	
Positive observations	Potential Improvements
8. Communication with outside help	
Positive observations	Potential Improvements
9. Supporting roles	
Positive observations	Potential Improvements
10. Time to complete	
Positive observations	Potential Improvements

Recommendations for Improvement	

Scenario #1: Suitable for 2 to 5 workers (or more) Lost person	Challenge rating ★

Scenario description

Arrange for a solo field-worker to miss an established check-in at some point in the day. Staff at the base of operations must identify the missed check-in and take steps to locate the worker.
Staff must follow procedures for a failed check-in, attempt to establish communication with the missing worker, use work planning documents to determine the last known location of the worker, follow steps for setting up an initial search, and identify appropriate emergency services to contact in order to render assistance in case the worker cannot be located.
Once the worker is located and verified as safe, ensure all personnel are notified that the drill is complete.

Equipment Needed

Emergency communication devices
Maps and work-planning documents

Lead and Supporting roles

Field worker	Name:
Check-in person at base of operations	Name:
	Name:
	Name:
	Name:

Skills to practice

- Check in procedures
- Emergency communication equipment use
- Map and work-plan reading

Time started	
Time to locate worker	
Time to complete	

Scenario #2: Suitable for 2 to 5 workers (or more) Bear encounter	Challenge rating ★★

Scenario description

Begin with an emergency muster call at a road or landing. A worker is confronted by an aggressive grizzly bear. Demonstrate the proper way of playing dead and effective ways of fending off an attack if the confrontation becomes physical. Then, demonstrate the correct use of pepper spray. Practice with an expired container of spray in a safe area without wind. Ensure all personnel avoid the spray zone during and after deployment, and all areas downwind of the spray. Set up a pile of rocks and wood to represent the bear during the pepper spray test.
Test emergency communications to ensure that the workers can reach medical aid, in case the situation involved an injury. At conclusion of drill, discuss appropriate responses for different types of bears and different types of encounters.

Equipment Needed

Level 1 first aid kit Emergency communication devices Bear spray Mock bear
Eye wash in case of accidental spray exposure

Lead and Supporting roles

Bear response demonstration leader	Name:
Emergency communications	Name:
Bear spray handler and demonstration leader	Name:
	Name:
	Name:

Skills to practice

- Emergency mustering and emergency communication
- Proper physical and verbal response actions for different species of bears.
- Storage, preparation, and deployment of pepper spray.

Time started	
Time to muster	

Scenario #3: Suitable for 4 to 5 workers (or more) Allergic reaction	Challenge rating ★★

Scenario description

A worker in field operations has suffered an allergic reaction to an insect sting and requires transportation to medical aid. The worker is found near a roadside and is showing signs of shock. Muster the crew, establish a chain of command for the situation, deploy first aid equipment, and provide aid to the worker. Assess availability (and expiry dates) of allergy medications. Make a transportation decision and test your ability to contact emergency services. Initiate transport of the worker, and complete the drill once the vehicle is loaded, or once you have verified your ability to secure emergency assistance to the site. Conclude the drill once you have finalized your transport decision and determined an estimated time of delivery to medical aid.

Equipment Needed

Level 1 first aid kit Emergency communication devices Epi-pens (if available) and Benadryl
Transportation – company vehicle or other

Lead and Supporting roles

Lead first aid attendant	Name:
Assisting first aid	Name:
Emergency communications	Name:
Patient	Name:
	Name:

Skills to practice

- Emergency muster and emergency communication
- Providing and assisting with first aid
- Chain of command and equipment retrieval
- Basic first aid
- Emergency communication equipment use
- Emergency transportation

Time started	
Time to muster	
Time to complete	

Scenario #4: Suitable for 4 to 5 workers (or more) Broken arm	Challenge rating ★★★

Scenario description

A worker is found at the bottom of a cut-bank. They have tumbled approximately 40 feet and suffered a broken arm and additional minor injuries. Muster the crew and provide first aid. The worker can be transported by truck in an upright position. However, contact outside assistance to ensure you can have an ambulance meet you on route if needed. Ensure home base is aware of your plan and progress. This drill is ideal to do at end of the day, as part of drive home. Conclude the drill when you are loaded and ready to depart. Discuss the challenges of transporting an injured worker in the company vehicle.

Equipment Needed

Level 1 first aid kit Emergency communication devices Transportation

Lead and Supporting roles

Lead first aid attendant	Name:
Assisting first aid	Name:
Emergency communications	Name:
Patient	Name:
	Name:

Skills to practice

- Emergency muster and emergency communication
- Providing and assisting with first aid
- Emergency communication
- Transporting injured workers

Time started	
Time to muster	
Time to complete	

Scenario #5: Suitable for 4 to 5 workers (or more) Worker cut by saw	Challenge rating ★★★★

Scenario description

A worker cuts their arm on a power saw and calls for assistance. Muster the crew, establish a chain of command, and provide first aid to the worker. The wound is serious and requires use of a tourniquet (simulated) to control the bleeding. The worker exhibits signs of shock and requires rapid transport to medical aid. Identify the best way to evacuate the worker and contact outside help to verify your ability to obtain assistance from your location. Identify and prepare a heli-pad if necessary. Conclude the drill once you have verified that all steps are taken to assist the patient, and availability of assistance is verified.

Equipment Needed

Level 1 first aid kit (verify tourniquet is included in kit as per WSBC requirements)
Emergency communication devices

Lead and Supporting roles

Lead first aid attendant	Name:
Assisting first aid	Name:
Emergency communications	Name:
Patient	Name:
	Name:

Skills to practice

- Emergency muster and emergency communication
- Providing and assisting with first aid, including bleed control
- Rapid transportation

Time started	
Time to muster	
Time to complete	

Scenario #6: Suitable for 4 to 5 workers (or more) Worker falls into creek	Challenge rating ★★★★★

Scenario description

Worker falls into creek, breaks through ice, and is partially submerged. The worker self-rescues, and signals that they require assistance. Have the crew muster and go to the worker. Provide first aid and practice hypothermia prevention. Arrange for transportation through snowy terrain. If using snowmobiles, discuss and potentially demonstrate the use of an emergency litter. Determine the best way of transporting the worker to medical aid and use your communication equipment to verify your ability to reach assistance. Conclude the drill when an ETA at medical aid is determined. Have a discussion about how to self-rescue from falling through ice, and best methods of emergency transportation over snowy terrain.

Equipment Needed

Level 1 first aid kit Emergency communication devices Snowmobile (if available)
Rescue sled (if available) Warm clothes

Lead and Supporting roles

Lead first aid attendant	Name:
Assisting first aid	Name:
Emergency communications	Name:
Snowmobile operator (if applicable)	Name:
Patient	Name:

Skills to practice

- Self rescue from partial immersion in ice-covered water
- Emergency muster and emergency communication
- Providing and assisting with first aid
- Assisting hypothermia
- Transporting patients in snowy terrain
- Emergency communication

Time started	
Time to muster	
Time to complete	

Scenario #7: Suitable for 6 to 15 workers (or more) Lightning storm on forestry worksite	Challenge rating ★★

Scenario description

A lighting storm strikes while workers are on an exposed block with standing timber. Simulate the lightning strike with a series of 4 honks (beep-beep---pause- beep-beep – wait 4 seconds - beep-beep-pause beep-beep, repeat), then sound the standard emergency signal. Ensure workers understand the lightning signal. Instruct workers to remain in their work area until the lightning signal has stopped and have them muster at the trucks. Focus on response time and identify safe areas of refuge on the worksite if trucks are not available. Review procedures for lightning storms, and windstorms. Conclude by contacting outside assistance to verify your ability to reach help if it is needed, and to identify your location in case the storm has cut off your route.

Equipment Needed

Emergency communication devices
Truck Crew list

Lead and Supporting roles

Lead first aid attendant	Name:
Emergency communications	Name:
	Name:
	Name:
	Name:

Skills to practice

- Hazard identification and management
- Emergency muster and communication

Time started	
Time to muster	
Time to complete	

Scenario #8: Suitable for 6 to 15 workers (or more) Broken leg on cut bank	Challenge rating ★★★

Scenario description

A worker has tumbled 30 feet down a cut bank (down from the road) and has broken their lower leg (tibia-fibula mid-third). They are conscious and otherwise uninjured but require assistance to get back to the road. Start with a muster call, and then establish a chain of command, and organize treatment and rescue. Identify the best way to bring the worker up to the road, and the best way to transport them to medical aid. Contact outside assistance to ensure you can secure additional help if you need it. Test the use of your ETV if available. Conclude the drill when you have the patient comfortably and safely ready for transportation and have verified the best way of transporting them to medical aid.

This should be considered one of the standard drills for companies to practice and provides a good introduction to managing field emergencies.

Equipment Needed

Level 1 first aid kit or Level 3 if available
Emergency communication devices
Emergency transportation equipment
Emergency transportation (ETV if available)
Equipment to assist with rescue

Lead and Supporting roles

Lead first aid attendant	Name:
Assisting first aid	Name:
Emergency communications	Name:
Patient	Name:
	Name:
	Name:
Helpers	Name: Name: Name: Name:

Skills to practice

- Emergency muster and emergency communication
- Providing and assisting with first aid including stabilizing limbs
- Rescuing patient from short distance
- Emergency transportation

Time started	
Time to muster	
Time to complete	

Scenario #9: Suitable for 6 to 15 workers (or more) Collision with pickup truck on forest road	Challenge rating ★★★★

Scenario description

On the way to work, one of the trucks hits an oncoming vehicle with no radio and goes into the ditch. Use an open area at the worksite or camp to simulate a logging road. Establish traffic control and provide aid to the workers. One worker has broken clavicle and whip lash and requires transport to hospital on spine board. Identify the best way of providing treatment, and safest way of delivering the patient to hospital from your location. Use your own ETV if the company has one available. Ensure that all workers are assessed for potential injuries. Contact medical aid or staff member to verify your communication system. Conclude your drill when the worker is packaged and ready to depart, and availability of assistance is verified.

Equipment Needed

Level 1 first aid kit or Level 3 if available
Emergency communication devices
Emergency transportation equipment
Traffic control devices
ETV (if available)

Lead and Supporting roles

Lead first aid attendant	Name:
Assisting first aid	Name:
Emergency communications	Name:
Traffic marshal	Name:
Patient	Name:
ETV preparation and driver	Name:
	Name:

Skills to practice

- Emergency muster and emergency communication
- Providing and assisting with first aid
- Traffic control
- First aid
- Hazard assessment
- Emergency transportation

Time started	
Time to muster	
Time to complete	

Scenario #10: Suitable for 6 to 15 workers (or more) ATV rollover with injured supervisor	Challenge rating ★★★★★

Scenario description

A supervisor/crew-boss has rolled an ATV and is pinned underneath by one leg. The crew must muster and provide assistance, including freeing the supervisor, and preparing emergency transportation. The supervisor is non-responsive and cannot assist the workers in this scenario. Start with a muster and establishing a chain of command. Identify what is needed and how to free the patient and provide appropriate treatment for spinal injuries. Identify appropriate transportation and verify your ability to reach outside assistance. If air transport is required, have part of the crew prepare a heli-pad. Conclude the drill when the patient is stabilized and ready for transport, and you have verified your ability to secure outside assistance.

Equipment Needed

Level 3 first aid kit Emergency communication devices Emergency transportation equipment
Equipment to assist with rescue

Lead and Supporting roles

Lead first aid attendant	Name:
Assisting first aid	Name:
Emergency communications	Name:
Patient	Name:
Helpers	Name: Name: Name: Name:
Transportation preparation:	Name: Name:
	Name:

Skills to practice

- Emergency muster and emergency communication
- Freeing a trapped worker
- Providing and assisting with first aid, including use of oxygen
- Moving an injured worker
- Preparing for emergency transportation
- Establishing chain of command without a supervisor

Time started	
Time to muster	
Time to complete	

Scenario #11: Suitable for 16 to 50 workers (or more) Forest fire evacuation from lodge or motel or camp.	Challenge rating ★★

Scenario description

A forest fire was fanned by winds, and the crew has been given short notice to evacuate their base of operations. Start the drill with a muster call. All workers must be successfully located and brought to a safe location and provided with appropriate directions for evacuation and secondary muster at a safe location. Two workers (simulated challenge) do not show up for the muster and must be located. One is asleep, and the other is listening to headphones. Conclude the drill when all staff are located through an accurate head count and brought together, an evacuation route is identified, and head office has been notified of the drill situation. Discuss potential evacuation routes for other emergencies such as tsunami, flood, or H2S leak.

Equipment Needed

Emergency communication devices Vehicles Crew list

Lead and Supporting roles

Lead evacuation marshal	Name:
Searchers	Name: Name: Name: Name: Name:
Missing workers	Name: Name:
Drivers	Name: Name: Name:
Head-counter (Additional roles can be listed on reverse)	Name:

Skills to practice

- Emergency muster and emergency communication
- Evacuation preparation and route planning
- Head-count and person search

Time started	
Time to muster	
Time to complete	

Scenario #12: Suitable for 16 to 50 workers (or more) Worker struck by truck in loading area	Challenge rating ★★★

Scenario description

A worker was struck by a vehicle in the loading area and thrown to the ground. The worker has multiple injuries, including pain in their back. There is significant blood at the scene (simulate with tape or flagging). Start the drill with a muster call. Establish a chain of command, and provide first aid to the worker. Make preparation for the safest transportation to hospital. Ensure proper precautions for avoiding blood exposure. Ensure helpers received proper instructions in handling the injured patient. Verify your ability to communicate with medical assistance. Test the use of your ETV, if available. Conclude the drill when the patient is loaded and ready for transport, outside help is verified as available, and clean-up is complete. Discuss protocols around exposure to biological materials.

Equipment Needed

Emergency communication devices Level 3 first aid kit Emergency transportation equipment
Traffic control equipment Emergency transportation Blood exposure and clean-up equipment ETV

Lead and Supporting roles

Lead first aid attendant	Name:
Assisting first aid	Name:
Emergency communications	Name:
Transportation leader	Name:
Exposure control (for blood)	Name:
Patient	Name:
Helpers (Additional roles can be listed on reverse)	Name: Name: Name: Name:

Skills to practice

- Hazard identification and management
- Emergency muster and communication
- Providing and assisting with first aid, including supporting injured limbs and bleed control
- Rescuing and moving an injured worker including traffic control
- Preparing for emergency transportation
- Avoiding blood contamination and cleanup protocols

Time started	
Time to muster	
Time to complete	

Scenario #13: Suitable for 16 to 50 workers (or more) Worker found unresponsive in camp	Challenge rating ★★★

Scenario description

On a night off in the camp, a worker is found unresponsive inside one of the large common areas (dry tent, kitchen, or shower). The cause may be heat-stroke, overcome by fumes, missed medication for diabetes, allergic reaction, or slipping and striking their head. Choose one cause and provide appropriate simulated clues to guide the rescuers and to ensure proper hazard identification. Start the drill with an emergency signal and muster call. Assess the hazard, ensure the scene is safe, and deliver first aid. Instruct helpers and prepare patient for transportation. Verify availability of emergency assistance. Test the use of your ETV or prepare a heli-pad. Conclude the drill when the patient is ready for transport, and outside communication is verified. Discuss different types of medical emergencies with your crew and the types of aids that may be utilized in such cases.

Equipment Needed

Level 3 first aid kit Emergency communication devices Emergency transportation (ETV or heli)
Medical aids (AED, naxalone, epi-pens or applicable items) Simulation materials for your medical emergency

Lead and Supporting roles

Lead first aid attendant	Name:
Assisting first aid	Name:
Emergency communications	Name:
Transportation leader	Name:
Patient	Name:
Helpers	Name: Name: Name:

Skills to practice

- Hazard identification and management
- Emergency muster and communication
- Providing and assisting with first aid in medical emergencies
- Using and testing medical aids
- Preparing for emergency transportation (including potential heli-pad)
- Managing crews when “off the clock”

Time started	
Time to muster	
Time to complete	

Scenario #14: Suitable for 6 to 15 workers (or more) Hard access extraction for spinal injury	Challenge rating ★★★★

Scenario description

A worker has fallen in a difficult-to-access area. They have broken their femur and need to be carried to an area where they can be loaded into an ETV or rescued by helicopter. No long-line rescue service is available to assist, and the worker must be carried by stretcher at least 50 meters through challenging terrain. Simulate the injured worker with scrap wood when carrying them to the road. Start with an emergency call and muster. Ensure adequate helpers are available. Establish a chain of command, identify helper roles, and organize the rescue. Provide first aid treatment, extract the patient to the road, and identify appropriate method of transportation to emergency care. Verify your ability to contact outside assistance. Conclude the drill when the worker is fully stabilized and packaged and is at a suitable location for transportation. Test the use of your ETV, if available.

Equipment Needed

Level 3 first aid kit Emergency communication devices Emergency transportation equipment
Emergency rescue equipment Emergency transportation (ETV if available) Mock patient for stretcher

Lead and Supporting roles

Lead first aid attendant	Name:
Assisting first aid	Name:
Emergency communications	Name:
Patient	Name:
	Name:
Helpers	Name: Name: Name: Name:

Skills to practice

- Hazard identification and management
- Emergency muster and communication
- Providing and assisting with first aid, including supporting injured limbs
- Moving an injured worker
- Preparing for emergency transportation

Time started	
Time to muster	
Time to complete	

Scenario #15: Suitable for 6 to 15 workers (or more) Truck rolls into ditch during convoy	Challenge rating ★★★★★

Scenario description

During a convoy of vehicles, one truck hit a soft shoulder, went into the ditch, and struck a large boulder. The two occupants inside the vehicle are injured. The driver has a broken arm. The passenger was propelled into the roof of the cab and has serious pain in the neck and back and is complaining of tingling in their feet. The cab of the truck is not damaged, and the doors are functional, but there is a small fire in the engine compartment that requires the injured workers to be removed. Use a landing, dead end road, or, camp area to simulate the scene. Begin by mustering the crew. Assess scene safety, and control traffic and fire hazards. Test the fire-extinguishers, remove the injured passengers, and prepare them for transport to medical aid using your ETV or a helicopter. Use emergency communications to verify access to medical assistance and inform head office of your situation. Conclude the drill when medical assistance is verified, and both patients are ready for transport.

Equipment Needed

Level 3 first aid kit Emergency communication devices Emergency transportation equipment
Emergency rescue equipment Emergency transportation Traffic control devices
Simulated fire and crash scene.

Lead and Supporting roles

Lead first aid attendant	Name:
Assisting first aid	Name:
Helpers: (Identify other helping roles on reverse)	Name: Name: Name: Name:
Transportation leader	Name:
Emergency communications	Name:
Patients	Name: Name:

Skills to practice

- Hazard identification and management
- Emergency muster and communication
- Providing and assisting with first aid
- Rescuing and moving an injured worker from a vehicle
- Traffic control
- Preparing for emergency transportation (including potential heli-pad)
- Fire suppression
- Assessing potential for multiple patients

Time started	
Time to muster	
Time to complete	

Scenario #16: Suitable for 16 to 50 workers (or more) Windstorm in camp	Challenge rating ★★★★★

Scenario description

A brief "microcell" windstorm sweeps through the camp and topples several large trees. Simulate the trees with light branches or flagging tape. Two workers are trapped in their tents, and one has been injured and pinned by their legs by the tree, and will require rapid transport to hospital. Another has a broken arm. A third worker is missing, but unharmed and trapped in a vehicle. Start the drill with the muster call. Establish a chain of command, conduct a head count, and assess the hazards. Organize a search and rescue for the trapped workers. Assess injuries, deliver treatment, and determine method of transportation to medical aid. Conclude the drill when all patients are found, rescued and treated, and when outside medical assistance is verified, and home base is informed of the drill conclusion.
(Additional details can be listed on reverse)

Equipment Needed

Level 3 first aid kit Emergency communication devices Emergency transportation equipment
Emergency rescue equipment (including potential chainsaws) Simulated fallen trees ETV Crew list

Lead and Supporting roles

Lead first aid attendant	Name:
Assisting first aid	Name:
Emergency communications	Name:
Chainsaw operator or rescue leader	Name:
Transportation leader	Name:
Patients	Name: Name: Name:
Helpers (Additional roles can be listed on reverse)	Name: Name: Name: Name:

Skills to practice

- Hazard identification and management
- Emergency muster and communication
- Providing and assisting with first aid, including supporting injured limbs
- Rescuing and moving an injured worker – including removal of obstacles
- Identifying and managing multiple injuries
- Preparing for emergency transportation
- Head-count and camp evacuation

Time started	
Time to muster	
Time to complete	

Scenario #17: Suitable for 6 to 15 workers (or more) Fuel tank explosion	Challenge rating ★★★★★

Scenario description

A fuel tank attached to a dry tent or out-building has exploded and set the structure on fire. Simulate the fire and debris field. One worker is prone on the ground near the debris field and is unconscious from being struck by a sheet of plywood. Start the drill with the muster call. Establish chain of command, assess the hazards, and ensure that fire suppression equipment is available. a head count and ensure all injuries are identified. Ensure the scene is safe and all fires are out. Conduct Deliver first aid to the injured worker and prepare emergency transportation. If appropriate, prepare a heli-pad for rapid transit to hospital. Conclude the drill when all fires are "controlled", the patient is ready for transport, and you have verified your ability to contact outside assistance. Discuss emergency fire response.

Equipment Needed

Emergency communication devices Level 3 first aid kits and dressing station Fire suppression equipment
Emergency transportation equipment Emergency transportation Simulated fire and debris field

Lead and Supporting roles

Lead first aid attendant	Name:
Assisting first aid	Name:
Emergency communications	Name:
Fire leader Helpers	Name: Name: Name:
Transportation leader	Name:
Patient	Name:
	Name:

Skills to practice

- Hazard identification and management
- Emergency muster and communication
- Providing and assisting with first aid
- Rescuing and moving an injured worker including traffic control
- Preparing for emergency transportation (including potential heli-pad)
- Fire suppression
- Assessing for "walking wounded"

Time started	
Time to muster	
Time to complete	

Scenario (your crew):	Challenge rating

Scenario description (fill in below)

Equipment Needed

Lead and Supporting roles	
Lead first aid attendant	Name:
	Name:
	Name:
	Name:
	Name:
	Name:
	Name:

Skills to practice

Time started	
Time to muster	
Time to complete	