

International Technical Rescue Symposium, Denver CO.

Stuck between a rock and a hard spot.
Comparing & contrasting surface rescue & cave rescue

Debbie Spoons
Utah County Sheriff's Office Search & Rescue
ddspoons@yahoo.com

This presentation will discuss the many unique and vital differences between “aboveground” rescues and “underground/cave” rescues. The drastic differences in training, procedure, techniques and equipment will make the difference between life and death for your patient and your team members.



The places that cavers like to go are: dark, extremely tight, wet, cramped, maze-like, vertical, underground lakes, waterfalls, rivers, etc.

Think about

- ^ What types of equipment would you need?
- ^ Would your usual rescue equipment work?
- ^ Where would you get the equipment?
- ^ What special skills or experience would be required?
- ^ What resources do you have, and where would you get what you needed?
- ^ Does your team have the necessary training to work safely & efficiently during a cave rescue?

A few differences

- ^ Extreme tight spaces
- ^ Confined space techniques usually don't work in a cave
- ^ OSHA does not apply to cave rescue
- ^ Stress of being hundreds of feet underground
- ^ Lack of anchoring points
- ^ Complete darkness, cold, muddy, wet, lakes, waterfalls, rivers.
- ^ All systems must be extremely compact
- ^ Most regular rescue equipment won't fit through cave entrance/gate



- ^ Many times only 1 or 2 rescuers can reach the patient(s)
- ^ Larger rescuers may not be able to get close to the patient or even get into the cave entrance.
- ^ Use of non-standard methods of moving patients
- ^ Very little room for patient assessment/care
- ^ Difficult to trade out rescuers for breaks or bring in new help
- ^ Extremely little space to move patient(s)



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Necessary equipment

Small pack, (normal rescue pack will not fit) helmet, knee & elbow pads, 3 headlamps, spare batteries, food & water to be self-sufficient for 12+ hours, clothing appropriate for cave, pad to set on etc.

Communication

Communication between the team members in a cave and the outside is poor at best. Radios do not work underground, runners can be of help but still take too much time and manpower.

Due to the serious communication difficulties of cave rescue, the usual “top down” command structure that is used in aboveground rescues can prove to be very problematic. A “bottom up” command structure has proven to be much more effective during cave rescues. It is not uncommon for ICS to be located inside the cave.

Duration of rescues

Unlike aboveground rescues, cave rescues can take days, and in some cases, they can last a week or more. Many aboveground rescue teams are caught off guard and are ill equipped, emotionally, psychologically and technically to be able to perform safe, efficient and timely underground rescues.

Vertical rope work

Vertical caves require proficiency in rappelling, ascending, self-rescue, passing knots, rebelay, change overs and cross overs. You must have a system that will allow you to quickly, efficiently and safely ascend long distances. Many caves have several rappels, and it is common to have 60’ – 200’+ rappels/ascents.

Rigging

Many high angle rescue techniques are not applicable in a cave rescue. Due to limited anchor points, it may take creative thinking to be able to rig for a rescue. Systems must be compact and very efficient.



Patient care

Often, the patient will not be in a place that you have room to do much patient care at first. Due to tight space, it may be necessary to, stand over, step over, reach over, and sometimes even partially lay on the patient to do an assessment, give care and/or package them. In tight spaces, a SKED will be necessary and you have to be able to deploy the SKED and package the patient with little room to maneuver.



Patient movement

Moving a patient underground takes many different types of techniques. In tight spaces, drag sheets may be necessary. The lap pass, leap frog and the turtle are just a few of the necessary techniques for safe and efficient patient movement through a cave.



