

Title: Outdoor Action Caving Trip Protocols

Category: Caving

Program: Outdoor Action Program, Princeton University

Date: 3/8/98

Submitted by: Rick Curtis

Type: Protocol

Caving can be an exciting exploration of a part of the natural world that most people never get to see. These trips offer both significant personal challenge and extensive teamwork and group challenge. At the same time, the cave environment is extremely delicate and requires significant attention to Leave No Trace practices.

Goals of the Activity

- Introduce students to basic spelunking
- Develop a respect and understanding of the beauty and fragile ecosystem of caves
- Provide a positive group building experience that requires extensive trust and communication between participants
- Activity that provides interaction between a broad range of Princeton University students
- Fun

Evaluation of Activity

- Debriefing during the activity as needed
- Debriefing following the activity
- Evaluation form from participants

Leader Skills & Training Required

Skills Required

The skills required to lead a caving trip depend on the nature of the cave and how technical it is. Technical caves require not only experienced leaders but also experienced participants. Leigh Cave, the largest volume cave in New Jersey is considered a non-technical cave. The route requires basic Class 4 and 5 rock scrambling. We set up several belay points along the route because of the added slipperiness of the environment, making the scrambling more hazardous. The following are the skill requirements for individuals to lead trips in Leigh Cave.

- Experience in the cave. This means at least three previous trips in order to be a primary leader. Assistant leaders may lead a trip after two previous trips.
- Basic technical rope experience including:
 - Basic rock climbing techniques including 3 points of contact, stemming and the ability to teach these skills.
 - Basic anchors
 - Knots
 - Body belays
 - Basic caving experience
- The ability to verbally describe the route and techniques used at particular locations.
- The ability to identify those locations that require spotting and proper techniques for spotting.
- The ability to provide proper safety backups such as a sling static belay in difficult spotting situations (such as going up to the Upper Balcony)
- The ability to properly set up the following rope systems:
 - Support rope at the Upper Entrance
 - Fixed line over Madeline's Hole

- Belay rope at the top of the Lower Entrance
- Belay rope at the top of the Cathedral Room (optional only required if climbing)

Training

Leader Training for a Leigh Cave trip should consist of the following:

- Top Rope Climbing Course or similar experience. Leader skills include belaying, anchor set-up, tensioning systems, rappelling, and basic climbing skills. Leaders should be competent to teach basic climbing techniques (3 points of contact, stemming, etc.)
- Wilderness First Aid and CPR. Knowledge of hypothermia, fractures, head injuries, wound care are particularly important.
- Previous caving experience to understand caving techniques, safety considerations, and equipment use.
- Training in the use and maintenance of caving equipment including ropes, carabiners, slings, helmets, headlamps, etc.
- At least three previous trips through Leigh Cave. Leaders must be able to demonstrate the route through the cave, be able to set up all specified rope systems within the cave, and properly implement all caving protocols such as gate access.
- Leaders should understand basic cave rescue practices.

Assessment of Skills

- Top Rope Climbing Course or similar experience. Leader skills include belaying, anchor set-up, tensioning systems, rappelling, and basic climbing skills. Leaders should be competent to teach basic climbing techniques (3 points of contact, stemming, etc.)
- Wilderness First Aid and CPR. Knowledge of hypothermia, fractures, head injuries, wound care are critical.

Activity Difficulty Assessment

- Relate the difficulty level(s) of the activity to leader skills and participant readiness

Environmental Hazards & Accidents

Cave Assessment

- Caves must be assessed for their appropriateness for travel. Depending on the cave location and water table levels, high water levels may cause flooding. This assessment should be made at each stage of going deeper underground to determine if continuing is appropriate.
- If actual streams run through the cave, you must be extremely cautious about rains or other water flow causing levels to rise while you are inside. This could cut off your means of exit.
- Caves must be assessed for the technical nature of the route. If the route requires advanced level skills such as rappelling and/or ascending ropes, caving ladders, etc. then participants must be carefully screened for appropriate experience level.

Environmental Hazards

- Rockfall
- Wet, slippery surfaces
- Wet
- Cool temperatures
- Bats (rabies?)
- Flooding and high water

Potential Accidents

- Hypothermia
- Falling
- Lacerations
- Sprains and Strains
- Fractures
- Head injuries
- Blunt trauma

First Aid & Emergency Issues

- Cuts and lacerations can be difficult to manage because of the dirt and wetness factor. Trying to clean a wound in that environment can be difficult.
- Acute Stress Reaction is always possible in a panic situation for someone in a cave.
- Treatment may be complicated by the position of the victim and extrication may be difficult.
- Fractures may be difficult to treat and/or to evacuate. A litter evacuation from some sections of the cave would require technical rescue assistance. For example, an accident at the base of the Cathedral Room would require a vertical raising.

Steps to Reduce Accident Potential

- Be aware of recent rainfall to anticipate wetness or possible flooding conditions.
- Prepare for outside weather even when going into the cave since it takes 30-45 minutes to get everyone into the Upper Entrance.
- Make sure participants and leaders have proper clothing layers to prevent hypothermia.
- Check all equipment before departure.
- Make sure everyone has three working light sources
- Properly train participants in basic climbing techniques (3 points of contact, stemming, etc.) and cave specific techniques (rotations, avoiding head-down crawls, etc.)

Previous Accident History

- None reported

Previous Close Calls

- 10/97 - Participant aborted trip after experiencing some anxiety after becoming lodged in the Upper Entrance on the left wall descent. Participant was able to exit without difficulty. Decided he did not want to continue.

Participant Screening

Applications

- All participants are required to fill out a Health History form and Trip Application/Waiver form.
- All are required to sign a waiver from the State of New Jersey.

Medical

Check to see if people have any of the following:

- Bladder or intestinal problems that might require frequent urination or bowel movements
- Susceptibility to cold
- Respiratory problems
- Dust/mold allergies

Physical

- Check to see if people have any of the following:
- Bladder or intestinal problems that might require frequent urination or bowl movements
- Anyone who is extremely large and/or overweight might have difficulty in certain sections of the cave. See General Guidelines below.

Psychological/Psychosocial

- Claustrophobia
- Fear of the dark
- Difficulty working with others

Activity Difficulty & Skill Level

- Since this is not an aerobic activity, no special requirements exist for physical conditioning.
- Leigh Cave is a non-technical cave that involves only basic rock scrambling. No technical rope-work or skills are required although we do set up some ropes systems for backup. If climbs are done in the cave, we will set up a standard belay from the top. This trip is suitable for individuals with no previous caving experience. Some experience with rock climbing is helpful but not required.

Selection

- Participants will be selected from a sign up list. If there are more participants than spaces, the OA Random Selection Process will be used. Preference will be given to people who have signed up for a previous Caving Trip but have not been selected.

Information to Participants

- Pretrip - See OA Caving Participant Information
- Post-trip - none

First Aid, Emergencies & Rescue

Rescue Resources

- New Jersey Cave Rescue Group

Evacuation Plan

- In case of any injury. Treat the person. Determine if the injury is one in which the person is unable to exit the cave on their own without further exacerbating the injury. If they are not able to exit the cave, contact the NJSWA Security Office at 908-000-0000 (open 24 hours). They will contact the local rescue squad and the NJ Cave Rescue Team. Move the person only as needed to prevent further injury.

Emergency Contact Plan

- Trip leaders are responsible for the conduct and safety of their group. In case of emergency, contact the NJSWA at 908-000-0000.
- Implement the OA Emergency Response Plan.

Reporting & Analysis Plan

- Follow the OA Accident Reporting Protocol.

Permits & Regulations

Permits Required

- Leaders must contact the New Jersey Water Supply Authority Security Office in order to reserve a date in the Cave.

Regulations

- Only individuals who are the approved cavers list administered by the Cave Management Committee of the New Jersey Grotto are allowed to lead trips into the cave and reserve a cave date. This means that at least one leader on each trip must be on the approved list. Additional leaders do not need to be approved by the Cave Management Committee. All participants must sign a waiver form from the State of New Jersey.

Limitations

- Length of stay: 5-8 hours
- Group Size: 10-15 depending on the number of experienced leaders (see required staff:participant ratio)

Trip Leader Procedures and Responsibilities

How to Run this Activity

See entire document.

Pre-trip

- To schedule and confirm a date, contact the New Jersey Water Supply Authority (NJWSA) Security Office at 908-000-0000.
- Contact participants and schedule a pre-trip meeting for to go over basic cave safety, equipment, and get Health Information and Application/Waiver forms completed..
- A release form from the State must be signed by all trip participants prior to picking up the cave keys at the NJWSA Security Office.
- The Driver's license of the trip leader and the release form must be surrendered at the time the keys are picked up.
- Minors (under 18 years of age) must be accompanied by parent or legal guardian.

During the Trip

- Two keys will be obtained, Entrance Road key and Cave Gate key. The Road Gate must be locked behind the caving party after entering the area.
- Don't carry the van keys into the cave with you. Leave van keys stashed near the van.
- Equipment check should be made before the group enters the cave.
- Exercise care in unlocking Cave Gate. Don't drop the key. Please note - the key cannot be removed until the lock is re-locked.
- Lock the gate behind you after entering the cave and deposit the keys in the container near the door.

Post-trip

- Follow the OA Call-in Protocol, contact the Program Director or On-call person as soon as you return to campus.
- All equipment should be hung to dry in the Equipment Room. Gear should be checked for wear and cleaned as necessary. Gear should be returned to proper place in Equipment Room.
- Rope logs should be filled out on all ropes used noting any special wear
- Turn in mileage form and Trip Expenses form.
- Turn in any Accident/Close Call Reports.

Activity Protocols

Site Plan(s) (if needed) - specific guidelines for sites

- See CAVE.CDR for graphics showing specific rope setups.
- See Specific Activity Procedures below.

General Guidelines for the Activity

- Never go caving alone (minimum four people in party).
- Wear a helmet (preferably with a source of light attached).
- Carry three sources of light. Should one source fail you still have two backup devices.
- Always leave word as to which cave you will be visiting and your expected time of return.
- All cave trips will have a leader and his/her instructions should be obeyed.
- If all your lights fail, sit down at once and wait on the spot for help to come.
- Never jump. Cave floors are seldom level and a short jump may cause an injury.
- Caving is extremely tiring - Know your limits - rest frequently, watch for fatigue in others.
- Never go caving if in ill health.
- If you are lost in a cave, panic is your worst enemy. Remain calm, conserve your light, follow rule #6, and if you followed Rule #4 you will have little to worry about.
- Always have three points of body contact while climbing or descending.
- Avoid descending steep chutes face first, go feet first.
- Never move into an area where you cannot see without three firm points of contact. Do so carefully, preferably with guidance from another person.
- If you get stuck, relax, breathe slowly and try to reverse your position. If this is not possible, call a leader or another participant to help extract you.
- Never wander off from the group. If you are interested in exploring a side passage ask the leader before you do so.
- Avoid shining your light into someone else's face.
- Wear gloves, otherwise your hands will be covered with mud and dirt, and you often get things into your eyes. You'll need clean hands, especially if you wear contact lenses.

Teaching Syllabus & Curriculum

- See OA Caving Participant Information & this document

Participant:Leader Ratio

- Participant Leader Ratio should be no more than 1:6. There should be two leaders experienced in leading groups through the cave if the number of participants is more than 6. If there are two experienced leaders who know the cave route and rope set ups, a larger group may be split into two smaller groups, one group heading down to the Cathedral Room and the other out to the Lower Entrance. In this case there should be two first aid kits.

Specific Activity Procedures and Protocols

- Prior to entering the cave, participants should be instructed on basic spotting procedures.
- If you are caving in the winter, it often takes a long time to get the outer door open. You may want to have one leader stay in the van with the group until the door is open. Even so, the last person may have a long wait in the cold until they are inside the cave. This is also true at the end of the day. Make sure everyone knows where the van keys have been hidden so the first people out can go to the van, and get into dry clothes, and warm themselves in the van if necessary.
- Either Cave entrance goes through an 18-inch diameter steel pipe. This looks tiny to first time cavers but is generally manageable even by larger people. Anyone who can get through the pipe can get through most of the Cave. People who have difficulty with the pipe might have difficulty with the Mail Slot, the bottom move into the Cathedral Room, the right angle turn towards the base of the Lower Entrance, and the top crawl over the breakdown back into the Reception Room. You may need to change your plans accordingly

to accommodate these individuals. Recommendation: If you have really large people going, find an 18 inch steel pipe that people can “practice in” on campus to identify any problems before the trip. In an extreme case we might tell the person they cannot participate.

- Enter using the Upper Entrance. The Lower Entrance begins with a difficult vertical shaft descent that would be both physically and psychologically difficult for participants.
- A leader experienced with the route always needs to be in front guiding the group. A second leader will take the sweep position at the end of the group. Everyone will need to assist each other in negotiating the cave. Typically the first person will provide instructions and assistance to guide the person behind them in negotiating the route.
- At the Upper Entrance someone should be positioned to help guide people across the first pit. Optimally with two leaders, the first would enter and guide the second leader in. The first would then go down to the Reception Room and guide others. The second would be stationed to guide people at the first pit and after the last person, would return to the entrance to lock the door and store the key. A line should be set up from the Steel Pipe at the Upper Entrance to serve as a handline while descending.
- A static line will be set up over Madeline’s Hole. A swami belt attached via sling and carabiner to the fixed line will be used by each participant as they cross the hole. A leader will remain at the hole to explain the handholds and foot holds and assist people across. **(See Cave.CDR)**
- There will be no climbing of the Cathedral Room wall to the Lower Balcony *unless* belayed from above. This is generally no longer done because it takes too long.
- In order to reach the room above the Lower Balcony, it is necessary to do a complicated crawl up the wall. The individual should be spotted. The spotter should be tied into a sling and swami belt. The Sling can be girth hitched through the large ring in the rock. *No one* is permitted out onto the Upper Balcony. The mud floor is too slippery and slants out into the Cathedral Room. **(See Cave.CDR)**
- A belay from above will be set up at the shaft below the Lower Entrance. The rope should be tied into the log spanning the pit. A body belay will suffice. This will utilize a belt swami for clip in. **(See Cave.CDR)**
- A fixed line will be set up from the Upper Entrance down the steep diagonal shaft to serve as a hand hold during descent. Since this is a difficult descent with poor visibility and poor hand holds, participants should spot each other closely.
- The descent down from the Upper Balcony reaches an open shaft, which is very exposed. This should *not* be down-climbed without a rope and belay. It can be skirted. A spotter should be placed here to guide people past it. The spotter can be one of the people waiting in line for the ascent up to the lower entrance.

Leave No Trace Practices

- **National Speleological Society (NSS) Policy for Cave Conservation:** The N.S.S. believes that caves have unique scientific, recreational, and scenic values; that these values are endangered by both carelessness and intentional vandalism; that these values, once gone, cannot be recovered; and that the responsibility for protecting caves must be assumed by those who study and enjoy them. All the contents of a cave—Formations, Life, and Loose Deposits—are significant for its enjoyment and interpretation. Therefore, caving parties should leave a cave as they find it.
- Caves are a very fragile environment. The smallest intrusions can damage or even kill a cave. In most states it is illegal to damage caves. Follow these Leave No Trace practices:
 - **Do not touch** speleotherms (cave formations). Oils from your hand will prevent the formation from growing where you touched it.
 - Do not remove any items from the cave (except garbage). All historic artifacts should be left undisturbed
 - All cave biota - animals, plants, fungus etc. are extremely fragile. Avoid disturbing them.
 - Especially during the winter, avoid disturbing bats. They are in a state of semi-hibernation. If they wake up completely they will need to feed, and with no insects available they will die.

- Do not leave anything in the cave. Any used batteries, carbide etc. must be packed out.
- On trips under 6 hours you should be able to avoid urinating or defecating in the cave. Take urine bottles and Sani-fem in case people do need to go to the bathroom.
- No smoking in the cave.
- Do not disturb any survey markers in the cave.
- Do not write, mark or carve on cave walls.

Cave Ecology

To be added.

Group Dynamics

Group Dynamics Issues

- It is a good idea to have the group do some trust exercises (like a “blind” trust walk from the van up to the cave) before going in. This helps get people prepared for helping and relying on each other.
- People often get frightened in a cave. This may be due to a light failure, slippery conditions, having to rely on someone else to negotiate a passage they can’t see, or squeezing through a tight passage. You need to be aware of the comfort level of people, which can be difficult when the group is strung out in a passage. You may need to work 1:1 with someone who is having difficulty. Try to gauge this early on and have that person close to you in the line to give them proper support. You may have to go back up, or coach someone else in how to be supportive. This is important to cover with the group beforehand, in terms of how they will need to rely on each other.

Debriefing Issues

- Debriefing may need to occur during the trip if an individual or individuals are having emotional or other difficulty. This could also occur if the group is not working effectively together. However, due to the limited options for the whole group to be in one location and the notion of people being strung out, having a group discussion is often not practical.
- Following the trip there should be a group debriefing. This is sometimes difficult due to people’s needs to get into dry, warm clothes, and then the “pressure” to get in the van and go. Trips should leave early enough in the day to allow some hang out time at the end for debriefing. Coming out at dusk limits the effectiveness, especially in fall or winter where temperatures are cold.
- Topics to focus on include: communication, control, trust, support, responsibility, risk taking, physical contact.

Equipment

Group Equipment

- _____ First Aid Kit (leave kit in Reception Room)
- _____ 3 Throw Bag Ropes
- _____ 6 Locking Carabiners (2 for Madeline’s, 2 for Upper Room, 2 for Lower Entrance)
- _____ 8 Oval Carabiners (4 for Madeline’s, 2 for Upper Room, 2 for Lower Entrance)
- _____ Slings - 3 short for Madeline’s Hole, 1 long for Upper Room (**See Cave.CDR**)
- _____ 3 Swami Belts
- _____ 2 Extra Flashlights (1 in each first aid kit)
- _____ 4 sets AA batteries for headlights
- _____ 4 extra headlight bulbs (#502)
- _____ 4 extra Mitylite bulbs

- _____ 2 Little John Urinals with duct tape
- _____ 2 Sani-fems
- _____ Candles with waterproof matches
- _____ 3 Water bottles
- _____ Candy bars

Equipment Preparation

- Red Headlights - use 4 AA alkaline batteries - these should be fresh for each trip; with 4 AA these use #502 bulb, make sure the headlight has the correct bulb and a spare in the chamber
- Mitylites - use 2 AAA alkaline batteries - check the light in a dark room, if the batteries seem used, change them; these lights use a lithium bulb
- Ropes and Slings - make sure all are in good condition.
- Carabiners - make sure gates and locks function properly.
- Helmets - check to make sure helmet straps are working and shell is intact.

Personal Equipment

- Coveralls
- Warm loose fitting clothing underneath the coveralls (polypro underwear and wool or pile layers recommended)
- Boots or tennis shoes with warm socks (wool preferred)
- Glasses with strap or contact lenses (If you wear contacts, you must wear gloves to prevent having dirt hands)
- Gloves - gardening gloves are satisfactory (optional)
- Knee pads (optional)

Equipment Checks & Maintenance

- Check ropes - before each trip
- Wash ropes - as needed
- Check carabiners - before each trip
- Check webbing - before each trip
- Check harnesses - before each trip
- Check helmets - before each trip
- Check coveralls - once a semester
- Check Headlights, and flashlights (batteries, bulbs, switches, contacts) - before each trip

Equipment Use

- Caving Ropes, Slings, carabiners and other hardware are to be used only for caving trips.
- Avoid stepping on ropes and slings.
- Avoid contact between ropes and slings and corrosive materials.
- Protect ropes from running over sharp edges.
- Check ropes for damage and wear when coiling.
- Complete Rope Use Logs after the trip.
- Mark any equipment to be retired and report it to the Equipment Room Staff.

Teaching Plan

Pre-trip

- The leaders will have a trip meeting with the group prior to the Trip. The OA Caving Trip Participant notes will be handed out at this time. Participant application forms/waivers and health history forms will be filled out by everyone. Leaders will ask people specifically about any medical problems that could be a

factor in their participation—bladder, intestinal, joint, back, claustrophobia, fear or heights, fear of the dark, etc.

- Leaders will go over the equipment that OA will provide and it's proper use. They will also cover what equipment participants will need to bring.
- Leaders will explain basic rock scrambling techniques and cover basic cave safety issues as outlined in the OA Caving trip Participant Notes.
- Leaders will teach participants basic spotting techniques.

During the Trip

- Leaders will teach effective communications techniques for effectively guiding another person through the cave using verbal clues and through physical contact.

Post-trip

- None

Participant Notes

Information distributed to participants

- Health history Form & Trip Application with Waiver - Pre-trip
- Caving Participant Information Sheet - See OA Caving Participant Information - Pre-trip

Site Information

Information on the area or site

- Leigh Cave is located on state land administered by the New Jersey Water Supply authority. It is the site of an old limestone quarry. The Cave was actually discovered during the mining operation. Near the cave is the remains of an old limestone kiln where the limestone was baked.
- It is our responsibility to make sure that we lock the gates beyond us on the dirt entrance road and lock the cave after we have entered. Once we are finished we lock the cave and the gate.

Driving Directions

- From Princeton take Rt. 206 north to Rt. 518. Turn left onto Rt. 518 West to Rt. 31. Turn right onto Rt. 31 north. After about 10 minutes, Rt. 31 will veer off to the right. Take the entrance ramp up to Rt.31/202. Take this for passed the Flemington Fairgrounds. You will pass the Molasses Hill Road on your right. Continue north passed the jct. with Rt.78. About 5 miles beyond is the New Jersey Water Supply Authority at the reservoir. Stop at the Security Desk and pick up the cave keys. Return south on Rt. 31 to Molasses Hill Road. Take the jughandle from the northbound lane in order to cross the highway to Molasses Hill Road. Take molasses Hill Road for 2 minutes. You will see a locked wood gate on your right. Open with the key, drive up the dirt road and relock the gate. Continue up the dirt road to the grassy pull off to park.

Emergency Numbers

- New Jersey Water Supply Authority (908) 000-0000
- State Police - Clinton, NJ (908) 000-0000
- Rescue Squad (908) 000-0000
- North Jersey Grotto (908) 000-0000
- Outdoor Action Program Director (609) 000-0000

OA Caving Trip Participant Notes

Caving Equipment

Caving generally involves scrambling and crawling through cave passages. Equipment for caving can vary with the technical nature of the cave visited and the time to be spent in the cave. The year round temperature in the cave is the average year round temperature for the location (in NJ this is about 56 degrees). Keep in mind that caves are often wet so clothing can soak through leading to chilling and hypothermia over extended periods. As a result it is necessary to dress properly. You should wear a number of layers of clothing to provide effective insulation (long underwear then work clothes and then coveralls are a good option). Clothes should be loose fitting to allow for ease of body movement, particularly in the legs. If coveralls are not available, you should have an outer layer of loose clothing. For footwear work boots with a lug sole are preferred since they provide good ankle support. In easier caves, tennis shoes are fine. **Be prepared that everything will be brown when you finish.** Whenever you are caving each person should have 3 light sources with them to provide backup in case one fails. This is a list of basic essentials for any caving trip.

- _____ Helmet
- _____ Three sources of light -
 - _____ Headlight with fresh alkaline batteries and a spare bulb
 - _____ Hand flashlight with fresh alkaline batteries
 - _____ Chemical lightstick
- _____ Coveralls
- _____ Warm loose fitting clothing underneath the coveralls (polypro underwear and wool or pile layers recommended)
- _____ Boots or tennis shoes with warm socks (wool preferred)
- _____ Glasses with strap or contact lenses (If you wear contacts, you must wear gloves to prevent having dirt hands)
- _____ Gloves - gardening gloves are satisfactory (optional)
- _____ Knee pads (optional)
- _____ Lunch

Cave Travel

When climbing or descending always have three points of contact (2 feet & 1 hand, 2 hands and 1 knee, etc.) to maintain balance and stability. Keep in mind that cave surfaces are often mud-covered and slippery. Feel for stability before transferring your weight. When traveling through downward sloping passages, it is generally best to travel feet first. If the area becomes constricted, you can back out more easily than if you were headfirst.

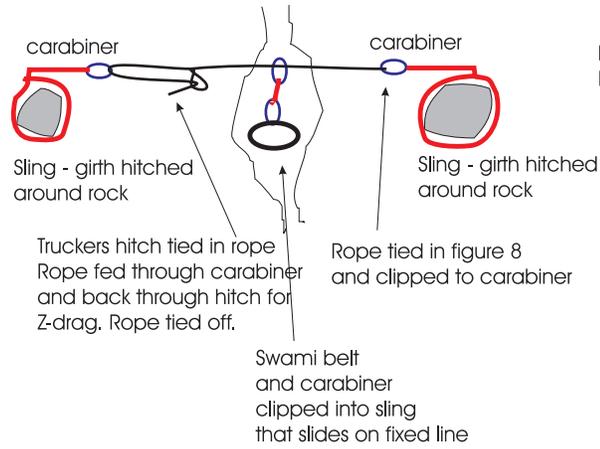
In many cases you may have to give directions to people following you through the cave. Describe accurately and give dimensions (the foothold is six inches lower and to the left). If you need to help the person by moving a foot, ask them first and then, only when they are ready, gently guide the foot into position. Don't pull if the person is not able to reach/stretch that far, you could dislodge them from a stable position.

Going through tight crawl spaces can sometimes make people a little nervous. This causes your breathing rate to increase and as your chest expands, you feel "tighter" in the space. The best way to move through a tight space is to first relax and slow down your breathing. Then take a breath and exhale. Move through at the end of the exhalation when your chest volume is smaller.

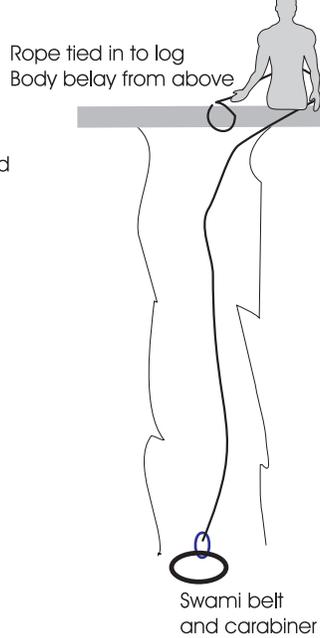
If your light source goes out, **stop immediately** and stabilize your position. Access one of your other light sources. If you have no light available, simply sit. Communicate with the nearest person in the group that you have no light. Wait until someone reaches you with light before moving.

Leigh Cave Setup

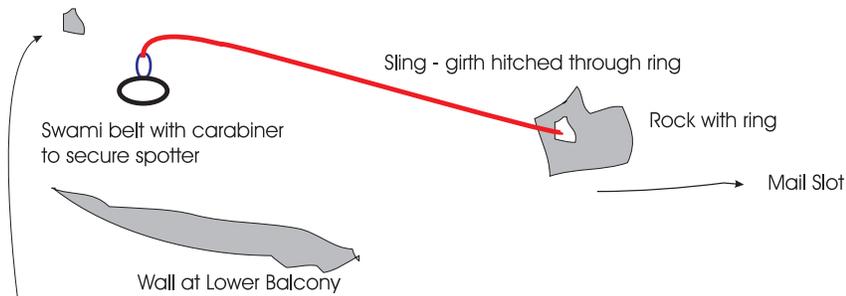
Madeline's Hole



Lower Entrance Climb



Climb to Upper Room



Can also tie into small rock ring just below climb to set up a fixed line.

Spotter needs to be secured.
Does the climber also?
Belay from above? or also tied in?
Possibilities for a fall and ankle etc, injury?