

## **Short Roping and Short Pitching**

### **From the AMGA Alpine Guides Course Manual**

Short roping is the use of a small portion of the rope to lead clients through exposed terrain in such a manner as to safeguard clients from the possibility of a slip or fall by both reducing the likelihood of a slip and by arresting a slip before it becomes a fall.

There are two distinctly separate components to short rope technique. The first occurs when the guide and client move together, quite close to each other (usually less than 6 feet apart). Traveling in this manner can give the guide a high degree of group control, greatly reducing the likelihood of a slip or fall. There are no belays in the normal sense of the word, but rather the guide moves and holds the rope in such a way that she is prepared to arrest a slip with the rope held securely in one hand and a good stance. The second component of short roping, often called “short pitching” involves the establishment and use of quick belays to safeguard clients on short steps where moving together does not provide adequate security.

For the purposes of clarity this article will refer to “short roping” only as the technique employed when guide and client move simultaneously. “Short pitching” will refer to the use of quick belays. In normal class 3 to class 4 terrain these two techniques are used interchangeably as the difficulty varies. Even though the two techniques are discussed separately here, guides should realize that the skillful integration of the two methods brings out the greatest potential of either technique.

#### **SHORT ROPING – GENERAL CONSIDERATIONS**

As in all guiding, we should seek non-technical solutions to our guiding problems. Our first line of defense is good route selection and route finding. Effectively exercising these skills often eliminates the need for time consuming and potentially risky rope work. Second, comes leading, modeling, coaching, and spotting. Leading means showing and facilitating the best route through deliberate routefinding and pace. With good leading, the need for coaching, spotting and rope work is lessened. Modeling is showing exactly how you would like your clients to move and climb. Modeling is an extremely powerful tool and its importance should not be underestimated. Spotting, can only be used in situations where the spotter is on extremely solid footing, for example, a large flat ledge or the ground.

A client on a short rope is under direct and very close control of the guide. This proximity allows the guide to lead the client up the best possible route, and models the most efficient manner to ascend. In loose rock or complicated terrain this may be the only feasible safe means of ascent. Group control through short roping, whether it is with one client or several, is the first and most important consideration when moving through easy but exposed terrain.

The guide leads the client, in the strongest sense of the word, through the mountains, avoiding hazards and choosing the best route. The guide must be aware at all times of this fact, both taking advantage of the strength of this position and, at the same time, remain keenly aware of the limitations of her client’s physical and technical abilities.

Short roping is a tool that a guide may use to protect her client. It is often the best solution in broken but exposed terrain, providing needed security, reasonable efficiency while avoiding the hazards which long roping (pitching) may produce, e.g. rock fall, poor communication with clients, client confusion, pendulum potentials and others. Both short roping and short pitching are extremely useful when, due to time constraints, the party must move quickly. It is used frequently in alpine climbing, both in ascent and descent, where time is always of the essence. In cragging, where time is usually less critical, short rope and short pitch techniques are normally limited to approaches and descents.

When short roping, the guide moves with the client, usually quite close together. If the client slips, the guide pulls up on the rope aggressively, pulling the client back into balance, and preventing a minor slip from becoming a fall. Being very close to the client allows the guide to watch and sense the client’s movement and security, and to keep an absolute minimum of slack in the rope. The guide not only watches (or feels and listens to) the client to be alert to slips, she must also move and hold the rope in such a manner that a slip can be arrested. At the same time, the guide must also climb carefully and safely, route find, and model good, deliberate climbing technique.

As the guide leads through broken terrain she must assess the difficulty of each individual move, evaluate the likelihood and consequence of a client’s slip on those moves, decide what is the most effective and efficient method which offers the necessary security, and finally arrange and employ this “belay”. All this occurs within the space of a few feet and in the time frame of a few seconds, and must be repeated hundreds of times in the course of a climb.

Short roping allows the client and guide to move very quickly. This increased speed is potentially an extremely important contributing factor in the safety of the climbing team. On very long routes, in times of deteriorating weather, or any time where “speed is safety”, the use of the short rope can be a life saver. In difficult terrain (difficulty is

determined more by both the client's and guide's skills than by the terrain itself) where the limits of short roping are being pushed, the guide must determine if there is greater security in traveling slower, employing belays, or in short roping.

In deciding whether to short rope or belay the guide must take into consideration the following:

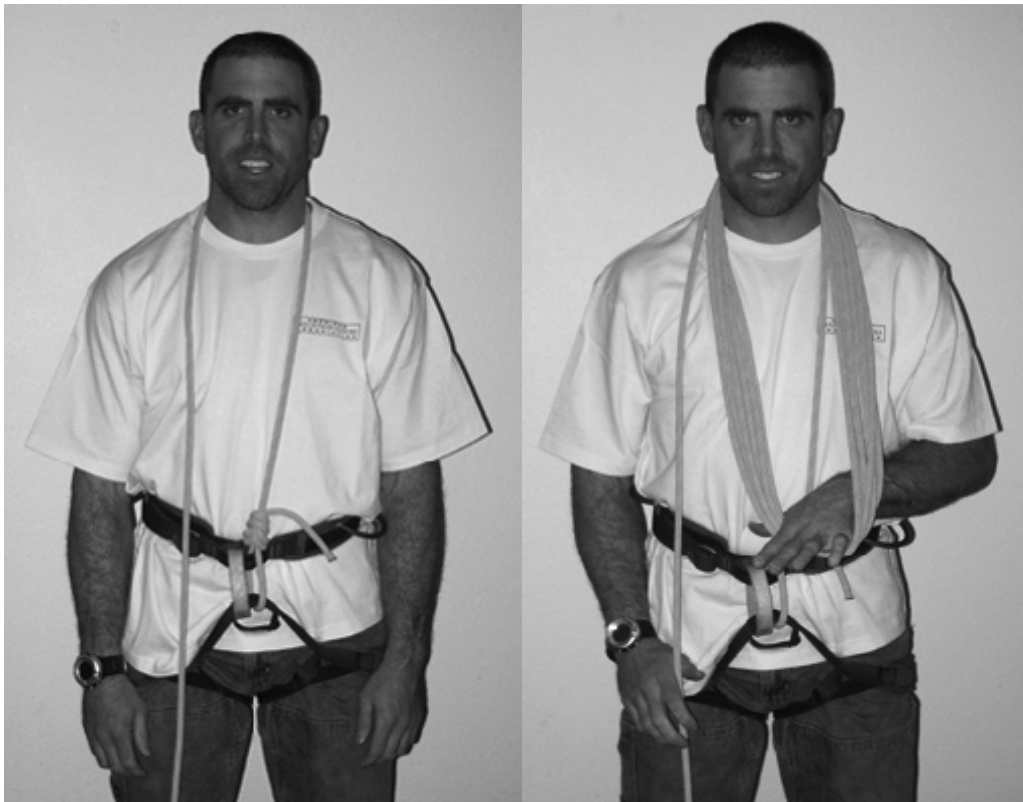
- relative weights of the guide and client
- climbing ability of the client
- client's degree of nervousness
- guide's climbing ability
- guide's short roping ability
- difficulty of the terrain
- featuredness of terrain (for example, solid highly featured or stepped rock is better than low angle ball bearing slabs)
- relative need for speed
- availability of belay anchors
- rope generated rock fall hazard

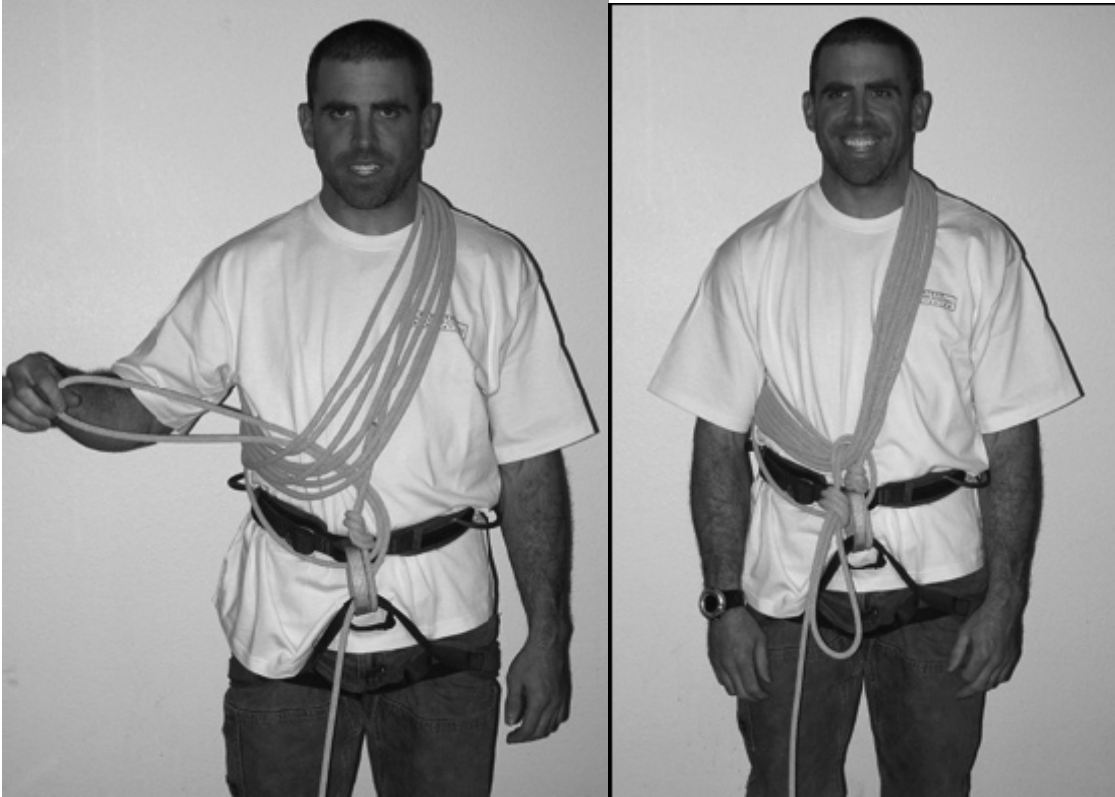
Short roping requires an incredible degree of concentration, and is extremely demanding of complex decision making. It is a mentally exhausting technique. Give yourself occasional mental breaks if necessary (belaying a client while short pitching provides such breaks) to maintain mental acuity.

### **SHORT ROPING ON ROCK**

Tying off the rope short:

With the client tied into one end of the rope the guide normally carries most of the rope coiled over a shoulder and tied off with a "Kiwi Coil"





When large amounts of rope are to be taken in (as when shortening the rope from a full rope out to a length of 20 feet) it may be easier and faster to coil the rope around the neck and a forearm held in front of the body (Figure 1.), and then passing an arm through the loop to put it over the shoulder, rather than coiling over a shoulder from the start. For coiling smaller amounts of rope, use the technique shown in Figures 2.

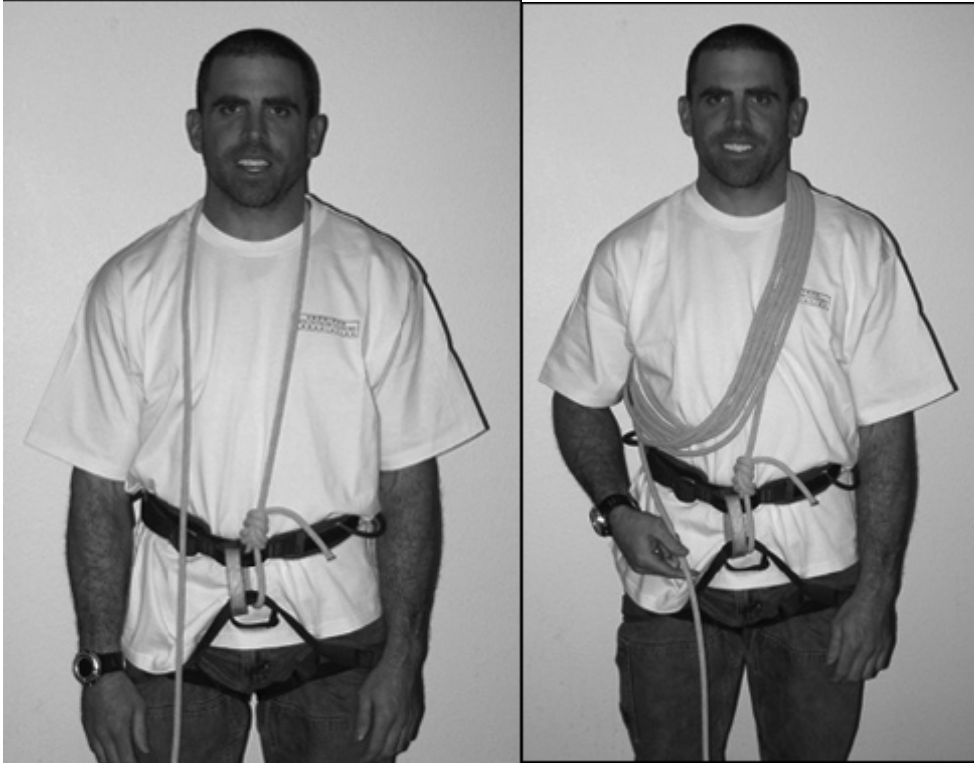


Figure 1

Figure 2

The shoulder coils should be short enough to be out of the way and to keep them from slipping off the shoulder, but not so short that they are uncomfortable. When wearing a pack, put the pack on first, then coil the rope over the shoulder strap of the pack (the pack can be easily taken off by taking the coil of rope off the shoulder but leaving it around the neck). If the rope is going to be lengthened or shortened occasionally, as is frequently necessary, do not carry slings or runners over the shoulder, but rather carry them on the gear loops of the harness or pack shoulder straps.

50 meters of 11mm rope coiled over a shoulder is a pretty bulky and awkward load. Consider using shorter ropes, (80 - 120 feet) if the route being guided does not require a full rope. Alternatively, the guide can lap coil or stack a portion of the rope in her pack, take a few coils of rope round the shoulder tied off with a “Kiwi” and short rope with the remainder. If the rope is not handy (buried in the pack) it is possible to short rope using a cordelette, though short pitching will not be possible.

### **Hand position**

When short roping, the guide holds the rope to the client in the downhill hand. The hand holding the rope to the client cannot be used for anything else. It is the client’s security. Its job is to be prepared at all times to arrest a client’s slip. It is not available for any other use. When short roping, the hand holding the rope to the client is generally not brought above the level of the chest. Occasionally it may be necessary (as when establishing quick belays) to raise the hand above the chest. When this occurs the guide should be sure that the client is in a secure spot or on easy ground, because with the hand high the guide will have difficulty arresting a slip.

Usually the guide and client are very close together, as close as is possible without interfering with each other’s climbing. In most short rope situations the guide and client are tied 20 to 30 feet apart. Less than 15 feet of rope can be quite limiting, however if the terrain

is very broken and difficult sections are very short, less rope is certainly easier to deal with. With the guide and client moving together quite close to one another (5 to 6 feet) this extra rope allows the guide to short pitch occasional difficult steps.

### **Holding the rope:**

The 20 to 30 feet of slack rope can be carried in small coils in the uphill hand. (practice taking in coils in both the right and left hands).

When carrying coils in the uphill hand, the guide may wish to take a wrap around his downhill hand with the rope going to the client. This wrap gives the guide a better grip on the rope, especially useful when the client is heavier than

the guide, or when extra security is needed. The disadvantage of taking a wrap around the downhill (client dedicated) hand is that it reduces the ease with which the distance between hand and client can be adjusted. This can be a problem in easy terrain with short steps.



Often you will be coiling slack rope into your uphill hand. If there is any exposure to the client here you should hold the rope to the client, near the client, as you coil the rope into the uphill hand.

1. Grasp the rope in your downhill hand near the clients harness. This hand will provide the security to the client while you are coiling up the rope into the uphill hand.
2. Start coiling into the uphill hand with the rope coming from your tie-in. This will insure that the rope feeds out of your hand cleanly if you are climbing away from your client.
3. Use your thumb and index finger on your downhill hand to coil the rope in your uphill hand.
4. Practice with both hand alternately being the uphill hand.

#### **Body position:**

Good body position is vital to good short roping. The guide's feet are the client's belay anchors. They must be placed securely and with purpose. Avoid loose rock and dirt covered rock. Kick steps in dirt or scree. Be aware that if your feet slip it will be much harder to stop a fall. Maximize the amount of time you spend standing "in balanced" (downhill leg behind uphill leg) and minimize time spent standing "out of balance". It is far easier to hold a fall standing "in balance" than standing "out of balance". The guide's body should act like a spring, when loaded it can yield, but only for an instant before absorbing the weight of the client. Feel prepared to catch a fall. Be alert and be on your guard.

#### **Sensing the client:**

In addition to protecting the client with a short rope, the guide must also climb securely herself and at the same time route find. The guide must frequently take her eyes off the client and look around. At these times the guide must rely on senses other than visual to determine the security of the client. Learn at what level of difficulty and on what type of climbing your client has a significant chance of falling. With this in mind assess the difficulty of the climbing as you proceed. Listen to the client. Listen to their footwork. Listen to their breathing. Feel their rate and fluidity of movement through the rope.

#### **Pace:**

Maintain a pace which does not force the client to rush and become sloppy. If their breathing is labored, slow down. As with all aspects of mountaineering, when short roping, a slower but steady pace with few stops is more efficient and far safer than a stop- and-go pace. A breathless client is a careless client.

Likewise, the guide should seldom be out of breath. If the guide is climbing at such a pace that she becomes very out of breath, she will most likely not be as effective at sensing and pacing her client.

#### **Modeling, showing the best route through example:**

One of the greatest strengths of short roping is derived from the fact that the client is climbing extremely close to the guide. Through example the guide can show the best foot and hand holds and even the best sequence of their use. Moving with fluidity over rough ground is a skill which must be learned. We, as guides, often do not appreciate the skills we have

developed in simply walking. Having your client close behind you is a simple and valuable lesson for them. Tell your client to carefully watch where you place your feet. Climb at a slow enough pace that the client is able to imitate your movement. The increased security and saved energy ultimately derived from the client using all the best holds and following the best route will, in the end, result in a faster and safer climb.

In order to have the client effectively imitate the guide, the two must climb extremely close to one another. The limiting factor is the client getting kicked by the guide's boots. Keep your client close, climb slowly and deliberately and be careful not to kick them. Ask your client to use the same footholds that you do and be aware at all times that he/she is imitating you.

### **Tension on the rope:**

A certain small amount of tension in the rope is necessary for the guide to feel the movement of the client. Some clients feel more secure with a greater amount of tension (usually beginners or novices) while others feel as though they're being pulled off balance (normally more skilled climbers). Ask your client what they would prefer. Whether you use a fair amount of tension of just enough to feel the client's movement, try to keep the application of tension constant, avoid sudden application or release of tension, except when catching a fall.

In time, the guide develops a strong sense of when she can feel the client through the rope and when there is even a small amount of slack. Learn to be aware of when the rope is taught and when it is slack.

### **Traverses:**

Traverses often generate a potential for pendulums. Because of the distance of the fall, these falls may be too severe to stop with short rope techniques. In this situation the best solution is to take a parallel line directly above your client. If this is not possible, try to keep very close to the client in order to minimize the pendulum distance. Grab the rope at the client's tie-in knot or very close to it.

### **Short roping on descent:**

In many ways short roping on descent is easier than ascent. This is largely due to the fact that with your client below you, you can watch their every move. In practice, short roping and short pitching can be very effectively combined in descent. While the client moves down at a slow, steady pace, the guide alternately short ropes and belays short pitches, catching up while the client is on easy ground. In general it is best to keep the rope on the uphill side of the client. With the rope on the uphill side a slip will spin the client to face into the rock rather than away from it. On terrain where direction changes are frequent this will require flipping the rope around in front of the outward facing client quite frequently. Ask your client to assist you in this. Very soon the client becomes "trained" to do this on his own. Be aware that when flipping the rope the client should be on secure holds or on easier ground.

### **Short roping more than one client:**

It is much more difficult to effectively short rope more than one client than to short rope a single client. It can be quite challenging to arrest the fall of two clients. Also, clients will generally not be nearly as careful as you are in keeping the slack out of the rope, risking a more severe fall and a harder fall to hold on a short rope. With clients of different abilities keep the less skilled climber in close to you and the more skilled not far behind. You can effectively short rope the less skilled client and at the same time provide a somewhat lesser degree of security for the better client. Generally, with multiple clients, the guide will have to short pitch some sections which could have been short roped with only one client.

Placing the less skilled client on a short cow's tail (8" to 10") will make climbing easier for both clients, especially if there is short pitching involved. Instruct the less skilled client not to climb above his knot, and thus generate slack. Generally it is best to keep the clients quite close together, with the limiting factor being the risk of one client falling on or kicking

another. If there is too much rope between clients they will occasionally allow a dangerous amount of slack to build up between them. Fine tuning can be accomplished by tying a figure 8 on a bight close to the second client and clipping the loop to his harness.

When the climbing route is more or less up and down the fall line the distance between clients can be slightly greater than if the route involves traverses. Traverses often expose the rear client to bad pendulum potential. As with a single client, on traverses try to take a line parallel to and directly above your lead client. You may wish to temporarily shorten the distance between your clients using a figure 8 on a bight clipped to the rear client's harness.

It is possible to short rope two clients with each on their own strand of rope. This is useful when you must employ occasional short pitching but do not want the clients climbing simultaneously, for example, when the short pitching sections are fairly difficult. In easier terrain, however, this method poses significant rope handling problems.

## **SHORT PITCHING**

Short pitching is belaying short pitches. The guide uses only a small portion of the rope (15 to 60 feet) and carries the remainder, usually over the shoulder and tied off with a “Kiwi Coil”, or inside her pack. Using a small amount of rope saves time, allows the guide to short rope if appropriate, avoids the inevitable tangles which accompany the use of a full rope, and enables the guide to stay in close verbal and visual contact with the client. It is especially appropriate on moderate terrain where the difficulties are limited to short sections or steps.

When short pitching the guide may choose not to place protection. To do so would require a belay from the client and the placement of a belay anchor, both of these potentially time consuming affairs. Most typically the client waits in a secure stance, either anchored or unanchored, while the guide climbs unbelayed up a short section, and then belays the client up with either a body belay or a belay around a natural feature such as a rock horn or a tree, or a belay off a built anchor. If the terrain above is easier the guide may elect to short rope. If not, the party can continue short pitching.

Because very little rope is in use and because time consuming anchors are seldom placed, the guide can switch from short rope to short pitch and back again very quickly and efficiently. The two techniques complement each other and when used together can allow the climbing party to cover moderately difficult terrain very quickly.

### **To short rope or short pitch?**

There is no set rule defining when to short rope and when to short pitch, just as there is nothing dictating when to rope up in the first place and when to belay with fixed belays and protection for the leader. The decision to use any of these techniques is dependent on the climb, the conditions, the client and the guide. Guides who see short roping and short pitching as valid and useful techniques must make complex decisions in choosing the most appropriate method of protection. Guides must become very familiar with the strengths and limitations of these techniques if they are to make the best decision regarding their use.

### **Distance between climber and guide**

When short pitching, the amount of rope between climber and guide is determined by the length of the sections which require belays. Use the smallest amount of rope which still allows you to reach an acceptable stance and establish a belay before the client must start up the difficult terrain. Distances of 20 to 30 feet are common. More than about 50 feet becomes unwieldy and can make short roping between short pitches awkward. Guides should be aware that the further away from their client that they allow themselves to be, the more difficulty the client may have with climbing and route finding, and the greater the difficulty of communication.

A general rule of both short roping and pitching is that the further away from the client you are, the stronger belay you will ultimately need to supply.

### **Rope handling**

When faced with a short section which the guide has decided to short pitch, if the difficulty is not too great, the guide should ascend the rock allowing the slack rope to feed out of her hand as she climbs. This is preferable to dropping a pile of slack rope at the base of the difficulty. (Obviously if full use of both hands are required for climbing then it may not be feasible for the guide to feed out rope as she climbs.)

If possible as the guide belays the client up to a new stance, the guide should take in the rope in such a manner that it becomes neatly coiled in the uphill hand, ready for the party to continue moving together at the top of the difficulties.

After completing a section which was short pitched and in anticipation of continuing with the short rope technique, as the guide coils the rope in the uphill hand she should keep a hand on the client's rope, near the client, at all times. Should the client unexpectedly slip the guide would be ready at any moment to arrest the slip.

### **Types of belays**

In all types of guiding the belay should be unquestionably strong. The guide should do everything within her power to be sure that the load will not exceed the strength of the belay. In 5th class rock climbing we employ a great degree of redundancy, multiple anchors tied together in a redundant fashion. Simply because the exposure on a short step (one you might choose to short pitch) is not nearly so graphic as it is on most 5th class rock climbs, the consequences of belay failure, might be equally dire.

There are many types of belays which can be employed. In choosing which type to employ the guide must take into consideration the options presented to her by the terrain, the maximum load the belay might have to hold, and time constraints. The following methods of belaying named below are not meant to be a comprehensive list. They are, perhaps, some of the more commonly used but are by no means the only ones appropriate.

### **Sitting Hip Belay**

The sitting hip belay is the most stable of the body belays. Often the guide will belay with the classic sitting stance but use a Munter hitch off the harness. This is especially useful when the

client is down climbing. Note, when belaying a client toward you be sure you can keep all the slack out of the rope.

### **Around Horns or Trees**

Rough rock has an extremely high coefficient of friction, and because of this solid belays can be established simply by pressing the rope around an edge of rock. Practice and learn the limits of this technique by catching falls. Be sure the rock horns you use with this belay are solid and not so sharp that they may damage the rope.

Frequently rock horns are used in the process of moving together. The guide simply loops the rope over or around a horn as she passes it. This provides brief, but often appropriate protection for both the client and the guide. Care should be taken to insure that the client is not making a difficult move at the same time that the rope is being lifted to be placed over a horn.

### **Munter Hitch**

Using a Munter hitch off a traditionally built anchor is quite valid in short pitching. As in most guiding situations, this technique is strong, secure, but perhaps a little time consuming.

### **Standing Shoulder Belay**

The standing shoulder belay is usually much less stable than a sitting belay. Stability can be increased by leaning against a rock wall. In the standing shoulder belay the rope should be kept in line with the downhill leg. Avoid bending at the waist as much as possible. This belay is also useful in "helping" (hauling) clients up difficult steps. This belay, while very effective, can sometimes be uncomfortable when holding large amounts of weight. It may not be appropriate for use with more than one client, or when the client is very heavy and on steep terrain, or in situations where there is little additional friction of rope on rock and the climbing is steep.

### **Pinched Carabiner**

A bight of rope clipped into an anchored carabiner can be pinched together in the hand to stop a fall. This requires careful attention to control. Keep your breaking hand at least 4 to 6 inches away from the carabiner.

### **Anchoring climbers:**

In many short pitching situations neither the client nor the guide are attached to an anchor. If the stance is somewhat precarious or the client untrustworthy it may be prudent to tie the client to some sort of anchor. A rope wrapped around a horn is often all that is needed. With two clients tied close together at the end of the rope it is often possible to simply take the rope between them and place it over a horn, or to have them stand on either side of a tree with the rope on the uphill side of the tree.. Use your imagination. If time is an important consideration don't anchor either your client or yourself if it is not necessary.

### **Dropping and taking in coils:**

When dropping a large number of coils, as when going from short roping to use of the full rope take the entire coil off of your shoulder and drop the coils to the ground one by one. Do not throw the whole wad of coiled rope on the ground, as it will surely tangle. Learn to take in coils, shorten your rope, and tie it off quickly and efficiently. Avoid the temptation to cover terrain while the rope is not securely tied off.

## **LEARNING TO SHORT ROPE AND SHORT PITCH**

Practice, practice, practice. While it is useful to practice on your climbing partners, they often climb much too quickly to effectively practice the technique. If possible practice on climbers with considerably less climbing ability than yourself.

Have other climbers short rope you. You'll pick up tricks and learn what it feels like from the client's perspective.

When short pitching try to become familiar with all the different types of possible belays and anchors, and spend extra time using those with which you are least comfortable.

Because of the constant need for rapid decision making, the variability and multiplicity of the factors involved in these decisions and the need for constant vigilance, short roping and short pitching are some of the most difficult guiding skills to master. No matter how good you are it is always possible to improve your technique.