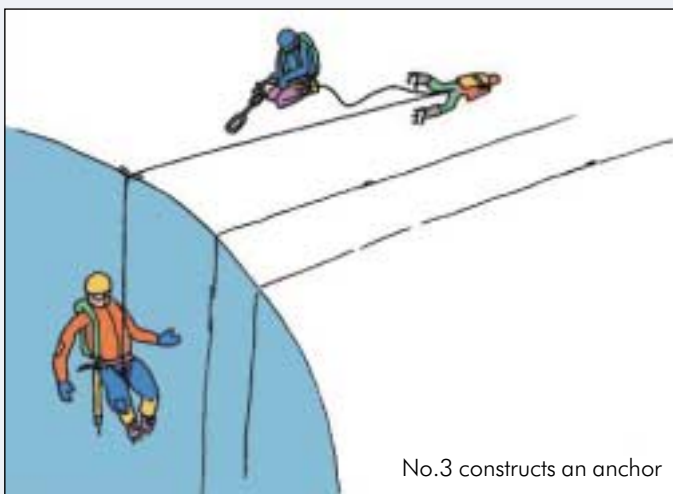


Now get out of this!

Make no mistake, rescuing someone from a crevasse, or extricating yourself is NOT easy. You are only likely to be successful if you are totally familiar with the techniques involved and have practised them in a fairly realistic situation e.g. on snow as opposed to a warm, dry climbing wall. On the other hand, be wary of practising in situations that are too realistic – there is a lot that can go wrong! The ideal training venue is a wind scoop or a natural hollow on a glacier that has a corniced lip but is visible and easily accessed from the other side. Many outdoor centres offer alpine training courses including crevasse rescue, and if in any doubt as to your own ability, consider a few hours of expert training.

Stage 1

The first step is for No 3 to construct an anchor. Assuming that No 2 can take the weight alone, No 3 moves forward to do this just behind No 2. Doing it further back could leave them short of rope, unless they are carrying a second one.



No.3 constructs an anchor



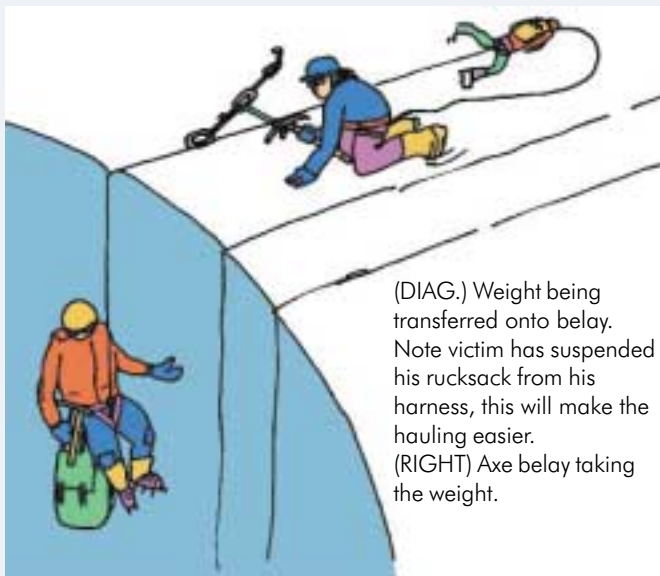
With a thin snow cover, the best anchor is likely to be provided by ice-screws, ideally at least two of them, 18 inches apart, and linked with a sling so that they are equally loaded. This can be achieved simply by tying an overhand knot near one end of the doubled sling to create two separate loops. The short loop is clipped into the nearest ice-screw, the longer loop into the furthest; adjust the position of the overhand knot so that a karabiner clipped into the bottom of each loop, at the knot, will load both screws simultaneously.

With a thicker snow cover, the belay of choice will usually be a horizontally buried ice-axe, preferably strengthened with an axe or hammer placed vertically in front of it (a T-axe belay); then clove-hitch a long sling to the mid-point of the shaft. If there is plenty of space and plenty of rope, a snow bollard is a good alternative, especially if a couple of axes or ski-sticks are placed at the back to prevent the cheese-wire effect.

(LEFT) Bollard Belay, T-axe belay, and equalised ice screws

Stage 2

Next, transfer the weight of the fallen climber from No 2 to the anchor. This can be achieved by putting a prusik on the live rope (a French prusik is best as it can be released under load if need be), then linking it to the anchor with slings. No 2 eases himself cautiously forward until all the weight is being taken by the prusik. The rope from 2 to 3 should then be clove-hitched into the anchor, just in case, and slack taken in as No 2 unties.

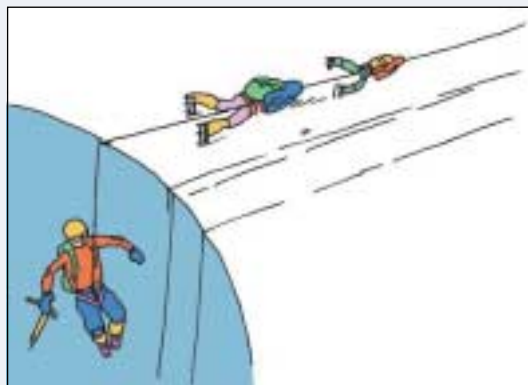


(DIAG.) Weight being transferred onto belay. Note victim has suspended his rucksack from his harness, this will make the hauling easier.
(RIGHT) Axe belay taking the weight.



Scenario 1

The leader of a party of three has fallen through a bridge and the combination of some initial slack and subsequent stretch in the rope has left him swinging in space ten feet down. The rope has cut deeply into the snow and the other two climbers are lying on their sides with the rope tight to their harnesses (diag. below).





Stage 3

Now the lip can be prepared, and the other end of the rope must be dropped to the victim. More often than not, the live rope will have dug in so deeply that it will be impossible to use. Loose snow must be hacked away from the lip (preferably a few feet to one side of our friend down below) and ice axes, ski sticks or a rucksack placed at the edge to prevent the new rope cutting in. If there seems to be a danger of losing them, they may need to be attached to the old rope or to a vertical axe belay with a prusik. All this can be done by, say, No 2, protecting himself with a long prusik to the live rope. This stage is very important if the hoist is to be successful, but because alpinists usually practise on rock or on a dry area of glacier, it tends to be underestimated, if not overlooked altogether.



The Z pulley system

Stage 4

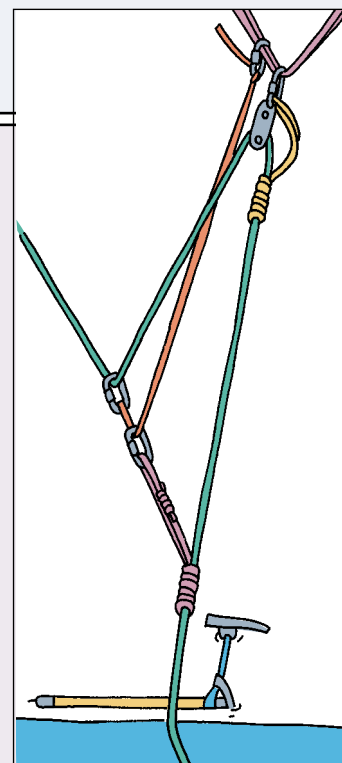
While No 2 is establishing contact and preparing the lip, No 3 can be setting up a pulley system. There are many possible methods but the traditional Z pulley is tried and tested and as effective as any. The new live rope to the victim passes through a karabiner on the anchor, and is brought back towards the crevasse where a French prusik is attached to the live rope as close to the edge as is safe. What is now the haul rope is clipped into the prusik and brought back towards the anchor thus completing a Z shape in the rope, which gives a mechanical advantage of 3 to 1. This means that to lift the victim one foot, three feet of rope will have to be hauled in, so that the prusik on the live rope will almost certainly have reached the anchor before the climber has been extricated. To hold his weight while the prusik is slid back down the rope towards the crevasse, another French prusik is put on the live rope and clipped to the anchor with a separate krab. This acts as a clutch, allowing the rope to run freely while it is being hauled in, but taking the strain when the haul rope is released. Devices like the Ropeman and the Tiblock can be used as alternatives to prusik loops, and there are several different types of prusik knot. It is worth experimenting to discover the pros and cons of each. A small pulley on the hoisting prusik is invaluable in reducing friction and weighs next to nothing.

Stage 5

Assuming there are no problems getting the new end of rope down to the victim, No's 2 and 3 can now start hauling. With only two on the surface it will be hard work! The original rope, probably still dug deep into the snow, is best left slack as the victim is hoisted, lest it catch at the lip. (Obviously, if the snow cover is thin and the rope has not cut in very far, it may be possible to use the original rope to haul, which will speed up the whole rescue considerably.) No 3, still attached to the original rope with a prusik, acts as a link-person to the victim throughout and is on hand to help as he or she crawls thankfully over the lip.

Scenario 2

Now imagine your partner has plunged down a crevasse and you are alone on the surface with the rope taut to your waist. You are unlikely to hear your partner (no matter how loudly he or she shouts). If your partner is familiar with the techniques for prusiking you might just be able to lie there and let them get on with it. However, your partner may not be in a position to get themselves out. So, you will have to construct an anchor and transfer the load while still holding their weight which is not easy. Once that is accomplished you should try and make contact with your partner to assess the situation (you can belay yourself towards the edge using the spare end of the rope). To hoist them out you will probably find an ordinary Z pulley insufficient. Alternatives include getting your partner to help in an assisted hoist, or increasing the mechanical advantage of the Z pulley. You can double the mechanical advantage of the Z pulley by adding an extra strand in the hauling system by using the spare end of the rope, or better still by using a length of static cord or tape (a 6 metre length is ideal and doubles up as abseiling 'tat'). One way of doing this is to tie one end of the extra strand into the anchor and passing the other end through the hauling prussic and linking it with a karabiner to the hauling strand. Even by doubling the Z pulley you will still need to use a very effective hauling technique by wrapping the hauling rope over your shoulder and using the strength of your legs to pull. It goes without saying that you will need adequate equipment that is easily accessible if and when someone falls into a crevasse.



Food for thought

Then there are all those nightmare scenarios that are worth pondering in an idle moment: unroped climber unconscious at the bottom of a deep crevasse; unroped climber wedged in a constriction; roped climber 20ft down and unable to help them-

selves. There are no easy solutions to any of them, but all will be more easily resolved if there is more than one person on the surface, and all can be avoided by being roped up and keeping slack to a minimum. As always, prevention is far better than cure. Good luck!