or Chloromycetin (250 mg capsule every four hours day and night). Oxygen at a flow of 4 to 8 liters per minute should be given continuously while plans for descent are made. Digitalis should be given only by some one familiar with this powerful drug, and it is not believed to be very effective at that. Diuretic agents such as Diuril (500 mg every four to six hours) or injected Salyrgan (figure 1 cc intramuscularly every twelve hours) may be very helpful in "squeezing" fluid out of the water logged lungs. Morphine is generally contra-indicated because of the depression of respiration. More exotic treatments such as bleeding(!), aminophylline, TRIS, and the like should be reserved for use by doctors only.

SUMMARY

In the past few years acute pulmonary edema has emerged as a far from rare hazard for mountaineers. Many dozen cases have been reported to me from around the world and this "physiological disease" has caused many deaths or near deaths. It is probably a form of heart failure though the heart is normal, and it is brought on by exposure to high altitude oxygen lack. Cold, exertion, and infection may contribute but are not primary; infection may follow. It is usually confused with pneumonia. Prevention consists in awareness of the condition, slow ascent with adequate time for the full force of acclimatization, and probably avoidance of a great excess of salt. Though the condition occurs in all ages, and in residents at high altitude who return from a trip to sea level, it is most prevalent in climbers going high too rapidly from sea level. Treatment consists first in correct diagnosis, secondly in use of oxygen and descent to low altitude as soon as possible, administration of anti-biotics (to ward off secondary infection) and the use of diuretic agents. All mountain expeditions planning to climb above 12,000 feet should be aware of the condition and taught how to recognize and treat it.

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NEW EQUIPMENT

Prusiking Device. A new mechanical device, called Jümar Stirrups and developed to replace the prusik knot, has recently been imported from Switzerland. With its aid long ascents up a fixed rope are made relatively easy and fast as compared with previous methods. It may also be applied to various phases of rescue to replace the prusik knot. It may be adapted to rope diameters from 3/16 to ½ inch. Weight is approximately one pound per pair. The device is made of cast aluminum and steel, and consists of a loop held in place against the rope by a knurled eccentric. When

pressure is applied to the device the eccentric bites into the rope and holds. When pressure is relaxed the device may be slid easily up the rope. Stirrup slings can be attached to the loops for prusiking.

GARY D. ROSE

MARWA Ice Screw. An ice screw has been developed in Austria, which is different from the type described in the *A.A.J.*, 1960, 12:1, p. 190. The MARWA ice screws sent to me to test were about 6½″ long with a shaft 5/16″ in diameter. The upper inch consists of the eye for the carabiner. The lower two inches have threads identical to those of a corkscrew. (I am told they will pull corks admirably.) They are very light, weighing about three ounces, half the weight of the lag-screw type. At first glance they seem too flimsy, but although we have not laboratory tested them ourselves for strength, they certainly withstood all the abuse we could give them by jumping down a steep ice slope against a static belay. The chrome-vanadium steel is reported capable of withstanding loads up to 5720 pounds.

Several obvious advantages turned up during our preliminary testing. We could start them into the ice without hammering at all. Thus it might be possible also to save the weight of the hammer, as well has having two of this type for the weight of one of the other. They screwed in so easily that in most kinds of ice they went in with the fingers. Only in one case, in blue water-ice, was it necessary to make the last turn or two by inserting another ice screw into the eye for leverage. With their small diameter they did not shatter brittle ice. They were quickly and easily removed. Unlike ice pitons, the screws held into the ice with the usual tenacity of the older type of ice screw, even when subjected to considerable pressure, with one single exception: in some rotton, porous ice the standard ice screw with its slightly longer length, longer thread and bigger diameter did hold more solidly. Though this summer we shall also take to the Peruvian Andes a number of the lag-screw type of ice screws, we are sufficiently convinced of the advantages of the MARWA ice screw to rely primarily on them.

H. ADAMS CARTER