



Mountain rescue — nerve blocks, helicopters, hypothermia and hypotension

To the Editor: We thank Chris Bateman for his recent article¹ on the use of nerve blockade in mountain rescue. Perhaps after his reportage of an organisation that serves a small, albeit important, area of South Africa there will be an increase in the interest shown in the emergency services and volunteer organisations that offer a service to the rest of the country, and even beyond our borders. We do our work away from the eyes and cameras of most of the public, isolated by geography and weather. In this system volunteers meet their own expenses, and patients are not asked (by the volunteer groups) for any payment.

One such organisation is the Mountain Club of South Africa (MCSA) whose search and rescue teams have, for many decades, given mountain and difficult terrain rescue support to emergency services throughout South Africa — any patient, anywhere, any time, any weather, free of any charges. Among the doctors who have given their time over many years to each of the teams have been several anaesthesiologists well versed in nerve blockade.

When the two of us started with the MCSA (Johannesburg section) rescue team in the mid 1970s, we included local anaesthetics and equipment to do nerve blocks in our emergency bags. That practice has continued to the present. Over the last few years we have had many discussions with other anaesthesiologists in rescue teams around the world, including Dr Xavier Ledoux who, as mentioned in the article, is an expert at both rescue and analgesia. The Internet has facilitated these discussions but they have also occurred in person. Worldwide there is no doubt that local anaesthesia is able to help with excellent pain control.

The enthusiasm with which the members of the new Wilderness Search and Rescue Organisation of the Western Cape have approached the novel, to them, technique of nerve block is refreshing. We suggest however that it should be tempered by the realisation that what is a potentially hazardous but well-controlled form of analgesia done by experts within a hospital setting may be lethal when done by inexperienced people in the rescue situation. Rescues are almost by definition done under hazardous environmental conditions and are rushed. On the other hand nerve blocks usually need clean, controlled and unhurried conditions. A difficult cliff rescue is not the time or place to discover that the patient has a pneumothorax, a punctured artery or any of the other potential complications of a nerve block. As timing is often critical with helicopter rescues any time spent doing a block may prevent such a rescue being done and so endanger the patient and rescuers. The patients often have multiple injuries needing analgesia. Basic medical care such as

immobilisation, adequate analgesia for all the wounds, careful sedation, and good psychological support are the first and essential requirements. Additional and more effective but not essential modalities may be added according to the needs of the patient and ability of the rescuers.

Both mountain rescue and nerve blockade are fields that need great expertise. The combination, done by novices in either field, may be an elegant and sophisticated method of turning a tooth-grinding painful but successful rescue into a body recovery.

Teresa Dutkiewicz

*Emergency Room Practitioner, Johannesburg
MCSA Rescue Team, Johannesburg and Magaliesburg Sections*

Arthur Morgan

*Anaesthesiologist, Johannesburg
MCSA Rescue Committee
MCSA Rescue Team, Johannesburg and Magaliesburg Sections
International Commission for Mountain Emergency Medicine*

1. Bateman C. Regional analgesia abseils into the limelight (Izindaba). *S Afr Med J* 2003; 93: 730-731.

To the Editor: Having been involved in a modest way with cave rescue for many years, and with Wilderness Search Rescue since its formation, I read with great interest Chris Bateman's recent article¹ on the potential for regional analgesia in mountain rescue patients. I agree that despite the technical difficulties of such a procedure in the field, it has great potential provided suitably trained and experienced personnel are available.

However, I was appalled to see the picture of a scantily clad woman 'suitably strapped for a peripheral injury ... painlessly hoisted aboard a rescue helicopter after regional analgesia'. This gives a potentially lethal message to rescue personnel.

1. Lack of protective clothing means that the patient will rapidly become hypothermic. This will be aggravated in the Western Cape because the available SkyMed helicopter does not have the facility to load the dependent patient into the cabin. The patient has to be carried underneath until the helicopter lands.

2. The sling has been applied under the axillae, with the potential for serious damage to the brachial plexi.

3. With rapid lifting and the effect of gravity the dependent, immobile lower limbs will cause the patient to become rapidly and dangerously hypotensive. Indeed, in cave circles it has been known for many years that the phenomenon of suspension trauma will occur when a person is suspended in excess of 5 minutes in an upright position, with immobile lower limbs relaxed below the trunk. The effects of gravity, and lack of muscle pumps, will ensure that the blood will accumulate in the legs and feet.



I am confident that the photograph was not supplied by Wilderness Search and Rescue. Its standard policy is to ensure that the patient is adequately clothed, and carried horizontally on a stretcher.

S A Craven

9 Remington Road
Wynberg
Cape Town

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Chris Bateman responds: Dr Craven's points are well made and taken, and add depth to an important discussion. He can indeed rest assured that the picture which caught his attention was not supplied by WSAR. There were other excellent pictures available which illustrate the points he makes (see below, left).

Although both dramatic and appealing to the eye, with hindsight the 'scantily clad' picture (reproduced again here below, right) was not the ideal choice. Ironically, the one which appeared alongside it (left-side panel) handsomely illustrates Dr Craven's point.

That said, rescue teams are often forced to tailor their *modus operandi* to existing limitations.

