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response—that is, withdrawal, pain, or discomfort—had been *x* rayed the total number of *x* rays would have been reduced by 67, a reduction of 44% of the total number of *x* rays undertaken. Only one clinically significant fracture was missed and this was not detected by the attending doctor at the first visit and did not alter the initial management of the patient.

These results compare favourably with the study by Stiell *et al*, who noted a 28% reduction in the number of *x* rays taken after the introduction of the Ottawa ankle rules for identifying patients for *x* ray examination.[8] The Ottawa rules identify patients with specific malleolar tenderness or inability to bear weight, and studies have shown that the use of these rules does not result in any clinically significant fractures being missed. Our study included all patients with any malleolar tenderness and did not differentiate between tenderness at the tip of the lateral malleolus, the anterolateral malleolus, or the posterior malleolus, as did the Ottawa study.

CONCLUSION

The sensitivity and specificity of the intrasound device are too low for the detection of clinically significant malleolar fractures alone. However, the use of an inexpensive intrasound device may be of value in decreasing the overall number of *x* rays taken by staff in A&E to exclude ankle fractures, by identifying those patients with a negative response. Further larger studies are required to confirm these findings.

We propose that use of the intrasound device with the introduction of the algorithm shown in fig 2 would significantly reduce the total number of *x* rays taken of ankle injuries in A&E.

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attention to maintenance of the circulation. This may increase metabolic requirements without improving tissue perfusion, thereby causing severe damage to vital organs and making survival unlikely. There is controversy about whether CPR should be instituted out of hospital where the priority should be to transport the patient to an advanced life support facility as rapidly as possible—the protective effect of hypothermia probably justifying the minimal use of CPR during this phase. It is clear that once in hospital, where active rewarming is being started in the absence of a monitored perfusing rhythm, CPR should be instituted and continued during cardiopulmonary bypass to prevent cardiac distension until cardiac ejection occurs.

It has previously been observed that hyperkalaemia (> 10 mmol/l) in the presence of profound hypothermia is associated with an adverse outcome[8] and it may be significant that all three of these cases presented with potassium levels in the normal range. The common adage that "you are not dead until you are warm and dead" could possibly therefore be qualified thus: "...unless your potassium is greater than 10 mmol/l".

We conclude that extracorporeal rewarming is extremely effective in accidental hypothermia with circulatory collapse in the absence of hyperkalaemia. It can be rapidly instituted in A&E using femoro-femoral bypass where facilities are available. The protective effect of the hypothermia should, however, be maintained until extracorporeal circulation can be established, even if this requires transfer to specialist centres. It is essential to maintain CPR (ideally with a mechanical device) until bypass can be instituted, rather than attempting other forms of rewarming which may increase metabolic needs without improving the circulation.

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Further details from:

Dr Daniela Rotondaro, European Centre for Disaster Medicine (CEMEC)
Via Sialoja 1, 47031 Republic of di San Marino
Tel: +378 994535; Fax: +378 - 903706

or

Dr David Steedman,
Accident and Emergency Department, Royal Infirmary of Edinburgh,
Edinburgh EH3 9YW
Tel: 0131 536 4010; Fax: 0131 536 4041

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