

treatment before considering epidural spinal cord stimulation. But it is clear that patients prefer the totally implantable system. TENS systems are bulky, cumbersome, and skin reactions are common. Dr Colquhoun's arguments are similar to those put forward when the external Lucas pacemaker system was used. That was also much cheaper but it was displaced by totally implantable pacemaker systems. There are problems with the present epidural electrodes which slip too frequently; but with further developments it should be possible to overcome these, and we are now trying new designs.

It is not our experience that all forms of electrical neurostimulation are equally effective. Some patients respond better to TENS than epidural stimulation and vice versa. For this reason we now insert a temporary electrode that can remain in place for 2-3 weeks to assess effectiveness before we implant the permanent unit; this also ensures that an expensive unit is not implanted unnecessarily.

Finally, I was interested in Dr Colquhoun's comments about the optimal frequency of stimulation and the work by Han. We have tried stimulating at 15 Hz and it seems to be effective but some patients describe it as a rather unpleasant sensation compared with higher frequency stimulation. But this subject is in its infancy (in the West) and there is much to explore about mechanisms and the best techniques.

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#### Limited potential of special ambulance services in the management of cardiac arrest

SIR,—We agree with Dr Rowley and colleagues that there has not been sufficient critical analysis of the effectiveness of ambulance personnel with advanced training (*Br Heart J* 1990;64:309-12). However, we wish to make the following observations about their findings and raise important questions about the development of the emergency ambulance service.

Concentration on those patients with pre-hospital cardiac arrest brought to the accident and emergency department excludes an unknown number of resuscitation attempts terminated by attending doctors. It may be that crews with defibrillator training spend more time at the scene of an arrest, increasing the likelihood that a general practitioner will arrive, certify that the patient is dead, and release the ambulance. The basic emergency crew will "scoop-and-run", leaving less scope for GP involvement. This may explain why larger numbers of patients were transported to hospital by the crews with a more basic training. What were the total number of resuscitation attempts made by each type of crew, regardless of later hospital transfer?

In our area ambulances only transport victims of cardiac arrest to hospital if resuscitation is in progress. When resuscitation is inappropriate a doctor is called to certify death and the patient is left at the scene or taken to the mortuary. We were surprised therefore that 64 of 147 patients were taken to hospital by defibrillator trained crews without any attempt at resuscitation. These patients had not been pronounced dead by a medical

practitioner. What criteria did the ambulance personnel use to withhold resuscitation from these individuals?

While the conclusion that the addition of other skills (drug administration and intubation) might save "a few extra lives" is probably correct, we are concerned that this study together with the results of the Scottish experience of semiautomatic defibrillators<sup>1</sup> may stop full extended training in ambulance aid being given to paramedics.

We have already shown the effectiveness of personnel with extended training in the management of hypoglycaemic coma.<sup>2</sup> There is recent evidence that patients with acute myocardial infarction complicated by hypotension and bradycardia have a better outcome when transported to hospital by a paramedic vehicle rather than an ordinary ambulance.<sup>3</sup> Personnel with extended training also treat patients with acute asthma,<sup>4</sup> hypovolaemic shock, and respiratory arrest, and in the future may administer thrombolytic agents.<sup>5</sup>

We are sure that the provision of a defibrillator on every emergency ambulance is an essential short term aim for improving the prehospital management of cardiac arrest. We are equally certain that the provision of a paramedic on every vehicle, coupled with a strict clinical audit, is the essential long term approach to improving all aspects of pre-hospital emergency care.

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- 1 Cobbe SM, Redmond MJ, Hollingworth J, Carrington DJ. Heartstart Scotland: initial experience of a nationwide scheme for out of hospital defibrillation by ambulance crews [Abstract]. *Br Heart J* 1990;64:65.
- 2 Weston CFM, Stephens MR. Hypoglycaemic attacks treated by ambulance personnel with extended training. *BMJ* 1990;300:908-9.
- 3 Pressley JC, Severance HW, Raney MP, et al. A comparison of paramedic versus basic emergency medical care of patients at high and low risk during acute myocardial infarction. *J Am Coll Cardiol* 1988;12:1555-61.
- 4 Wathen CG, Crompton GK, Carrington DJ, Hollingworth J. Treatment for acute asthma in the ambulance [Letter]. *Br J Gen Pract* 1990;40:388.
- 5 Bouten MJM, Simoons ML, Pool J, Hartman JAM. Prehospital thrombolysis by ambulance paramedics [Abstract]. *Eur Heart J* 1989; 10(suppl):123.

## BOOK REVIEW

**Practical Echocardiography in the Adult.** J P M Hamer. (Pp 229; £79.50.) Dordrecht, The Netherlands: Kluwer Academic Publishers, 1990. ISBN 0792306708.

There are many large detailed reference texts for those experienced in echocardiography and Doppler. However, there is a dearth of books, like this one, giving practical advice and tips to those starting and learning the technique.

The book is approximately 200 pages long

and liberally illustrated with high quality diagrams and echocardiographic/Doppler images. Unfortunately, many of the images and Doppler recordings have been reproduced in a rather small format and this does not do them justice. Dr Hamer has attempted to cover every aspect of adult echocardiography and with each cardiac structure he has described what features the echocardiographer should examine and what measurements to make. This is indeed good practical advice and to my knowledge is not presented in this form elsewhere.

In discussing each abnormality Dr Hamer has very sensibly integrated the role of all the echocardiography and Doppler techniques including transoesophageal echocardiography. There is also a small but excellent chapter on reporting echocardiograms which I believe would be of particular value to non-clinicians.

There is undoubtedly a need for practical books on echocardiography and I am sure that this volume will prove popular. However, while the range of topics covered is very comprehensive this has unfortunately caused a lack of detail and omission of many practical pointers which those new to the technique would have undoubtedly found useful.

MARK J MONAGHAN

## BRITISH CARDIAC SOCIETY NEWSLETTER

The office move was completed uneventfully, and we now have more space. At present the society occupies three rooms at the top of numbers 1 and 2 St Andrew's Place, and we hope to have the fourth room shortly. We can now accommodate committee meetings, and once we have a large enough table (we hope second hand) full council meetings should also be possible in our own premises. Please note that our address is Number 1. We have given up one telephone number but now two lines are available on 071-486 6430.

The Glasgow meeting is approaching. We have made one more break with tradition in that we are liaising with our public relations consultants to encourage the presence of the media. Our constitution states that the press will not be admitted to scientific sessions, and this will be upheld. But we plan to offer briefing sessions where we will be prepared to discuss items of interest that are expected to be presented that day, and to comment on items that may have been presented on the previous day. This will of course be conditional on agreement with the authors. We hope that the senior author or a nominee will agree to be present if we know that a particular paper is likely to attract interest. The health and medical correspondents of the London daily newspapers may not wish to travel to Glasgow. If necessary we may be able to arrange a meeting in London beforehand with an embargo on any premature publication. Particular care must be taken not