response. However, rather more important was the finding that whatever the length of the nitrate free interval the therapeutic effects became somewhat attenuated within eight hours of the start of treatment and appreciably so after 12 hours. In many cases where they tested 12 and 16 hours after patch application1 and though Scharer et al1 showed significant effects at four and eight hours it was clear from inspecting their data that these effects were rather statistically significant than those at four hours. It thus seems likely that tolerance develops so quickly during transdermal therapy that it limits its efficacy as a day long prophylactic agent.

The study reported by Fox et al rather supports our findings because treatment had very little influence on the circadian pattern of silent ischaemia—is one would expect if treatment had only been effective during the first few hours. It is certainly not justified to conclude that the significant treatment effects demonstrated between three and five hours after 12 hour application indicate that tolerance has been "avoided". Our results supported by data from other studies suggest that while the effects measured at 3–5 hours may have remained significantly better than those measured during placebo treatment, they are likely to be significantly worse than those seen after only 30–60 minutes of treatment and significantly better than those measured after eight hours or more. In this respect it seems likely that tolerance is a gradual but continuous process beginning from the moment that treatment is initiated.

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Novel exercise protocol suitable for use on a treadmill or a bicycle ergometer

Six—In their letter Dr Essamri and colleagues correctly state that the standardisation of exercise tests is now a major issue (British Heart Journal 1991;66:405–6) but that their rate of increase has been slower than expected. They wish to comment on the standardised exponential exercise protocol (STEP) devised by Dr Northridge and colleagues (British Heart Journal 1990;64:313–6). In this useful protocol, actual work rate is increased in 2–3 minute steps and tends to keep exercise duration within the "ideal" range of 5–15 minutes even if exercise capacity in terms of peak external work rate differs widely. Detailed tables are provided for cycle ergometer work rates adjusted for the subject's weight so that their STEP will be similar on a cycle ergometer and on a treadmill.

The differences between the cycle ergometer STEP and treadmill STEP protocols reported by Dr Essamri were relatively small—approximately a 13–19% difference in VO2 over the last six minutes of exercise. Such differences are expected because the cardio-pulmonary responses to exercise vary according to the mass of active muscle: at a given.Unthese subjects performed small changes in exercise duration due to variations in motivation and encouragement.

The debate between proponents of the cycle ergometer and proponents of the motorised treadmill is likely to continue for many years—the advantages and disadvantages of each are balanced and preferences often differ on a geographical basis. As it is unlikely that cardiologists in all countries will agree to standardise on one or other form of exercise testing, the STEEP is a useful attempt to bridge this divide.


BOOK REVIEW


This book is in many ways a testimony to the extraordinary progress in the subject over the past two or three decades. Indeed, 30 years ago there would have been little worth writing save for the six chapters on clinical aspects and each of these were substantially influenced by the advent of clinical electrophysiological studies.

The editors, two leaders in the field, and respected because they are in the classic tradition over the years, are to be commended for the fact that they have broadened the scope so considerably beyond Fisch's own recent book on the diagnosis of tachycardias dependent on 'the'width of the QRS, by Fisch and by Wellington; but there is important information in all the other chapters on clinical arrhythmias, and many who read these chapters will thereby be considerably informed that people are "out of the wood" away.

The use of exercise testing, signal averaged electrocardiography, and programmed electrical stimulation are all well discussed in separate chapters. The pharmacological sections often refer to the "current" and "latest" information and the chapter on sudden cardiac death, in particular, is somewhat out of place under pharmacology and not of the same high quality as most of the other contributions. The last part, dealing with non-pharmacological treatment, with emphasis on developments in pacing and ablative techniques (both electrically based and surgical) is of great interest because there are many developments in this area that are insufficiently widely known and where more patients could receive help.

Virtually all the chapters are well and neatly referenced and the book not only has current usefulness but will continue to be a reliable and substantial source of information for some time to come. Many cardiologists will wish to have this book as well as to see it on departmental library shelves.

DENNIS M KRIKLER

The title reviewed here is available from the BMJ Bookshop, PO Box 295, London W1H 9TE. Prices given are inclusive of postage. Orders can be supplied to all countries except the British Overseas Territories, but overseas customers should add 15% to the total of the order for postage and packing. Payment can be made by cheque in sterling drawn on a UK bank, or by credit card (MasterCard, Visa, or American Express); stating card number, expiry date, and your full name.

Letters to the Editor

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*Br Heart J* 1992 67: 422
doi: 10.1136/hrt.67.5.422-a