TRAINING

Training for academic cardiovascular medicine

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Academic units of cardiovascular medicine have traditionally provided a substantial part, if not all, of the clinical service for their teaching hospital. Hence, the clinical load carried by a lecturer or senior lecturer has often been equivalent to that carried by their National Health Service senior registrar and consultant colleagues, inevitably at the expense of research. Yet, the future of academic cardiovascular medicine depends on its research. Increasingly, young would-be academics are recognising the importance of a sound research training, particularly in laboratory based techniques, which often includes completion of a PhD plus a period of post-doctoral research outside the clinical arena. Continued success requires a commitment, in terms of time and effort, to research that is incompatible with a full-time clinical load. In recognition of this, research fellowships, such as the Medical Research Council Clinician Scientist and British Heart Foundation Clinical Scientist awards were created to allow promising academic clinicians to focus on research while at the same time gaining sufficient clinical training for their future needs, often determined on an *ad hominem* basis. Since such fellowships also provide a potential career pathway to the top in academic medicine, they have attracted very high calibre applicants. This career path is far removed from that proposed for academic cardiology in the recently published Guidelines for Specialist Training in Cardiology (*Br Heart* 1995;73:suppl 1). Unfortunately, interpretation of these guidelines by some cardiologists and postgraduate deans has given cause for concern among potential academic clinicians.

Over the past 10-20 years cardiovascular medicine in the United Kingdom has become dominated by invasive, interventional techniques that require a high degree of training

and competence. This is reflected in the Guidelines for Specialist Training in Cardiology which place great emphasis on invasive cardiology. Nevertheless, a substantial proportion of academic cardiovascular physicians do not perform such procedures in their clinical practice, nor should they need to in the future. Clearly, those who do must achieve, and be seen to achieve, the necessary level of competence. However, those whose clinical interests are non-invasive should be allowed to tailor their training towards their perceived future clinical role. This argues strongly in favour of a degree of flexibility in the training requirements not embraced by the published guidelines.

Fortunately, this is also the view of the Working Group on Academic and Research Medicine who recently published their recommendations (*NHS Executive*, May 1995) stating that "Providing standards can be maintained, the arrangements should be sufficiently flexible to allow for those who wish to follow a "fast track" satisfying the minimum requirements for specialist training; therefore, there should continue to be a place for *ad personam* training arrangements, for example academic staff who are currently following an unconventional approach to higher specialist training."

It is essential for the future of academic cardiovascular medicine that postgraduate deans, local training committees and the Specialist Advisory Committee in Cardiovascular Medicine should accept these recommendations and publish a clear statement to this effect as soon as possible so that those contemplating a career in academic and research medicine should not be put off by perceived uncertainties over their future clinical training requirements.

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New training guidelines: what are the implications for cardiological research?

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The new British Cardiac Society guidelines for training in cardiology¹ set out extremely detailed proposals, which are likely at least in principle to be accepted as the basis for specialist cardiology training over the next

decade. What are their implications for cardiological research? There are three aspects to this question: the implications for the research training of future cardiologists, for the training of future cardiological researchers (an impor-

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tant distinction), and for academic cardiologist units (defined as units with a major commitment to fundamental research). In this paper we have given our personal assessment of the likely implications of the training guidelines for future cardiologist research.

Research training of future cardiologists

The emphasis the guidelines place on research experience and training for all cardiologists is welcome. It is anticipated that this will be achieved (a) by day release throughout the training programme and (b) by a research year during which at least 80% of the trainee's time is spent in research. It is one thing to provide time for research, another to be sure it is well utilised. We believe that it is important for trainees to start discussing and planning their proposed research as early as possible after appointment: certainly during the first year of traineeship. A research supervisor needs to be identified—whether this is combined with the post of trainer or mentor will depend on local circumstances. Academic units have much to offer in terms of research experience and resources, and this should be recognised and exploited.

In our experience newcomers to research invariably underestimate the time needed to review the literature, draw up a plan of research, acquire necessary skills, and assemble resources. A "cold start" in the third or fourth year of a training programme, with the expectation of worthwhile results within 12 months, is a certain recipe for disappointment. Conversely, the geographical stability of the traineeships should allow the planning and learning phases to be largely achieved during the day release period, allowing full advantage to be taken of the research year for clinical or bench research. The report is sensibly non-committal on the subject of MD theses. Good theses are written because the author wishes to, rather than has to, write them, and an MD should not be regarded as yet another hurdle on the way to a career post. The most effective way to disseminate good research findings is publication in peer reviewed journals. Writing for publication is an acquired skill, and academic units should be in a position to provide advice and encouragement. Most universities award MD degrees for published work, perhaps with an additional critical commentary, and this facility should be more widely used.

Funding for research training

The report is not entirely clear about funding for the research year. There is no commitment to support from the employing authority, and trainees who wished to devote themselves full-time to research would need to secure personal funding (from the Medical Research Council, British Heart Foundation, etc) and thus allow their clinical work to be covered by a locum: presumably a doctor in a non-career post or an overseas visitor. Such funding would need to be organised well in advance, and a well laid out experimental plan plus, where appropriate,

preliminary results would be of great value in securing an award. If academic units are to carry out the central role in facilitating research training we suggest, some pump-priming funding or bench fee will be needed, though it is likely that major research funding will still need to be won in competition.

Future cardiologist researchers

Trainees who have or discover an aptitude for clinical research will be reasonably well served by the current proposals. Those whose research interests are in basic science, for example molecular or cell biology, will have a more difficult time. Over the next decade we are likely to see increasing numbers of doctors who combine a PhD with their first medical degree, or who have spent two or three years in research after completing basic medical training. How will they cope with combining the arduous task of gaining prescribed experience while maintaining scientific credibility? The report envisages that up to one year of research experience can be credited, and that the final year of training might be spent largely in research. It would be possible therefore for someone to complete the prescriptive phases of training in a minimum of four years, and then return to research. Four years is a long time to be away from the bench, and it remains to be seen whether trainees will opt for this arrangement, or will seek to intercalate one or two years of research in the middle of clinical training. It can be argued that basic science is best left to career basic scientists, but we believe that the clinical insights of cardiologist academics with experience in both disciplines are likely to be particularly important in targeting relevant and achievable future research goals. Some provision needs to be made for these individuals, perhaps in the form of earmarked training posts designed to run alongside clinical scientist programmes, combined with some flexibility in assessment. The demands of the fifth year in terms of sheer numbers of procedures seem particularly daunting, and not necessarily relevant to this type of individual.

Role of academic units

What of the implications for academic units themselves? The generosity of the British Heart Foundation, in particular, has ensured that several units can provide research support for cardiologists in training, but their structures and research interests are very varied. Some units have several clinical lecturer posts, often with a major service commitment, others have none; some have well established basic science facilities employing non-clinical scientists. Clinical lecturer posts are presently under particular pressure, from managers seeking a greater service contribution and from medical school deans who see them as a liability in the context of the Higher Education Funding Council's research selectivity exercises. Yet they may have a particularly important role in training clinical scientists.

Research training options.

At present many clinicians working in academic units are research fellows, intercalating perhaps two years of research between registrar and senior registrar posts. Initially there is likely to be a period of anxiety and confusion as they assess their position and their options for completing clinical training in the light of the new guidelines. A shortened programme, perhaps equivalent to the last three years of the proposed scheme, would be appropriate for many of these. In future clinical research fellows are likely to be more sharply demarcated into those who have not yet started a specialist traineeship, those who are intercalating research into a traineeship (and “keeping their numbers”), and those who are fully trained. The figure summarises possible research training options.

Summary of proposals

- The recognition of the importance of research experience is welcomed; committed research supervisors should be identified for each trainee and research planning should start as early as possible in the traineeship.
 - It would be welcome if employing authorities and postgraduate deans were to provide personal support for up to one year and modest research expenses for trainees undertaking research. In the absence of such support, application would need to be made to grant-giving bodies well in advance.
 - Certain posts may need to be earmarked for the training of future clinical scientists.
- Academic units should regard themselves as challenged, but not necessarily threatened, by the new proposals. With appropriate consultation and involvement, and a modest allocation of funding, the overall result should enhance the quality of both service and academic communities.

1 Hall RJC, Boyle RM, Webb-Peploe M, Chamberlain D, Parker DJ. Guidelines for specialist training in cardiology. *Br Heart J* 1995;73(suppl 1):1-24.