

**THE PLACE OF RESEARCH
IN THE TRAINING OF NEUROLOGISTS**

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1. Recommendations

1.1 All neurological trainees should be strongly encouraged to do research and given every opportunity to do so.

1.2 However, a prolonged (2-3 year) period of research, leading to a research degree, should not be regarded as a necessary part of the education of every neurologist. A structured and comprehensive clinical training, with alternative academic opportunities, is an equally legitimate route to a consultant post.

1.3 The creation of alternative academic opportunities, including clinical fellowships and MSc courses, would be a welcome innovation although we recognise that there may be problems in funding these activities.

1.4 The optimal timing for research will, as a rule, be during a specialist training programme, and the research should involve a supervised project in an established research team.

1.5 The ABN should maintain a register of such projects and teams: occasional trainees might be encouraged to pursue projects which fall outside the traditional range of 'neurological research'.

1.6 Appointments committees should seek a range of ways of assessing the suitability of applicants for consultant posts, without placing undue reliance on the possession of a research degree.

2. Introduction

2.1 The current position

At present most neurologists in training spend 2-3 years in a research post, more or less full time, with the aim of obtaining a postgraduate research degree, usually an MD or PhD. The timing of this research period varies, but the majority of trainees embark on it with the benefit of some experience in clinical neurology at SHO or registrar level, but before obtaining a 'career registrar' or senior registrar post. The subjects of research projects range throughout basic neuroscience and clinical neurology and sometimes beyond. Trainees usually join a research team; the extent of supervision and training, and the trainee's degree of independence in selecting his or her project, vary very widely from post to post. Despite all these variations it is clear that neurological trainees expect to, and are expected to 'do research'.

2.2 **The case for research during specialist training**

At its best this period of research provides intellectual stimulation and an opportunity for reflection which busy clinical jobs may not allow; it offers a training in research methods, including the statistical assessment of results, and fosters a critical attitude towards the scientific literature; it helps to establish an expert interest in an area of neurology which can often be carried through to the trainee's future clinical career; it develops communication skills, both written and verbal, and it may lead to a genuine contribution to the subject under study^{1,2}.

Training in research may be thought especially important at a time of rapid progress in neuroscience with major potential repercussions for neurological practice.

2.3 **The shortcomings of research in specialist training**

While some neurological trainees undoubtedly derive all the benefits mentioned above from their time in research, many do not. There are a variety of sources of dissatisfaction.

Many trainees point to a lack of detailed guidance in the selection of their projects and lack of supervision of the work these projects entails^{1,3,4}. Trainees come to science after several years in clinical posts and usually feel that such guidance and supervision are indispensable. Some regret that projects which they have been encouraged to pursue in basic science lack relevance to their subsequent clinical careers, that they acquire laboratory skills which are of little use to them later, and that their clinical skills are impaired by a long period in a laboratory. There is also a widespread view that the completion of an extended thesis in book-form is an unnecessarily time-consuming culmination to work which has in any case been, or should have been, described in scientific papers⁶.

More fundamental, and emotive, doubts about the role of research are sometimes voiced. Some trainees feel that it is inappropriate that they should be obliged to prove their enthusiasm for clinical neurology by completing a research project, and that the present system of research primarily serves the interests of academic supervisors, who have a constant need for research assistants, rather than those of the trainee.

2.4 **The Calman report and the future of neurological training**

The implementation of the Calman report, and the changes in the organisation of training which it envisages, provide a timely opportunity to reconsider the proper place of research in the training of neurologists. This issue is particularly relevant at a time of rapid expansion in the number of neurologists in the United Kingdom.

In this document we consider first whether it is desirable that research should be a routine component of specialist neurological training. Secondly, we consider a variety of ways in which a period of research might be integrated into neurological training, in the light of the perceived shortcomings we have detailed above. It is

clearly important to bear in mind that for some a period of postgraduate research will be the beginning of a lifetime in academic neurology while for others it will be an academic interlude in a predominantly clinical careers.

3. Should every trainee 'do research'?

3.1 A clinical discipline?

The care of patients with neurological disorders usually is, and certainly should be, an intellectually demanding pursuit. It requires well developed clinical skills, an understanding of current methods of investigation, a comprehensive knowledge of the management of a large family of diseases from the common to the obscure, and an ability to interpret data from a wide range of sources. It is not clear that a period of research is required for the acquisition of these clinical abilities.

The independence of clinical activity and research should not be exaggerated. Certain types of clinical research call upon well honed clinical skills and are likely to enhance them. Much research work, however, especially pure bench research, is extremely remote from day to day clinical practice.

3.2 Two arguments in favour of 'research for all'

Two arguments are particularly often voiced in defence of the view that all trainees should engage in research leading to a higher degree: the first stresses the intellectual benefits conferred by research, while the second emphasises its utility in the selection of future consultants. These arguments by no means exhaust the rationale for research outlined in 2.2, but they are so often cited that they demand individual consideration.

The first argument draws attention to the haphazard nature of traditional postgraduate medical education in the United Kingdom. Surely, it runs, some component of training should have real intellectual rigour. Where is this to be found, if not in a period of research?

The second argument rests on the undoubted truth that completing a period of research, and writing up a thesis, demonstrate qualities of tenacity and application which would stand any future consultant in good stead. These achievements are held to be one of the best available proofs of suitability for a career in clinical neurology.

3.3 Responses

The first argument assumes that it is impossible - in clinical training - to provide trainees with 'an education as well as an apprenticeship'. This is a pessimistic view. If the aims of the current reforms of postgraduate medical education are realised, and high quality well co-ordinated training programmes in neurology become available in the UK, this argument will lose much of its force. Such programmes appear to

operate successfully in the United States, Australia and New Zealand where a period of research is not regarded as an indispensable element of training.

The second argument relies on the doubtful principle that the best test of suitability for clinical practice is achievement in scientific research. We agree with Graham Neale that 'the future specialist physician needs to be selected on the basis of clinical and organisational skill as well as innovative ability'¹. While the possession of a research degree provides a convenient index of achievement for an Appointments Committee, it may not reflect the abilities with which the Committee should be most concerned; other means of assessing such abilities, including references structured to explore aspects of relevance, should be actively sought.

3.4 Options

In an intellectually demanding subject such as neurology it is likely that most trainees will wish to be involved in some research, and this is desirable. We suggest, however, that a 2-3 year period of research leading to a higher degree should not be seen as the only option for a neurological trainee. For example a one or two year taught course in aspects of basic or clinical neuroscience or clinical epidemiology, leading for example to an MSc, preferably including an element of research, might be more attractive and useful to some trainees²; a period of one or two years spent acquiring a particular skill, or expertise in a subspecialty, analogous to the American 'Clinical Fellowship', might be valuable for others.

We do not envisage that such a broadening of options for trainees will involve a lowering of standards. On the contrary, we hope that the standards of clinical neurology in the United Kingdom will be enhanced by an emphasis on the importance of excellent clinical practice. Neurology is likely to remain a competitive subspecialty of medicine: the onus on trainees to prove their enthusiasm and ability will be just as intense for those who choose a 'clinical' route through their training as for those who choose to engage in extended research.

4. How should research be integrated into training?

4.1 The crucial role of research

It is vital to the well-being of British neurology, which has a distinguished record in research, that talented clinical scientists should continue to enter the specialty, and that their talents should be fostered alongside their clinical skills. To this end those trainees with a genuine desire to take part in serious research should be strongly encouraged to do so.

The length, timing and nature of research projects should remain flexible, as they are at present, to suit individual circumstances. There are, however, a few lessons to be drawn from the criticisms of some current research posts which we outlined in the first section.

4.2 Training in research

It is essential that trainees who decide to embark on an extended period of research should receive formal *training* in the methods of research, and should enjoy close involvement, at least initially and probably throughout, with a research supervisor and/or a research team. The requirement that work submitted for some higher medical degrees should be unsupervised is an anachronism. We welcome the moves in a number of universities to address this issue by changing their MD regulations.

4.3 Timing

The Calman reforms of postgraduate training create a danger for a small competitive specialty, such as neurology, that prospective trainees will feel 'forced' into research before winning a place on a neurology training scheme as a means of proving their determination. It may not be possible to prevent this development but we feel that it would be unfortunate. Neither the trainees, nor the subjects they might work on, would be well served by a premature forced choice of a project for an ulterior motive. Indeed it would be very difficult for the majority of trainees at an early stage of their career, with little experience in clinical neurology, to identify a suitable project and supervisor.

The optimal timing for research will usually be during the specialist training programme. This should allow the trainee to become acquainted with clinical neurology before choosing a research topic but will provide the opportunity to complete research before embarking on the time-consuming quest for a consultant post. Training programmes with provision for a period of research are likely to spring up in academic centres, and to be very attractive. Such integrated packages seem to us desirable.

There should be opportunities for latecomers to move into research¹, and for unhappy academics to make a late exit from a career in academic neurology into clinical practice.

4.4 Choosing a subject

Both clinical and 'basic' research are potentially worthwhile but trainees should be encouraged to reflect on whether they really want to acquire sophisticated research abilities in basic neuroscience if they envisage a predominantly clinical career. Clinically based research is of particular relevance to the education of future clinicians who will increasingly be expected to base their practice on a critical appraisal of the available evidence.

Trainees of an academic bent are not always well informed about the range of research possibilities in the UK. After a few years within the small world of British neurology it may be difficult to recall the state of ignorance of a keen newcomer. It would be very helpful to trainees trying to choose their research topic if the ABN were to keep a register of the major research interests of academic departments, and of the kinds of research posts which they commonly offer.

Finally, some trainees may be interested in pursuing research topics which fall outside the range of subjects which have traditionally been considered suitable. Such topics include ethical questions raised by neurological practice and health service research. Such interests should be encouraged: they are no less relevant to neurological practice than many projects in basic neuroscience.

5. Conclusion

We believe that the interests of research will be served well if it is regarded as an invaluable opportunity for enthusiastic young investigators rather than the indispensable passport to a clinical career. Clinical practice will benefit from an emphasis on the importance of clinical skills, rapport with patients and a structured and comprehensive training in clinical neurology.

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