Occupational Medicine

Training for occupational medicine

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The training of occupational physicians has recently undergone profound changes, is still changing, and in the future we may see some of the developments envisaged here. All four of the phases of training are changing: undergraduate, general professional training (basic specialist training), higher specialist training and, finally, continuing education which is maintained throughout professional life. That these separate phases should not be viewed in isolation is not always recognized, particularly by those concerned with the detailed planning of one particular phase.

The undergraduate curriculum

When many doctors now in senior posts were training the prime objective was to become 'a doctor', and sometimes to gain some ill defined further experience leading to a specialist diploma. In line with this, the national registration body (the General Medical Council) ensured that every doctor on qualification was a safe 'physician, surgeon and accoucheur' and the medical curriculum was designed to that end.

Some years ago the objectives of the undergraduate curriculum were changed. They now aim to provide a firm basis for the postgraduate training which all doctors irrespective of specialty must undergo. The consequences of that change have not always been fully appreciated. For example, we still hear calls for x hours of occupational medicine training for medical undergraduates, and questionnaires are still sent round to medical schools asking how many hours of teaching in occupational medicine are allocated in the curriculum, usually with a covering letter extolling the importance of the subject. Of course occupational medicine is not alone in this activity and other specialties do the same. If it is true for one specialty, is it not also true to a greater or lesser extent for many others? The *reductio ad absurdum* of such an approach would be an undergraduate curriculum which was simply a compaction of bits of knowledge from all

specialties rather than an integrated training in the fundamentals which provided a foundation for the future doctor to build on throughout his professional life.

There is no simple answer to this, but at least it should be recognized that there are other opportunities for teaching occupational medicine besides adding more lectures to the overcrowded undergraduate curriculum. The objective of occupational medicine for medical students should be to integrate the basic concept of the effects of work on health and the effects of health on work into the remainder of the medical curriculum, not to occupy a separate island which is to be called occupational medicine and to be defended stoutly against all invaders. For example, at Guy's Hospital an ingenious role-playing scenario has been devised in which undergraduates and teachers take an active part. The scenario itself introduces medical students to the organizational and attitudinal climate in which occupational medicine is practised. The guided learning required of students to play their roles teaches them some details, while the role playing exercise itself, besides reinforcing that knowledge, enables the teacher more or less covertly to add some more (E.D. Snashall, personal communication).

At Manchester a completely different approach is used, whereby occupational medicine is put in a wider setting. Thus, in the pre-clinical period a student learns about normal psychology throughout the life span from developmental psychology of the infant to the behaviour patterns of old age. Within that there is a section on adult life and within that again is occupational psychology. Another example occurs very early in the clinical period where, during a course on respiratory diseases, there is a section on occupational lung diseases. Toward the end of the medical course the student, now with some clinical knowledge and experience, has a few months outside hospital where he looks at life in the community from paediatrics through adult life and on to geriatrics. He is taught by a consortium of community physicians, general practitioners, paediatricians, occupational physicians and geriatricians. The occupational physicians organise visits to workplaces, whilst the important briefing and debriefing sessions are jointly conducted by teachers in several disciplines. Here, maybe, the community

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physicians participate in a discussion on the works canteen or the industry itself if it is a food factory. Conversely, the occupational physician may contribute to the discussion on a patient seen in general practice where there is a question of fitness for work, sickness absence, or occupational rehabilitation.

Doubtless there are other methods of teaching occupational medicine to medical undergraduates and one of the appropriate professional organizations in occupational medicine could usefully study and explore the possible contribution of the practising occupational physician beyond simply taking groups of students round his factory from time to time.

General professional training (basic specialist training)

Occupational medicine as a clinical specialty has similar objectives and requirements to the other medical specialties for general professional training (GPT) and, like them, is regulated by the Joint Committee on Higher Medical Training. Increasingly, doctors looking toward a career in occupational medicine leave the period of GPT with the MRCP (Membership of the Royal College of Physicians) or sometimes with the MRCGP (Membership of the Royal College of General Practitioners) (although neither is a requirement for entry to higher specialist training in occupational medicine). Until recently GPT has been relatively neglected by occupational medicine. Higher specialist training, which will shortly be described, is largely directed toward the doctor who has decided to make a full-time career in occupational medicine and who generally has to commit himself to this without any practical experience, apart maybe from one or two 'industrial visits' as an undergraduate. Would he enter any other medical specialty with such scant knowledge about it? Put another way, a young doctor contemplating a career in occupational medicine usually has to face jumping right in, he has little opportunity to put his toe in the water to try the temperature.

For these reasons, we at Manchester have explored with our colleagues in general practice, over the last few years, the possibility of organising junior posts in occupational medicine, of about 6 months duration. The first attempts have been made in general practice training but there is no reason why such posts might not be explored for other specialties. At present, the idea is prevented by the relative rigidity of the training programme for general practitioners. Whilst that appears flexible it is only so within prescribed constraints and can not accommodate such a proposed scheme. However, the Faculty of Occupational Medicine has been persuaded to take up the matter with the Royal College of General Practitioners and perhaps, in the course of time, it will become possible to initiate such a scheme.

One possible side product of such a scheme results from the marked increase in the number of medical graduates now and in future years. Because the number of general practitioners is steadily increasing the average size of their lists will fall and the ability of a future partner to earn money outside the practice is becoming increasingly important. Those practitioners who have dipped a toe into occupational medicine by working there for 6 months but have decided not to jump right in would be eligible to take the Associateship of the Faculty of Occupational Medicine (AFOM). That would be to their personal advantage and would help to raise the professional competence of the many general practitioners with part time jobs in occupational medicine.

Higher specialist training

For the aspiring specialist this leads to the Membership of the Faculty of Occupational Medicine (MFOM) which at present is an 'exit' from higher specialist training.^{1,2} Training is based on the premise that occupational medicine is learned neither in hospital nor in the classroom, not even if coupled with brief attachments to industry. Like any other medical specialty, knowledge is gained on the job under an experienced supervisor. Although a generation of occupational physicians came to speak patronisingly of 'sitting next to Nellie' as a way of learning, this method forms a large element in higher specialist training. If, then, occupational medicine is to be learned largely by working with experienced occupational physicians what effort is made to train these supervisors? Everyone would accept as true the statement that some are better supervisors than others, although there might be some resistance to the reverse phrasing that some are worse than others. If that were accepted (for others of course, if not for ourselves), then are some so bad that a proposed training post might be turned down on that account? As a first step there seems to be scope for a body such as the Faculty of Occupational Medicine or a university to organize short courses for supervisors.

The aspiring specialist, then, will have his specialist examination (AFOM) and his period of supervised practical experience behind him. During that he will, almost certainly, have concentrated on one particular industry such as transport, chemical or engineering and he will have developed some special interests. To get the MFOM, he is required to demonstrate this knowledge and interest by selecting a topic and writing a dissertation. Many choose a modest research project which they present. Others, without either the opportunity or the inclination for research, may choose to review the literature in a related field and write what is unhappily called a critical review. This unfortunate

term suggests that the purpose is to criticize. It would be better regarded as a constructive review whereby, from his reading of the literature, the candidate constructs an account of the present state of knowledge in his chosen subject. Of course, he does not accept uncritically all the evidence he finds in the literature but his object is construction and it is only in doing that properly that he learns to reject or trim down less satisfactory building material. He should be learning to become a mason, not a stone breaker.

Continuing education

On average, an occupational physician qualifies as a specialist in his mid thirties, so that he has about 30 years of professional life in front of him. Thirty years in which there will be innumerable developments not only in his own special branch of occupational medicine, in occupational medicine in general, in related medical and industrial fields but also in the basic scientific disciplines. Very few occupational physicians can keep up with all these developments by studying on their own. Attendance at meetings of societies and other learned bodies may help but provides a rather haphazard coverage of those fields.

The programme of continuing education, started some two years ago in the north west of England, seeks to cover systematically the whole field of occupational medicine over a 5-year period. At the end of that time it is proposed to cover the ground again, for in almost all fields there will have been sufficient developments to justify exploring them further. The meetings are open only to specialist occupational physicians and we have found that they appreciate that the lectures and discussions are pitched at that level rather than, as in other bodies, where the background and knowledge of the audience is, to say the least, more varied and the specialist may learn little from the talk or from the ensuing discussion.

It is encouraging that following the successful launching of the programme of continuing education in occupational medicine in the North West Region, the Faculty of Occupational Medicine has set up a working party to investigate the subject.

Training for part time work in occupational medicine

As we have already seen some, and perhaps in the future, more, general practitioners work in occupational medicine. It also increasingly attracts women doctors with family commitments. For these groups the Associateship examination of the Faculty of Occupational Medicine (AFOM) forms a useful and important mark of achievement. The requirements for either 6 months full-time or 1 year part-time

experience in occupational medicine (at present the post does not require appraisal) is generally met quite readily although the examination, including the clinical part, should not be underrated. Training is available in a number of university departments and a Distance Learning Course (which is described later) is available to anyone in the United Kingdom no matter where they live.

The teaching of occupational medicine

Within the framework just outlined of undergraduate training, general professional (basic specialist) training, higher professional training and continuing education, we have seen that, apart from the last, the emphasis is on practical training at the workplace supplemented by formal education. There is always the danger, which this country, but not others, has avoided, of the whole of training being based on university departments which organize full time courses with some visits or attachments to industry. This danger is not an uncommon one as Ivan Illich³ has warned in *Deschooling Society* which is about education and in *Medical Nemesis*, which is about health provision and health care. The professional teachers must not be allowed to take over professional training. In occupational medicine, then, whilst guarding against these dangers, we should as a corollary accept that those occupational physicians in the workplace who accept the responsibility of teaching should learn how best to impart their knowledge and they must be prepared to train for that role, as was suggested earlier.

Distance learning

Training in any field comprises the three domains of knowledge, skills and attitudes. The practical experience in occupational medicine described above concentrates on skills (social and psychomotor) and attitudes, and includes some 'knowledge'. There remains, therefore, a place, but only a place, for formal education by which the postgraduate student learns systematically the 'knowledge' component of occupational medicine. This is often best done in university departments, although where students are widely scattered distance learning has an important place. The Distance Learning Course (DLC) operated by the University of Manchester⁵ is modelled closely on the Open University which gave invaluable advice in the early days. That body could not take on the task because the number of doctors studying occupational medicine every year is too small. The course comprises specially prepared texts (to supplement the standard ones), tutorials, seminars and practical courses. It is

interesting that even in a relatively compact country such as the United Kingdom, exactly one half of the candidates at a recent AFOM examination were from the Distance Learning Course, equalling in numbers the total of candidates from all the other institutions together. Their pass rate in the non-clinical part is as high or higher than that of the candidates overall.

The future syllabus and future examination

The content of what should be taught, and by extension examined, needs much care. It is obvious that the materials used in industry are changing, that methods of control are improving, and that standards are rising. Whereas a doctor used to look for early evidence of disease, now he may look at biochemical or functional change. Beyond that there is a rapidly developing interest in the place of cognitive psychology in the monitoring of exposed workers. In some instances the environment may be controlled and monitored so successfully that no change is detectable in the exposed worker. Where do such advances leave the doctor? Occupational medicine is more than applied toxicology, and changes in legislation, often reflecting deeper social changes, will alter the work pattern of occupational physicians.

Obviously, we try to perceive changes which are taking place but it has been perceptively remarked that we travel into the future looking backwards. What, then, is to be taught to the postgraduate student? Certainly even 10 to 20 years hence the doctor will be dealing with things and working in situations which we can not conceive. If we try and teach simply 'principles', can he learn without those concrete examples which can only come from the past or the present? We must teach concrete examples not only to enable the doctor to practice in the immediate future, but also because learning principles is like the pursuit of happiness. That pursuit is successful only when happiness is regarded as a by product of other activities rather than as an end in itself. The same applies to the 'principles of occupational medicine'.

Ultimately, even the postgraduate student will concentrate on what he needs for an examination and that is determined by those persons responsible for laying out the syllabus and setting the examination. In the light of the foregoing discussion a review of recent examination papers for the AFOM reveals how far we have yet to go (as one of the many examiners in recent years the author must accept some of the blame).

When the Faculty was set up, some 10 years ago, it was realized that the supervisors of trainees would include doctors who had been in occupational medicine for many years, but had never received any formal training in the subject. Many had never obtained a qualification in the field. A deliberate decision was made therefore to have a formal and structured examination in the subject, the AFOM. What of the future, when all supervisors it is hoped will themselves have been through formal professional training, will have taken the examination and maybe, a short training course on how to teach? Hopefully, they will also be following a programme of continuing education. Will such a formal and structured examination, such as the AFOM as it now is, still be required or might there be a place for some form of continuous assessment for those in approved posts?

A somewhat different perspective of the same problem comes from asking, why have any test? Is it to see whether the supervisor and the educating body, whether university or Distance Learning Course has, with the candidates' own aid, filled him like a vessel with the appropriate knowledge up to a required mark, or have they kindled in him a flame which will burn brightly throughout his professional life? It is easier to set a traditional examination that finds whether a vessel is filled to a mark than to test the luminosity and heat of a flame and measure the adequacy of its source. Now is not the place to explore such interesting questions but they, among with others mentioned here, will need to be considered in the future.

A European qualification in occupational medicine?

Another development will appear over the horizon in the next few years. As we move closer to Europe the question will sooner or later be raised of reconciling the different training in different member countries. Already the anaesthetists have moved in that direction with a European diploma which at present supplements, but does not replace, the British qualification. Occupational medicine with some doctors in different European countries working for the same multinational company would seem well placed to explore this possibility very carefully. It would be better that we should take the initiative rather than let someone else do so, when we would be left in the less advantageous position of responding to their proposals.

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