DOCTOR EDUCATION

Educating doctors about rheumatology

V Wright, P S Helliwell

It is seldom that the editor of a symposium says in his brief, 'The more controversial you are the better'. Consider then the following propositions in relation to the education of doctors about rheumatology:

- 1 The doctors who need it don't want it and will not have it.
- 2 Rheumatic patients fare better at the hands of a rheumatologist than of any other doctor.
- 3 Most rheumatic patients would be well advised to keep as far away from most orthopaedic surgeons as possible most of the time.
- 4 The information general practitioners require in postgraduate teaching is seldom given by rheumatologists because they are as ignorant as the general practitioners about these issues.
- 5 Some units are so highly specialised and their selection of patients seems so rarefied that their units are unsuitable for the training of rheumatology specialists.
- 6 He who learns from someone not actively engaged in research drinks from a stagnant pool.
- 7 For that reason only a limited amount of postgraduate training should be undertaken at a district general hospital.
- 8 Clinicians are best trained in predominantly clinical departments and should be encouraged to do clinical rather than laboratory based research.
- 9 Fundamental research related to clinical medicine is best done in clinical departments—but by non-clinical scientists.
- 10 In general terms the gains of the programmes set out by the Joint Committee for Higher Medical Training have outweighed the defects, but they militate against the unusual career structure and more brilliant clinicians.
- 11 The programme proposed by the Royal College of Physicians of registrar specialisation is likely to make that worse.
- 12 Teaching communications skills is as important as teaching basic clinical skills.
- 13 As about a quarter of our patients will have non-organic disorders a significant amount of time should be devoted to methods of identifying and treating such patients.

Education is thought to be a wonderful thing! Nevertheless, Huston,¹ in our own city, has shown that although the keen will avail themselves of opportunities of further learning, the most needful general practitioners will ignore the opportunities, however easily available they are made. To overcome that realistic, if somewhat cynical, view clinical rheumatology needs

to figure more prominently in undergraduate education with inevitable questions in finals. This should cover the rehabilitation of rheumatic patients as well as the fashionable immunology. Anecdotally it seems that postgraduate education of doctors improves the lot of rheumatic patients. This then raises three questions—Who should be educated? Who should do the educating? How should it be done?

Who should be educated?

First and foremost a cadre of specialist rheumatologists requires teaching. No district should be without the equivalent of one full time rheumatologist per 150 000 population. Most of these posts are and should continue to be pure rheumatologists. At the moment 54% of doctors doing rheumatology fall into this category, and that is reasonable. The burden of the work is such that the task demands this. Traditionally, rheumatology has been linked with rehabilitation medicine, for the simple reason that together with geriatricians only rheumatologists bothered about the long term rehabilitation of their patients, and became very skilled at it. The two specialties have become separated at the Royal College of Physicians of London (in their advisory and training committees) and in the Department of Health, but strangely not in the British Medical Association structure. There is still over a quarter (27%) of such combined jobs, and they are to be welcomed, together with the senior registrar training posts that will service them. The danger is that with the separation of the specialists less attention will be given by pure rheumatologists to the long term rehabilitation of their patients, apart from the administration of noxious drugs. Rehabilitation needs to be firmly written into the training programme. A smaller group (at the moment 19%) will be rheumatologists who have duties in general medicine (Symonds, personal communication). The practicalities of the few small districts who can only afford such posts will ensure that they continue. Coming from a department that includes all three types of consultant, we can see a role for each of these—and, indeed, where they exist together this may be the best of all worlds.

As general practitioners will see the majority of rheumatic patients their education is highly desirable. The financial benefits of postgraduate training and the inducements of payment for local intralesional steroid injections should facilitate this.

Other clinicians will obviously benefit from rheumatological training. Orthopaedic surgeons,

Rheumatology and Rehabilitation Research Unit, University Department of Medicine, General Infirmary, Leeds

V Wright
P S Helliwell

Correspondence to:
Professor V Wright,
Rheumatology and
Rehabilitation Research Unit,
36 Clarendon Road,
Leeds LS2 9NZ.

after the rheumatologist, will see the more advanced cases as most of their patients will be salvage material. General physicians and dermatologists will have patients presenting to them with connective tissue disorders. Acute problems such as gastrointestinal bleeds induced by non-steroidal anti-inflammatory drugs will also go to the general physician. They are often keen to maintain this diversity in their work load. General surgeons will operate on some patients with concomitant rheumatic disease, which if left unattended will deteriorate—for example, ankylosing spondylitis. The patients may also have directly related problems—for example, non-steroidal anti-inflammatory drug gastropathy or surgically precipitated gout. Radiologists will need to report on many films from arthritic patients. The pathologist will similarly give an opinion on biopsy specimens.

Who should be the educators?

Rheumatologists is the obvious answer. They would be most arrogant, however, if they did not realise the lessons to be learnt from members of other disciplines, such as physiotherapists, occupational therapists, orthotists, chiropodists (podiatrists), medical social workers, radiologists, clinical psychologists, orthopaedic surgeons, and ophthalmologists. All of these should appear in a balanced seminar programme.

Teaching hospitals are usually the best environment for postgraduate training. The trainers are actively engaged in research (if not, they should be fired by the manager—who is unlikely to follow his American counterpart in raising money for his institution from the community, so should at least provide an academic investigative milieu), and that is a prerequisite of dynamic teaching. The caveat to this principle is that the department should not become so rarefied in its interests that it fails to grapple with common and important rheumatic problems. One of us had to wrestle with his conscience over recognising a post for training purposes in a prestigious hospital when the senior clinicians seemed expert in treating relapsing polychondritis (of which trainees may see four further cases in their professional lifetime) but to be ignorant of backache and occupational therapy. Nor do we look kindly on a unit which dismisses non-articular rheumatism (fibromyalgia) as 'myomithology', when 13% of our outpatients have this condition, and a further 13% have a pain amplification syndrome akin to it.

The carefully considered training programmes of the Joint Committee for Higher Medical Training of the Royal Colleges have ensured a better deal for most senior registrars, who in a bygone era have sometimes been unscrupulously used as pairs of hands. Nevertheless, despite the college's repeated protestations that they encourage flexibility and that accreditation in the specialty is not an indispensable condition for appointment, there is less and less opportunity for the brilliant odd ball with a zany career structure to make it to the top. The latest moves to bring the registrar grade into this structure

will intensify the move to mediocrity. It is akin to our universities extolling the desirability for prospective students to have a broad base, while at the same time pitching their entry criteria in such a way that they preclude anything but a narrow scientific background. Kirwan² has made the valid points that there are no clear educational objectives in the joint committee guidelines—they are experiential—and the length of training often seems to depend on manpower requirements, which fluctuate widely.

How should they educate?

We will describe the philosophy and practice of our own department, refined over many years.

RHEUMATOLOGISTS

In all education, whether it be for doctors or for patients, three strands must be strengthened—the acquisition of knowledge, the development of skills, and the moulding of attitudes. Bashing the books and listening to lectures have their place, but nothing can replace hands on experience for any of them. That is why trained rheumatologists handle dangerous drugs with skill and equanimity, while other clinicians are fearful to prescribe what they regard as death dealing drugs, even though both groups have read the same text. A gram of experience is worth a kilogram of book learning. In acquiring knowledge a series of seminars throughout the year is valuable—especially if questions and interruptions during the discourse are welcomed. The series should be broad, to impart a healthy breadth of appreciation. Many of the advances in rheumatology have been made at the interface with other specialties—for example, dermatology, cardiology, gastroenterology, psychology, and genetics. The past 98 seminars we organised covered—clinical subjects 31, orthopaedics and bioengineering 17, clinical science 14, rehabilitation 12, economics and information technology 12, psychosocial aspects and techniques 6, historical subjects 2, occupational therapy 2, physiotherapy 1, and education 1.

Some subjects, such as molecular biology, will need to figure repeatedly because of their importance, the rapid advances, and the insecurity of the investigators, which causes them to change the nomenclature at frequent intervals. A healthy scepticism must be preserved about knowledge so gained. Fifty per cent of what we teach will be demonstrably false in 10 years, but we do not know which 50%! This scepticism must be particularly strong where the department has been responsible for what it considers a major advance—for example, the concept of seronegative spondylarthritis or an understanding of the lubrication of joints. Some of what the department says is certainly wrong, and it should be stressed to members that it is better for them to ascertain these areas than for workers from outside to do so. Each specialty has its own non-organic disorder—for example, irritable bowel syndrome for the gastroenterologist, tension headache for the neurologist,

effort syndrome for the cardiologist. The usual prevalence of these is around 25–30% in the appropriate clinic. Our own figures are 13% for the prevalence of non-articular rheumatism in outpatient clinics and 13% for the pain amplification syndrome. A significant amount of time, therefore, should be devoted to methods of identifying and treating such patients.

If the department can mount annual day conferences so much the better. We have been greatly helped by such conferences on growing points in the treatment of rheumatic diseases, and another series on bioengineering aspects of natural and artificial joints. It is much easier to organise a day conference than a longer one. There are few worries about overnight accommodation, the fee is kept to a minimum, and the knowledge shared in a longer conference is seldom commensurate with the effort expended. As well as an open invitation to contribute papers, a carefully worded letter to experts in the field, stimulating them to give a paper without offering travelling expenses or reducing the fee, should ensure an enjoyable and edifying day. Over the last decade our therapeutic topics have included sulphasalazine, second line agents, heavy metals, bone, corticosteroids, drug toxicity and compliance, the measurement and alleviation of pain, assessment of response to therapy, the kidney in relation to drug toxicity, and drugs in the elderly. The overall number of speakers has been 128, of whom two thirds were from outside and one third local.

Quite apart from the day to day handling of patients in the hospital, junior staff should present cases regularly at the monthly regional round, and these presentations should include a critical review of published work on the subject.

A monthly staff clinic, chaired by the head of the department and attended by all clinical members, is held as part of our outpatient programme. At this any staff member can present a case for interest or for clarification. In the past 12 months the reasons for referrals were diagnostic 39%, management 27%, and interest 15%. In two thirds of the cases the questions posed by the referring doctor were answered.

The best way to learn is to teach. Junior staff should, therefore, play a prominent part in teaching undergraduates and in the hospital's MRCP training programme. Professor Miller, on being asked who did his work while he was away, replied with surprise, 'The same chaps who do it while I am here!'. He, doubtless, had this principle in mind. The philosophy of our own unit is that everyone works more hours than those for which they are paid, but that no one looks over their shoulders to see if they are doing so. Whoever appoints a junior who takes advantage of this apparently *laissez faire* attitude is to blame for such a miscalculation. An important part of the burden the junior bears is in teaching.

Ideally, the senior registrar training programme should be flexible, so that if the incumbent wishes to major in rehabilitation or in general medicine the training can be tailored to take this into account. Certainly, a period in rehabilitation is beneficial to all rheumatologists,

helping to develop attitudes and skills of vital importance in the management of long term disability.

All senior registrars should submit an MD thesis, preferably on a clinical subject. The discipline of an in-depth critical review of published work, the rigour of pursuing an original project, and the sweat of appropriate analysis are invaluable. For a brief period the junior will know more about that subject than anyone else in the world. It is the folly of many universities that this is an unsupervised degree. It should be as closely supervised as any other doctorate, so that it is of maximum educational value to the candidate. A viva with an external examiner should be mandatory. Clinical topics are the most appropriate for clinicians. They have been trained for several years in clinical skills and these are best directed to the solution of clinical problems. It is a waste of expensive time to have them work at a laboratory bench making mistakes when basic scientists can do the job more efficiently and more cheaply. If it is a clinician's intention to deviate from clinical medicine then let him do a PhD. Some high fliers will do both an MD and PhD. At the same time it is worth commenting that basic scientists desirous of bringing their skills to bear on clinical problems are best advised to do so in clinical departments. It will keep their feet firmly on the ground. We once organised a clinical course for a group of postdoctoral research scientists from a pharmaceutical company who were working on antiarthritic drugs. The participants were amazed to learn from the lips of rheumatic patients that their overwhelming desire was to be relieved of pain! Detailed experiments with adjuvant arthritis and carageenin granulomata had not given them that insight!

Work which we have done on doctor-patient communication has shown, in common with other works in this field, that patients are poor at recalling what the doctor has said.³ Teaching communication skills is as important as teaching basic clinical skills. We need to include in courses how to interview, methods of giving information to patients, the use of interpersonal styles which enhance satisfaction and compliance, and basic counselling skills.

Two further training points for rheumatologists should be stressed. The first is that when doctors visit the department careful programmes should be arranged for them. It is discourteous to leave visitors to their own devices and display a perfunctory interest, or worse still, give the impression that they are a hindrance. Each member of the department should be allotted time to explain their work to the visitor. This minimises the burden of the day to departmental members, and is a good exercise to all. Having to explain your work (sometimes in simple terms if the visitor's discipline differs from your own) clarifies your own mind. Moreover, questions posed are often most stimulating. Secondly, each junior staff member should be responsible for one drug trial. At the least it will help replenish the coffers of the department and provide funds for a visit to an overseas conference. More im-

portantly, it will teach doctors how to write a trial protocol, show them what the ethics committee requires, introduce them to the tedium of making many reproducible measurements, and instruct them in the inappropriate statistical analysis.

OTHER DOCTORS

Opinions given on internal referrals while patients are in hospital are an excellent way of teaching. These should not be dashed off in a summary sentence, but the reasoning written carefully. Of the patients so seen in the past year, advice was sought on management in 74% and on diagnosis in 22%; we were asked to take over the care of the other patients. The paragraph written in the notes has the advantage that it is read by receptive juniors as well as rigid seniors. It is arrogant on all our parts not to use available experience outside our own subject. At the same time we should not assume a right to take over the patient's management unless specifically requested by the referring doctor.

A rheumatology senior house officer post, particularly in a teaching hospital, is an ideal component of a rotation from which candidates will obtain the MRCP. It gives them a good grounding in one of the last bastions of general medicine. It also serves as a good introduction to a branch of medicine they will frequently meet in the future. Doherty⁴ has shown how deficient general medical notes may be in the examination of the locomotor system.

For senior house officers a careful policy needs to be formulated for outpatient work. If the senior house officer sees new patients they should be reviewed by a senior staff member on the return visit and the senior house officer apprised of the assessment. Where long term follow up is required, our rule is that at every third visit the patient should be seen by a senior member of the department.

Cases presented at the hospital grand rounds are an ideal vehicle for education. They should be carefully prepared, publications well reviewed, and the case presented within the time limit to give ample opportunity for questions. The nature of the case should not be shrouded with enigmatic titles, such as 'Mrs Jones says No' (the case being one of non-steroidal anti-inflammatory drug gastropathy!), but should be informative. This is particularly true if the case spans another discipline, such as cardiology, and may encourage cardiologists to come, to learn, and to contribute.

OTHER SPECIALTIES

With more closely allied specialities the education interaction is mutually beneficial. One can only regret the increasing demise of combined rheumatic-orthopaedic clinics throughout the country. The Glasgow group⁵ has shown that presentation at such a clinic makes no difference to the individual patient's welfare, but this study took no account of the educational value of the exercise. It might be questioned

whether it is cost effective to have all the members of the department sitting in with the orthopaedic surgeon discussing cases, but at least the doctor who requested the surgical opinion should present the case. This also gives the orthopaedic surgeon an opportunity to learn about the conservative management of rheumatic patients. This is further promoted by having operations on orthopaedic patients with general medical problems or complex rheumatic diseases done from a rheumatological bed.

A regular conference with consultant and junior radiologists is similarly mutually beneficial. We conduct ours from 8.30 to 9.00 am before each Monday morning rheumatic clinic. Over the past year the films of 176 patients were reviewed, the average number of patients being six each session. Interestingly, the number of films for men was disproportionately large (89 men, 95 women) compared with our clinic population. The most common diagnoses were mechanical low back pain 25, rheumatoid arthritis 23, osteoarthritis 14, ankylosing spondylitis 14, juvenile chronic arthritis 9, and reactive arthritis 6. Many other diagnoses were recorded, however. These included seronegative polyarthritis, monarthritis, calcium pyrophosphate deposition disease, interstitial lung disease, plantar fasciitis, non-articular rheumatism, osteoporosis, trauma, psoriatic arthritis, bone dysplasia, systemic sclerosis, cartilage disorder, vasculitis, Sudeck's atrophy, loose total hip replacement, diffuse idiopathic skeletal hyperostosis, hiatus hernia, choroid calcification, osteogenesis imperfecta, sarcoid, apatite shoulders, horseshoe cyst of knee, haemochromatosis, spontaneous necrosis of the knee, bipartite patella, and osteopetrosis. The radiographs evaluated were hands 49, feet 31, cervical spine 12, thoracolumbar spine 56, pelvis 57, knees 27, ankles 11, chest 22, shoulders 6, hips 14 (note that the top three were pelvis, spine, hands). The reasons for showing the films were diagnostic 146, for interest 14, and for evaluation 16—questions about the official report or to see progress. Action recommended from showing the films was nil 106, scintiscan 22, computed tomography 16, tomograms 2, further plain radiographs 22, arthroscopy 2, biopsy 3, magnetic resonance imaging 3, aspirate 1, search of published work 2, and obtain old films 3.

A combined rheumatology-pathology meeting can bring similar benefits. The excellence of the display equipment in pathology departments makes this an easy as well as a rewarding exercise. We devote one of our seminars each term to this exercise. The most common specimens are skin, followed closely by synovium, kidney, and muscle. Other specimens have come from bone, lymph node, brain, nasal mucosa, nerve, and lip. The most common diagnosis was one of the diffuse disorders of connective tissue, followed by rheumatoid arthritis, inflammatory polyarthritis of unknown type, osteoarthritis, sarcoidosis, and a demyelinating disorder.

A regular Still's clinic for patients with juvenile chronic arthritis with a paediatrician is also educational for both parties. Indeed, our

monthly clinic for these patients also includes the professor of orthopaedic surgery. For various conditions we have conducted combined clinics with gastroenterologists, renal physicians, and ophthalmologists. These have been on a research basis. Although they have an educational value for the participant, care must be taken not to deprive junior staff of important experience in managing these aspects of rheumatic diseases by splitting off this interesting material.

GENERAL PRACTITIONERS

The best way to educate general practitioners is to include a rheumatology senior house officer post in vocational training schemes. In a survey of previous senior house officers who undertook this type of training with us all thought they benefited, particularly in their ability to diagnose and manage the common rheumatic diseases and in their injection techniques. Some felt that four months would suffice.

This is not practical in our organisation, but to accommodate the suggestion we have exchanged rheumatology posts between different consultants at the regional rheumatology centre after three months to give the incumbents a wider experience. Some felt that the job contained too much 'cold' work and that their use was strictly limited to the clinical role. To avoid these jobs gaining the same reputation as that of senior house officers in orthopaedics, more formal in-job tuition followed by more direct participation in patient management needs to be provided. As more consultant rheumatologists are appointed consideration should be given to making the inclusion of at least three months in rheumatology part of the vocational training scheme.

For established general practitioners the main problem is getting the message across to those doctors who are most in need. The Guy's group⁶ has shown that, in a research setting and where the doctor is interested in pursuing knowledge, practice based tutorials are an effective educational tool. But a Leeds survey of outpatient referrals provides a more realistic picture: by offering practice based personal tuition in selected topics Huston¹ was only able to recruit doctors with the lowest referral rate. In other circumstances postvocational training exercises may fail because the preferred educational methods (small group teaching, clinic apprenticeships, and hands-on demonstration examination and injection techniques) are seldom offered.^{7 8} During a meeting recently organised by our department these sentiments were vigorously reiterated by the audience in their evaluation questionnaire, and support was given to the three most wanted educational aspects: low back pain, clinical topics, and drug treatment.⁷ Sponsorship should not be an integral part of such meetings; sponsored meetings are rarely devoid of heavy promotional bias, and the outing itself may be more attractive than the educational message. If the local consultant is the educational resource at such meetings (as the general practitioners prefer) then it is in his/her interest to support them without the

need for financial incentive. The concept of surgery based practical sessions in injection technique is appealing, but in our experience this often assumes the format of a monologue as few cases are brought to the meeting by the general practitioners. An alternative and more successful format that we have recently used is to have educational days based in a rheumatology centre where general practitioners are taught injection techniques on patients in the hospital.

The Primary Care Rheumatology Society organises excellent workshops, but requires a weekend commitment, and this may not be attractive to those most in need. The society is making good progress with 200 members. They are putting together a distance learning package with pharmaceutical sponsorship out of the companies' educational budget. They hope to enrol 2000 general practitioners.

Both general practitioner and hospital consultant letters have been identified as an educational tool, but the situation is far from ideal. In our own survey of general practitioner and consultant letters⁹ we found that there were large deficiencies in the information provided on the semistructured standard referral letter used by general practitioners. For example, 18% were illegible, only 20% provided family history, 13% social history, 9% occupation, 23% past medical history, 3.8% history of known sensitivities, and only 25% details of drug treatment. In reply consultants answered general practitioner questions in only three quarters of cases (senior house officers answered the questions in only half the cases), in 92% a diagnosis was given, and in 82% the reasons for this. Other information was given inconsistently: investigation results, patient information, prognosis, and diet. What do general practitioners want to know? Certainly the diagnosis, prognosis, treatment, and whether follow up appointments have been given. Rarely did general practitioners want to be told other details which they already have, such as past medical history, social history, and family history. A general practitioner's time is becoming even more precious and the concept of a structured letter from which information can be identified quickly has much to commend it and has proved popular in other specialties.¹⁰ Indeed, there is a good argument for a more formal structure to the general practitioner referral letter.⁹

The new general practitioner contract will impose a number of changes, some of which should result in a greater impetus for specific educational sessions. The linkage of financial rewards to such activities as attendance at postgraduate education, the performance of minor operations (this includes soft tissue and intra-articular steroid injections), and the organisation of miniclinics (10 homogeneous cases per clinic—for example, musculoskeletal pain) may, in these circumstances, increase the demand for practice based practical teaching.

1 Huston G J. An offer of rheumatology training: failure to influence clinic referrals. *BMJ* 1988; **296**: 1773-4.

2 Kirwan J. Postgraduate training in rheumatology. *Br J Rheumatol* 1991; **30**: 65.

- 3 Wright V, Hopkins R, Burton K. How long should we talk to patients? A study in doctor-patient communication. *Ann Rheum Dis* 1982; 41: 250-2.
- 4 Doherty M, Abawi J, Patrick M. Audit of medical in-patient examination; a cry from the joint. *J R Coll Physicians Lond* 1990; 24: 115-8.
- 5 Newman R J, Belch K, Kelly I G, Sturrock R D. Are combined orthopaedic and rheumatology clinics worth while? *BMJ* 1987; 294: 1392-3.
- 6 Grahame R, Gibson T, Dale E, *et al.* An evaluated programme of rheumatology training for general practitioners. *Br J Rheumatol* 1986; 25: 7-12.
- 7 Wright V. A consultant rheumatologist and post-graduate education. *BMJ* 1983; 287: 1158-9.
- 8 Badley E M, Lee J. A consultant's role in continuing medical education of general practitioners: the case of rheumatology. *BMJ* 1987; 294: 100-3.
- 9 Helliwell P S, Wright V. Streamlining referrals of rheumatic patients. *Pulse* 1988; 48: 75-6.
- 10 Isbister W H. The consultant's letter. *N Z Med J* 1980; 91: 301-3.