

# AN OVERVIEW OF BRITISH UROLOGICAL POSTGRADUATE TEACHING

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## SUMMARY

The author explains that Surgery, and Urology in particular, began as crafts. He shows how they were and, to some degree still are, disciplines taught by masters to their apprentices; but today's urologist can no longer be entirely a lone figure or simply a master craftsman.

The British system is used by the author as a point of reference for discussing training experience, course teaching, examination and assessment, and research opportunities, which make up the postgraduate process.

The author discusses the general requisites for specialization which constitute the common stem of medical postgraduate training in Great Britain.

Details on the theoretical program and the training of Urologists, directed by a special supervisory body, are given.

## SUMÁRIO

### O Ensino Urológico Pósgraduado na Grã-Bretanha

O autor explica que a Cirurgia, e a Urologia em particular, começaram como ofícios artesanais. Mostra como eram, e, até certo ponto ainda são, artes ensinadas por mestres aos seus discípulos; mas, o urologista de hoje já não pode ser uma figura inteiramente isolada ou um simples mestre artesão.

O sistema britânico é usado pelo autor como ponto de referência para discutir o treino, o ensino através de cursos, os exames e outras formas de avaliação, e as oportunidades para investigação, que constituem, no conjunto, o processo de ensino pós-graduado.

O autor discute os requisitos gerais para a especialização, tronco comum do ensino médico pós-graduado na Grã-Bretanha, e fornece detalhes sobre programa teórico e treino dos urologistas, levados a cabo sob a direcção de um corpo especial de supervisão.

## THE TRAINING OF UROLOGISTS

Surgery, and urology in particular, began as a craft, a practical skill relying upon judgment of the eye and of the touch, upon intuitive decisions, upon manual dexterity and the deft manipulation of the tools of the trade. Such mysteries were always taught by masters to their apprentices, those aspirants to the craft, bound for many years in servitude and schooling, to learn by observing the higher while practising the humbler arts. This concept has still some relevance. A surgeon must still be a skilful craftsman and can scarcely learn his trade without a period of apprenticeship, but he must now be much more, and we must not allow ourselves to think of his training simply in terms of how many years he needs to spend in one capacity or another. We need to look at what we require of the finished product, a urologist, what his general background should be and how he will fit into the total medical scene in the future. Perhaps our views of the needs will be influenced by the particular form of health care provided in different countries, and my own bias will certainly be towards the requirements of a urological

consultant in our National Health Service, who will inevitably spend the greater part of his time in a large unit in a public hospital: but I believe that all over the world the trend will be the same. The urologist cannot expect to be entirely a lone figure, nor simply a master craftsman. Clearly, the level of scientific understanding must now be much greater than in the past. A detailed knowledge of all the science involved in our practice is clearly beyond any of us, and in many important respects we need to rely upon the independent experts in each relevant field. This means that the urologist must function within a team, hopefully of course as captain of the team, but no longer can he be totally independent. He must absorb from the scientist too, if he does not already possess it, a spirit of enquiry and readiness to accept new concepts, and he must also acquire the scientific discipline of analysis. During his professional lifetime there will be many changes in practice but many more proposals for change which come to nothing. He needs to be receptive to new ideas but capable of subjecting them to rigorous appraisal before imposing the latest and most fashionable treatment on his patients.

Yet with all this science he must retain the natural compassion which is an essential attribute of all who minister to human suffering. He cannot himself be either a scientist or a saint, but he must somehow learn to apply the scientific method to the elucidation of the disease process without

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losing the sense of commitment to his patient as a person, and he must enjoy the exercise of his surgical skill without allowing the perfection of technique to become an end in itself.

It seems unlikely that such a paragon of virtue can be created from the average graduate newly emerged from our Medical Schools, but this is our objective and I think it will be accepted that such an objective cannot be reached without a planned programme of training. I shall of course refer particularly to the system we have in Britain, not that I believe this to be in any way ideal, and as you will see I have many criticisms of it, but it will serve as a framework within which we can discuss the elements of training experience, course teaching, examination and assessment, and research opportunities which make up the postgraduate process.

### THE COMMON STEM OF POSTGRADUATE TRAINING

It is common ground that in all developed countries the undergraduate stage is followed, perhaps completed, by an internship year. In Britain this is essentially clinical, six months' medicine and six months' surgery, with some slight flexibility in regard to medical and surgical specialties, and at the end of this period we have the new fledgeling, the undifferentiated doctor. Most of us believe that there should now be a further period of general professional training before a decision is made to go into surgery, medicine, psychiatry, pathology, or whatever other discipline is to be chosen. In practice, this general period is only achieved by a minority, usually those who cannot make up their mind what they want to do. Undoubtedly a man will be a better surgeon if he has an understanding of anaesthetics, pathology and has spent some time in a medical specialty. We cannot at this stage compel him to spend his time in this way, but certainly we should not devise a system which precludes it. On the other hand, we can and do insist that the urologist has a considerable experience of general surgery. I believe that in Britain we make more of this aspect than in other countries, but I see no reason to apologise for it. The urologist must always be a competent abdominal surgeon in both the diagnostic and technical sense, and is likely to be involved in traumatic surgery when there are multiple injuries. Quite apart from these specific needs, we believe that the whole surgical community should be kept together. We must understand one another's problems and all benefit by the solutions which are found for one. New ground is likely to be broken on the borderline between the specialties. Our training and examination structure takes account of this opinion, though not, I am bound to say, to the satisfaction of all concerned, and the first step in this structure is represented by the Fellowship of the Royal College of Surgeons.

Perhaps I should say something in parenthesis about the Royal Colleges in Britain, which I think have no direct parallel in most Continental countries. They are professional organisations concerned with the maintenance of standards, totally independent of Government, and supported financially only by their members or by charity; but, at least in modern times, they have rejected any *trade union* activity. They do not argue with Government about salaries or terms of service, leaving this to the British Medical Association. They do, however, argue about facilities for diagnosis and treatment in the National Health Service hospitals, and about the necessity for maintaining adequate training programmes for the junior doctors. Thus, the College of Surgeons

is consulted by Government about many aspects of surgical provision. It sets examinations and defines training programmes, and it *inspects* Health Service hospitals, to be sure that the facilities are appropriate. If, for instance, the College considers that operating theatres are totally inadequate, or that junior staff are so over-worked that they have no time for study, we can request a change. Ultimately, if the hospital administration will not agree to this change, we can as a college declare that we will not recognise the hospital for training purposes, which means that in effect the junior doctors will not apply for posts and the service will be brought to a halt. Mostly, however, relationships between the Colleges and the Health Service are reasonably co-operative and we believe this independence of action is valuable. You will notice that there is no direct relationship between the Royal Colleges and the Universities. In some ways they are rivals, and I suspect that in most Continental countries the University professor has very much more influence in the profession than he has in Britain. The origins of this situation lie far back in history. The English Colleges were founded in London, the centre of population and the seat of power. The older Universities were in Oxford and Cambridge. The Royal College of Surgeons had its beginning as a City Company, going back to the fourteenth century, but formalised, along with the Barbers, by Henry VIII in 1540, established as a purely surgical institution in 1745, and concerned throughout, and in association with the independent London Teaching Hospitals, with the education of doctors in general and of surgeons in particular. The Fellowship of the Royal College of Surgeons, the standard postgraduate qualification, was set up in 1848 at a time when the University of London was a small and struggling organisation with negligible impact in medicine. In subsequent years, of course, the Universities with massive financial support from the Government have engulfed the Medical Schools and the Teaching Hospitals and taken over all the undergraduate training and a large part of the postgraduate work, so that the scope for College activity is much reduced. Nevertheless, Government finance for Universities implies a degree of Government control and the independent status of the Colleges allows for a more effective expression of opinion.

But to come back to the examination — the FRCS is taken in two parts. The first, the Primary, after a minimum of two years from qualification, is concerned with the basic medical sciences, anatomy and physiology, pathology, pharmacology, because we believe that the coverage of these sciences in the general medical course is now inadequate for a specialist surgeon. Preparation for this examination usually means some hard work at the books during the week-ends and the evenings, but most doctors take a period off their clinical work and do intensive courses to bring them up to the necessary standard. That standard is high, and at the first attempt probably not more than one-third of candidates pass. To a considerable extent this high failure rate sorts out the doctors who are prepared to devote themselves to surgery, with all the hard work that it involves, from those who are simply not up to it. The final part of the FRCS examination is taken a minimum of four years after qualification, during which time in addition to the internship the doctor must have done at least 18 months in approved surgical appointments, 6 months in an Accident and Emergency Unit, and six months in a surgical specialty. Some period of intensive study on a course is also usually essential to get through the examination, which once more is difficult and it

is no disgrace for anyone to have to go back and do it a second time, when they have improved their knowledge. The examiners are mostly general surgeons, but with a scattering of urologists, vascular surgeons, orthopaedic and neurosurgical men. The questions asked relate to general surgery and the general aspects of the specialties, but passing the Fellowship is essentially an entry qualification into a serious commitment to surgery. After it most do a further year or two in general surgery before choosing their specialty, in appointments which we speak of as *registrars*.

### THE UROLOGICAL TRAINING

It is now that the young surgeon enters the specifically urological part of his training: he must do four years as registrar or senior registrar in urology in departments which have been recognised as providing proper educational facilities. We pay great attention to this phase of *higher surgical training* in each of the specialties and posts are all subject to inspection by a committee of the Royal College and the appropriate specialist association. Approved posts must be in units with two or more urological consultants and a sufficient clinical load to provide opportunities for the senior registrar to gain practical experience. Most of the appointments include an element of rotation through a variety of posts so that experience is gained in all aspects of urological work. The hospitals in which there are senior registrar posts must provide the full range of supporting services in the diagnostic fields, pathological laboratories and radiological or, perhaps better, imaging departments, and of course integration with a department of nephrology is now essential. At the end of the four years' higher specialist training period, certified as satisfactory by his chiefs, the trainee is granted a certificate of accreditation: he is now regarded as a fully trained urologist and ready to apply for consultant appointments in National Health Service hospitals.

You will notice that there is no examination at the end of the training period and although there may be some interview so that the training committee may be assured all is going well, there is no formal assessment. This feature is often criticised by senior members of our profession, particularly those with experience of Board Certification in the United States, but there is considerable opposition to the idea of a further examination, not surprisingly from the trainees themselves, and in our present state of democracy change in this respect will be difficult to achieve. An examination is apt to test chiefly knowledge acquired by reading and listening to lectures no that derived from experience. The emphasis in Britain has always been upon experience, but I would agree that our trainees seem often to have less familiarity with the literature than their American counterparts. Those of us who write books would be glad to see more of our young men reading them or, even better, buying them. You will note also, however, that *accreditation* does not automatically provide the urologist with a chance to earn his living. There is in Britain virtually no totally independent private practice. Everything depends upon getting a Health Service consultant appointment, from which in later years a private practice may be built up to augment the income and the interests of the urologists. This need for an NHS job involves us in a manpower problem, a topic actively, even acrimoniously, debated in Britain to-day, and we will return to it after we have discussed the content of urological training.

### WHAT MUST THE UROLOGIST LEARN?

We place great emphasis on the need for instruction in endoscopic surgery. In the past the endoscopist has been rather a lonely one-eyed figure, and much of his technique has been self-taught, with all the limitations which that implies. The opportunities provided by the cine-film and the endoscopic teaching attachment have now changed this, however, and we believe that no training centre should be without these aids. All potential urologists need to be able to observe the process of transurethral section by an expert and to perform it under the supervision of an expert, while the first tentative steps in acquiring the technique are better undertaken on a mock-up than on a patient. Endoscopic surgery has brought such enormous benefits that it is tempting to regard it as commonplace. We must, however, ensure that it remains in the hands of trained urologists and that their training is thorough and unhurried.

There are other aspects of practical surgery which can be learned at the bench rather than at the operating table. We have been interested in teaching the techniques of anastomosis, particularly vascular anastomosis, which must be amongst the accomplishments of a urologist, on simulated vessels. Obviously the more complex operations have been tried out on laboratory animals, but in Britain the law forbids the use of animals simply for practising the techniques of surgery. There is a strong anti-vivisection lobby and the Briton's characteristic love of animals, particularly dogs, makes it likely that young surgeons will always have to perform their first operations on people, not pets.

This is the craft aspect of urology, but we must not neglect the scientific. Keeping up with the science will mean withdrawing the trainee for short periods from clinical practice and giving him the opportunity to attend courses or spend time in the laboratory — important periods but often regarded with reluctance by the trainee and also by his chief who loses the benefit of his assistance for a time. Should we go further and demand that all our trainees have some experience of research? There is no doubt that it does all of us good to discover how difficult it is to think of anything genuinely new, how careful we must be in planning experiments and weighing evidence, and how desperately easy it is to be misled by our own enthusiasm: but few clinicians, and exceptionally few surgeons, have any natural aptitude for rigorously scientific research work. Those with such talents will almost always have been diverted to the laboratories at an earlier stage of their career. So can we justify the time that a clinician would need to spend in learning research techniques before he can really contribute anything at all? I certainly believe that we should not demand a period in research from all urological trainees. We nevertheless encourage a clinical research project, and at least an association for a period with a research laboratory. Sometimes this endeavour amounts to no more than a follow-up review of a series of unusual cases, but even this can be educative. It gives the young man a chance to contribute to the literature and nowadays when appointments are made there is always a discussion of the candidate's publications. You may well say that this simply encourages the production of worthless papers, clutters the journals with useless material, and involves the genuine seeker after knowledge in an intolerable labour of sorting the chaff from the grain. Nevertheless, a published paper is something on which you can assess a man's ability and it is useful to appointments committees to see what he is capable of producing. In any case, it contributes to the author's pride. I remember being told in Madrid that a paper was not necessarily a scientific contribution but it was a feather in a peacock's tail.

Of course we cannot now think of urology as a single subject, easily within the compass of one man. Inevitably there have grown up a series of sub-specialties which may be practised as a part of general urology or may become the total preoccupation of some urologists. Almost always it is by concentrating attention upon particular and circumscribed topics that advances are made and however much we support the concept of the generalist, it cannot be denied that individuals specialising in small areas have a part to play. For this reason, we like our trainees not only to have experience of the routine management of common urological cases but to at least sample some of the sub-specialties. They ought to see something of andrology and appreciate the role of the endocrinologist. A few of them may wish to make this their chief field of endeavour. They must spend some time in a spinal unit or else in a neurological department, where they can understand the care of the paraplegic and the management of the neuropathic bladder. In Britain, most of the paraplegics are now separated in special spinal centres away from general hospitals, and we usually need to second trainees for two or three weeks to such centres to get this experience. The ordinary business of urodynamics I take to be a routine part of urology in general now even though it may have special applications in the neurological field: but clearly all urologists will need to spend part of their time in a department of radiology and investigative laboratories if they are to understand the background of the physiological work. The urological care of women often verges on the gynaecological, and we like our men to spend some time in a department of obstetrics and gynaecology, or at least have a regular part to play in a gynaecological clinic. At one time we used to think in terms of seconding men to tuberculosis centres, when this disease was often segregated from general medicine, and the long-term care of the tuberculous was not easily studied in routine urological departments, but the disorder has become so uncommon now in Britain and so reasonably amenable to chemotherapy that such secondment is no longer appropriate. Contact with plastic surgical techniques should be a part of every surgeon's experience.

My chief concern with the specialties is rather naturally with paediatric urology and here we have a special case, since many concerned with the sub-specialty come up through paediatric surgery and not through urology. I do not think there should be exclusive entry from either branch, both have very much to give to the subject, but naturally we have to think in terms of a slightly prolonged training programme, so that the future paediatric urologist is familiar with both disciplines. In Britain, the urological routine I have already described would need to be supplemented by at least one year of responsible general paediatric surgery and preferably by the substitution for some of the adult urological experience of specifically urology in a children's hospital. Alternately, for the trained paediatric surgeon, we feel that it is essential that he should spend at least a year in an adult urological clinic to supplement his work in the children's urological field. We have not attempted to define a precise training programme for this sub-specialty, nor any form of accreditation. Clearly, paediatric urologists are going to be rather uncommon: hopefully they can be spotted early in their career and can build up on a voluntary basis their own educational programme. I hope, however, the sub-specialty will not be entirely swamped by concern with adult work: there is still a very great deal to be learned in the children's urological field.

## THE SUPERVISORY BODY

Let us turn now to the problems of control: if we are agreed that a planned programme of training is necessary, then some organisation must approve it and certify that the trainee has passed through the programme. The sub-specialties are clearly not yet at a stage where any formal controlling mechanism is required but in Britain as in most other countries the general training programme for urology is now agreed by the appropriate representatives of the profession, in our case a combination of the Royal College of Surgeons and the British Association of Urological Surgeons. But can we, and should we enforce a conformity with this programme? We certainly cannot stop an untrained man setting up in private practice, though in Britain this is hardly a problem: he could not survive on the amount of practice available. When it comes to hospital appointments we are usually successful. The Royal College of Surgeons has always an Assessor on the Appointments Committee, who is there to indicate which of the candidates is adequately trained. Of course there are sometimes professors who are determined to get their own favourite pupils appointed even though their experience is scanty. They may sometimes be perfectly right, since we should never adopt a system which excludes the high-flyer who will advance our subject by his original approach: but for the most part our arrangements preclude the more obvious forms of nepotism. Another difficulty is that the hospital badly needs a urological service, but there may be no adequately trained applicants. We may then have to accept a general surgeon and hope that he will get some training after the appointment.

Coming back to the subject of manpower and its control, we are perhaps less successful. At the lowest level, entry of students into Medical Schools is rigidly controlled by government and this we would regard as entirely proper. Nobody in Britain wants to see the Universities and the Medical Schools in particular swamped by a mass of students as has happened in Italy, when the vast majority have no chance of succeeding in the profession. There is, however, no numerical control of the number of overseas qualified doctors who enter Britain and compete for employment in the Health Service. At the higher training level it would clearly be a grave mistake if we trained more urologists than could find employment, and with the near monopoly of the National Health Service our system is very inelastic, in contrast with most in Western Europe and America, where private or insurance practice is available. At the same time we have rejected the concept of the permanent assistant: the urologist must either be in training or he is a consultant responsible for his own clinical judgments, co-operating with equal colleagues no doubt, but not subject to direction from above. Moreover, our Health Service is only prepared to employ a limited number of consultants and the number of senior registrars, those nearing the completion of their training period, is equally limited to approximate with the number of anticipated consultant vacancies. Nevertheless, the consultant must bear a considerable clinical load. A comparison with other developed countries shows that the urologist in Britain must cope with many more patients than elsewhere. So of course he needs the assistance of trainees to carry out his duties and inevitably there is an imbalance between the relatively large service need for assistants and the relatively small educational requirement for junior trainees. This imbalance has affected general surgery with the particular need for emergency cover more than the specialties, but nevertheless Britain finds itself with far more registrars than can hope to find consultant posts. The training period becomes prolonged so that although theoretically the time

from qualification to consultant could be eight years, it is currently on average more like fifteen. The system has been prevented from breaking down entirely by the numerous trainees from the under-developed countries who spend time in Britain learning basic surgery and the fewer but more important visitors from the more advanced countries who come for higher specialist training but do not remain to compete for consultant vacancies. Nevertheless, there is considerable pressure upon us at present to adjust the system in the direction of more consultants with fewer trainee assistants, although many fear that this will make consultant work less interesting and that the limited experience provided by fewer patients will impair the contribution which British urologists have been able to make to the advancement of our discipline.

The problem I have described is exaggerated in Britain because of the monopoly of the NHS, but it is easy to see that it affects other countries. In the United States there is a serious danger of training more urologists than can reasonably expect to obtain a sufficient practice and therefore a sufficient income throughout their careers. Upon whom

can we rely for this element of manpower control? In the free enterprise communities, such as the States, it can only be a professional body, expressing a consensus view, and unhappily the control which it exercises on the individuals will always be imperfect. In Britain it could be a governmental body, or even the Regional organisation of the National Health Service, but we are very reluctant to hand over such power to bureaucracy. My belief is that in all countries the profession must face this issue and must learn to control itself and its own members so that no-one is able for selfish reasons to train more assistants than can ultimately be usefully and profitably employed.

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