

13 The Changing Nature of Training in Pathology

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In almost every medical school in the world the teaching of pathology to undergraduates is supported by qualified staff and appreciated by students. Most members of a pathology department accept this role, usually with considerable enthusiasm. Other chapters in this celebratory book have chronicled the rise and fall in this activity over the last century. The training of pathologists is a related but different function of pathology departments. Although the development of undergraduate education programmes has been discussed repeatedly in papers and book chapters (Foster, 1961; Rolleston, 1961; Long, 1965), there are few records of exactly how pathologists became pathologists as our specialty emerged.

THE FIRST BRITISH PATHOLOGISTS

At the time The Pathological Society was formed, Sir William Osler held the Chair of Medicine in Oxford. The earliest surviving membership lists of The Pathological Society are from 1947 so we can only assume that he was a founder member! His enthusiasm for pathology was legendary. Like so many physicians and surgeons of his day, he had held an appointment as a pathologist during his training. Osler is said to have travelled widely to many hospitals in the UK. He always asked to see the clinical laboratory and is said to have expressed his displeasure if it was inadequate or absent (Cunningham, 1992). It is likely that microbiological and serological investigations were the bulk of the work of these laboratories. In the first 40 years of the last century pathologists emerged as specialists. We know that by 1939 there were 85 so-called pathologists in Britain (Table 13.1) and can probably assume that there was one in most large hospitals. Exactly how they trained was uncertain but they probably learned by a system of apprenticeship. Most had either completed the Membership of the Royal College of Physicians or had an MD degree by thesis (Foster, 1982). In 1947 a subcommittee of the Association of Clinical Pathologists recommended five years of post-registration experience with a minimum of three years of laboratory training (Cunningham, 1992) How these doctors spent their day, how they interacted with their colleagues and how much they earned in relative terms is uncertain. Nevertheless between 1940 and 1960 the number of practising pathologists increased by almost tenfold (Table 13.1) and this subsequently provided the impetus for the formation of our College. Training posts involved a rotation between microbiology, haematology and so-called morbid anatomy. At this time the Departments of Chemical Pathology were less well developed and some were staffed only by scientific graduates (Lathe, 1971). Hospital post-mortems were as much a part of a day's work as surgical pathology cut-ups and reporting. Consultant vacancies at this time were limited and a proportion of senior registrars emigrated. On appointment, many histopathologists also undertook haematology. At this time few, if any, surgeons or gynaecologists reported their own surgical pathology. In her book *The History of Pathology in Texas*, Marilyn Baker recalled that it was in 1939 that the last surgeon reported on his own specimens (Baker, 1966).

Table 13.1 Consultant numbers in England and Wales (adapted from Foster, 1982)

	1939	1960
Physicians	500	2280
Surgeons	1100	2040
Gynaecologists	170	450
Pathologists	85	725

THE EARLY INFLUENCE OF THE COLLEGE

In his account of the early history of the Royal College of Pathologists, Foster (1982) comments on the development of the examination structure and notes that:

‘in undertaking to set an examination the college felt also that it must set some responsibility for the education of trainee pathologists.

The Academic Affairs Committee was in no doubt that the proper training of recruits to pathology was more important than any form of the examination....evidence presented made it clear that certain establishments, including some teaching hospitals, did not provide adequate rotational training.’

A leading article in *The Lancet* in 1966 was entitled ‘Training of pathologists’. Although anonymous, it was clearly written by someone with close connections with our College. The article specifically describes the periods of training that are desirable in particular sub-specialties. There are some comments that ring true today: ‘trainees should not be sought by heads of laboratories to act as assistants because they cannot secure established posts for more senior staff’. The article ends with a plea that the College of Pathologists should ‘not exclude those eccentrics whose unorthodox progress may do it honour’.

Until 1971 the Primary examination required candidates to take a moderately demanding practical examination in two disciplines as well as a somewhat challenging multiple-choice question in all aspects of clinical pathology. At that time there were comparatively few departments that offered a well-planned and integrated training programme. The vast majority of the trainees were UK graduates. Training usually included substantial periods of on-call duty as a resident pathologist, cross-matching blood and performing simple emergency investigations. The educational value of this potentially gruelling duty was limited. Those who survived the experience acquired a life-long familiarity with the laboratory bench. Even the most sophisticated new molecular technique cannot be more demanding than cross-matching 40 units of blood in the middle of the night.

Training in the 1970s and 1980s was largely the preserve of Teaching Hospital laboratories. Rotational training positions, such as the Senior Registrars who rotated between St. Thomas’s and Portsmouth and Southampton and Poole, were exceptional but very successful. Trainees generally gained District General Hospital experience by acting as locum consultants. Senior Registrars were encouraged to report independently, which is a very different situation to the current system of graded reporting schedules. Generally an MD or PhD thesis was a requirement for a Teaching Hospital position. This was usually performed ‘on the job’ rather than as a dedicated research fellow.

In the September 1979 issue of *Human Pathology*, five distinguished American academic pathologists (Conn *et al.*, 1979) addressed the training issues that would be required to produce pathologists for the 1980s and 1990s. Many of the assertions in this article ring true today.

'We have no shortage of people willing to tinker with the medical education system. Pathologists must develop more effective ways of attracting medical students into the field. Pathology must maintain diversity in its training programme to meet the diverse needs in our field.'

However, during the 1970s and 1980s the training of pathologists experienced relatively few changes. Numbers expanded only slowly and most training was performed in teaching hospitals. Senior trainees were a mixture of clinical lecturers and senior registrars, and most of the training departments had a strong academic lead. Few, if any, trainees spent time abroad. Consultant vacancies generally matched the supply of successful examination candidates. The number of overseas graduates obtaining UK consultant positions increased slowly but significantly. All regions provided MRCPATH teaching programmes and the Royal College, the British Division of the International Academy of Pathology and the Association of Clinical Pathologists supplemented these with short courses that were attended by a mixture of consultants and trainees. A proportion of younger pathologists attended Pathology Society meetings but they were regarded as of marginal benefit in terms of preparing for the final examination. In retrospect this was a period of extended calm before the storm that descended on histopathology in the 1990s.

Nowadays it is hard to imagine 30 UK graduates applying for each and every District General Hospital vacancy. However, this was the case for several very anxious years in the 1990s. Pathology immediately became less popular than it always will be. New consultant positions were created but sometimes in tandem with a reduction in trainee positions. By the end of the decade the situation was exactly reversed. There were insufficient applicants for the growing number of vacancies advertised.

In terms of mechanisms of postgraduate training, the 1990s was a decade of introspection and perhaps stagnation. Although this may have been true also of North American training programmes, matters were very different in Europe. Surgical pathology was blossoming in many different European centres. European meetings were attracting large numbers of young pathologists. Traditionally these pathologists were not restrained by an examination system (Rinsler, 1977) and were clearly applying themselves to clinical and research work with enthusiasm.

THE PRESENT AND THE FUTURE

At the opening of the new century British histopathologists were both demoralised and overworked. Economic upturn raised the possibility of many new consultant appointments but there were insufficient trained pathologists in the pipeline. In addition, there was a paucity of applicants for Senior House Officer positions. In part this was a result of the poor public profile of pathology, but prolonged lack of innovation in recruitment and training methods may also have played a role. Three doctors from different backgrounds addressed this particular problem: Phil Quirke, a Professor of Pathology at Leeds; Julia Moore, anaesthetist working in Medical Manpower at the Department of Health; and Professor Mike Richards, the National Director of Cancer Services. It was clear that advances in cancer diagnosis could not be implemented without a ready supply of trained histopathologists, so their solution was to establish and fund training schools for first-year histopathologists. The ethos was that these doctors would be treated humanely and taught enthusiastically. Training was to be in cohorts of up to eight 'new starters' and trainees would come together for periods of block teaching. The immediate impression was that the project was successful and training schools have now been established throughout England (Gallagher *et al.*, 2003; Giles *et al.*, 2005). A total of 100 first-year trainees were recruited in a national selection process in 2005 and dispersed among 12 schools. Training schools work in clusters in order to deliver teaching more effectively. For example the 40 doctors working in London and the South of

Table 13.2 Current issues in the training of histopathologists*Concerns*

There are insufficient UK/EU-trained applicants for first-year training positions
 Although most positions attract a salary supplement, some do not. We are in direct competition with
 General Practice training posts, which do have supplements.
 Despite reassurances to the contrary, there is a suspicion that there will be insufficient consultant posts for
 the 100 or so trainees that are recruited each year in England
 Failure rates and lack of standardisation in the final MRCPATH examination concern trainees.
 Some centres have lack of access to, or limited numbers of, autopsies

Achievements

e-Learning and recruitment has been successfully introduced
 All trainees have high-quality microscopes
 Seamless ('run through') training is under development
 Cultural diversity is an integral feature of training centres
 Increasing numbers of recently recruited trainees are expressing an interest in an MD/PhD degree

England spent their first full week in August in Bristol. The teaching laboratories of the university are especially well equipped for microscopy and ideal for an introductory week.

Histopathology will be one of the first specialties to adopt the pattern of seamless or 'run through' training that will be introduced as part of the Department of Health's programme of Modernising Medical Careers. This is a somewhat dubious honour and at the time of writing we are unsure how trainee histopathologists will move from year to year. Trainees are concerned that salary supplements may soon be reduced or removed. A new method of assessing first-year trainees has been developed, which is hopefully more of a test of aptitude than basic knowledge. Remarkably there was a very close relationship between performance in this test at the end of the first year and the scores achieved in the interview process a year previously.

We hope and believe that the worst is past. Training in histopathology has a new profile and has benefited from substantial funding from the Department of Health. Improving recruitment of UK/EU graduates into histopathology is now the major challenge. (Table 13.2). The 2005 round of appointments attracted over 500 applicants but less than 15% were UK/EU graduates. In a recent survey 89% of final-year Cardiff medical students gave a lack of patient contact as the major disincentive to choosing pathology as a career (Howarth, Syred and Douglas-Jones, 2005). This has been confirmed by each of the first-year trainees who have left training programmes to date. It is unlikely that histopathologists will ever have substantial patient contact but in the recruitment rounds we emphasise the enhanced clinical role of pathologists in the new Cancer initiatives. Other comments in the Welsh study were that histopathology is 'too academic' (35%), has a poor public and professional profile (20%) and involves autopsy practice (19%). The autopsy examination is now a stand-alone part of the final MRCPATH examination and it is likely that autopsy-free training will shortly be introduced. A website has been developed to provide information about training and recruitment (www.nhshistopathology.com) and there is an e-learning resource (www.pathnet.org.uk) (Naik *et al.*, 2005). British pathology has a debt of gratitude to the many overseas graduates working as NHS consultants. A so-called Intensive Training and Assessment Programme has been developed to fast-track experienced overseas graduates into second-year positions (Bharucha *et al.*, 2005). Each large department in England has a breadth of cultural diversity that could not have been imagined even 10 years ago (Fig. 13.1).

THE FUTURE ROLE OF THE PATHOLOGICAL SOCIETY

How will the trainee pathologists of today be practising when The Pathological Society celebrates its 125th Anniversary? How will molecular pathology have developed and how will it interface



Figure 13.1 Learning histopathology in 2005. Note the excellent modern microscope and the cultural diversity of both senior and junior histopathologists.

with diagnostic surgical pathology? Will pathology still exist in District General Hospitals or will large groups of sub-specialists work from tertiary hospitals, communicating with distant sites with electronic efficiency that we can only imagine at present. Will pathology be restored to the undergraduate curriculum and will recruitment to our specialty be enhanced as a result?

A more relevant question is how will our Society have influenced the training and continuing education of young pathologists? The investment that has been provided to establish Histopathology Training Schools is aimed to deliver specialists who will serve the needs of the National Health Service by diagnosing disease. The Pathological Society mission is ‘understanding disease’, which is a wider role than pure diagnosis. It is probably fair to say that the input that our Society has had in the training of pathologists has been insufficient. This is recognised and is set to change. A trainees committee has been formed and each meeting will include days or half-days for presentations by, or the teaching of, trainees. Trainee membership is rising and is available for a nominal sum until Consultancy. It is important that trainers are recognised and supported by The Pathological Society, especially if they are not regular attenders at Pathology Society meetings. It is clear from many of the contributions to this volume that The Pathological Society is approaching its Centennial with pride but with a degree of concern about its future. Any effort or resource that the Society puts into the education of young colleagues will be time and money well spent.

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