

## Letter from . . . Southern Illinois

### Twenty years on

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One of the problems of moving to the USA to practise medicine is taking "finals" again. I don't mean the exam for an Educational Council for Foreign Medical Graduates (ECFMG) certificate, which is a one-day affair taken in the familiar surroundings of London or Edinburgh. Without the ECFMG, of course, one's chances of getting a visa to live in the USA are next to nil.

But actually to practise as an independent and fully functioning doctor something more extensive is demanded. One can sit these further tests only after burning one's boats, migrating to the USA, and risking all on the three-day "trial." Each State has its own regulations but all, except Alaska and Florida, take a satisfactory performance in the Federation Licensing Examination (FLEX) held only in the USA as evidence of competence. Unlike Britain, where the MB ChB degrees or royal college diplomas are themselves registerable as evidence of competence, the MD degree in the USA does not give automatic entry into the ranks of practising doctors. In addition to having the MD a newly graduated doctor has to be successful in a three-part National Board of Medical Examiners (NBME) examination or FLEX, the latter having strong clinical emphasis in each of its three parts. Usually the NBME is taken by native US graduates and FLEX is favoured by the many foreign medical graduates who come to the USA to find fortune if not fame.

The FLEX is extremely thorough and lasts three days, starting at 0830 and ending at 1730 with an hour for lunch and one 15-minute break during the morning and afternoon sessions. I took the exam at the beginning of December 1975 at the McCormick Place Centre in Chicago, which is a huge, draughty, hanger-like exhibition hall overlooking Lake Michigan and Meigs Field aerodrome. The 500-odd candidates were a colourfully international crowd with only a few from Britain. The place was so cold that most people sat in their overcoats and the proctors refreshed themselves at frequent intervals from hot vacuum flasks.

#### FLEX

The questions in the FLEX papers are mostly in the objective multiple-choice style and encompass basic sciences on the first day, clinical sciences on the second, and competence in patient management on the third.

On the first day 540 multiple-choice questions had to be answered in three periods of two-and-a-half hours each and

180 questions in each period. The subjects were anatomy, physiology, biochemistry, microbiology, pathology, and pharmacology presented in interdisciplinary format. The second day was similar except that the subjects were the clinical sciences of medicine, obstetrics and gynaecology, paediatrics, preventive medicine, public health, psychiatry, and surgery, with a leavening of all the subspecialties. Again 540 questions needed answering, 180 in each of three sessions.

The third day was quite different and used methods developed to test one's competence and ability in managing realistic patient problems. The first session included objective questions about pictorial and graphic material such as radiographs, blood smears, and gross and microscopic pathological material. This was quite difficult. The other two sessions employed programmed testing of responses to clinical problems using an erasure technique. This was novel to one brought up on traditional essay questions but proved interesting and quite a realistic simulation of the clinical problem and one's logical use of knowledge, experience, and data collection. Each question began with a description of a clinical condition, which was followed by a series of choices relating to diagnostic procedures and management modes. As the black space beside each choice was erased with a special rubber a short answer or response became visible showing the consequence that followed that particular choice. Thus one was guided, or perhaps drawn inexorably, on to the next step.

#### PREPARATION

The scoring of answers to produce the grades on which pass or failure is decided is weighted in favour of clinical competence. Thus, questions on the first day count for a sixth of the total marks, those on the second two-sixths, and the final day is "worth" half the total marks.

To achieve licensure in Illinois, however, you have to score at least 70% in each section as well as an overall pass grade of 75%. Regulations set by each State vary and it is the prerogative of individual States to decide what score shall constitute a pass.

Since I was 20 years out of medical school the basic sciences posed a problem, and I was alarmed to note how much biochemistry had changed since I had last struggled with metabolic pathways and the various "cycles." Anatomy and physiology soon came back, and microbiology didn't pose any special difficulty, although revision reading was necessary. In view of the weighting and format of the exam it seemed sensible to invest most of my preparation time on the second and third days. Thus I trained myself to answer rapidly multiple-choice questions and recognise quickly x-ray films, blood smears, and electrocardiographs. Since I had a full work schedule tutoring medical students and residents at the same time the programme proved intellectually rigorous but stimulating. I consoled myself with the thought that all doctors would probably have to re-qualify like this in the foreseeable future and that in any case it was likely that my private study would benefit the quality of the teaching I was providing.

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## ORGANISATION

In organising my study I decided that it would be impossible to study specifically for the clinical competence tests of the third day and, since I had been in practice for 15 years, it was reasonable to assume that I was competent anyway and not in need of remediation. Since the first day of basic sciences counted for only one-sixth of the marks I allotted very much less study time to these subjects and concentrated my attention on topics that were of direct clinical relevance to everyday clinical practice. The anatomy of the axilla, the metabolism of lipids, and the physiology of respiration control are typical examples of the type of subjects I revised. Clearly the major allocation of my study time would have to be spent on the second day and the first part of the third day—the pictorial multiple-choice questions.

In view of the high pace of response demanded if one were to answer 180 questions in 150 minutes the "rate of fire" would leave one with very little time to deliberate about a question. Also, since there were 540 questions concerning six fields of medicine on the second day, this would give 90 questions in each specialty. With this in mind and thinking about my clinical background, I concentrated on the narrowed fields of gynaecology, paediatrics, preventive medicine and public health, psychiatry, and surgery, relying on my daily work in the hospitals and teaching practice to keep my internal medicine skills sharp. Since the laws governing medical practice are very different in the USA, I invested much time in public health, which incidentally was interesting and informative. To attain the speed necessary in associating key phrases in multiple-choice questions I bought copies of the *Medical Examination Review Books*<sup>1</sup> on basic sciences, surgery, public health and preventive medicine, and paediatrics. I relied on notes from my NHS refresher courses for obstetrics, laboratory medicine, ophthalmology, and ENT and hoped that the emphasis in Britain would be more or less the same as in the USA. From the library I borrowed every journal I could find that contained a "clinical quiz," and *Canadian Family Physician* and *American Family Physician* both proved excellent. Outstandingly helpful was *Resident and Staff Physician*, which, although primarily intended for the young doctor preparing for specialty boards, gave a great deal of pertinent information that cropped up later in the actual examination.

To save time I went through the *Review* books and, referring to the answer key in the back, marked the vital phrase in each question and answer with a fluorescent highlight pen. By setting a daily target I soon had about 500 key facts on each subject that could be easily memorised and quickly revised just before the exam. This technique proved very helpful in concentrating my attention on facts, since I tend to pursue interesting but sometimes irrelevant side tracks. It was surprising how many key questions and answers came up on the day.

To prepare for the first part of the last day I borrowed from the university library several colour atlases of clinical pathology, haematology, microbiology, and ophthalmology and also two weighty but beautiful tomes on x-ray examinations.<sup>2</sup> As a side issue, I wish someone would publish a good atlas of blood smears that do look like the real thing.

## SPECIAL TECHNIQUES

Although answering multiple-choice questions is a readily learnt art, and no doubt familiar to many younger doctors today, the erasure type of question may pose problems, and time spent in practice and familiarisation is well spent. A useful publication is *Clinical Simulations—Selected Problems in Patient Management*,<sup>3</sup> which consists of 20 cases cleverly styled close to real-life clinical practice. Using this book and trying the problems set, I soon learnt the best way to approach them and what is expected of one. In fact, it all boils down to sound clinical logic and emphasises the dangers of snap diagnosis and short cuts. One needs to "order" all the diagnostic tests and therapeutic

manoeuvres as if in real-life practice, remembering that much more laboratory work is usual in the USA compared with Britain. Points are not deducted for ordering a test that is unnecessary, provided it is not hazardous, but marks are lost by forgetting necessary and relevant procedures.

## Conclusions

One cannot obtain a licence to practise medicine as an independent fully fledged doctor in the USA without first securing an ECFMG certificate to get a visa and then, after taking up residence, sitting FLEX in one's home state. This seemed to me to be difficult but quite fair. The questions and problems were clinically relevant and well within the domain of any competent doctor. The speed of working is much higher than for the ECFMG. The final day demands practice at sequential problem solving, lots of practice at reading radiographs and electrocardiographs, and an up-to-date knowledge of laboratory tests and therapeutics. Medical statistics, US public health and legal medicine, genetics, and a sound knowledge of electrolyte physiology are important if one is to keep up with the pace of question-answering. Systematic planning of revision and a logical approach is the only way to prepare successfully because of the extensive field of medical knowledge covered by the examination.

I qualified 20 years ago this summer and, with a sigh of relief, decided that never again should I have to provide proof of my medical knowledge on such a wide-ranging scale. Fate proved me wrong. Perhaps the need to address ourself again to the business of systematic study and serious intellectual testing in middle age is no bad thing. If I read the portents correctly this will happen in the future and the American Board of Family Practice is already setting the pace with mandatory recertification every three years. Looking back on the experience, I am sure it was intellectually profitable, of practical value in academic life, and a source of some mild pride that I managed to pass. A beautiful licensure diploma complete with gold seal and the heraldic device of the State of Illinois arrived by mail a few days ago. It hangs framed in my house overlooking the vastness of the prairie, a fitting companion to the other medical memorabilia collected 20 years ago and 5000 miles away.

## References

- <sup>1</sup> *Medical Examination Review Books*. New York, Medical Examination Publishing Company, 1975.
- <sup>2</sup> Teplic, J G, and Haskin, M E, *Roentgenologic Diagnosis*. Philadelphia, Saunders, 1971.
- <sup>3</sup> McGuire, C H, and Soloman, L M, *Clinical Simulations—Selected Problems in Patient Management*. New York, Prentice-Hall, 1971.

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*What might cause diminishing breast size in an otherwise healthy woman of 30 who was sterilised five years ago?*

The size of the breasts depends on the amount of fat and glandular tissue in them. The fat is partially but not entirely related to total body fat, and the glandular tissue is dependent upon adequate circulating amounts of sex steroid hormones. I hope that the sterilising procedure did not remove ovarian tissue or impair its blood supply. This could be checked clinically by inspecting the vulva, vagina, and cervix; by bimanual examination; and possibly by hormone assay. If there is no evidence of diminished ovarian activity elsewhere then the only explanation seems to be a failure of the breast tissue to react to its usual stimuli—that is, there may be an end-organ failure. This could be investigated by biopsy and investigation of oestrogen receptors, though this does not seem warranted. There is probably little to be done for this condition, except perhaps by plastic surgery. There are no known certain methods of increasing breast size except by prostheses, among which are padded brassières.