To acquire a post as a consultant cardiologist in the United Kingdom (UK), an aspiring physician will have successfully negotiated an “obstacle course” that involves critical decisions at a number of key stages. He or she will have competed for and obtained a cardiology post with a National Training Number (NTN), undertaken some original research, been trained in a chosen subspecialty, possibly worked for a year in another country, satisfied the local deanery in annual checks (Regional In-service Training Assessments), satisfied the national assessors for cardiology in a penultimate-year assessment (carried out by the Joint Committee on Higher Medical Training [JCHMT]/Specialist Advisory Committee [SAC]), obtained a Certificate of Specialist Training, and been entered on the General Medical Council (GMC) register of specialists.

It can be a gruelling process, but at all stages the trainee is under the direction of the regional programme director for cardiology and has access to a welter of other sources of advice. Apart from the obvious requirements of “learning the trade,” acquiring the necessary experience, and conducting the requisite number of specialist procedures (eg, exercise tests, angiograms, and echocardiograms, as recorded in a logbook), cardiologists who secure a consultancy must possess a range of personal qualities to pass the finishing line—or maybe it is the starting line? The JCHMT recognises that cardiology is believed to be “the most high-profile and practical skill–based of the medical specialities,” and suggests that successful practitioners need to be “decisive, competitive,” and enjoy working as part of a team, especially with surgeons and nurse consultants.

**Trained Outside Britain?**
Cardiologists trained outside the UK may apply for posts in the UK, but they must first apply to the Postgraduate Medical Education and Training Board (PMETB) for direct entry to the GMC register of specialists. The PMETB is a government-funded, statutory, independent body that was set up for all specialties in 2005 to, among other tasks, vet applications to practice in Britain. For cardiology, it has formally adopted the authority formerly held by the Royal Colleges of Physicians, which in fact are now commissioned by PMETB to perform the detailed evaluations required.

A portfolio of evidence demonstrating experience, training, qualifications and competence similar to those required for trainees to acquire their Certificate of Specialist Training must be presented to PMETB. In addition, a doctor’s knowledge and experience, wherever gained, can now be taken into account when considering his or her application, along with training or qualifications. The relevant British legislation for cardiologists trained outside the UK is Article 14 of the General and Specialist Medical Practice (Medical Education, Training and Qualifications) Order 2003.

**The Voice of Juniors**
The interests of trainee cardiologists in the United Kingdom are looked after by the British Junior Cardiologists Association (BJCA), which is a body with considerable clout. Not only are its president, Dr Saul Myerson, MD, MRCP, (right) who is a clinical lecturer at the Department of Cardiovascular Medicine, University of Oxford, UK, and his team listened to when major decisions about training are made, but they are involved in the committees of the British Cardiovascular Society (BCS; until recently called the British Cardiac Society), which has granted the association affiliate status. They also play a significant part in the affairs of the Royal Colleges of
each, the BJCA surveys its membership to provide a snapshot of cardiology training. The most recent report, published in 2005, shows that the number of female trainees is growing (18% in 2005 compared to 13% in the previous year), that trainees with ethnic connections to the Indian Subcontinent are pro rata more numerous than in the general population, that 50% of trainees work at a tertiary hospital, and that at any one time 15% of its members are carrying out research.

Obtaining a Training Post: The First Rung
The first hurdle for any would-be cardiologist is to obtain a post with an NTN in cardiology. The job title throughout the 6 years of training is Specialist Registrar (SpR). These posts are approved by the regional postgraduate deanship of the region in question (there are 22 of them throughout the UK), and their numbers are dictated as much by finance as need. The BCS has estimated that the UK requires some 3000 cardiologists, compared to the 800 currently in practice. Depending on the region, there can be 10 or more applicants for each cardiology NTN, and even more for posts in paediatric cardiology. This high ratio of applicants to positions puts the speciality on a par with the other high-profile specialties, such as general surgery, neurosurgery and, more recently, clinical genetics.

Candidates are interviewed by a panel that includes the programme director for cardiology training and other interested parties. “The best candidate is usually fairly obvious,” according to Dr Robert A. Henderson, DM, FRCP, FESC, who is a consultant cardiologist at Nottingham University Hospital National Health Service Trust, UK. He comments, “We look for someone who is enthusiastic, dynamic, has ticked all the right boxes, and is bright and committed. Research for an MD, even if not yet completed, and some publications will all help.” For those unable to obtain a post with an NTN in cardiology at the first attempt, he advises a stint as a clinical fellow or at a research post, which may provide the opportunity to “buff up the curriculum vitae and get some publications.”

Cardiology, With or Without General (Internal) Medicine?
Although mastering cardiology alone is a sufficient challenge for many trainees, it is common practice in the UK to seek dual accreditation in both cardiology and general medicine. During the period 2000–2004 only 25% of cardiologists chose the single-speciality option. This is partly a result of the way the British healthcare system is organised, with the cardiologist often required to undertake acute medical care outside his speciality. Cardiologists without general medicine will only find posts in tertiary centres or in some large, district general hospitals. The SAC for Cardiology strongly advises trainees to take the dual-speciality option, since “single-speciality training... cuts off a substantial number of career options and the majority of posts in cardiology also require completion of speciality training in general medicine.”

There are, in practice, a number of ways to train for both specialities within the 6 years of specialist training, but in essence the SAC for General (Internal) Medicine requires a year of high-intensity activity in a district general hospital in the early years, with further general medical training in the final 2 years.

How Much Research?
Some experience of original research is recognised to be essential for all cardiologists. An academic subcommittee of the SAC for Cardiology helps those who wish to pursue a career in academia. Research is usually started in the third year of training, leading either to an MD, which takes 2 years, or a PhD, which requires 3 years. Among British cardiologists, too much research is sometimes regarded as an impediment to a successful clinical career. Not only may it prolong training for an extra year, but a strong emphasis on generating income within the British healthcare system is probably making it more difficult to fund research, whilst an anti-intellectual strand of the British character looks unfavourably on someone who too often forsakes the ward for the laboratory.

Reflecting on his career to date, Dr Myerson, who obtained his Certificate of Completion of Training in cardiology in 2005 but holds an academic appointment at the University of Oxford, thinks, with hindsight, that he might have been better advised to have “gone more for a clinical career, with research on the side.” For his part, Dr Henderson acknowledges that “you don’t need research to be a cardiologist,” but points to the rapid changes occurring in the speciality and the need for clinicians to interpret published data and understand the implications of new research. He says, “Research is integral to the speciality. Without a vibrant research arm, cardiology would stagnate.”

Which Subspeciality?
Curricula for subspeciality training have recently been established (though not yet implemented) and the number of options continues to grow. In addition to interventional cardiology, electrophysiology, congenital heart disease, nuclear medicine, noninvasive imaging, and heart failure, stroke is now recognised as a subspeciality. Training in the chosen subspeciality takes place during the last 2 years of specialist training. Until recently, interventional cardiology, “where all the money and kudos lay, was the most popular choice of subspecialty amongst trainees,” according to Dr Myerson, though he points to increasing opportunities in electrophysiology, adult congenital heart disease, and heart failure.

He comments, “You can be too specialised. It’s foolish to be purely a subspecialist and it’s more important to be a good general cardiologist first.” Overall, the BJCA 2005 survey showed that 38% of trainees opted for interventional cardiology, 11% for electrophysiology, and 10% for noninvasive imaging. Dr Henderson points out that all the subspecialties offer opportunities and have undergone dramatic development over the past decade or two. He says, “I don’t think it matters...
what you do. It’s more a question of trainees finding out what they’re interested in, developing a special interest, and getting good at what they do.”

**Working Overseas**

A period working in another country can be an excellent way to expand horizons and make new contacts. This is especially true for emerging subspeciality techniques, when a trainee in the final year can acquire experience that is only in the hands of a few other cardiologists at home. Those pursuing an academic career may benefit hugely from working in an environment where the approaches to teaching and clinical practice are significantly different from what they have known. All such periods abroad have to be approved by the SAC for Cardiology and, in practice, tend to be spent most frequently in Australia, New Zealand, or the United States, countries where senior British cardiologists are most likely to have personal links.

Dr Henderson believes that working overseas can be very valuable and is a “maturing process”. Referring to changes in the British training system by which the grades of Registrar and Senior Registrar have been replaced by a single Specialist Registrar grade (SpR), he says, “Senior Registrars were often consultants in waiting, but SpRs are different, and after a time working abroad they come back with a new maturity and are more ready to become consultants.”

Dr Myerson confirms that attitudes to working abroad have changed. “It used to be thought that there was less control when people went overseas, and that perhaps they didn’t do much work! In practice, they often work harder, and they bring back fresh experience.”

**How Much Networking?**

The best applicant on paper is not always the ideal person to appoint to a consultant post in a particular hospital, where he or she may influence the practice of cardiology for a decade or two. Personal chemistry can only be explored by personal contacts, and all experienced specialists advise trainees in their final years to take time to meet other trainees and consultants from a wide variety of settings. This networking experience helps them to get a feeling about where they would be happiest to work. Moreover, it is rare for a candidate to be appointed without being known to at least some members of the interviewing panel.

Dr Henderson advises, “If you turn up ‘cold’ to an interview, you are very unlikely to get appointed. Get in the car and visit the hospital, meet the consultants, the chief executive, the medical director, and the rest of the people.” Frequently a candidate will have already spent some time working at the hospital or will have made it his or her business to get to know a broad cross-section of people there.

“Putting your face about” and “asking about jobs” at the annual BCS and BJCA conferences and other major meetings in the last year or two of training is the key to landing your particular consultant post, according to Dr Myerson. Here, delegates not only present their research findings and hone their angioplasty skills, but swap career tips, trade gossip, and share feedback from recent interviews. “Such a network is invaluable to any cardiologist planning his or her career,” says Dr Myerson, adding, “You should also contact specialist registrars in regions of interest. It’s a two-way street. It is important that you like them and that you fit in.” However, he warns against being “too pushy” and says that local patronage is still in evidence, with interview panels preferring to appoint people they know well. Most applicants for a particular post are, in his opinion, aware of the forthcoming appearance of advertisements (usually in the *British Medical Journal*) and are well prepared to apply.

**Appointments Committees**

In addition to lengthy question-and-answer sessions, those fortunate enough to reach the short list for a particular job are generally asked to make a presentation to the interview panel, detailing what they can bring to the department and why they should be employed. This is an opportunity to demonstrate PowerPoint skills and much more. It is obvious that as much information as possible should be obtained about the workings of the department, its staff, its history, its strengths, and its weaknesses. The successful consultancy candidate is likely to have done his research during a number of previous visits to the hospital, or may have acquired the necessary information from working there—although it must be remembered that situations can change rapidly.

Although interview questions tend to focus on general issues of management, appointments committees have been known to present candidates with a number of clinical scenarios, asking them to outline how they would handle the cases and to draft appropriate clinical letters.

*Barry Shurlock is a freelance medical writer.*

**References**

Spotlight on George Theodorakis, MD, FESC

Dr George Theodorakis, deputy director of the Second Department of Cardiology at the Onassis Cardiac Surgery Center, Athens, Greece, travels and studies extensively abroad and brings his acquired expertise to his colleagues at home. He talks to Barry Shurlock, MA, PhD.

Within Europe, new techniques are continually being introduced from one country to another, rather like a medical export–import business. But in a country like Greece, with a population of only 11 million, the traffic is mostly one-way. Dr George Theodorakis, who has been at the Onassis Cardiac Surgery Centre for more than 10 years, has been at the forefront of introducing new ideas and technology to his homeland.

An early example was when he introduced implantable cardiac defibrillators and catheter ablation for atrial fibrillation and other conditions. “To learn how to implant defibrillators,” he says, “I went in 1991 to the Department of Cardiology at the University of Michigan Medical Center, Minneapolis, Minn, and I now routinely implant about 400 devices per annum.”

For ablation techniques, he travelled to St George’s Hospital in Hamburg, Germany and the San Raffaele University Hospital in Milan, Italy. He and his associates now perform about 300 ablation operations each year, representing about 50% of all such procedures carried out in Greece and 90% of those for atrial fibrillation. He is the director of the registry of ablation procedures of the Hellenic Cardiological Society. Dr Theodorakis says, “In addition, my department also fits pacemakers, and I believe I have implanted about 5000 devices in my time at the Onassis Cardiac Surgery Centre.” In addition to introducing electrophysiology techniques for use in Greece, he prides himself on training: More than 20 people have gone on from his department to work in electrophysiology laboratories throughout Greece.

Dr Theodorakis did much of his specialist training as a research fellow with Richard Sutton, DScMed, FRCP, who was then professor of cardiology at Westminster Hospital, London, United Kingdom. There, Dr Theodorakis became interested in syncpe. “Dr Sutton and his team were the first, in 1988, to use head-tilt techniques for the diagnosis of syncpe,” he says. “And I collaborated in this research.” Dr Theodorakis has continued to study syncpe in Athens, where he originated the clomipramine challenge test for assessing central serotonergic responsiveness in neurocardiogenic syncpe, a procedure that improves sensitivity from 50% to 55% up to 85%. Dr Theodorakis and his colleagues also have demonstrated the potential of the serotonin reuptake inhibitor fluoxetine in the treatment of vasovagal syncpe.

Recently, Dr Theodorakis returned from a visit to St George’s Hospital, London, United Kingdom. “I attended a 1-day course on the closure of patent foramen ovale and atrioseptal defects using devices placed in position by catheter,” he says. The course included 4 live demonstrations of patent foramen ovale (PFO) closure using 1 of 3 devices (Amplatzer, from AGA Medical, Plymouth, Minn; Helex, from W.L. Gore & Associates, Inc., Flagstaff, Ariz; and STARFlex, from NMT Medical, Boston, Mass). These demonstrations were followed by long discussions on the benefits and advantages of each device and the importance of good-quality imaging both before and after the procedure.

The delegates came from the United Kingdom, France, Germany, Italy, Sweden, the Netherlands, and Greece. As a result of this experience, Dr Theodorakis now plans to introduce the procedure of PFO closure for adults at the Onassis Cardiac Surgery Centre. He comments, “We will use the Amplatzer device because there is a great deal of experience with it. I don’t think it’s as difficult a procedure as ablation for atrial fibrillation, which we do here.”

Dr Theodorakis routinely implants about 400 biventricular pacemakers and defibrillators a year. The graph shows the results of 111 procedures.

At the meeting, most delegates thought that there is an indication for PFO closure with septal aneurysm or stroke. “Given the association between migraine and PFO, I shall be looking, in cooperation with a neurologist, for patients with persistent headache,” says Dr Theodorakis. He is aware that the treatment of headache and migraine by PFO closure is somewhat controversial, but he is convinced by the results of a recent multicentre trial presented in 2006 at the World Congress of Cardiology in Barcelona, Spain.

In his spare time, Dr Theodorakis likes to take to the water in his 35-ft yacht. His wife is also a doctor in Athens, where she is responsible for the assessment of renal transplantation candidates. “I have 2 daughters, and they are both studying in the United Kingdom,” Dr Theodorakis says. “One is currently a senior house officer at St George’s Hospital, and the other is reading European Culture at the University of London.”

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