



香港眼科醫學院

The challenges of ophthalmic training and accreditation in Hong Kong

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The year 2008 marks the tenth consecutive year in which the College has conducted an annual intermediate examination and awarded associate fellowship to successful trainees. Sixty eight ophthalmologists have completed Higher Training under the new system, passed the exit examinations, and have been awarded College and Academy Fellowships. Reflection on past events on training and examination may help to gain insight as to how the system will evolve.

Basic training and intermediate examination

For historical reasons, the postgraduate ophthalmic training and examination system in Hong Kong is modeled on the UK system. An apprentice style of in-service training was provided by senior members of staff to junior medical officers during the time of the Government Ophthalmic Service. A detailed curriculum describing training in 6 stages lasting 7 years was available,¹ although the rotations were dominated by service needs rather than the training requirements of an individual staff member. Medical officers who had 2 or more years of experience in the specialty sat for fellowship examinations in the UK, and they often took optional periods of clinical attachment or observership of variable durations to prepare for the examinations. Obviously, passing a fellowship examination could not be equated with completion

of training according to the curriculum. In 1994, joint fellowship examinations leading to the dual qualifications FRCSEd and FCSHK were organized locally by the Faculty of Ophthalmology of the College of Surgeons of Hong Kong;^{2,3} an overseas attachment and observership were reserved for medical officers for post-fellowship training.

The College of Ophthalmologists of Hong Kong, being one of the constituent colleges of the Hong Kong Academy of Medicine, has a statutory role in training and education of specialists and accreditation of training posts in ophthalmology.⁴ One of the major tasks at the inauguration of the College was to set up a system of training and examination that complied with the requirements for specialist training and accreditation laid down by the Academy.² These elements were incorporated into the College's Training Curriculum that defines postgraduate ophthalmic training and examination.⁵ The system introduced in the UK in August 1997 was adopted in most surgical Colleges in Hong Kong, including ophthalmology. This system, known as the '2+4' system, comprises 2 years of basic training (**Figure 1**) and 4 years of higher training (**Figure 2**). Basic trainees were required to pass an associate fellowship (AFRCSEd) examination on basic sciences, optics and refraction, ophthalmic investigations, and examination skills before they could

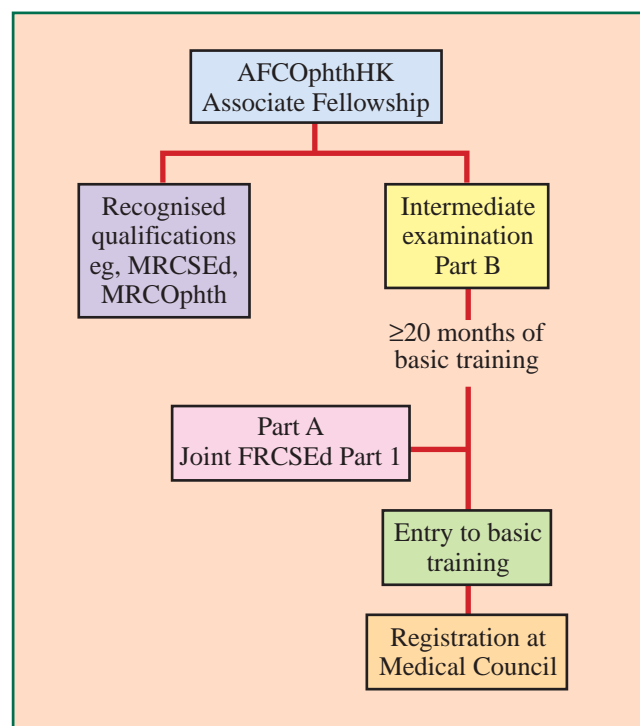


Figure 1. Basic training and intermediate examination.

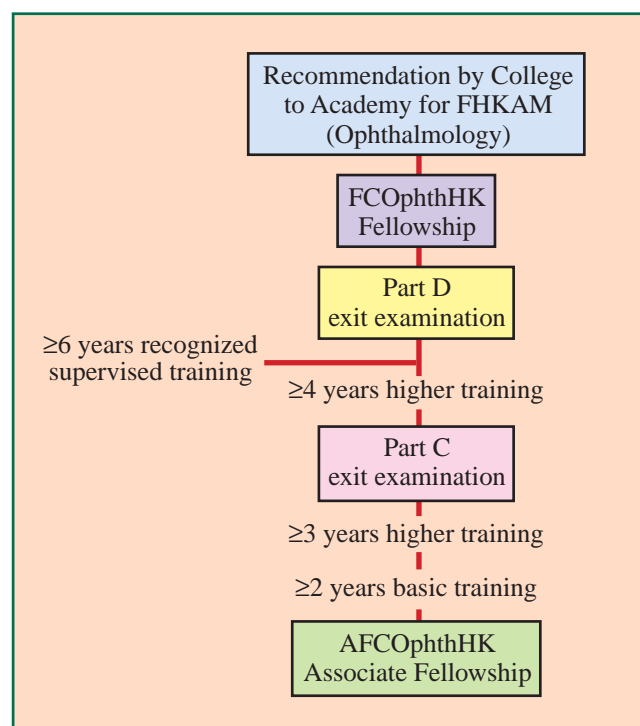


Figure 2. Higher training and exit examination.

proceed to higher training. The new fellowship examination, leading to FRCSEd (Ophthalmology) or FRCOphth, became the exit examination, which higher trainees had to pass before they could obtain the Certificate of Completion of Specialist Training (CCST) in the UK.² Meanwhile, the College succeeded the Faculty in organizing joint fellowship examinations. The old-style fellowship examination was phased out and replaced by the new associate fellowship

Table 1. List of vital and important topics in the FRCSEd(Ophthalmology) examination.⁶

Viva number	Topic
Viva 1	Oculoplastic and adnexal disease (including lacrimal)
Viva 2	Cornea and external diseases
Viva 3	Cataract and refractive surgery
Viva 4	Glaucoma
Viva 5	Retina, vitreous, and uvea (including oncology)
Viva 6	Neuro-ophthalmology (including eye movement disorders)
Viva 7	Paediatric ophthalmology and strabismus
Viva 8	Generic issues (including consent, breaking bad news, new technology, complaints, research, and audits)

examination in 1999. Transition in Hong Kong was rapid and smooth — the last joint old-style fellowship examination was conducted in March 1999 in parallel with the first joint AFRCSed Parts 2 and 3 AFCOphthHK Part B examination. In the UK, associate fellowship was renamed membership examination (MRCSEd) 1 year later, on a par with the membership examination of the Royal College of Ophthalmologists (MRCOphth). The College decided not to amend accordingly.

Training requirements in the UK continued to evolve over the following years with emphasis on formal subspecialty exposures during higher training. New concepts included structured rotations in subspecialties, with emphasis on audit activities and protected time for research studies. Oral and clinical examinations were similarly restructured to multiple stations according to subspecialty areas (Table 1).⁶ Questions and suggested answers for viva voce examinations are preset and evaluated for validity. The 6-grade marking system (3-4-5-6-7-8) is now obsolete. Examiners are required to grade a candidate's performance as competent or incompetent. Examiners must make a forced-choice decision since borderline grades such as '5+' and '6-' are not permitted. Candidates must pass all stations to pass the examination; cross compensation between different papers or sections within an examination is no longer possible, being graded as not competent in one or more stations leads to failure in the whole examination.

In Hong Kong, the College decided at the onset that an intermediate examination was necessary. This functions as a checkpoint whereby trainees who fail are considered not to have achieved the required standard to proceed to higher training. Furthermore, a trainee who has failed 4 times in Part A or Part B examination will be considered as not being suitable to continue training in this specialty. Nevertheless, pass rates have been high (Table 2). Intense competition for the limited number of ophthalmology resident posts means that the brightest medical graduates can be selected for ophthalmic training. Feedback from external examiners about the performance of Hong Kong trainees at examinations has been favorable. On average, only 1 in 5 trainees was deemed

Table 2. Pass rates for the intermediate examination: joint MRCSEd/AFCOphthHK examination.

Examination	Number of examinees	Pass rate Number (%)
<i>Part A (September 1997 to September 2007)*</i>		
MCQ1	219	136 (62.1)
MCQ2†	135	114 (84.4)
<i>Part B (March 1999 to March 2008)</i>		
Bi (Part 2)	84	66 (78.6)
Bii (Part 3)	106	84 (79.2)

* The last MRCSEd Part A examination was conducted in September 2007. This has been replaced by the FRCSEd Part 1/AFCOphthHK Part A examination from April 2008. The format of this examination has changed and the pass rate is not included in this table.

† There were 2 MCQ papers in the joint MRCSEd Part 1/AFCOphthHK Part A examination from September 1998 to April 2006.

Abbreviation: MCQ = multiple choice questions.

not to have achieved the standard to pass. Nevertheless, the majority of those who were unsuccessful in local joint examinations were able to make up for their deficiencies within 6 months and passed an equivalent examination in Singapore or in Edinburgh. The regulation for discontinuation after repeated examination failures appears to be an overcautious one. Amongst 130 trainees registered for the 2+4 system in the past 10 years, only 1 trainee discontinued basic training after repeated failures in examinations. Four trainees left to continue their ophthalmic training or practice overseas, while 1 discontinued and pursued a career as a family physician.

While the 2+4 system and the joint intermediate examination has gained acceptance locally, in the UK, the Royal Colleges have started phasing out membership examinations. Trainees are no longer required to sit an intermediate examination. Practically, these vital and important sections of the membership and their 10-year-old fellowship examinations have been reorganized and incorporated into the new fellowship examination. The time a doctor can attempt the exam has been moved to an earlier phase of the medical career; Part 1 examination can be taken as early as during the internship year and Part 2 after completion of the internship year.

The College has decided not to follow the Royal Colleges' footsteps of abolishing the intermediate examination, but to run its own Part B in the near future. Practical issues need to be considered. To enable the examination to act as a valid test of trainees' knowledge and clinical skills, selection of clinical cases for the examination will enable broad coverage of the major areas as the membership examination. However, validation of multiple choice questions (MCQ) will be problematic with a small number of candidates and limited resources. The College may as well reconsider adopting the International Council of Ophthalmology (ICO) assessments or the Ophthalmic Knowledge Assessment Program (OKAP) of the American Academy of Ophthalmology as options for MCQ examination. These may also provide benchmarks for the standard of basic trainees. The short question and answer format of the Final Fellowship examination of the

Royal Australasian College of Ophthalmologists can be a viable model for the written examination format of the future intermediate examination. Once membership examinations in ophthalmology of the 2 Royal Colleges have been discontinued, trainees who fail the local examinations may need to wait for a longer period for their second attempt, since there are no other examinations that have been recognized by the College as equivalent to the local intermediate examination.

Higher training: subspecialty rotations and fellowship training programs

During the 4 years of higher training, trainees are rotated to different subspecialties. In the early years following establishment of the system, higher trainees spent the majority of their time in the clinics providing secondary care to ophthalmic outpatients. Through service reengineering and improvement in the trainer-trainee ratio, trainees are now able to reserve a higher proportion of their time for tertiary service in subspecialty clinics and theatre sessions.

Contrary to the general belief that a subspecialty rotation system will ensure that trainees gain 'hands on' experience under supervision, trainees may be disappointed to know that their theatre exposure could be limited to the role of assistant surgeon in most instances. This experience may be more evident with short rotations and in departments in which there is competition for training materials with subspecialty fellowship programs. Lengthening of the duration of each rotation from 3 to 4 or 6 months may partially improve the situation.

The College does allow trainees to focus on 1 subspecialty of their interest during the last 1 or 2 years of their training. At this point in training, trainees need to prepare for Part C of the exit examination. They should be aware that the exit examination will test their standard as a general or comprehensive ophthalmologist, not as a subspecialist. Joining a subspecialty fellowship program early could shift their focus away from, and reduce their exposure to, other subspecialties, since overlaps in clinic and theatre schedules are inevitable. Trainees must work out with their supervisors the training plan that best suits the individual training goal. Most higher trainees were able pass the Part C examination within their final (sixth) year of training (**Table 3 and Figure 3**) and the Hospital Authority now offers a third 3-year contract to most residents, these factors will enable

Table 3. Pass rates for the Part C exit examination (November 2002 to October 2008).

Examination	Number of examinees	Pass rate Number (%)
Overall	118	82 (69.5)
1st attempt	85	55 (64.7)
2nd attempt	27	22 (81.5)
3rd attempt	5	4 (80.0)
4th attempt	1	1 (100)

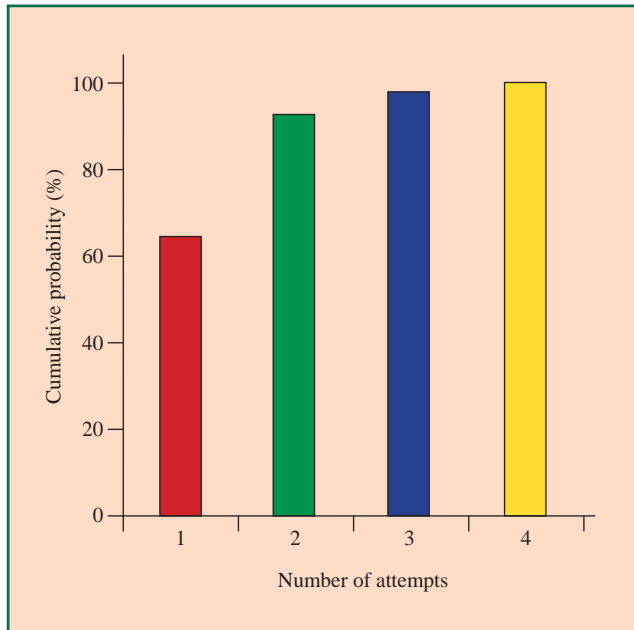


Figure 3. Cumulative probability of passing the Part C examination, derived from the results of the examinations from November 2002 to October 2008. A higher trainee has a 93% chance of passing the examination with no more than 2 attempts. Probability figures have been adjusted for the dropout of 1 higher trainee who failed the first attempt.

the interested few to join a fellowship program after passing Part C of the exit examination.

Part C of the exit examination is comprised of 1 written paper, 2 oral examinations on critical appraisal of published articles and informed consent, and 1 long clinical examination. The format has limitations on the sampling of the candidate's knowledge across the specialty. The examination tests trainees' abilities on assimilation of knowledge, critical thinking, and clinical judgment using case scenarios. This contrasts the FRCSEd (Ophthalmology) examination in the UK, which comprises a broad and comprehensive scanning of the trainees' knowledge across the major subspecialties.

The Hospital Authority's role in ophthalmic training

Two examples may well illustrate the evolving needs for ophthalmic training. The trainer-trainee ratio as defined in the Training Curriculum has an impact on the balance of service provision and training needs. At present, the maximum trainer-trainee ratio stipulated in the Training Curriculum is 1:3. Since most departments have achieved a ratio of 1:2 and some 1:1 already, lowering this ratio to 1:2 would reflect the College's training commitment, improve patient care, and protect of trainees' needs.

Owing to service prioritization and resources limitation, exposure to refractive surgery has been considered an optional experience. Refractive surgery has become a major workload in the private sector, as the number of patients who have received refractive surgery is increasing. Patients who have had refractive surgery will require ophthalmic care for age-related eye diseases in the future. The need for structured exposure in the training program is therefore imperative. Individual departments have arranged for attachments and duty releases for selected staff members. Support from the Hospital Authority is lukewarm. Although refractive surgery falls outside the Hospital Authority's scope of service, formal incorporation of refractive surgery into the Training Curriculum by the College will draw the attention of the Hospital Authority to the needs of the community and to prioritize resources for training in this area.

One of the functions of the Hospital Authority, as defined in its ordinance, is to 'promote, assist and take part in the education and training of persons involved ... in hospital services or other services relevant to the health of the public ...'.⁶ Both the Hospital Authority and the College have statutory roles in postgraduate ophthalmic training. The College defines training needs in the Training Curriculum and the Hospital Authority can cooperate as a provider. The College and the Hospital Authority must work together in the provision of training to meet the needs of the community and the profession.

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