

Medical ophthalmology

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‘...I have ventured to say that a considerable part of the field of clinical ophthalmology requires not the art and craft of the surgeon, but the diagnostic and therapeutic methods of the physician.’

Dr C O Hawthorne, 1919¹

Ophthalmic physicians, or medical ophthalmologists, are trained in the diagnosis and management of medical disorders of the eye, orbit and visual pathways, many of which are related to systemic disease. The specialty is small, but growing. There are now around 14 consultants and 10 specialty registrars working in the UK.

History of the specialty

The position of ‘ophthalmic physician’ is by no means novel. In 1804, at the then newly established Moorfields Hospital, the staff consisted of a general surgeon and a physician¹. Surgical technique in ophthalmology progressed rapidly and specialist surgical training eventually predominated. Rayner Batten, surgeon at the Western Ophthalmic Hospital, reopened the debate in 1919, urging that what is required are ‘ophthalmic physicians who do their own ophthalmic work and have to live, so to speak, with their own ophthalmic failures and to study ophthalmic cases from a physician’s point of view and with a physician’s experience’².

In 1995, the Royal College of Physicians and the Royal College of Ophthalmologists established a training programme in medical ophthalmology, driven by changing demands within the field of ophthalmology. The need for a new kind of ophthalmologist was described: ‘one who is skilled in ophthalmic medical diagnosis, in relating systemic medical disease to ophthalmic conditions, in assessing the general medical status of patients who have primary ophthalmological disease, and in prescribing the most appropriate drug therapies and monitoring schedules for treatment of medical sight threatening diseases’³. The Medical Ophthalmology Society UK (MOSUK) has held annual meetings since 1999, with the aim of fostering joint working between medicine and ophthalmology⁴.

In 2014, the Centre for Workforce Intelligence recommended a staged increase in the number of medical ophthalmology training places and in the future, it is expected that there will be one medical ophthalmologist per population of 263,000⁵.

What do medical ophthalmologists do?

Medical ophthalmologists are involved in the medical assessment, investigation, diagnosis and management of disorders affecting vision.

Visual disorders may be the first manifestation of systemic disease and a full history and examination with timely investigations may

be required to establish a diagnosis. Ophthalmic intervention is often not enough to prevent visual impairment in many systemic conditions that affect the eye, such as inflammation, infection, diabetes and malignancy. Medical ophthalmologists have additional training in general internal medicine and develop expertise in autoimmune disease, infectious disease, neurology and the use of immunosuppressive medications. They work in conjunction with other physicians to optimise the care of patients with ophthalmic disease secondary to underlying systemic disease.

Medical ophthalmologists manage patients with a broad range of conditions, which includes the following:

1. Inflammatory disorders of the eye, orbit and visual pathways (e.g. uveitis, scleritis, corneal graft rejection, giant cell arteritis).
2. Vascular disorders affecting vision (e.g. diabetic retinopathy, retinal vein occlusion, hypertension, stroke).
3. Neurological disorders affecting vision (e.g. multiple sclerosis, myasthenia gravis, pituitary disorders).
4. Public visual health (e.g. diabetic retinopathy screening).
5. Genetic disorders affecting vision (e.g. retinitis pigmentosa).
6. Retina specific disorders affecting vision (e.g. age-related macular degeneration).
7. Ophthalmic procedures, including retinal laser therapy and local injection therapy, for uveitis and retinal disease.

Entry requirements

Trainees may enter the 5 year medical ophthalmology training programme after completing Core Medical Training (CMT) or the Acute Care Common Stem - Acute Medicine programme⁶. Alternatively, trainees may enter from Ophthalmic Specialist Training (OST) at ST3 level.

Trainees entering from medicine need to have acquired full MRCP(UK) before starting medical ophthalmology training at ST3. For trainees entering from OST, successful completion of ST1 and ST2 in OST with satisfactory progress confirmed at ARCP and the FRCOphth Part 1 is the minimum requirement for entry into medical ophthalmology specialty training at ST3.

Curriculum

Training is coordinated by the Joint Royal College of Physicians Training Board (JRCPTB), with input from the Royal College of Ophthalmologists.

For trainees entering from medicine, the first two years of the medical ophthalmology curriculum focuses on general ophthalmology training. It provides experience in ophthalmic history taking and examination, investigations and core ophthalmic practice. This incorporates emergency ophthalmology and experience of surgical specialties including paediatric ophthalmology, glaucoma, oculoplastics and vitreoretinal and cataract surgery. Trainees gain an understanding of ophthalmic surgical procedures and the management of the perioperative patient. Many of the competencies and work place based assessments are the same as those in OST.

Trainees entering from OST complete 2 years of core medical training, during which they complete MRCP(UK). Training follows the core medical training curriculum under the guidance of the JRCPTB.

Higher medical ophthalmology training comprises a common 3 years of training that focus on ocular and orbital inflammation, neuro-ophthalmology and retinal disorders. Trainees work in uveitis, medical retina and neuro-ophthalmology clinics throughout. In addition to clinic and inpatient work, specialty registrars become skilled at anterior and posterior segment laser and local injection techniques. Higher medical ophthalmology trainees also work in specialist medical clinics such as neurology, rheumatology, infectious diseases, medical genetics and vasculitis clinics. Most trainees participate in the general ophthalmology on call rota.

Training through either route can be completed in 7 years in full time training from ST1, however trainees may choose to follow an academic programme or work less than full time if required.

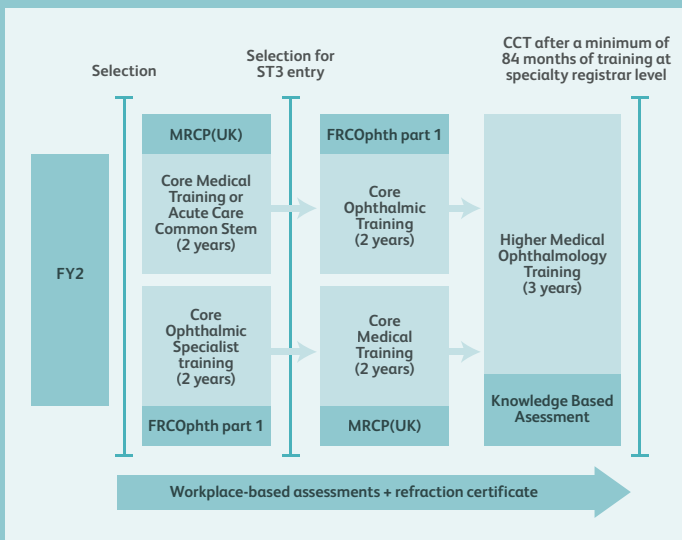


Figure 1: Medical Ophthalmology 2015 curriculum training pathway ⁶. Reproduced with permission from the JRCPTB

Examinations

Trainees must have passed both MRCP (UK) and the FRCOphth part 1 in order to progress into ST6. The Refraction Certificate is required for progression into ST7. An annual formative knowledge-based assessment determines whether a trainee’s knowledge meets expectations for their stage of training during higher medical ophthalmology training.

Medical ophthalmology consultant posts

Most consultants lead a range of clinics in inflammatory eye conditions, medical retina and neuro-ophthalmology. Others have specialised in a single field such as uveitis, neuro-ophthalmology or lead a regional diabetic retinal screening programme. There is scope for work in multidisciplinary specialist clinics such as Behçet’s disease, paediatric uveitis and paediatric neuro-ophthalmology.

The specialty is largely outpatient-based, but consultants also manage patients admitted for investigation or treatment of medical ophthalmic conditions. They may provide advice on the care of inpatients in general medical hospitals.

The specialist nature of the role lends itself to both lab-based and clinical research.

Medical ophthalmology and the future

Over half of new patient referrals to an ophthalmic unit were found to be medical rather than surgical in a 2003 study⁷ and over the last decade most of the major innovations in ophthalmic treatments have been pharmacological.

Management of inflammatory eye disease is becoming increasingly specialist in the era of biological therapies. Adalimumab has been shown to be effective for both adult and childhood uveitis and has been approved by NICE and NHS England for use in sight threatening disease^{8,9,10,11}. Appropriate patient selection and monitoring is key to the safety of biologic treatments.

An ageing population will add further demands on medical ophthalmology services with the prevalence of diabetes worldwide projected to double from 171 million in 2000 to 366 million by 2030 and the number of strokes across the UK likely to rise by 44% in the next 20 years^{12,13}.

Expansion of the medical ophthalmology workforce is going to be an important factor in keeping pace with the challenges and exciting opportunities ahead, and medical care should be integral to plans for future eye care services.

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