

## THE ROYAL COLLEGE OF SURGEONS OF EDINBURGH

### A - Knowledge and Understanding

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State the recent advances in the field of ophthalmology and apply this knowledge in disease management
Be developing an ability to interpret investigations appropriately according to the limitations of the tests and their context
Trainees must also demonstrate their involvement in research, at least by providing evidence of their capability critically to review new developments and research findings in science and medicine as they apply to ophthalmology. It is preferable that they also make their own contribution to the advancement of scientific knowledge through presentations (for example, at the RCOphth Annual Congress and meetings of the Association for Research in Vision and Ophthalmology) and/or through publications in peer-reviewed journals
By the end of the program the graduate should have acquired knowledge in the following areas: i. Anatomy - of the eye, adnexae, visual pathways and associated aspects of head, neck and neuro anatomy. This includes aspects of embryology, anatomy in childhood and during ageing. It extends to applied anatomy relevant to clinical methods of assessment and investigation (e.g. radiography, MRI). ii. Physiology - of the eye, adnexae and nervous system, including related general physiology (its laws and phenomena). This extends to the organisation, function, mechanism of action, regulation and adaptations of structures and their component tissues relevant to clinical methods of assessment (e.g. acuity, visual fields, electrodiagnostics, intraocular pressure). iii. Optics and ultrasonics - including the application of physical, geometric and physiological optics to clinical management and an appreciation of the principles of instrumentation and clinical practice in these areas. iv. Pathology - especially the specialist pathology of the eye, adnexae and visual system but within a relevant general pathological context. This includes histopathology, microbiology and immunology and their inter-relationships (e.g. in the immunocompromised patient). v. Clinical Science - embracing all aspects of the medicine, therapeutics and surgery of the eye, adnexae and visual pathways, and including interactions with systemic disease and its management and in the context of relevant general aspects of surgery and medicine. There is emphasis on multi-system disease and visual impairment in the context of other comorbidities. For specific diseases, knowledge is expected concerning aetiology (including pathogenesis, genetics and interactions with patients' physical and social environment), clinical manifestations, investigation, diagnosis, management (including pharmacological, surgical etc.) and prevention, and including management of visual impairment generally. The depth of knowledge in the various subspecialty areas should reflect the epidemiology of the condition (the 'burden of disease' to society and its significance to the patient). For topical ophthalmic drugs, in-depth knowledge of their modes of action and delivery, and means of eye penetration, will be expected together with their potential adverse toxic, allergic and systemic effects and their prevention. vi. Health Service Management – including the political and economic context of patient care, the role of constituent and associated agencies and relevant senior personnel roles in the organisation. Through their progressive experience and self-directed learning, trainees will have acquired a variety of clinical skills during BST, not least: i. Guiding the severely visually impaired with confidence (to a seat etc.) ii. Taking and recording a directed ophthalmological history after establishing a good rapport with the patient and relatives. iii. Undertaking a directed ophthalmological examination and recording and interpreting the physical signs elicited. iv. Ordering appropriate investigations, whilst avoiding unnecessary tests. v. Formulating (at least for common conditions) a definitive ophthalmological diagnosis. vi. Prescribing appropriate local and systemic therapy including antibiotics, anti-virals, steroids, mydriatics and analgesics. vii. Determining the progress of disease or response to treatment or surgery against baseline parameters or that expected through wound healing etc. Recognising and appropriately managing both local and systemic complications of treatment. ii. Preventing contagion and cross infection through sterilisation/disinfection of hands and instruments and adopting measures to reduce the emergence of resistant microorganisms. iii. Communicating effectively with other professionals e.g. through succinct summaries of cases seen, reports, letters and teaching presentations. iv. Understanding occupational visual standards and visual standards for driving, and appropriately referring patients for provision of low vision aids, blind rehabilitation and blind registration. v. Liaising with more senior colleagues and other members of the multidisciplinary team, social services, hospital management etc.
In addition to the above, to have developed proficiency in the following: i. Assessment of vision including distance acuity using Snellen test types and objective and subjective refraction, reading vision, colour vision using Ishihara plates and confrontation visual fields (monocular, binocular and red). ii. Undertaking a complete external eye examination including assessment of eye movements, the palpebral aperture and levator excursions. iii. Slit lamp biomicroscopy including the use of stains, local anaesthesia etc. iv. Examination of the pupils including swinging flashlight test. v. Pharmacological tests for Horner's Syndrome and Adie's pupil.

- vi. Fundus examination including the use of the direct ophthalmoscope, indirect ophthalmoscope and slit lamp biomicroscopy with diagnostic contact lenses and non-contact lenses.
- vii. Undertaking a directed general medical and neurological examination.
- viii. Undertaking a directed pre-operative assessment for general or local anaesthesia including venesection, cannulation and set-up of intravenous infusions.
- ix. Obtaining informed consent from the patient according to GMC guidelines.
- x. Achieving topical, peribulbar, retrobulbar, sub-tenon's or other regional anaesthesia, and recognising complications of such anaesthesia.
- xi. Administration of steroids or other drugs subconjunctivally and in the sub-tenon's space and orbital floor.
- xii. Use of the operating microscope including its set-up and appreciation of the dangers of photic maculopathy.
- xiii. Sterile and no-touch aseptic techniques.
- xiv. Basic microsurgical skills including incisions, tissue handling and haemostasis, instrument set-up, instrument handling and suturing/wound closure.
- xv. Safe use of ophthalmic lasers.
- xvi. Cardiopulmonary resuscitation (basic life support).

## B - Intellectual skills

<b>(ARS)</b> <b>Benchmark</b> <b>المعايير الأكاديمية لجامعة</b> <b>THE ROYAL COLLEGE OF SURGEONS OF EDINBURGH</b>
Be developing a capacity to formulate a relevant differential diagnosis, to choose an appropriate management strategy from the options available and to plan and implement that strategy.
Be developing a capacity to formulate a relevant differential diagnosis, to choose an appropriate management strategy from the options available and to plan and implement that strategy.
Be aware of the limits of their own knowledge and have insight into their own difficulty in understanding complex interactions.
Ordering appropriate investigations, whilst avoiding unnecessary tests

## c- Professional/practical skills:

<b>(ARS)</b> <b>Benchmark</b> <b>المعايير الأكاديمية لجامعة</b> <b>THE ROYAL COLLEGE OF SURGEONS OF EDINBURGH</b>
Through their progressive experience and self-directed learning, trainees will have acquired a variety of clinical skills during BST, not least: <ul style="list-style-type: none"> <li>i. Guiding the severely visually impaired with confidence (to a seat etc.)</li> <li>ii. Taking and recording a directed ophthalmological history after establishing a good rapport with the patient and relatives.</li> <li>iii. Undertaking a directed ophthalmological examination and recording and interpreting the physical signs elicited.</li> <li>iv. Ordering appropriate investigations, whilst avoiding unnecessary tests.</li> <li>v. Formulating (at least for common conditions) a definitive ophthalmological diagnosis.</li> <li>vi. Prescribing appropriate local and systemic therapy including antibiotics, anti-virals, steroids, mydriatics and analgesics.</li> <li>vii. Determining the progress of disease or response to treatment or surgery against baseline parameters or that expected through wound healing etc.</li> </ul>
In addition to the above, to have developed proficiency in the following: <ul style="list-style-type: none"> <li>i. Assessment of vision including distance acuity using Snellen test types and objective and subjective refraction, reading vision, colour vision using Ishihara plates and confrontation visual fields (monocular, binocular and red).</li> <li>ii. Undertaking a complete external eye examination including assessment of eye movements, the palpebral aperture and levator excursions.</li> <li>iii. Slit lamp biomicroscopy including the use of stains, local anaesthesia etc.</li> <li>iv. Examination of the pupils including swinging flashlight test.</li> <li>v. Pharmacological tests for Horner's Syndrome and Adie's pupil.</li> <li>vi. Fundus examination including the use of the direct ophthalmoscope, indirect ophthalmoscope and slit lamp biomicroscopy with diagnostic contact lenses and non-contact lenses.</li> <li>vii. Undertaking a directed general medical and neurological examination.</li> <li>viii. Undertaking a directed pre-operative assessment for general or local anaesthesia including venesection, cannulation and set-up of intravenous infusions.</li> <li>ix. Obtaining informed consent from the patient according to GMC guidelines.</li> <li>x. Achieving topical, peribulbar, retrobulbar, sub-tenon's or other regional anaesthesia, and recognising complications of such anaesthesia.</li> </ul>

- xi. Administration of steroids or other drugs subconjunctivally and in the sub-tenon's space and orbital floor.
- xii. Use of the operating microscope including its set-up and appreciation of the dangers of photic maculopathy.
- xiii. Sterile and no-touch aseptic techniques.
- xiv. Basic microsurgical skills including incisions, tissue handling and haemostasis, instrument set-up, instrument handling and suturing/wound closure.
- xv. Safe use of ophthalmic lasers.
- xvi. Cardiopulmonary resuscitation (basic life support).

Taking and recording a directed ophthalmological history after establishing a good rapport with the patient and relatives

Ordering appropriate investigations, whilst avoiding unnecessary tests

## D-Communication & Transferable skills

<b>(ARS)</b> <b>Benchmark</b> المعايير الأكاديمية لجامعة <b>THE ROYAL COLLEGE OF SURGEONS OF EDINBURGH</b>
To promote an appreciation among SHOs of the importance of continuing self-learning, knowledge reinforcement and audit to their expert and effective service to patients in the future.
Have demonstrated their information technology skills, including the use of IT in communication and data handling. A proven ability to search for and retrieve information from conventional and electronic sources, including the internet and Medline, is important.
Have demonstrated their management skills (e.g. unit administration, understanding budgets, organising meetings etc.).
Communicating effectively with other professionals e.g. through succinct summaries of cases seen, reports, letters and teaching presentations.
Liaising with more senior colleagues and other members of the multidisciplinary team, social services, hospital management etc.
<b>Professional Attitudes and Conduct:</b> In addition to the above, to have developed a style of care which is: <ol style="list-style-type: none"> <li>1) Humane (especially compassion in 'breaking bad news' and of the visually impaired, and recognition of the impact of the patient and society.)</li> <li>2) Reflective (including recognition of the limits of his/her understanding.)</li> <li>3) Ethical (e.g. in relation to rationing issues, truth-telling and information.)</li> <li>4) Integrative (especially involvement in the inter-disciplinary of children, the handicapped and the elderly.)</li> <li>5) Scientific (e.g. critical appraisal of the scientific literature, practice and use of information technology and statistics)</li> </ol>