FRCSI (Ophth) Objective Structure Examination

Regulations & Guidance Notes
Revised December 2020
The Fellowship of the Royal College of Surgeons in Ophthalmology is the final examination in the training pathway of Higher Specialist Trainees in Ireland.

**Eligibility to take the examination**
This examination is exclusive to higher specialist trainees in Ireland. To be eligible to sit the FRCSI (Ophth) Objective Structure examination you must hold MRCSI (Ophth) and be in year 4 or 5 of Higher Specialist Training (HST).

**Examination Content and Standard**
The examination syllabus, as detailed below, is identical to that of the Part 2 written and Part 2 clinical examinations. The candidate will need to demonstrate that he/she is competent to practice independently as a general ophthalmic surgeon by possessing the requisite knowledge, clinical skills, communication skills, clinical reasoning ability and professional values. The standard expected will be that of a general ophthalmic surgeon without a specific subspecialty interest.

**Examination Format**
The examination will take the form of a viva examination with set questions that cover the breadth of clinical ophthalmology and ophthalmic surgery. A minimum of three examiners will conduct the examination. The examiners will take turns asking the questions and recording the answers. The expected answers to the set questions will be approved by the FRCSI (Ophth) Objective Structure examination panel.

**Recommendations**
It is most effective to prepare for the FRCSI through experience-based learning, regular reading of the literature and up to date textbooks, and attendance at post-graduate training courses and meetings over the entire duration of higher specialist training. It is recommended that higher specialist trainees aim to achieve the required standard to pass this examination at the end of each subspecialty attachment in the areas covered during that subspecialty attachment. Therefore continually preparing for this examination throughout HST cannot be recommended highly enough.

**Overall Result**
Candidates will receive a pass or a fail in this examination.

**Limit on Attempts**
There are no limits to the number of attempts at the FRCSI examination.

**Timing and Venue**
The examination will be once or held twice annually, depending on the number of candidates approaching completion of HST training, at the Royal Victoria Eye and Ear Hospital, Adelaide Road, Dublin or at the Royal College of Surgeons in Ireland, 123 St Stephen’s Green, Dublin 2. Further details will be posted under postgraduate examination calendar on the RCSI website.
NOTE: These Regulations are under continual review. It is recommended that candidates review the RCSI website to ensure that they have the most up-to-date information. Any changes will be announced on the website.

Examination Policies

Withdrawal from the Examination
Applicants who withdraw from an examination before the closing date will have their application fee refunded, less a 20% administrative charge. Applicants who withdraw after the closing date, or who fail to attend, will forfeit the fee paid in full.

There may be occasions when your attendance is affected by circumstances beyond your normal control. In this instance an application for exceptional circumstances must be submitted – as detailed in the Professional Examinations Exceptional Circumstances Policy available through the link below
https://www.rcsi.com/dublin/professional-cpd/professional-exams/policies

The Colleges reserve the right, regardless of eligibility to take the examination, to review applications on an individual basis in exceptional circumstances.

Reasonable Accommodation
Candidates with special needs should advise the appropriate College at the time of application of the nature of their needs and any assistance that they require. Requests should be supported by medical evidence (an educational psychologist’s report is required for requests for extra time because of dyslexia). If appropriate, details of extra time or other allowances made by other examining bodies should be given, although the Colleges are not bound to follow these

Appeals Mechanism
If you wish to make an appeal about the conduct of your examination, you must do so within 30 days of the publication of results. To submit an appeal please review the regulations and complete the application form available through the link below
https://www.rcsi.com/dublin/professional-cpd/professional-exams/policies

Improper Conduct by Examination Candidates
In the case of improper conduct of an examination candidate as defined below, the College may impose a penalty relating to the candidate’s eligibility for the relevant or future examinations. Improper conduct is defined as:

- Dishonestly obtaining or attempting to obtain entry to the examination by making false claims about eligibility for the examination or falsifying any aspects of the entry documentation.
• Obtaining or seeking to obtain unfair advantage during an examination, or inciting other candidates to do the same. Examples of unfair advantage are: having on the person any material that would give advantage in an examination once the examination has commenced (this includes electronic communication devices), communicating or attempting to communicate with another candidate once the examination has commenced, refusing to follow the instructions given by examiners or examinations staff concerning the conduct of and procedure for the examination. This list is not exhaustive.
• Removing or attempting to remove from the examination any confidential material relating to the conduct of the examination.
• Obtaining or attempting to obtain confidential information concerning the examination from an examiner or examination official.
• Passing confidential information on the content of the examination to a third party.

The list given above is not exhaustive.

The College may also on an individual basis decide that a candidate should not be allowed to proceed further with the examination or, having passed the examination, may not be admitted to Fellowship, according to their own statutes and regulations, in cases where serious misconduct not related to the examination is judged to make the person unfit to become a Fellow of the College.

Notification of Pregnancy and Deferral
A deferral may be permitted to candidates supplying an appropriate medical report which satisfies the relevant College indicating that:
  • the candidate has any pregnancy related problems or illness; and/or
  • the candidate’s confinement is due shortly before or around the date of the examination; and/or
  • the candidate has sufficient discomfort for her to consider that it will have a detrimental affect on her performance.
  • In such circumstances, a deferral will be permitted and no further fee will be required.

Any candidate who does not inform the College of her pregnancy and is consequently unable to sit for that examination will not normally be allowed to defer this examination without submission of another fee.
Syllabus

Main subjects:
Generic competencies and professionalism
Clinical history taking and examination in ophthalmology
Investigations in ophthalmology
Principles of ophthalmic surgery
Clinical optics
Clinical ophthalmology
  Cornea & external diseases
  Cataract & Refractive surgery
  Oculoplastics, lacrimal and orbital disease
  Glaucoma
  Medical Retinal disease
  Vitreoretinal surgery
  Uveitis
  Ocular oncology
  Neuroophthalmology
  Paediatric Ophthalmology & Strabismus
  General medicine relevant to ophthalmology
Ophthalmic pathology

Generic competencies and professionalism
Professional standards, ethics and good medical practice
Principles of clinical governance
Clinical audit and patient safety
Communication skills:
  Breaking bad news
  Dealing with distressed patients and/or relatives
  Dealing with complaints
  Communicating with colleagues
Visual impairment
  International definitions
  Psychological and social implications for the patient
  Available support resources
Driving and occupational regulations related to visual impairment in Ireland/ United Kingdom
Principles of evidence based medicine
Basic epidemiology and clinical research techniques
Clinical history taking and examination in ophthalmology
Candidates must demonstrate competence in clinical assessment in all areas of ophthalmology and relevant medical specialties.
Investigations in ophthalmology
Keratometry
Corneal topography
Pachymetry
Optical coherence tomography of anterior segment
Specular microscopy
Confocal microscopy
Wavefront analysis
Microbiological investigations
  Diagnostic corneal scrape
  Conjunctival swabs
  Intra-ocular samples; vitreous biopsy, anterior chamber tap
Schirmer’s test
Retinal photography
Optical coherence tomography of posterior segment
Fluorescein angiography
Indocyanine green angiography
Scanning laser ophthalmoscopy
Scanning laser polarimetry
A and B scans
Ultrasound biomicroscopy
Doppler ultrasound
Dacryocystography
Plain skull and chest X ray
CT thorax
Orbital and neuro-CT scans
Orbital and neuro-MRI scans
Neuro-angiography
Electroretinography
Electrooculography
Visually evoked potentials
Humphrey and other automated perimeters
Goldmann perimetry
Hess charts
DEXA scans
Urinalysis
Serum biochemistry, haematology, immunology, relevant endocrine blood tests
Investigation of patients with suspected TB, syphilis and other relevant infectious diseases

Principles of ophthalmic surgery
Sterilisation
Surgical instrumentation
Sutures and their uses
Common ophthalmic surgical procedures
Management of trauma to the eye and adnexae

Clinical optics
Notation of lenses: spectacle prescribing, simple transposition, toric transposition
Identification of unknown lenses: neutralisation, focimeter, Geneva lens measure
Aberrations of lenses: correction of aberrations relevant to the eye, Duochrome test
Optics of the eye: transmittance of light by the optic media, schematic and reduced eye, Stiles-Crawford effect, visual acuity, contrast sensitivity, catoptric images, emmetropia, accommodation, Purkinje shift, pinhole
Ametropia: myopia, hypermetropia, astigmatism, anisometropia, aniseikonia, aphakia
Accommodative problems: insufficiency, excess, AC/A ratio
Refractive errors: prevalence, inheritance, changes with age, surgically induced
Correction of ametropia: spectacle lenses, contact lenses, intraocular lenses, principles of refractive surgery
Problems of spectacles in aphakia: effect of spectacles and contact lens correction on accommodation and convergence, effective power of lenses, back vertex distance, spectacle magnification, calculation of intraocular lens power, presbyopia
Low visual aids: high reading addition, magnifying lenses, telescopic aids - Galilean telescope
Clinical refraction; near and distance vision correction, tests of binocularity
Prescribing prisms
Direct and indirect ophthalmoscopes
Retinoscope
Focimeter
Simple magnifying glass (Loupe)
Lensmeter
Automated refractor
Slit-lamp microscope
Applanation tonometry
Keratometer
Specular microscope
Operating microscope
Zoom lens principle
Corneal pachymeter
Lenses used for slit lamp biomicroscopy (panfunduscope, gonioscope Goldmann lens, 90D lens, etc.)
Fundus camera
Lasers
Retinal and optic nerve imaging devices (OCT, SLO, GDx)
Clinical ophthalmology

Cornea and external eye disease

Clinical anatomy

Infections of the conjunctiva
Cicatricial conjunctival disease: Stevens-Johnson syndrome, mucous membrane pemphigoid; other causes
Allergic conjunctival disease; vernal keratoconjunctivitis, atopic keratoconjunctivitis, seasonal allergic conjunctivitis, giant papillary conjunctivitis
Conjunctival malignancies: ocular surface squamous neoplasia, melanocytic neoplasms
Pterygium
Benign lesions of the conjunctiva
Blepharitis and acne rosacea

Scleritis and episcleritis

Corneal infections: bacterial keratitis, herpes simplex keratitis, varicella zoster keratitis, fungal keratitis, acanthamoeba keratitis
Recurrent corneal erosion syndrome
Dry eye syndrome
Autoimmune corneal disease: peripheral ulcerative keratitis and corneal melting disorders, Mooren’s ulcer
Keratoconus and other ectasias
Pseudophakic/aphakic bullous keratopathy; other causes of corneal oedema
Corneal dystrophies, degenerations and deposits
Neurotrophic keratopathy
Trauma: penetrating, chemical injury
Congenital corneal abnormalities
Contact lenses
Corneal Transplantation, limbal stem cell transplantation
Eye banking

Cataract and refractive surgery

Clinical anatomy of the lens

Acquired cataract:
Aetiology
Management
  Biometry and planning of refractive outcome
  Intraocular lenses
Pre-operative evaluation
Predicting surgical challenges
Surgical methods, equipment and instrument
Anaesthetic techniques
Complications of cataract surgery and local anaesthesia
Managing coexisting cataract and glaucoma
Cataract surgery combined with penetrating keratoplasty
Lens-induced glaucoma
Phacolytic inflammation
Viscoelastics
Intraocular lenses
Cataract surgery post corneal refractive surgery
Managing refractive surprise after cataract surgery
Ectopia lentis
Nd:YAG laser capsulotomy

Congenital cataract including surgical management options
Optical treatment and prevention of amblyopia

Corneal refractive surgery: arcuate keratotomy, laser (LASIK, LASEK, PRK)
Refractive lens surgery; clear lens extraction, phakic IOLs

Oculoplastics, lacrimal and orbital disease
Clinical anatomy

Eyelid malpositions including ectropion, entropion, ptosis, lagophthalmos, lid retraction
Lash abnormalities; trichiasis, distichiasis
Congenital abnormalities of the lids
Abnormal lid swellings and benign and malignant lid lesions
Blepharospasm
Dermatochalasis
Lid trauma
Facial nerve palsy
Principles of oculoplastic surgical technique

The watering eye
Congenital and acquired abnormalities of the lacrimal system
Lacrimal surgery

Orbital cellulitis
Orbital inflammation including thyroid eye disease
Orbital tumours
Orbital trauma
Congenital abnormalities of the orbit
Vascular lesions of the orbit
Evisceration, enucleation and exenteration

**Glaucoma**
Relevant clinical anatomy and physiology
Epidemiology and screening
Mechanisms of glaucoma
Optic nerve head assessment
Visual field analysis in glaucoma
Tonometry
Gonioscopy
Paediatric glaucoma
Open angle glucomas
Ocular hypertension
Angle closure glucomas
Medical management
Laser therapies
Surgical management including complications

**Medical Retinal disease**
Clinical anatomy

Vascular retinal disorders:
  - Diabetic retinopathy
  - Arterial and venous occlusive disease
  - Ocular ischaemic syndrome
  - Hypertensive retinopathy
  - Retinal arterial macroaneurysm
  - Retinal Vasculitis
  - Coat’s disease
  - Sickle cell retinopathy
  - Eales’ disease
  - Retinal features of blood disorders, e.g. anaemia, leukaemia, and myeloma
  - Retinal vascular anamolies
Age-related macular degeneration
  - Epidemiology, risk factors, and pathophysiology
  - Management
Retinal dystrophies
  - Retinitis Pigmentosa
  - Flecked retina syndromes
  - Macular dystrophies
Congenital stationary night blindness
Choroidal dystrophies and degenerations
Hereditary vitreoretinopathies
Angioid streaks
Central serous retinopathy
Cystoid macular oedema
Degenerative myopia
Drug-induced retinal disease
Phototoxicity
Radiation retinopathy

**Vitreoretinal surgery**
Clinical anatomy

Peripheral retinal lesions
Retinal breaks
Retinal detachment
  Rhegmatogenous
  Serous retinal
  Tractional
  Proliferative vitreoretinopathy
Macular hole
Epiretinal membrane
Vitreous haemorrhage
Endophthalmitis
Trauma and IOFB
Retinoschisis

**Uveitis**
Clinical anatomy of the uveal tract

Congenital abnormalities
Infectious uveitis
Non-infectious immune-mediated uveitis
Uveitis masquerade syndromes
Systemic disease associated uveitis
Investigation of the patient with uveitis
Principles of uveitis management
Management of cataract and glaucoma in uveitis
Ocular oncology
Malignant intraocular tumours
   Retinoblastoma
   Uveal melanoma
   Uveal metastases
   Lymphoma and leukaemia
Benign intraocular tumours
   Choroidal naevus
   Choroidal haemangioma
   Choroidal osteoma
   Retinal hamartomas
   Retinal vascular tumours
Investigation and management of intraocular tumours

Neurophthalmology
Clinical anatomy
Clinical assessment of ocular motility, diplopia, nystagmus, abnormal eyelid and facial movements, pupils, ptosis, proptosis, cranial nerve function and visual fields
Ocular motility disorders
   Cranial nerve palsies
   Visual field abnormalities
   Pupil abnormalities
   Nystagmus
   Optic disc abnormalities
   Optic neuropathies
   Visually evoked cortical potentials
   Pituitary and chiasmal disorders
   Intracranial tumours
   Headache and facial pain
Migraine
   Benign intracranial hypertension
   Cerebrovascular disease
   Optic neuritis and multiple sclerosis
   Myasthenia gravis
   Parkinson’s disease
   Psychosomatic disorders and visual function
   Blepharospasm and hemifacial spasm
   Periocular Botulinum toxin injection technique

Paediatric Ophthalmology & Strabismus
Clinical anatomy of the extraocular muscles
   Physiology of eye movement control
Binocular function
Accommodation anomalies
Assessment of strabismus
  Cover, cover-uncover test and alternate cover test
  Assessment of ocular movements
  Measurement of deviation
  Assessment of fusion, suppression and stereo-acuity.
  Knowledge of Hess Chart/Lees Screen, field of BSV and uniocular fields of fixation
Paediatric strabismus
  Infantile esotropia
  Acquired esotropia
  Intermittent exotropia
  Congenital superior oblique weakness
  Duane’s syndrome
  Brown’s syndrome
Adult
  Forced duction test technique
  Tests to predict postoperative diplopia
  Concomitant strabismus in adults
  Third, fourth and sixth cranial nerve palsy
  Supranuclear causes of eye movement deficits
  Strabismus due to Myasthenia, thyroid eye disease and orbital trauma
Principles of strabismus surgery
Principles of adjustable surgery techniques
Botulinum toxin, role in the management of strabismus
Paediatric refractive errors
Vision testing in children
Amblyopia
Retinopathy of prematurity
Visual loss secondary to neurological disease in infants and children
Leukocoria
Leber’s congenital amaurosis
Albinism
Phakomatoses
Aniridia

General medicine relevant to ophthalmology
Systemic diseases with manifestations relevant to ophthalmology in the following specialities:
  Rheumatological disease
  Dermatology
  Respiratory medicine
  Neurology
Endocrinology
Cardiology
Chromosomal disorders
Medical management of the perioperative patient
Medical emergencies:
Candidates are expected to be able to assess patients with the following life threatening emergencies and initiate appropriate treatment prior to the arrival of specialised assistance:
  - Cardiorespiratory arrest
  - Shock
  - Anaphylaxis
  - Hypoglycaemia
  - The breathless patient

Ophthalmic Pathology
Benign and malignant lesions of the eyelids
Cornea endothelial dysfunction and corneal dystrophies
Glaucoma
Cataract
Diabetes
Age Related Macular Degeneration
Retinal vascular occlusion
Retinal detachment and proliferative vitreo-retinopathy
Ocular tumours
Tissue sampling for pathological investigation; types of biopsy, fine needle aspiration, transport of specimens