

FRCSI (Ophth) regulations and guidance notes

February 23rd 2018

This 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 examination you must hold MRCSI (Ophth) and be in year 4 or 5 of 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 one-hour 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) examinations committee.

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.

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
- Neurophthalmology
- 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 glaucomas
Ocular hypertension
Angle closure glaucomas
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 anomalies
- 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