

2015
VERSION 2.0

This document applies to those who begin training on or after July 1st, 2016.

NOTE: Throughout this document, references to the patient's family are intended to include all those who are personally significant to the patient and are concerned with his or her care, including, according to the patient's circumstances, family members, partners, caregivers, legal guardians, and substitute decision makers.

DEFINITION

Ophthalmology is that branch of surgery concerned with the prevention, diagnosis, and management of optical, medical, and surgical disorders of the eye, its adnexa, the visual pathways, and the visual system.

GOALS

Upon completion of training, a resident is expected to be a competent specialist in Ophthalmology capable of assuming a consultant's role in the specialty. The resident must acquire an expert knowledge of the theoretical basis of the specialty, including its foundations in science and research, as it applies to medical and surgical practice.

The basic sciences necessary for the understanding and practice of the specialty include genetics, embryology, anatomy, physiology, pathology, microbiology, immunology, pharmacology, and the physics of optics and refraction.

The Ophthalmologist must possess a sound knowledge of the general principles of surgery and medicine. Ophthalmology incorporates some aspects of dermatology, microbiology, neurology, pathology, pediatrics, plastic surgery, and other specialties, and the graduate must have knowledge in these fields as they relate to Ophthalmology.

Residents must demonstrate the requisite knowledge, skills, and behaviours for effective patient-centred care and service to a diverse population. In all aspects of specialist practice the graduate must be able to address ethical issues and issues of gender, sexual orientation, age, culture, beliefs, and ethnicity in a professional manner.

OPHTHALMOLOGY COMPETENCIES

NOTE: Advanced knowledge is defined as a broad and deep level of knowledge, from basic science to clinical application, including the ability to apply the scientific literature, adapting and extrapolating as required, sufficient to independently manage a problem or apply an approach or technique in the area.

At the completion of training, the resident will have acquired the following competencies and will function effectively as a:

Medical Expert

Definition:

As *Medical Experts*, Ophthalmologists integrate all of the CanMEDS Roles, applying medical knowledge, clinical skills, and professional attitudes in their provision of patient-centred care. *Medical Expert* is the central physician Role in the CanMEDS framework.

Key and Enabling Competencies: Ophthalmologists are able to...

1. Function effectively as consultants, integrating all of the CanMEDS Roles to provide optimal, ethical, and patient-centred medical care

- 1.1. Perform a consultation effectively, including the presentation of well-documented assessments and recommendations in oral, written, and/or electronic form in response to a request from another health care professional
- 1.2. Demonstrate use of all CanMEDS competencies relevant to Ophthalmology
- 1.3. Identify and appropriately respond to relevant ethical issues arising in patient care
- 1.4. Demonstrate the ability to prioritize professional duties when faced with multiple patients and problems
- 1.5. Demonstrate compassionate and patient-centred care
- 1.6. Recognize and respond to the ethical dimensions in medical decision-making
- 1.7. Demonstrate medical expertise in situations other than patient care, such as teaching, providing expert testimony or advising governments
- 1.8. Contribute to quality care and patient safety, integrating evidence-based practices and practice guidelines

2. Establish knowledge of the basic sciences and clinical fundamentals of ophthalmology, including:

- 2.1. Demonstrate knowledge of:
 - 2.1.1. Physiology as it applies to the ocular and visual systems
 - 2.1.2. Changes that occur in ocular anatomy and visual physiology with normal development
 - 2.1.3. Ocular genetics and embryology and their association with ocular pathology
 - 2.1.4. Pharmacology as it applies to the ocular and visual systems

- 2.1.5. Ocular pathology
- 2.2. Demonstrate an advanced knowledge of the following instruments and investigations:
 - 2.2.1. Retinoscope
 - 2.2.2. Tonometers
 - 2.2.3. Slit lamp
 - 2.2.4. Direct ophthalmoscope
 - 2.2.5. Binocular indirect ophthalmoscope
 - 2.2.6. Prisms
 - 2.2.7. Hess screen
 - 2.2.8. Pachymeter
 - 2.2.9. Keratometer
 - 2.2.10. A-scan and B-scan ultrasound
 - 2.2.11. Corneal topographer
 - 2.2.12. Fundus camera
 - 2.2.13. Angiograms of posterior and anterior segments
 - 2.2.14. Lensmeter
 - 2.2.15. Perimeter: Goldmann and automated
 - 2.2.16. Ocular coherence tomography (OCT)
 - 2.2.17. Operating microscope
 - 2.2.18. Telescopes, including surgical loupes
 - 2.2.19. Laser interferometers, including but not limited to the Heidelberg retinal tomograph (HRT)
 - 2.2.20. Surgical lasers
- 2.3. Demonstrate an understanding of electrophysiology, including
 - 2.3.1. Electrooculography
 - 2.3.2. Electroretinography
 - 2.3.3. Visual evoked potentials

3. Establish and maintain clinical knowledge, skills, and behaviours appropriate to Ophthalmology

3.1. Apply knowledge of the clinical, socio-behavioural, and fundamental biomedical sciences relevant to Ophthalmology

3.1.1. Demonstrate an advanced knowledge of refraction and optics, including their clinical application

3.1.1.1. Principles of physical, geometrical and human eye optics, including:

- 3.1.1.1.1. Wave and particle theory, interference/coherence, polarization, diffraction, illumination, and laser fundamentals
- 3.1.1.1.2. Imaging with lenses and mirrors, prisms, aberrations, and wavefront analysis
- 3.1.1.1.3. Visual acuity, accommodation, aniseikonia, and refractive errors including but not limited to myopia, hyperopia, and astigmatism
- 3.1.1.1.4. Clinical refraction, including but not limited to retinoscopy, subjective refractive techniques, and prescribing spectacles
- 3.1.1.1.5. Corrective lenses:
 - 3.1.1.1.5.1. Spectacles: materials; bifocals; progressives
 - 3.1.1.1.5.2. Contact lenses, soft and rigid: fitting; optical and therapeutic uses
 - 3.1.1.1.5.3. Intraocular lenses: materials; monofocal; aspheric; multifocal; accommodative
- 3.1.1.1.6. Optical and non-optical aids for low vision

3.1.1.2. Demonstrate an advanced knowledge of refractive surgery

- 3.1.1.2.1. Radial keratotomy
- 3.1.1.2.2. Astigmatic keratotomy, including limbal relaxing incisions
- 3.1.1.2.3. Excimer laser surgery
- 3.1.1.2.4. Femtosecond laser surgery

3.1.2. Demonstrate an advanced knowledge of the epidemiology, etiology, pathophysiology, investigation, and treatment of the following:

3.1.2.1. Corneal and external eye diseases

- 3.1.2.1.1. Ocular surface disorders
- 3.1.2.1.2. Toxic and traumatic injuries of the anterior segment
- 3.1.2.1.3. Infectious diseases of the external eye and the cornea
 - 3.1.2.1.3.1. Bacterial
 - 3.1.2.1.3.2. Viral

- 3.1.2.1.3.3. Fungal
- 3.1.2.1.3.4. Parasitic

- 3.1.2.1.4. Immune-mediated disorders of the external eye and the cornea
- 3.1.2.1.5. Neoplastic disorders of the conjunctiva and cornea
- 3.1.2.1.6. Corneal dystrophies
- 3.1.2.1.7. Degenerative disorders of the conjunctiva, cornea and sclera
- 3.1.2.1.8. Metabolic disorders involving the conjunctiva, cornea and sclera
- 3.1.2.1.9. Congenital anomalies of the cornea and sclera

- 3.1.2.2. Glaucoma
 - 3.1.2.2.1. Primary high and low tension open angle glaucoma and primary open angle glaucoma suspect
 - 3.1.2.2.2. Secondary open angle glaucomas including but not limited to exfoliative, pigmentary, steroid-induced, uveitic, traumatic, phacolytic, red blood cell-induced and postoperative
 - 3.1.2.2.3. Primary angle closure glaucoma and primary angle closure suspect
 - 3.1.2.2.4. Secondary angle closure glaucomas, including but not limited to neovascular, malignant, plateau iris and uveitic, as well as iridocorneal endothelial syndrome
 - 3.1.2.2.5. Mixed and multiple mechanism glaucomas
 - 3.1.2.2.6. Glaucomatous progression
 - 3.1.2.2.7. Ocular hypotony
 - 3.1.2.2.8. Role of neuro-imaging and other studies in the management of glaucoma, including but not limited to normal tension glaucoma

- 3.1.2.3. Uveitis
 - 3.1.2.3.1. Idiopathic
 - 3.1.2.3.2. Secondary to systemic disease
 - 3.1.2.3.2.1. Seronegative arthritis
 - 3.1.2.3.2.1.1. Human leukocyte antigen (HLA) B27-related
 - 3.1.2.3.2.1.1.1. Alone i.e. without systemic disease
 - 3.1.2.3.2.1.1.2. Ankylosing spondylitis
 - 3.1.2.3.2.1.1.3. Reiter's syndrome

- 3.1.2.3.2.1.1.4. Psoriatic arthritis
- 3.1.2.3.2.1.1.5. Inflammatory bowel disease
- 3.1.2.3.2.1.2. Non-HLA B27-related
 - 3.1.2.3.2.1.2.1. Behcet's
 - 3.1.2.3.2.1.2.2. Juvenile idiopathic arthritis
- 3.1.2.3.2.1.3. Gastrointestinal
 - 3.1.2.3.2.1.3.1. Crohn's disease
 - 3.1.2.3.2.1.3.2. Ulcerative colitis
 - 3.1.2.3.2.1.3.3. Whipple's disease
- 3.1.2.3.2.1.4. Sarcoidosis
- 3.1.2.3.3. Infectious
 - 3.1.2.3.3.1. Viral: varicella zoster virus; herpes simplex virus; cytomegalovirus; Epstein-Barr virus; acute retinal necrosis; human immunodeficiency virus (HIV)
 - 3.1.2.3.3.2. Bacterial: tuberculosis; syphilis; Lyme borreliosis
 - 3.1.2.3.3.3. Fungal: presumed ocular histoplasmosis syndrome; candida; coccidiomycosis, and pneumocystis;
 - 3.1.2.3.3.4. Protozoan/parasitic: toxoplasmosis; toxocariasis
- 3.1.2.3.4. Lens-induced
 - 3.1.2.3.4.1. Phacoanaphylaxis
 - 3.1.2.3.4.2. Phacotoxic
 - 3.1.2.3.4.3. Phacolytic
- 3.1.2.3.5. Masquerade syndromes
 - 3.1.2.3.5.1. Intraocular lymphoma
 - 3.1.2.3.5.2. Retinoblastoma
 - 3.1.2.3.5.3. Ocular melanoma
 - 3.1.2.3.5.4. Metastatic tumor
 - 3.1.2.3.5.5. Ocular ischemic syndrome
- 3.1.2.3.6. Localized ocular entities
 - 3.1.2.3.6.1. Pars planitis
 - 3.1.2.3.6.2. Fuchs iridocyclitis

- 3.1.2.3.6.3. Vogt-Koyanagi-Harada syndrome
 - 3.1.2.3.6.4. Sympathetic ophthalmia
 - 3.1.2.3.6.5. Glaucomatocyclitic crisis
 - 3.1.2.3.6.6. Birdshot chorioretinopathy
 - 3.1.2.3.6.7. Acute posterior multifocal placoid pigmentary epitheliopathy
 - 3.1.2.3.6.8. Serpiginous choroiditis
 - 3.1.2.3.6.9. Other white dot syndromes: multiple evanescent white dot syndrome; punctate inner choroidopathy; acute zonal occult outer retinopathy
- 3.1.2.4. Disorders of the retina and vitreous
- 3.1.2.4.1. Diseases affecting the macula
 - 3.1.2.4.1.1. Central serous chorioretinopathy
 - 3.1.2.4.1.2. Age-related macular degeneration
 - 3.1.2.4.1.3. Choroidal neovascularization from other causes
 - 3.1.2.4.1.4. Vitreo-retinal interface abnormalities
 - 3.1.2.4.1.5. Cystoid macular edema
 - 3.1.2.4.1.6. Parafoveal retinal telangiectasis
 - 3.1.2.4.2. Retinal vascular disease
 - 3.1.2.4.2.1. Hypertensive retinopathy
 - 3.1.2.4.2.2. Diabetic retinopathy
 - 3.1.2.4.2.3. Sickle cell retinopathy
 - 3.1.2.4.2.4. Peripheral retinal neovascularization
 - 3.1.2.4.2.5. Venous occlusive disease
 - 3.1.2.4.2.6. Arterial occlusive disease
 - 3.1.2.4.2.7. Ocular ischemic syndrome
 - 3.1.2.4.2.8. Coats disease
 - 3.1.2.4.2.9. Terson syndrome
 - 3.1.2.4.2.10. Valsalva retinopathy
 - 3.1.2.4.2.11. Purtscher retinopathy
 - 3.1.2.4.2.12. Arterial macroaneurysms

- 3.1.2.4.3. Disease affecting the choroid
 - 3.1.2.4.3.1. Vascular disease
 - 3.1.2.4.3.1.1. Choroidal hemangioma
 - 3.1.2.4.3.1.2. Choroidal ischemia
 - 3.1.2.4.3.1.3. Uveal effusion syndrome
 - 3.1.2.4.3.2. Inflammatory disease
 - 3.1.2.4.3.2.1. White dot syndromes
 - 3.1.2.4.3.2.2. Vogt-Koyanagi-Harada syndrome
 - 3.1.2.4.3.2.3. Pars planitis
 - 3.1.2.4.3.2.4. Infectious chorioretinopathies
- 3.1.2.4.4. Primary and secondary intraocular tumor including but not limited to lymphoma
- 3.1.2.4.5. Congenital and stationary retinal disease
 - 3.1.2.4.5.1. Disorders of color vision
 - 3.1.2.4.5.2. Night-blinding disorders
- 3.1.2.4.6. Retinal dystrophies and degenerative conditions
 - 3.1.2.4.6.1. Rod and cone dystrophies
 - 3.1.2.4.6.2. Macular and retinal pigment epithelium (RPE) dystrophies
 - 3.1.2.4.6.3. X-linked retinoschisis
 - 3.1.2.4.6.4. Drug-induced retinal toxicity
 - 3.1.2.4.6.5. Retinal degenerations associated with systemic disease
- 3.1.2.4.7. Peripheral retinal abnormalities
 - 3.1.2.4.7.1. Retinal breaks
 - 3.1.2.4.7.2. Posterior vitreous detachment
 - 3.1.2.4.7.3. Peripheral retinal degenerations
- 3.1.2.4.8. Disease of the vitreous
 - 3.1.2.4.8.1. Endophthalmitis
- 3.1.2.4.9. Developmental abnormalities
 - 3.1.2.4.9.1. Hereditary hyaloidenoretinopathies with optically empty vitreous

3.1.2.4.9.2. Familial exudative vitreoretinopathy

3.1.2.5. Neuro-ophthalmologic disorders

3.1.2.5.1. Sensory vision disorders affecting the following:

3.1.2.5.1.1. Optic nerve, including congenital, hereditary, ischemic, immune-mediated, infectious, infiltrative, compressive, nutritional and traumatic etiologies

3.1.2.5.1.2. Optic chiasm

3.1.2.5.1.3. Optic tract

3.1.2.5.1.4. Lateral geniculate nucleus

3.1.2.5.1.5. Optic radiation

3.1.2.5.1.6. Occipital and higher visual cortex

3.1.2.5.2. Ocular motility disorders, including but not limited to supranuclear, internuclear, nuclear, infranuclear, neuro-muscular junction, end-organ muscle disorders, and restrictive motility disorders

3.1.2.5.3. Afferent and efferent pupillary disorders

3.1.2.5.4. Accommodation disorders

3.1.2.5.5. Disorders of eyelid position and movement

3.1.2.5.6. Transient visual disturbances

3.1.2.5.7. Non-organic vision loss

3.1.2.5.8. Phakomatoses

3.1.2.5.9. Emergencies, including but not limited to giant cell arteritis, pituitary apoplexy, stroke, aneurysm, carotid artery dissection, arterio-venous fistula, venous sinus thrombosis and papilledema

3.1.2.5.10. Neurologic diseases, including but not limited to multiple sclerosis, migraine and cluster headaches

3.1.2.6. Oculoplastics and orbital disease

3.1.2.6.1. Orbital diseases

3.1.2.6.1.1. Thyroid orbitopathy

3.1.2.6.1.2. Primary orbital disease - benign and malignant

3.1.2.6.1.3. Orbital inflammatory syndrome

3.1.2.6.1.4. Orbital cellulitis

3.1.2.6.2. Orbital trauma

3.1.2.6.3. Eyelid malpositions, including but not limited to ptosis,

- ectropion and entropion
- 3.1.2.6.4. Eyelid tumours, including but not limited to basal cell carcinoma, sebaceous cell carcinoma, squamous cell carcinoma and melanoma
- 3.1.2.6.5. Eyelid lacerations
- 3.1.2.6.6. Lacrimal disorders including but not limited to lacrimal obstruction

- 3.1.2.7. Pediatric ophthalmologic disorders
 - 3.1.2.7.1. Congenital anomalies of the eye, eyelids, adnexae and orbit, and craniofacial disorders
 - 3.1.2.7.2. Amblyopia
 - 3.1.2.7.3. Other causes of reduced vision, including malformations, congenital infections, genetic and metabolic diseases affecting vision, including but not limited to Leber congenital amaurosis, cortical visual impairment, and delayed visual maturation
 - 3.1.2.7.4. Strabismus
 - 3.1.2.7.4.1. Esodeviations
 - 3.1.2.7.4.2. Exodeviations
 - 3.1.2.7.4.3. Vertical deviations
 - 3.1.2.7.4.4. Pattern strabismus
 - 3.1.2.7.4.5. Special strabismus entities including Duane, Brown, congenital cranial dysinnervation disorders; neurogenic, myogenic and restrictive forms of strabismus
 - 3.1.2.7.4.6. Nystagmus
 - 3.1.2.7.5. Ocular trauma in childhood
 - 3.1.2.7.6. Life- and sight-threatening pediatric ophthalmic pathology
 - 3.1.2.7.6.1. Suspected child abuse and neglect
 - 3.1.2.7.6.2. Neoplasm
 - 3.1.2.7.6.2.1. Retinoblastoma
 - 3.1.2.7.6.2.2. Rhabdomyosarcoma
 - 3.1.2.7.6.2.3. Optic pathway glioma
 - 3.1.2.7.6.3. Orbital cellulitis
 - 3.1.2.7.6.4. Neonatal conjunctivitis
 - 3.1.2.7.6.5. Leukemia

3.1.2.7.7. Genetic disorders affecting the eye and periocular structures

3.1.2.7.7.1. Retinal and macular dystrophies

3.1.2.7.7.2. Optic neuropathies

3.1.2.7.7.3. Anterior segment dysgenesis, including but not limited to including aniridia, congenital cataracts, congenital glaucoma and Peters anomaly

3.1.2.7.7.4. Colobomatous malformations

3.1.2.7.7.5. Connective tissue diseases and their associations with the eye

3.1.2.8. Emergency conditions in Ophthalmology

3.1.2.8.1. Red eye

3.1.2.8.2. Infection

3.1.2.8.3. Trauma

3.1.2.8.4. Perforation of globe

3.1.2.8.5. Eyelid, corneal and scleral lacerations

3.1.2.8.6. Chemical burns

3.1.2.8.7. Acute loss of vision

3.1.2.8.8. Retinal detachment

3.1.2.8.9. Endophthalmitis

3.1.2.8.10. Orbital fractures and retrobulbar hemorrhage

3.1.2.8.11. Anesthetic complications, including but not limited to malignant hyperthermia, brain stem anesthesia and the oculocardiac reflex

3.1.2.8.12. Anaphylaxis

3.2. Describe the CanMEDS framework of competencies relevant to Ophthalmology

3.3. Apply lifelong learning skills of the Scholar Role to implement a personal program to keep up to date and enhance areas of professional competence

3.4. Integrate the available best evidence and best practices to enhance the quality of care and patient safety in Ophthalmology

4. Perform a complete and appropriate assessment of a patient

4.1. Identify and effectively explore issues to be addressed in a patient encounter, including the patient's context and preferences

- 4.2. Elicit a history that is relevant, concise, and accurate to context and preferences, for the purposes of diagnosis, management, health promotion and disease prevention
 - 4.2.1. Take a family history in patients with genetic disorders to identify the likely mode of inheritance of a trait

- 4.3. Perform a focused examination that is relevant and accurate, for the purposes of diagnosis, management, health promotion, and disease prevention
 - 4.3.1. Assess the visual function of children and adults in a developmentally-appropriate manner
 - 4.3.2. Perform an accurate cycloplegic and subjective refraction
 - 4.3.3. Apply orthoptic techniques to examine children and adults with binocular visual issues
 - 4.3.4. Perform a competent comprehensive ocular examination including under anesthesia
 - 4.3.5. Examine cranial nerve function
 - 4.3.6. Adapt the examination for patients who are neurodevelopmentally delayed
 - 4.3.7. Demonstrate proficiency in the use of the instruments routinely used to examine patients in Ophthalmology
 - 4.3.7.1. Retinoscope
 - 4.3.7.2. Intraocular pressure measurement with Goldmann, Tonopen, and Perkins tonometers
 - 4.3.7.3. Slit lamp, including use of indirect lenses for retinal examination and contact lenses for examining the retina and performing gonioscopy
 - 4.3.7.4. Handheld slit lamp
 - 4.3.7.5. Direct ophthalmoscope
 - 4.3.7.6. Binocular indirect ophthalmoscope, including a complete examination of the retinal periphery with scleral depression
 - 4.3.7.7. Pachymeter, understanding its role in IOP measurement accuracy and glaucoma progression
 - 4.3.7.8. Keratometer
 - 4.3.7.9. Lensmeter

- 4.4. Select medically appropriate investigative methods in a resource-effective and ethical manner
 - 4.4.1. Assessment of visual fields clinically and with static and kinetic perimetry, including but not limited to Humphrey and Goldmann perimetry
 - 4.4.2. Angiography, including but not limited to fluorescein and indocyanine green, of the anterior and posterior segments
 - 4.4.3. Ocular coherence tomography (OCT)

- 4.4.4. Corneal topography
 - 4.4.5. Heidelberg retinal tomography (HRT)
 - 4.4.6. A-scan and B-scan ultrasound of the globe and orbit
 - 4.4.7. Visual electrophysiology tests
 - 4.4.8. Diagnostic imaging, including radiography, computed tomography (CT), magnetic resonance imaging (MRI), and associated studies, including but not limited to dacryocystograms and cerebral angiography
- 4.5. Demonstrate effective clinical problem solving and judgment to address patient problems, including interpreting available data and integrating information to generate differential diagnoses and management plans
- 4.5.1. Recognize and manage children with visual impairment
 - 4.5.2. Interpret orthoptic reports and use recognized abbreviations
 - 4.5.3. Interpret the results of visual electrophysiology testing
 - 4.5.3.1. Electroretinogram
 - 4.5.3.2. Multifocal electroretinogram
 - 4.5.3.3. Electrooculogram
 - 4.5.3.4. Visual evoked potentials

5. Use preventive and therapeutic interventions effectively

- 5.1. Implement a management plan in collaboration with patients and their families
- 5.2. Demonstrate appropriate and timely application of preventive interventions relevant to Ophthalmology
- 5.3. Demonstrate appropriate and timely applications of therapeutic interventions relevant to Ophthalmology
- 5.4. Obtain appropriate informed consent for therapies

6. Demonstrate proficient and appropriate use of procedural skills, both diagnostic and therapeutic

- 6.1. Demonstrate effective and appropriate use of the operating microscope and surgical loupes
- 6.2. Set up and troubleshoot phacoemulsifiers/anterior vitrector
- 6.3. Demonstrate effective, appropriate, and timely performance of diagnostic procedures relevant to Ophthalmology
 - 6.3.1. Corneal scraping for culture
 - 6.3.2. Biopsy
 - 6.3.2.1. Eyelid
 - 6.3.2.2. Conjunctiva

- 6.3.2.3. Cornea
- 6.3.2.4. Temporal artery
- 6.4. Demonstrate effective, appropriate, and timely performance of therapeutic procedures relevant to Ophthalmology
 - 6.4.1. Removal of superficial corneal and conjunctival foreign bodies
 - 6.4.2. Eyelid and periocular surgery
 - 6.4.2.1. Benign lesion removal
 - 6.4.2.2. Chalazion removal
 - 6.4.2.3. Repair of superficial eyelid and lid margin lacerations
 - 6.4.2.4. Correction of involutional malposition including but not limited to entropion, ectropion, functional blepharoplasty and trichiasis
 - 6.4.2.5. Tarsorrhaphy
 - 6.4.2.6. Canthotomy and cantholysis
 - 6.4.3. Lacrimal surgery
 - 6.4.3.1. Lacrimal probing and irrigation
 - 6.4.3.2. Punctal surgery
 - 6.4.4. Ocular surface surgery
 - 6.4.4.1. Removal of pterygium
 - 6.4.4.2. Treatment of conjunctivochalasis
 - 6.4.5. Intravitreal injection
 - 6.4.6. Recession and resection of horizontal muscles for strabismus
 - 6.4.7. Cataract extraction with intraocular lens implant
 - 6.4.8. Trabeculectomy
 - 6.4.9. Primary repair of penetrating ocular injuries and periocular trauma
 - 6.4.10. Enucleation/evisceration
 - 6.4.11. Laser procedures including
 - 6.4.11.1. Peripheral iridotomy
 - 6.4.11.2. Capsulotomy
 - 6.4.11.3. Trabeculoplasty
 - 6.4.11.4. Retinopexy
 - 6.4.11.5. Pan-retinal photocoagulation
 - 6.4.11.6. Suture lysis

- 6.5. Describe the principles, indications, techniques, and complications of the following procedures:
 - 6.5.1. Trabeculectomy with cataract surgery or with antimetabolites
 - 6.5.2. Insertion of glaucoma drainage devices and cyclodestructive procedures
 - 6.5.3. Corneal grafting and refractive procedures
 - 6.5.4. Surgery for ocular surface neoplasia
 - 6.5.5. Macular photocoagulation
 - 6.5.6. Scleral buckle and vitrectomy
 - 6.5.7. Dacryocystorhinostomy
 - 6.5.8. Surgery for torsional strabismus, vertical strabismus and nystagmus
 - 6.5.9. Management of anterior orbital dermoid cyst
 - 6.5.10. Pediatric glaucoma surgery
 - 6.6. Obtain appropriate informed consent for procedures
 - 6.7. Document and disseminate information related to procedures performed and their outcomes
 - 6.8. Recognize and manage complications arising during and after medical and surgical treatment
 - 6.9. Ensure adequate followup is arranged for procedures performed
- 7. Seek appropriate consultation from other health professionals, recognizing the limits of one's own expertise**
- 7.1. Demonstrate insight into their own limits of expertise
 - 7.2. Demonstrate effective, appropriate, and timely consultation of other health professionals as needed for optimal patient care
 - 7.3. Arrange appropriate followup care services for patients and their families/caregivers

Communicator

Definition:

As *Communicators*, Ophthalmologists effectively facilitate the doctor-patient relationship and the dynamic exchanges that occur before, during, and after the medical encounter.

Key and Enabling Competencies: Ophthalmologists are able to...

- 1. Develop rapport, trust, and ethical therapeutic relationships with patients and families**
 - 1.1. Recognize that being a good communicator is a core clinical skill for physicians, and

that effective physician-patient communication can foster patient satisfaction, physician satisfaction, adherence, and improved clinical outcomes

1.2. Establish positive therapeutic relationships with patients and their families that are characterized by understanding, trust, respect, honesty and empathy

1.2.1. Approach families in a confident and empathetic fashion to facilitate productive examination of a child

1.3. Respect patient privacy, confidentiality, and autonomy

1.4. Listen effectively

1.5. Be aware of and responsive to nonverbal cues

1.6. Facilitate a structured clinical encounter effectively

2. Elicit and synthesize accurate, relevant information and perspectives of patients and families, colleagues, and other professionals

2.1. Gather information about a disease, but also about a patient's beliefs, concerns, expectations and illness experience

2.2. Seek out and synthesize relevant information from other sources, such as a patient's family, caregivers and other professionals, including but not limited to optometrists, low vision experts, and orthoptists, while respecting individual privacy and confidentiality

3. Convey relevant information and explanations accurately to patients and families, colleagues, and other professionals

3.1. Deliver information to patients, their families, colleagues, and other professionals in a humane manner, and in such a way that it is understandable and encourages discussion and participation in decision-making

3.2. Explain to patients and their families the nature of the disease and its potential for threat to vision and general health, as well as appropriate treatment

4. Develop a common understanding on issues, problems, and plans with patients, families, and other professionals to develop a shared plan of care

4.1. Identify and explore problems to be addressed from a patient encounter effectively, including the patient's context, responses, concerns, and preferences

4.1.1. Explore the impact of potential loss of vision on patients and their families

4.2. Respect diversity and differences, including but not limited to the impact of gender, religion, and cultural beliefs on decision-making

4.3. Encourage discussion, questions, and interaction in the encounter

4.4. Engage patients, their families, and relevant health professionals in shared decision-making to develop an appropriate plan of care

- 4.5. Address challenging communication issues effectively, including but not limited to obtaining informed consent, delivering bad news, and addressing anger, confusion and misunderstanding
 - 4.5.1. Deliver, in a comprehensive and compassionate way, information about vision loss, loss of independence, and loss of ability to perform activities of daily living
 - 4.6. Communicate effectively in a multidisciplinary environment
- 5. Convey oral, written, and/or electronic information effectively about a medical encounter**
- 5.1. Maintain clear, concise, accurate, and appropriate records of clinical encounters, procedures, and plans
 - 5.2. Present oral reports of clinical encounters, procedures and plans
 - 5.3. Convey medical information appropriately to ensure safe transfer of care
- 6. Present medical information effectively to the public or media about a medical issue**

Collaborator

Definition:

As *Collaborators*, Ophthalmologists work effectively within a health care team to achieve optimal patient care.

Key and Enabling Competencies: Ophthalmologists are able to...

- 1. Participate effectively and appropriately in an interprofessional health care team**
 - 1.1. Describe the Ophthalmologist's roles and responsibilities to other professionals
 - 1.2. Describe the roles and responsibilities of other professionals within the health care team
 - 1.3. Recognize and respect the diverse roles, responsibilities and competencies of other professionals in relation to their own
 - 1.4. Work with others to assess, plan, provide, and integrate care for individuals and groups of patients
 - 1.4.1. Confer and work effectively with other Ophthalmologists and colleagues in other disciplines
 - 1.4.2. Support and work effectively with orthoptists, technical staff, nurses, and other health professionals
 - 1.4.3. Work effectively with colleagues who are essential to the delivery of patient

care including but not limited to clerical and administrative staff

- 1.5. Work collaboratively in other activities and tasks; examples are research, educational work, program review, and/or administrative responsibilities
- 1.6. Participate in interprofessional team meetings
- 1.7. Enter into interdependent relationships with other professions for the provision of quality care
- 1.8. Describe the principles of team dynamics
- 1.9. Respect team ethics, including confidentiality, resource allocation, and professionalism
- 1.10. Demonstrate leadership in a health care team, as appropriate

2. Work with other health professionals effectively to prevent, negotiate, and resolve interprofessional conflict

- 2.1. Demonstrate a respectful attitude towards colleagues and members of an interprofessional team
- 2.2. Work with other professionals to prevent conflicts
- 2.3. Employ collaborative negotiation to resolve conflicts and address misunderstandings
- 2.4. Respect differences and the scopes of practice of other professionals
- 2.5. Reflect on their own differences, misunderstandings, and limitations that may contribute to interprofessional tension
- 2.6. Reflect on interprofessional team function

Manager

Definition:

As *Managers*, Ophthalmologists are integral participants in health care organizations, organizing sustainable practices, making decisions concerning the allocation of resources, and contributing to the effectiveness of the health care system.

Key and Enabling Competencies: Ophthalmologists are able to...

1. Participate in activities that contribute to the effectiveness of health care organizations and systems

- 1.1. Work collaboratively with others in health care organizations
 - 1.1.1. Function effectively in health care organizations, ranging from an individual clinical practice to organizations at the local, regional and national level
- 1.2. Participate in systemic quality process evaluation and improvement, including but not limited to patient safety initiatives

- 1.3. Describe the structure and function of the health care system as it relates to Ophthalmology, including the roles of physicians
 - 1.3.1. Describe how health care governance influences patient care, research and educational activities at the local, provincial, regional, and national level
 - 1.3.2. Describe population-based approaches to health care services and their implication for medical practice
 - 1.4. Describe principles of health care financing, including physician remuneration, budgeting, and organizational funding as it relates to Ophthalmology
- 2. Manage practice and career effectively, understanding personal limitations and seeking out appropriate advice**
- 2.1. Set priorities and manage time to balance patient care, practice requirements, outside activities, and personal life
 - 2.2. Manage a practice, including finances and human resources
 - 2.3. Implement processes to ensure personal practice improvement
 - 2.4. Employ information technology appropriately for practice management and patient care
- 3. Allocate finite health care resources appropriately**
- 3.1. Recognize the importance of just allocation of health care resources, balancing effectiveness, efficiency, and access with optimal patient care
 - 3.2. Apply evidence and management processes for cost-appropriate care
- 4. Serve in administration and leadership roles, as appropriate**
- 4.1. Chair or participate effectively in committees and meetings
 - 4.2. Lead or implement change in health care
 - 4.3. Plan relevant elements of health care delivery, such as work schedules

Health Advocate

Definition:

As *Health Advocates*, Ophthalmologists use their expertise and influence responsibly to advance the health and well-being of individual patients, communities, and populations.

Key and Enabling Competencies: Ophthalmologists are able to...

- 1. Respond to individual patient health needs and issues as part of patient care**
 - 1.1. Identify the health needs of an individual patient within the context of his/her family, and cultural and socioeconomic situation
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- 1.2. Recognize that when dealing with pediatric patients, the child is the patient and advocate in the child's best interests, while incorporating their family's wishes
- 1.3. Identify opportunities for advocacy, health promotion, and disease prevention for and with individuals to whom they provide care
 - 1.3.1. Counsel patients and, when necessary, intervene on behalf of patients with respect to biological, social, and economic factors that may impact on their health, including but not limited to smoking cessation and protective eye wear
 - 1.3.2. Encourage the use of appropriate protective eye wear for sports, work, and sun protection
 - 1.3.3. Promote a healthy lifestyle and control of risk factors, including but not limited to:
 - 1.3.3.1. Regular physical activity
 - 1.3.3.2. Glycemic control
 - 1.3.3.3. Blood pressure management
 - 1.3.3.4. Smoking cessation
 - 1.3.3.5. Healthy nutrition
 - 1.3.4. Support individuals with visual impairment in their integration to the workplace or school
 - 1.3.5. Facilitate access to local and national resources available for those with visual impairments, including but not limited to special needs education through the school systems, low vision services, and the Canadian National Institute for the Blind (CNIB)
 - 1.3.6. Justify and support the need for financial aid when appropriate for patients with disabilities or for patients requiring expensive treatments
- 1.4. Recognize and respond to the barriers that may lead to treatment failure including but not limited to non-adherence, inability to afford medications, drug side effects and poor eye drop instillation
- 1.5. Demonstrate an appreciation of the possibility of competing interests between individual advocacy issues and the community at large

2. Respond to the health needs of communities that they serve

- 2.1. Describe the practice communities that they serve
- 2.2. Identify opportunities for advocacy, health promotion, and disease prevention in communities, and respond appropriately
 - 2.2.1. Advocate to decrease the burden of illness, conditions, or problems relevant to Ophthalmology at a community or societal level, through the following:
 - 2.2.1.1. Canadian Ophthalmological Society
 - 2.2.1.2. Canadian Medical Association

- 2.2.1.3. Community-based advocacy groups, including but not limited to the CNIB, blindness and low vision groups, and service clubs, public education bodies and private organizations

- 2.3. Demonstrate an appreciation of the possibility of competing interests between the communities served and other populations

3. Identify the determinants of health for the populations that they serve

- 3.1. Identify the determinants of visual health of populations, including barriers to access to care and resources
- 3.2. Encourage behaviours which promote visual health and safety, including but not limited to regular age-specific eye screening, and regular eye screening in at-risk patients at the level of the individual patient, a practice population, or the general population
- 3.3. Identify vulnerable or marginalized populations within those served and respond appropriately
 - 3.3.1. Work with the Canadian Ophthalmological Society and other associations, including but not limited to the CNIB, to identify current at-risk groups
 - 3.3.2. Apply the available knowledge about disease prevention for at-risk groups
 - 3.3.3. Contribute group data for better understanding of health problems within the population

4. Promote the health of individual patients, communities, and populations

- 4.1. Describe an approach to implementing a change in a determinant of health of the populations they serve
- 4.2. Describe how public policy impacts the health of the populations served
 - 4.2.1. Describe how health policy is developed
 - 4.2.2. Identify current policies that affect health, either positively or negatively
 - 4.2.3. Describe in broad terms the key issues currently under debate, including but not limited to public health care funding, co-management issues, and allocation of resources in the Canadian health care system as they relate to Ophthalmology, and indicate how these changes might affect societal health outcomes
 - 4.2.4. Promote policies which encourage appropriate visual screening of populations at risk for ocular disease
 - 4.2.5. Help to protect populations at risk of ocular injury or disease, and provide appropriate resources to those affected by ocular injury or disease
- 4.3. Identify points of influence in the health care system and its structure
 - 4.3.1. Cite examples of how policy was changed as a result of actions by physicians

- 4.4. Describe the ethical and professional issues inherent in health advocacy, including altruism, social justice, autonomy, integrity, and idealism
- 4.5. Demonstrate an appreciation of the possibility of conflict inherent in their role as a health advocate for a patient or community with that of manager or gatekeeper
- 4.6. Describe the role of the medical profession in advocating collectively for health and patient safety

Scholar

Definition:

As *Scholars*, Ophthalmologists demonstrate a lifelong commitment to reflective learning, and the creation, dissemination, application, and translation of medical knowledge.

Key and Enabling Competencies: Ophthalmologists are able to...

1. Maintain and enhance professional activities through ongoing learning

- 1.1. Describe the principles of maintenance of competence
- 1.2. Describe the principles and strategies for implementing a personal knowledge management system
- 1.3. Recognize and address learning issues in practice
- 1.4. Conduct personal practice audits
- 1.5. Pose an appropriate learning question
- 1.6. Access and interpret the relevant evidence
- 1.7. Integrate new learning into practice
- 1.8. Evaluate the impact of any change in practice
- 1.9. Document the learning process

2. Critically evaluate medical information and its sources, and apply this appropriately to practice decisions

- 2.1. Describe the principles of critical appraisal
- 2.2. Critically appraise retrieved evidence in order to address a clinical question
- 2.3. Integrate critical appraisal conclusions into clinical care

3. Facilitate the learning of patients, families, students, residents, other health professionals, the public, and others

- 3.1. Describe principles of learning relevant to medical education
- 3.2. Identify collaboratively the learning needs and desired learning outcomes of others
- 3.3. Select effective teaching strategies and content to facilitate others' learning

- 3.4. Deliver effective educational and evidence-based presentations using appropriate audio-visual aids
- 3.5. Assess and reflect on teaching encounters
- 3.6. Provide timely and effective feedback
- 3.7. Describe the principles of ethics with respect to teaching

4. Contribute to the development, dissemination, and translation of new knowledge and practices

- 4.1. Describe the principles of research and scholarly inquiry
- 4.2. Describe the principles of research ethics
- 4.3. Pose a scholarly question
- 4.4. Conduct a systematic search for evidence
- 4.5. Select and apply appropriate methods to address the question
- 4.6. Disseminate the findings of a study
- 4.7. Participate in a scholarly research, quality assurance, or educational project relevant to Ophthalmology, demonstrating primary responsibility for at least one of the following elements of the project:
 - 4.7.1. Development of the hypothesis, which must include a comprehensive literature review
 - 4.7.2. Development of the protocol for the scholarly project
 - 4.7.3. Preparation of a grant application
 - 4.7.4. Development of the research ethics proposal
 - 4.7.5. Interpretation and synthesis of the results

Professional

Definition:

As *Professionals*, Ophthalmologists are committed to the health and well-being of individuals and society through ethical practice, profession-led regulation, and high personal standards of behaviour.

Key and Enabling Competencies: Ophthalmologists are able to...

1. Demonstrate a commitment to their patients, profession, and society through ethical practice

- 1.1. Exhibit appropriate professional behaviors in practice, including honesty, integrity, commitment, compassion, respect and altruism
 - 1.1.1. Attend all clinical and teaching activities when scheduled, preparing in advance as needed

- 1.2. Demonstrate a commitment to delivering the highest quality care and maintenance of competence
 - 1.2.1. Receive feedback openly and implement change accordingly
- 1.3. Recognize and appropriately respond to ethical issues encountered in practice
- 1.4. Identify, declare, and manage perceived, potential and actual conflicts of interest
- 1.5. Recognize the principles and limits of patient privacy and confidentiality, as defined by the law and professional practice standards
- 1.6. Maintain appropriate boundaries with patients

2. Demonstrate a commitment to patients, profession, and society through participation in profession-led regulation

- 2.1. Demonstrate knowledge and understanding of professional, legal, and ethical codes of practice
- 2.2. Fulfil the regulatory and legal obligations required of current practice
 - 2.2.1. Demonstrate an awareness of reporting requirements including but not limited to infections, failure to meet visual driving requirements, child abuse, and eye injuries
- 2.3. Demonstrate accountability to professional regulatory bodies
- 2.4. Recognize and respond appropriately to others' unprofessional behaviours in practice
- 2.5. Participate in peer review

3. Demonstrate a commitment to physician health and sustainable practice

- 3.1. Balance personal and professional priorities to ensure personal health and a sustainable practice
- 3.2. Strive to heighten personal and professional awareness and insight
- 3.3. Recognize other professionals in need and respond appropriately

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