

OPHTHALMOLOGY

OBJECTIVES

At the end of the course, the learner shall be able to :

1. Identify common diseases of the eye
2. Diagnose and treat common diseases of the outer eye—conjunctivitis, sty, extraocular foreign body, corneal abrasion, vitamin A deficiency
3. Recognise and initiate treatment (prior to referral) for sight threatening diseases like acute glaucoma, keratomalacia, corneal ulcer, ocular trauma, alkali/chemical injuries
4. Demonstrate knowledge of blindness and its causation. Be an active participant in the implementation of the National programmes for control and prevention of blindness.

COURSE CONTENTS:

Knowledge - course content

COURSE CONTENT

Introduction

Anatomy of the eye- including Visual pathway, Extraocular muscles.

Physiology - Aqueous humour formation, tear film, fields.

Pharmacology—ophthalmic preparations, modes of administration, Antibiotics, antivirals, antifungals, antiglaucoma drugs, mydriatics and cycloplegics, ocular toxicity of systemic, ocular medication,

Elementary optics: Strums' conoid, donders eye

Course contents

Title	Must know	Desirable to know
Acute Conjunctivitis, Trachoma, Allergic conjunctivitis, Pingecula, Pterygium, Xerosis/bitot spots,	✓	
Chronic conjunctivitis, Dry eye, Membranous conjunctivitis, Inclusion conjunctivitis		✓
Corneal inflammations :Corneal Ulcers -bacterial , fungal, viral Vitamin A Deficiency and keratomalacia Exposure keratitis, Neuroparalytic kerattitis Corneal blindness, Eye banking, eye donation, Keratoplasty Arcus senilis	✓	
Deep /interstitial keratitis, Degenerations and dystrophies, Overview of keratorefractive surgery.		✓
Scleritis, episcleritis	✓	
Iridocylitis, Panophthalmitis, Endophthalmitis	✓	
Systemic associations of uveitis, Choroiditis, Coloboma iris		✓
Vitreous hemorrhage -causes	✓	
Angle closure glaucoma, Open angle glaucoma, steroid glaucoma, lens induced glaucoma	✓	

	Must know	Desirable to know
Secondary glaucomas, Congenital glaucoma		✓
Fundus changes in Diabetes, Hypertension, anaemias, Pregnancy induced hypertension, Hematological disorders, Myopia. : Photocoagulation : Retinal vascular diseases—Central retinal occlusion, Central retinal vein occlusion,	✓	
Retinopathy of prematurity, Retinitis pigmentosa, retinoblastoma		✓
Papilledema, Optic neuritis, Optic atrophy.	✓	
Awareness of amblyopia, Types of squint(Paralytic, non paralytic)	✓	
Common causes of proptosis, Orbital cellulitis, Cavernous sinus thrombosis	✓	
Dacryocystitis—congenital, Acute, chronic. Dry eye	✓	
Inflammations, ectropion entropion, trichiasis, ptosis, lagophthalmos, symblepharon, blepharitis	✓	
Myopia, hypermetropia, Astigmatism, Presbyopia, aphakia/ pseudophakia, Anisometropia	✓	
Chemical injuries and first aid treatment, Open globe injuries, closed globe injuries.	✓	
Siderosis bulbi, Chalcosis, medico legal aspects		✓
Defintion and types of blindness.: Causes of blindness : Promotion of eye donation : NPCB, Vision 2020, Eye camps	✓	
Symptomatic disturbances of vision	✓	
Overview of Recent advances in ophthalmology		✓
Lasers in ophthalmology		✓

Examination skills

Skills	Able to perform independently	Able perform under guidance	Assist	Observe
1. Visual acuity test and Use of pinhole (including light perception, projection)	✓			
2. Colour vision test		✓		
3. Visual field by confrontation	✓			
4. Hirschberg test to detect obvious squint	✓			
5. Examination of ocular movements	✓			
6. Assessment of corneal sensation	✓			
7. Flourescein staining to identify corneal abrasion		✓		
8. Assessment of Anterior chamber depth		✓		
9. Pupillary size and reaction	✓			
10. Distant direct ophthalmoscopy on dilated		✓		

	Able to perform independently	Able perform under guidance	Assist	Observe
pupils to diagnose lens opacities				
11. Method of Direct ophthalmoscopy		✓		
12. Schiottz's Tonometry				✓
13. Syringing				✓
14. Instillation of eye drops/ointment		✓		
15. Irrigation of conjunctiva	✓			
16. Applying an eye patching				✓
17. Epilation of cilia				✓
18. Eversion of upper eye lid				✓
19. Use of lid retractors to examine the eye of a child			✓	
20. Digital tonometry	✓			
21. Removal of extraocular (non corneal) foreign body				✓
22. Entropion surgery				✓
23. Cataract surgery				✓
24. Glaucoma surgery				✓
25. Keratoplasmy				✓

TEACHING AND LEARNING METHOD

By interactive sessions

Group discussions

Objective structures clinical examination

Ist and 2nd station of common skills

Self assignments

Case records

Problem based exercises with examples

Learning resource material

Text books

Journals

CDs

Videos

TEXT BOOKS OF OPHTHALMOLOGY

Parssons' Diseases of the Eye , 20th Ed. Revised by Dr. Ramanjit Sihota and Radhika Tandon, Published by Butterworth - Heinemann, Elsevier.

Text of Ophthalmology by Khurana, 4th Ed 2007 published by New Age International P. Ltd.

Clinical Ophthalmology by Kansaki, 5th Ed published by Elsevier.

Systemic Ophthalmology by Kansaki.

CLINICAL TEACHING DURING POSTING

Clinical posting in batches during 3rd to 7th semester -60 sessions of 3 hrs each (180 hrs)

Theory lectures, Tutorials, Group discussion, integrated teaching, seminars,

Starting from 4th to 7th semester - approx 100 lectures of 1 hr each (100 hrs)

Suggested topics for integrated teaching modules

- HIV/AIDS
- Endocrine disorders - Diabetes mellitus - thyroid
- Anaemias
- Hypertension
- Congenital anomalies.
- Death and dying
- Molecular biology
- Immunology and organ transplant
- Hospital waste infection
- Cancer therapy
- Headache
- Poisoning
- Collagen disorders
- Association of skin diseases with eye diseases
- Local toxicity of systemic medication
- Nutritional disorders
- Pituitary tumors
- National programmes
- Common neurological diseases
- Tuberculosis and leprosy
- Coma

Topics for E-modules:

Fundus changes in systemic, metabolic, neurological and optic nerve diseases

Surgical techniques