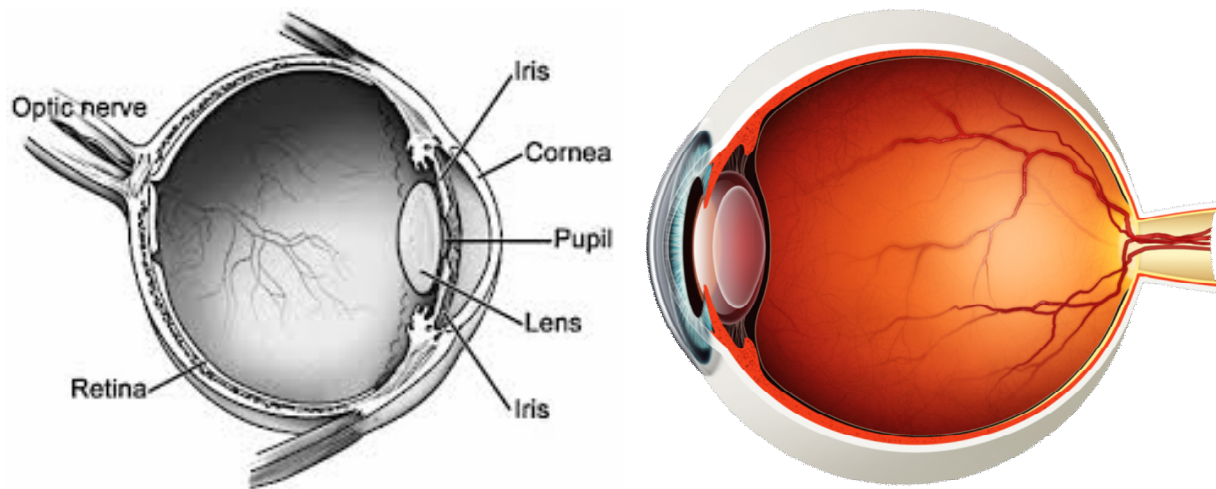


AJK Medical College, Muzaffarabad

Special Senses-I (Eye) Module SPS-I-0302 Class (4th Year)



Pre-Requisite: NEU-II Module

Duration: 3 Weeks

Starting on:

DEPARTMENT OF MEDICAL EDUCATION

Module Development Team

S.No	Name	Role
1	Dr. Bushra Sherwani	Planner
2.	Dr. Malik Mehmood	Coordinator
3.	Dr. Ziyad Afzal Kayani	DME
4.	Dr. Lt Col Jawwad Ahmad	Member
5.	Dr. Muneer Baig	Member
6.	Dr. Ashfaq Ahmed	Member

ToS

1	RED EYE	15%
2	INSIDIOUS VISUAL LOSS	20%
3	SUDDEN VISUAL LOSS	15%
4	WATERING EYE	10%
5	DRY EYE	10%
6	DEVIATED EYE	15%
7	LEUKOCORIA	10%
8	COMMUNITY OPHTHALMOLOGY	5%

INTRODUCTION OF MODULE/RATIONALE

Vision is the greatest gift of God. Eye is a window for brain to the outside and a window for physician to the inside of the human body. The maximum learning and execution of thoughts is through eyes as 1/3rd of brain's cognitive functions are dependent on sight. Slight impairment of vision can affect the daily chores of a person and hamper the quality of life. Visual impairment can result in a significant loss of learning activity of the brain and can lead to various morbidities that lead to stress, along with poor quality of life.

The commonest causes of blindness in third world countries as well as Pakistan are preventable and include trachoma, cataract and diseases due to deficiency of Vitamin A. They constitute a major proportion of all the cases of blindness. The other causes of loss of vision include diseases like, glaucoma, diabetic, retinopathies etc. If detected early then the progression of disease (blindness, decrease in vision) can be delayed or even be prevented.

Another problem that is significant in a younger age group is undiagnosed refractive errors.

A majority of systemic problems like, endocrine disorders, respiratory, cardiovascular and central nervous system illnesses manifest through the eyes. Various neurological diseases are diagnosed through examination of the eye like ocular motility, fundoscopy and visual field examination.

Organization of Module

The module consists of eight themes, each based on real life situation. The module will employ different modes of instruction, briefly described below. Major emphasis will be on discussion, analysis and deduction; all by the students and guided by the faculty.

Content Delivery

Entire curriculum will be delivered by clinical case scenarios each covering a theme. Read the cases and objectives of the theme which you are supposed to encounter next day, understand and explain the case to yourself and read the relevant information. Following learning/teaching strategies will be employed to discuss the cases

Teaching Strategies

The content of this module will be delivered by a combination of different strategies. These include large group interactive sessions (LGIS), small group discussions (SGD), PBL sessions, SDL/DSL and clinical skill sessions

1. Large group Interactive sessions (LGIS)

Large group instruction will be employed most of the time. Attend large group sessions with the following focus

- a. Try to understand and Identify important points
- b. Ask questions of points not well understood.
- c. Measure your learning comprehension

2. Small group discussion (SGD)

Some part of the course content will be delivered in small group sessions. Every group will have a facilitator assigned to it. The facilitator will be there to keep you on track, giving you maximum liberty to discuss and achieve the objectives as a group. Small groups in some cases may be followed by a wrap up session. Rest of the information will be there in the schedule.

3. Videos

Videos of various surgical procedures will be shown to give you an idea about the basic concept of the procedure.

4. Hands-on Activities/ Practical

Practical activities, linked with the case, will take place.

5. SDL and DSL (Self-Directed Learning and directed self learning)

A few SDLs and DSLs have been added in between to create an environment for you to search literature as well as to deduce and synthesize information from different sources to meet the learning objectives. It will also help in breaking the monotonous / strenuous schedule and make you life- long learner.

6. PBL session A.

Assessment: At the end of the module, assessment will take place, which will contribute towards the marks of internal assessment at the end of the academic year.

Themes and Learning Objectives

1. RED EYE

At the end of the module, the students should be able to, identify the clinical signs and symptoms, decide appropriate investigations, interpret their results and suggest treatment of the following diseases:

- i. Conjunctivitis, including bacterial, viral, chlamydial and allergic conjunctivitis
- ii. Preseptal cellulitis, and its differentiation from orbital cellulitis
- iii. Orbital cellulitis

- iv. Episcleritis
- v. Scleritis
- vi. Sub-conjunctival hemorrhage
- vii. Anterior uveitis
- viii. Acute congestive glaucoma
- ix. Keratitis
- x. Ocular trauma, including penetrating injuries, perforating injuries and chemical injuries.
- xi. Blepharitis

2. Leukocoria

At the end of the module, the students should be able to, identify the clinical signs and symptoms, discuss the risk factors of, and suggest appropriate investigations and discuss management of

- i. Congenital cataract
- ii. R.O.P
- iii. Retinoblastoma
- iv. P.H.P.V

3. DRY EYE

At the end of module, students should be able to

- i. Describe the role of vitamin A in maintaining normal vision, effects of its deficiency on anterior and posterior segment
- ii. Enlist the systemic causes of Vit. A deficiency.
- iii. Describe systemic associations, clinical sign and symptoms of Keratoconjunctivitis sicca. They should be able to discuss the medical and surgical management of a case of KCS.

4. WATERING EYE

- i. Describe the anatomy of the lacrimal drainage apparatus and the mechanism of Lacrimal pump.
- ii. Diagnose a case of congenital naso-lacrimal duct blockage, define its management including counselling of the mother.
- iii. Define the clinical features of and diagnose a case of acute and chronic dacryocystitis and describe their management
- iv. Define , diagnose and describe the treatment of Entropion, Ectropion,

5. DEVIATED EYE

The students should be able to

- i. Describe control of and demonstrate actions and extra-ocular muscles
- ii. Define various terms used to describe strabismus, including tropia, phoria, paralytic and non- paralytic strabismus and be able to diagnose them.
- iii. Differentiate between paralytic and non-paralytic strabismus.
- iv. Describe the causes, investigation and treatment of non-paralytic strabismus, including accommodative esotropia, partially accommodative esotropia and exotropias.
- v. Define proptosis, enlist its causes, including dysthyroid eye disease, identify its clinical presentations and discuss its treatment.

6. INSIDIOUS VISUAL LOSS

At the end of the theme, the students should be able to describe

- i. The anatomy of the retina, vitreous, optic nerve, visual and pupillary pathway.
- ii. Physiology of accommodation, dark and light adaptation
- iii. Optics of eye
- iv. Various refractive errors and their optical and surgical correction including correction using LASER.
- v. Etiology of ptosis, its significance in children. How to diagnose it, and enumerate the surgical procedures used to treat it.
- vi. Amblyopia, its causes and treatment
- vii. The mechanism, presentation, diagnosis and management of open angle glaucoma.

- viii. Effects of systemic disorders like diabetes and hypertension in producing defective vision, and the medical and surgical management of various forms of retinopathies
- ix. Etiology, sign and symptoms of retinal detachment, vitreous hemorrhage, retinal vascular occlusion as well as their diagnosis and management
- x. The etiology, presentations and management of acquired cataract.
- xi. Clinical features of A.R.M.D, its diagnosis and treatment.
- xii. Clinical features of hereditary retinal dystrophies, Including Retinitis Pigmentosa.

7. SUDDEN VISUAL LOSS

At the end of the module, the students should be able to, identify the clinical signs and symptoms, discuss the risk factors of, and suggest appropriate investigations and discuss management of

- i. Retinal vascular occlusions
- ii. Retinal detachment
- iii. Angle closure glaucoma
- iv. Vitreous hemorrhage

8. COMMUNITY OPHTHALMOLOGY

The students should be able to

- i. Discuss the importance of the role of community ophthalmology, including prevention of blindness.
- ii. Define blindness in term of W.H.O defined parameters.
- iii. Define and discuss the Vision 20/20 program.

Clinical cases

Theme 1.

Clinical scenario:

A 25 years old man was brought to the emergency department of Abbas Institute of Medical Sciences with a history of splash of some paint in the eye while painting the roof of a house nearby.

After thoroughly washing the eye with normal saline for ten minutes , with eversion of the upper eyelids as well, the following were observed:

	Right eye	Left eye	
Visual acuity	6/9	6/9	With pin hole
	6/9	6/9	
Lids	Mild erythema		both eyes
Lashes	Normal	Normal	
Conjunctiva	congested, with dilated blood vessels and all quadrants, both eyes		
Cornea	Hazy	Hazy	
Anterior chamber	Details not clearly visible		Both eyes
I.O.P	18	16	
Lens	Normal	Both eyes	
Fundus	Normal	Both eyes.	

CRITICAL QUESTIONS:

1. Why is it necessary to immediately wash the eye even before taking a detailed history and examining the eye?
2. What types of chemicals are more injurious to the eye, acids or alkalis?
3. How do we assess the extent of damage to the eye by observing limbal ischemia?
4. What is the visual prognosis of an eye with mild, moderate or severe chemical injury?
5. What is the role of Vitamin C in this case?
6. How do we medically treat an eye with chemical injury?
7. What are the long term complications of chemical injuries?
8. What is symblepharon?

Theme 4

A 40-year-old woman comes to OPD of AIMS complains that her eyes are always watering.

History of Present Illness:

She states that she has to dry her eyes constantly as the tears keep running down her cheeks, and she believes that this is causing her lower lids to appear red.

Past Medical History:

She cannot recall when it all started, but is certain that the Watering has persisted for years, and is gradually becoming worse. No history of any major illness in the past

Personal Health:

She does not follow any particular diet.

Family Medical History:

No history of any major illness in the family

Social History and Lifestyle:

She is a maid servant in Upper plate and lives in a single room house with a family of 6 persons.

Review of Systems:

Non remarkable

Psych: Patient feels a little bit depressed

Examination:

Eye Examination:

The visual acuity is normal

Further examination reveals symmetrical thickening and redness of her lower eyelids, and on closer inspection, it is apparent that the eyelashes of lower lids are everted and pointing inferiorly. The puncta of the inferior canaliculi on both sides are also not in contact with the eyeball. Examination of the cornea after the instillation of 2% fluorescein drops does not reveal an obvious epithelial defect.

General physical examination

Temperature: 99F

Pulse: 80 bpm with normal peripheral pulses

Respiration: 18 pm

Blood Pressure: 110/70 mmHg

General Appearance: 40 Year old woman, oriented to person, place and time, bit anxious.

Neck: Thyroid not palpable, trachea central,

CVS: No jugular venous distention, no carotid bruit, no murmurs on auscultation; normal S1 and S2

Respiration: Normal shape chest, equal movements bilaterally, with vesicular breathing, no added sound

GIT: flat; non-tender to palpation; no masses; no hepato-splenomegaly, bowel sound present

CNS: No neurological deficit found

CRITICAL QUESTIONS:

1. What are the parts of lacrimal production and drainage apparatus
2. What is the role of lacrimal pump in the drainage of tears?
3. How can you differentiate between over production of tears and obstruction to drainage?
4. What is the role of tears in the health of the ocular surface?

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Schedule for SPS-I (Eye) Module 4th Year MBBS

Week-1

Time	Monday	Tuesday	Wednesday	Thursday	Friday
	8 –9 9-10	LGI S Introduction to the Module and Team Over view of Anatomy Dr. Bushra & Module Team	LGI S Ocular Trauma Lt. Col. Jawwad	LGI S Acute Congestive Glaucoma Dr. Bushra	LGIS Pre-Septal Cellulitis Orbital Cellulitis Lt. Col. Jawwad
10–1030	Tea Break (10:00–10:30 AM)				
10.30–12:30	Clinical Rotation	Clinial Rotation	Clinical Rotation	Clinical Rotation	Community medicine
12.30–1:30					
Lunch and Prayer Break (1:30–2:00 PM)					
2:00–3:00	LGI S Allergic Conjunctivitis Dr. Munir	LGIS Anterior Uveitis Dr. Munir Baig	OCULAR PATHOLOGY	LGI S Painless Red Eye Dr. Munir	SDL
3:00-4:00PM	SDL	SDL	SDL	SDL	

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Schedule for SPS-I (Eye) Module 4th Year MBBS

Week-2

Time	Monday	Tuesday	Wednesday	Thursday	Friday
8 – 9 AM	PBL-IA Dr. Bushra	LGIS KCS Lt. Col. Jawwad	LGIS E.N.T Manifestation of Eye Diseases Dr Farooq	LGIS Retinal detachment Lt. Col. Jawwad	TBL Squint Dr. Bushra
9-10AM	LGIS Pathology Tumors Prof. Anwar	SGD Dacryocystitis Team-4	LGIS Ophth. Manifestation Of hem disease DR.Mehmood	LGIS Ocular Pharmacology Prof. M. Arif	TBL Squint Dr. Bushra
Tea Break (10:00 – 10:30 AM)					
10.30– 12:30	Clinical Rotation	Clinical Rotation	Clinical Rotation	Clinical Rotation	TBL Squint Dr. Bushra
12.30– 1:30					
Lunch and Prayer Break (1:30–2:00PM)					
2:00- 3:00	LGIS School Health Services Prof. Brig® Ahmed Khan/Dr. Murtaza Gillani	LGIS . Retinal vascular occlusions Dr. Bushra	Skill Lab clinical methods Dr. Munir, Dr. Bushra	LGIS Vitamin A Dr. Munir	SDL
3:00- 4:00PM	SDL	SDL		SDL	

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Schedule for SPS-I (Eye) Module 4th Year MBBS

Week-3

Time	Monday	Tuesday	Wednesday	Thursday	Friday
8-9	LGIS A.R.M.D Lt. Col. Jawwad	LGIS Retinal Detachment Lt. Col. Jawwad	PBL-1B Dr. Bushra	LGIS Lesions of visual pathway Lt. Col. Jawwad	LGIS Refractive errors Dr. Munir
9-10	LGIS Open Angle Glaucoma Dr. Munir	LGIS R.P Dr. Bushra		LGIS Disorders of Eyelids Dr. Munir	LGIS Vision 2020 Dr. Munir
Tea Break (10:00–10:30 AM)					
10.30– 12:30	Clinical Rotation	Clinical Rotation	Clinical Rotation	Clinical Rotation	LGIS
12.30– 1:30					Radiology Dr. Shoukat Dar
Lunch and Prayer Break (1:30–2:00 PM)					
2:00- 3:00	LGIS Preoperative evaluation of senile cataract Dr. Bushra	LGIS Papilledema Dr. Munir	LGIS Paralytic squint Dr. Munir	LGIS Amblyopia Dr. Bushra	Revision
3:00- 4:00PM	SDL	SDL	SDL	SDL	



Inquires & trouble shooting

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