NPHCDA

MODULE 12: MANAGEMENT OF COMMON ORAL, EYE AND EAR DISEASES IN PRIMARY HEALTHCARE

February 2024

Overview of Oral, Ear & Eye

1

Oral care encompasses the practices and routines essential for maintaining healthy teeth, gums, and a fresh breath. It's about more than just sparkling whites; good oral hygiene plays a crucial role in overall health and well-being.



Oral (mouth)



Ear

Our ears are marvels of engineering, responsible for capturing the intricate tapestry of sound that enriches our lives. But like any delicate instrument, they require proper care to function optimally. Here's a quick overview of essential ear care practices:

2

3

Our eyes are precious instruments, providing us with the gift of sight and shaping our understanding of the world around us. Maintaining their health is therefore crucial, both for optimal vision and overall well-being. Eye care encompasses a variety of practices and interventions aimed at preventing, diagnosing, and treating eye diseases and conditions.



Eye

Overview of Oral, Ear & Eye

Sessions	Components
12.1	**ORAL CARE (MOUTH)**
12.2	EAR CARE
12.3	EYE CARE

Learning Objectives

At the end of this session, Participants will be able to;

1. Understanding the Importance of Oral Health:
2. Define Oral health and its connection to overall health.
3. Recognize the impact of Oral health on quality of life

Exercise



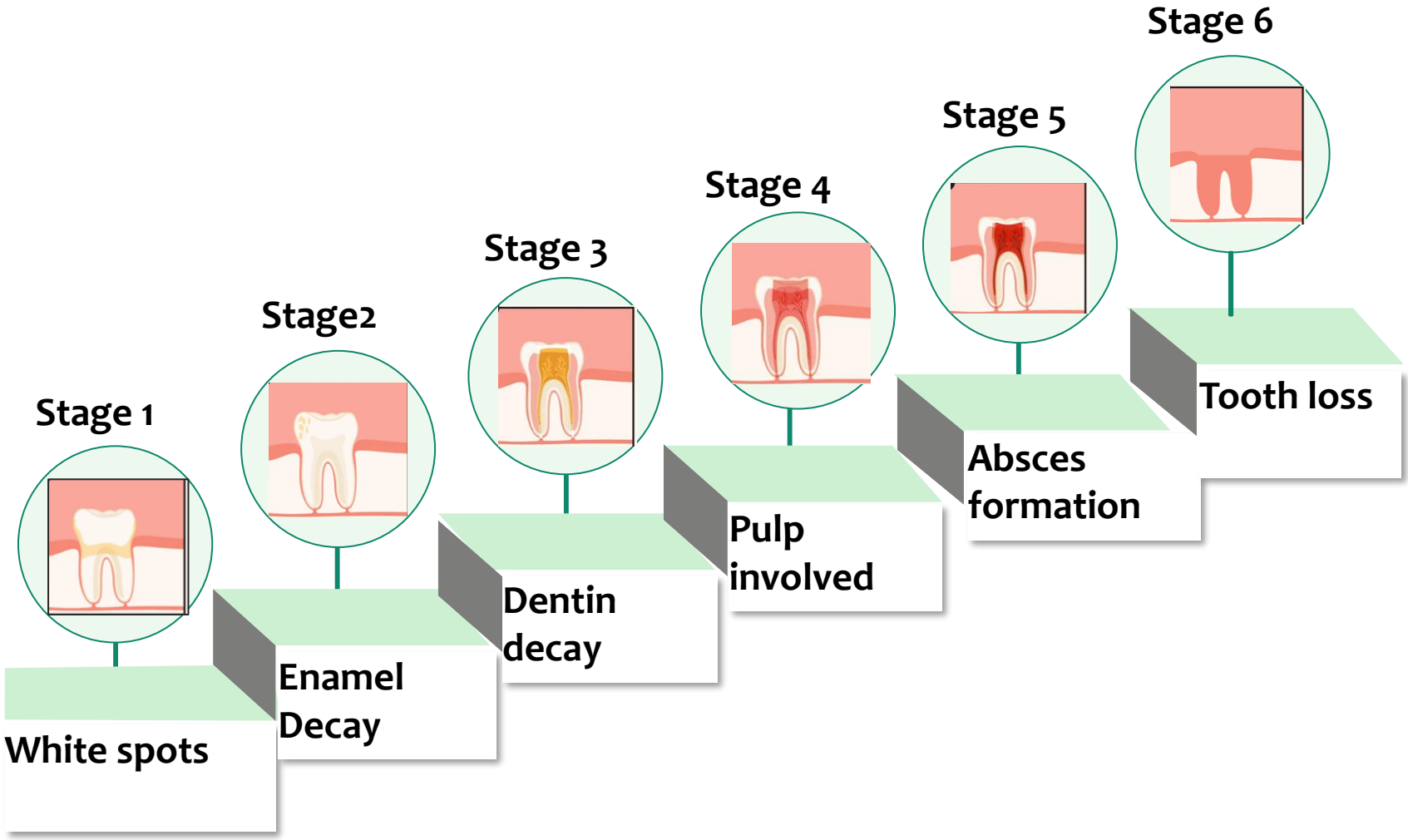
1. What are the common oral diseases?

2. What are their symptoms ?

Stages of tooth decay

Dental caries results when plaque forms on the surface of a tooth and converts the free sugars (all sugars added to foods by the manufacturer, cook or consumer, plus sugars naturally present in honey, syrups and fruit juices) contained in foods and drinks into acids that destroy the tooth over time.

A continued high intake of free sugars, inadequate exposure to fluoride and a lack of removal of plaque by toothbrushing can lead to caries, pain and sometimes tooth loss and infection



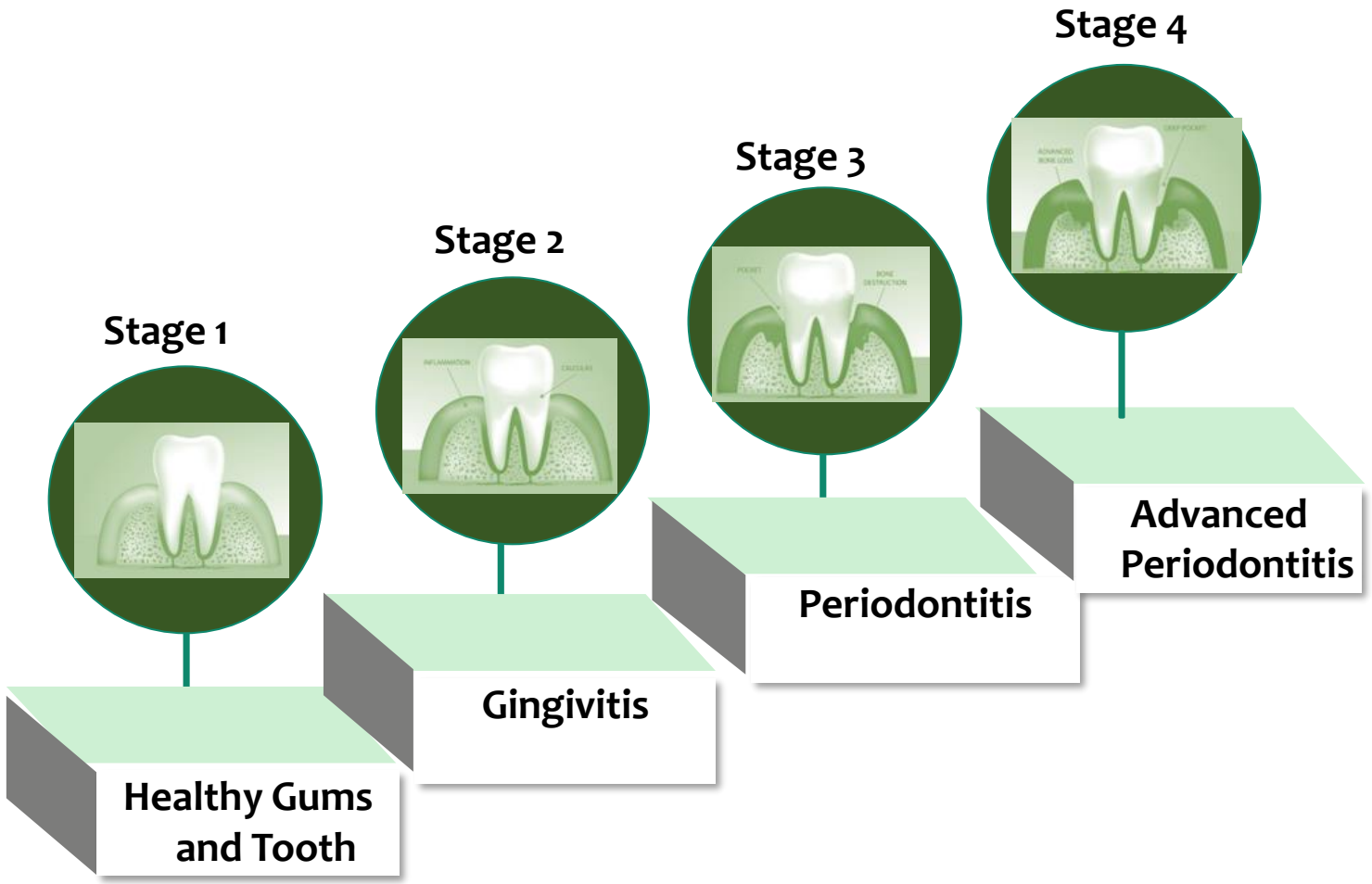
Stages of Periodontal (Gum) Disease

Periodontal disease affects the tissues that both surround and support the teeth.

The disease is characterized by bleeding or swollen gums (gingivitis), pain and sometimes bad breath. In its more severe form, the gum can come away from the tooth and supporting bone, causing teeth to become loose and sometimes fall out.

Severe periodontal diseases are estimated to affect around 19% of the global adult population, representing more than 1 billion cases worldwide.

The main risk factors for periodontal disease are poor oral hygiene and tobacco use



Losing teeth is generally the endpoint of a lifelong history of oral disease, mainly advanced dental caries, and severe periodontal disease, but it can also be due to trauma and other causes.

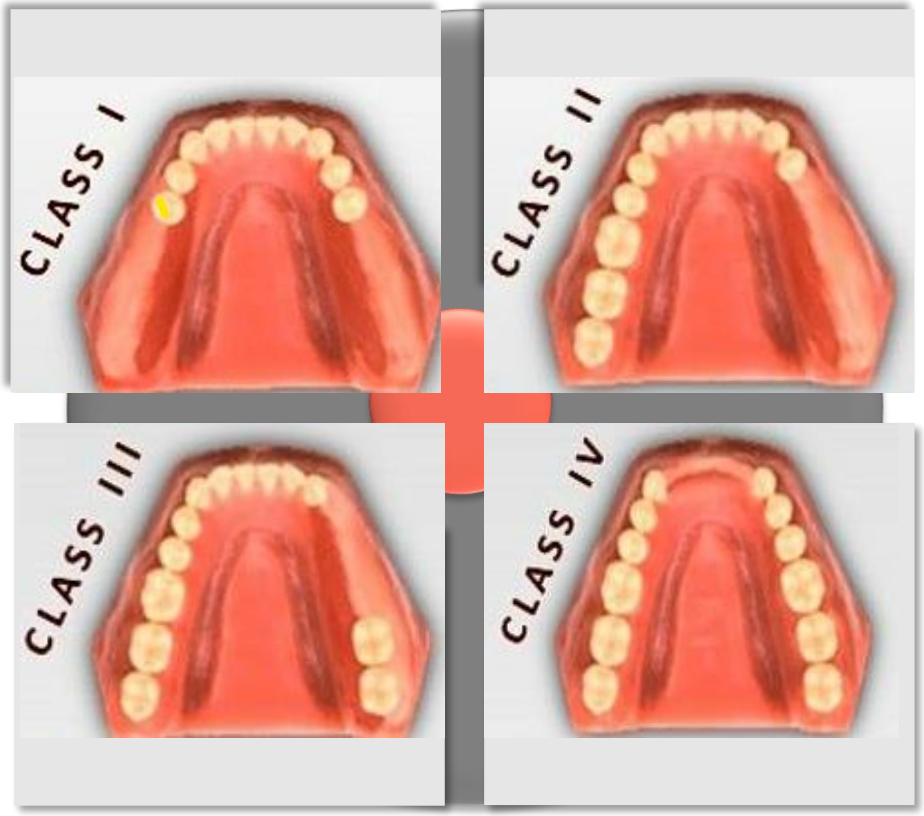
The estimated global average prevalence of **complete tooth loss is almost 7% among people aged 20 years or older**.

For people aged 60 years or older, a much higher global **prevalence of 23% has been estimated**. Losing teeth can be psychologically traumatic, socially damaging and functionally limiting.

Kennedy's classification for partially Edentulous arches

CLASS I

Bilateral edentulous area located posterior to the remaining natural teeth



CLASS II

Unilateral edentulous area located posterior to the remaining natural teeth

CLASS III

Bilateral edentulous surrounded by teeth booth anteriorly and posteriorly

CLASS IV

A single but bilateral edentulous area, crossing midline, located anterior of the remaining natural teeth

Signs and symptoms



Bad breath or bad taste that won't go away.



Red or swollen gums.



Tender or bleeding gums.



Any change in the way your teeth fit together when you bite

Warning Signs



Painful chewing



Gums that have pulled away from your teeth



Sensitive Teeth



Loose Teeth

Diagnosis

Early Detection and Screening:

- Regular Dental Check-ups
- Advocate for routine dental examinations.
- Discuss the benefits of early detection



Oral Examination

Management of the Mouth

Primary Level

1. **Antibiotics and Medications:**
   - Prescribing antibiotics for oral infections.
   - Managing pain and discomfort with appropriate medications.
2. **Community Outreach and Education:**
   - Engage the community in oral health awareness programs.
   - Provide resources for maintaining good oral health at home

SECONDARY AND TERTIARY

1. **Restorative Dentistry:**
   1. Addressing dental caries through fillings and restorations.
   2. Options for managing cavities and preserving tooth structure
2. **Periodontal Treatments:**
   1. Scaling and root planning for gum diseases.
   2. Surgical interventions for advanced cases

Prevention

Community Outreach and Education:

1. Engage the community in oral health awareness programs
2. Provide resources for maintaining good oral health at home

Overview of Oral, Ear & Eye

Sessions	Components
12.1	ORAL CARE (MOUTH)
12.2	**EAR CARE**
12.3	EYE CARE

Learning Objectives

At the end of this session, Participants will be able to;

1. Understand the problems that are associated with the ear
2. Provide solutions to these problems in the community

Introduction to Ear Care

Did you know that?

The most common problems warranting a visit to a doctor or a health care provider in developing countries are related to ear nose and throat (ENT).

Facts

ENT problems are the most common problems for which there are home remedies to medical treatments which are available, and most individuals manage their problem in the community without seeking help.

Facts

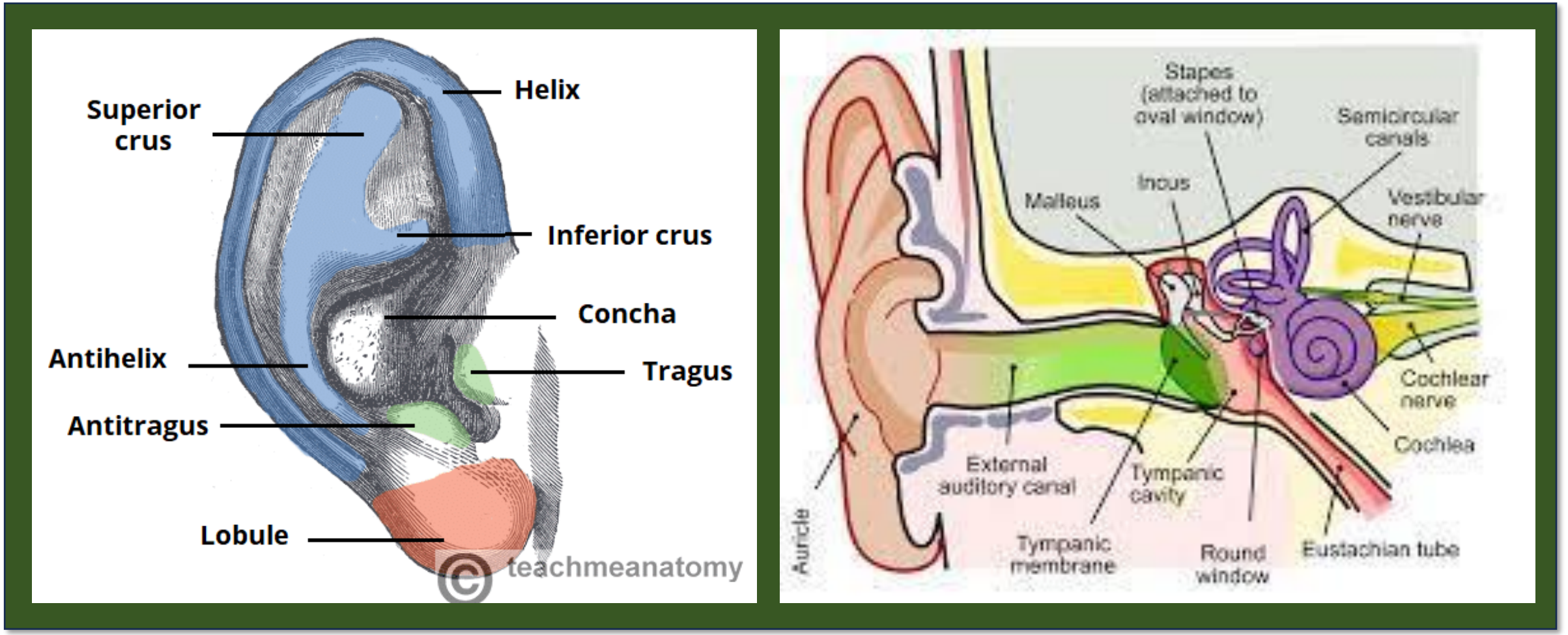
In addition, due to the lack of specialist professionals in this field, these problems are treated by community practices.

What we found

The disease burden is due to otitis media and its sequelae which are the most common causes of preventable hearing loss in children in developing countries. The prevalence of traditional practices increased the disease morbidity requiring surgical management.



The Ear Anatomy



Common Ear Diseases

1. Ear Infections
2. Hearing impairment
3. Conductive hearing loss
4. Sensorineural hearing loss
5. Meniere's disease
6. Presbycusis
7. Cerumen impaction
8. Tinnitus
9. Ear Injuries



Signs and symptoms

Signs and symptoms of an ear infection include:

Pain and pressure- 06

01 - Fluid discharge (suggestive of a perforation)



Loss of balance- 05

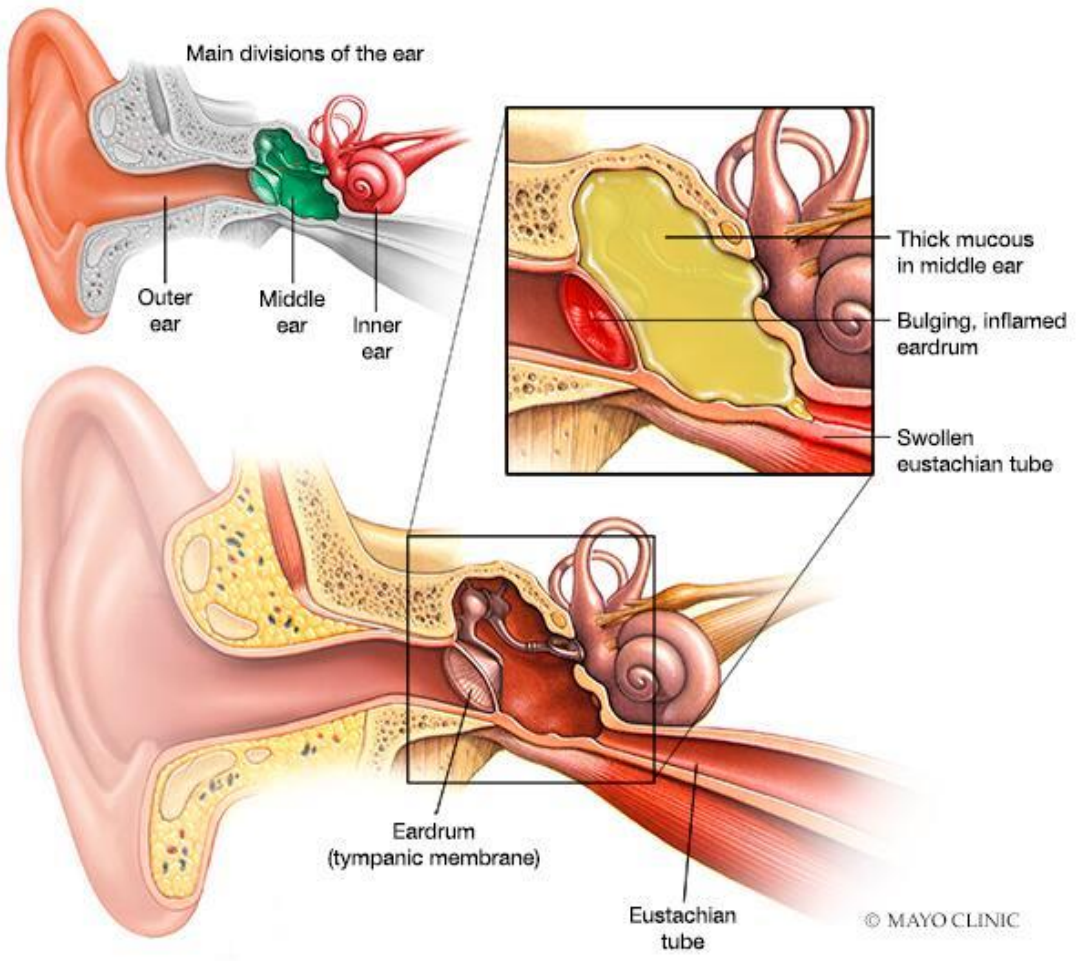
02 - Fever

Difficulty hearing- 04

03 - Nausea and vomiting

Ear infections are one of the most prevalent ENT disorders. They occur when germs become trapped inside the middle ear.

The eustachian tube, a tiny canal that originates in the ear and drains into the back of the throat, usually keeps unwanted germs out. If this tube is too small or becomes swollen shut by swelling or clogged by fluid and mucus, bacteria, or other microbes can enter the ear and cause an infection.



Common ear infections include:

Otitis Media (OM)

a. **Acute Otitis Media (AOM):** An infection of the middle ear, often associated with ear pain and fever.

b. **Chronic Otitis Media (COM):** Persistent inflammation or infection of the middle ear, which may lead to long-term complications

c. **Otitis Externa:** Also known as swimmer's ear, it is an infection of the external ear canal. It can cause pain, itching, and swelling of the ear canal

Symptoms of Otitis Media



Clinical Features and Diagnosis

Assessing Clinical Features

- Conduct a thorough history, including the duration and severity of symptoms, recent upper respiratory infections, and any previous ear infections.
- Perform a physical examination, including otoscopy to assess the condition of the tympanic membrane (eardrum)
- For Chronic Otitis Media there is associated ear discharge, history of long duration and frequency of ear infections, associated symptoms and previous treatment.

Diagnosis

Confirm the diagnosis of Acute Otitis Media based on the presence of signs and symptoms such as ear pain, fever, and the presence of middle ear effusion.

Treatment



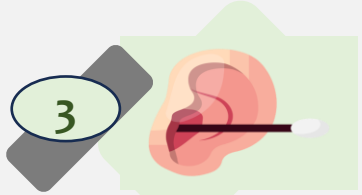
Topical Antibiotics:

Topical antibiotic ear drops (such as Ciprofloxacin) may be prescribed for managing chronic ear discharge and infection in COM.
Ensure proper administration and follow-up to monitor response



Oral Antibiotics:

Amoxicillin is often the first-line antibiotic for uncomplicated cases of AOM. Alternatives like amoxicillin-clavulanate may be considered for cases with recurrent or persistent infections.
Oral antibiotics may be considered in cases where there is evidence of systemic infection or when topical treatment alone is insufficient for COM.



Ear Cleaning:

Gently clean the ear canal to remove debris and infected material or discharge.
Avoid aggressive cleaning that may exacerbate irritation or cause further trauma



Specialist Referral:

Refer to an otolaryngologist (ENT specialist) for further evaluation and management, especially if there is persistent or recurrent disease, complications, or suspicion of cholesteatoma.

Hearing Impairment



7 Major causes

1. **Cerumen Impaction:** Accumulation of earwax that can obstruct the ear canal, leading to hearing loss and discomfort.
2. **Tinnitus:** Perception of noise or ringing in the ears, which can be caused by various factors, including exposure to loud noises, age-related hearing loss, or other underlying health conditions
3. **Conductive Hearing Loss:** A condition where sound waves are not conducted efficiently through the outer ear canal to the eardrum and the tiny bones (ossicles) of the middle ear
4. **Sensorineural Hearing Loss:** Hearing loss caused by damage to the inner ear or auditory nerve. It can be age-related or result from exposure to loud noises, certain medications, or systemic diseases.
5. **Meniere's Disease:** A disorder of the inner ear characterized by episodes of vertigo, tinnitus, hearing loss, and a feeling of fullness or pressure in the ear.
6. **Ear Injuries:** Trauma to the ear, which may result in injuries to the external ear, ear canal, or middle ear structures.
7. **Presbycusis:** Age-related hearing loss, a common condition as people get older.

Treatment



All cases of hearing impairment should be referred to an otolaryngologist (ENT specialist) for further evaluation and expert management after resuscitation when necessary.

Prevention of Ear Infection

1 Health Education and Awareness:

School and Community Programs:

- Implement educational programs on ear health in schools
- Engage communities in awareness campaigns

Recognizing Warning Signs:

- Educate individuals on symptoms that warrant medical attention
- Encourage timely reporting of ear-related concerns

2 Promoting Healthy Practices in Special Populations:

Children

- Emphasize the importance of early identification of hearing issues.
- Discuss the impact of breastfeeding on ear health

Overview of Oral, Ear & Eye

Sessions	Components
12.1	ORAL CARE (MOUTH)
12.2	EAR CARE
12.3	**EYE CARE**

Learning Objectives

At the end of this session, Participants will be able to;

1. Have Insights into the importance of eye care
2. Prevalence of eye diseases in primary healthcare settings
2. Discuss key strategies for comprehensive eye care within PHC

Introduction to Eye Care



It is very important to integrate eye care into primary healthcare because of the high prevalence of eye diseases at the community level.

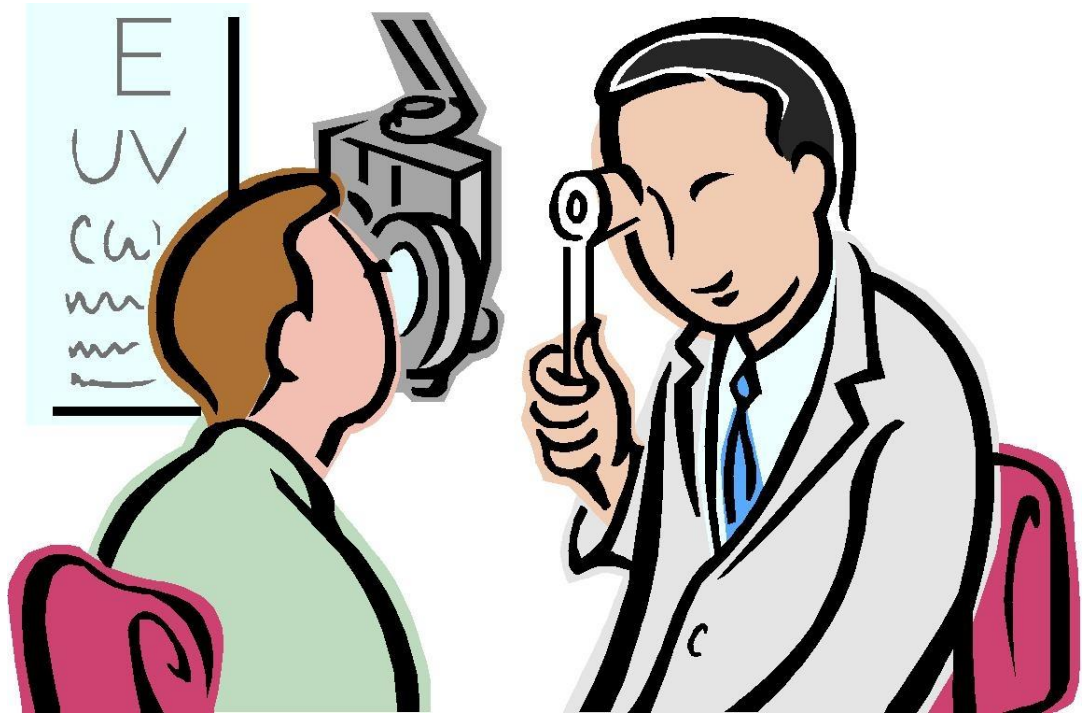


Understanding the prevalence of eye diseases in primary healthcare settings is crucial for designing effective strategies. As we delve deeper into comprehensive eye care, let's explore how early intervention and awareness can significantly impact the landscape of vision health within our communities

Barriers to Eye Care

"According to the World Health Organization, approximately 2.2 billion people suffer from vision impairment or blindness globally."

1. Lack of awareness and education
2. Limited access to eye care facilities
3. Socioeconomic factors



Exercise



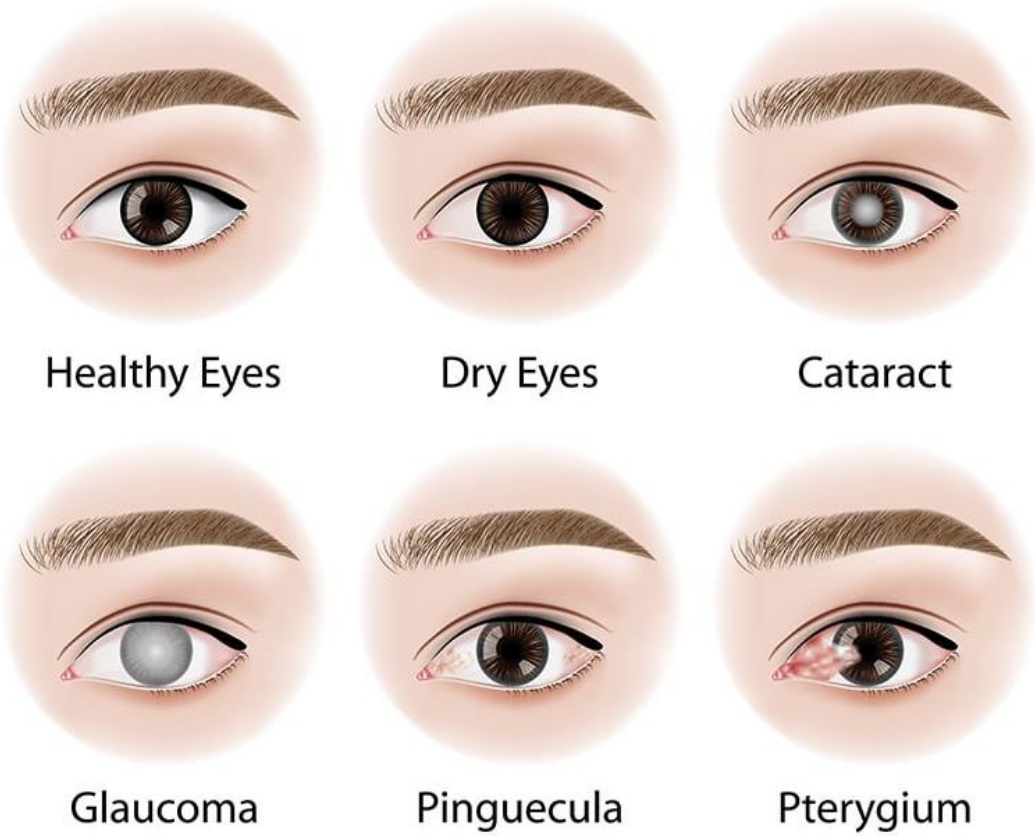
What are the common Eye diseases?

What are their symptoms?

Common Eye Problems

The following eye conditions are common in primary healthcare settings:

1. Refractive Errors (Myopia, Hyperopia, Astigmatism)
2. Cataracts
3. Glaucoma
4. Diabetic Retinopathy



Common Eye Problems

Differential diagnosis of red eye			
Diagnosis	**Symptoms**	**Signs**	**Treatment**
Bacterial Conjunctivitis	Yellow / green discharge. Swollen eye lids, mild redness, no pain	Normal vision, Conjunctiva inflammation, purulent discharge	Tetracycline / chloramphenicol ointment
Allergic Conjunctivitis	Recurrent itchy & tearing eyes with seasonal variation	Normal vision, brown discoloration of conjunctiva, limbal follicles	Lubricant eye drops, antihistamine eye droos
Trachoma	Dirty face, foreign body sensation, tearing eyes, discharge	Inflamed eye, follicles on tarsal conjunctiva, in-turned lashes, corneal scars, reduced vision	Hygiene, lubricant eye drops, tetracycline tablet, trichiasis surgery, (SAFE)
Acute angle closure glaucoma	Severe pain, halos around lights, may vomit, reduced vision, dilated fixed pupil	Peri-limbal redness, reduced vision, dilated fixed pupil, may have intumescent cataract or Uveitis	Refer to eye specialist

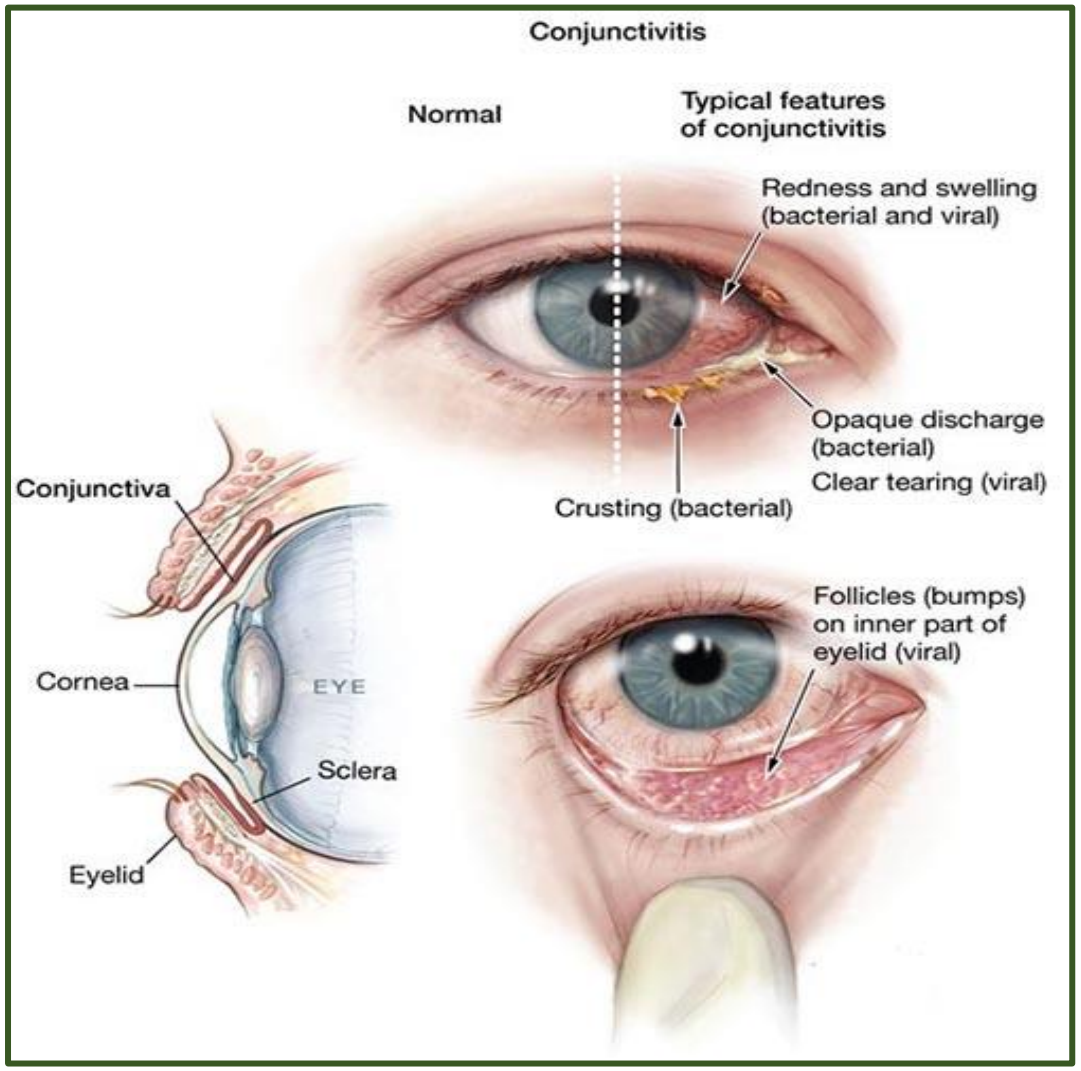
Common Eye Problems cont'd

Differential diagnosis of red eye

Diagnosis	Symptoms	Signs	Treatment
Iris / Uveitis	Pain, headache, photophobia	Redness around limbus, Reduced vision, small irregular pupil, secondary cataract	Refer but consider treating systemic conditions if present such as Onchocerciasis, leprosy, syphilis.
Corneal foreign body	Pain, gritty foreign body sensation, tearing and photophobia	Generalized redness, forging body visible on cornea,	Chloramphenicol and refer
Traumatic corneal perforation or blunt injury	History of injury, pain & photophobia	Reduced vision, laceration of cornea, iris prolapse, blood level in the eye	Eye pad, systematic antibiotics tetanus and refer

Conjunctivitis

- Conjunctivitis presents as redness over the white part of the eye associated with discharge.
- The vision is usually unaffected. Conjunctivitis can be caused by bacteria, viral infection, Trachoma or allergy.
- It is important to avoid rubbing the eyes as this may worsen the condition and encourage spread to other people
- Promotion of regular hand and face washing of children at home and in schools by the primary eye care worker is paramount, as a dirty face in a child is the most important risk factor for transmission of trachoma.
- Other risk factors include unavailability of water, dusty environment and overcrowding.



Complication

Often the long term effect of Trachoma conjunctivitis is in-turning of the eyelashes causing corneal scarring. In-growing eyelashes can be removed but for long-term management, referral for eyelid surgery is crucial.



Table 3. Distinguishing features of conjunctivitis

Symptom	Bacterial	Viral	Allergic	Trachoma
Discharge	purulent	watery	Mucoid	watery
Itching	none	some	Severe	some
Recurrence	unusual	unusual	seasonal or in certain environments	persistent

New born conjunctivitis

New born (neonatal) conjunctivitis occurs within 28 days of birth and is usually due to gonococcal or chlamydial infection. It is a common cause of ocular disease and blindness in children.

Prevention may be achieved by good antenatal care, prevention of sexually transmitted infection in pregnant mothers and ensuring that delivery occurs in hospital under the supervision of a qualified midwife. Immediately after birth *Tetracycline ointment* should be applied to the baby's eyes by the attending nurse. Established infection may be treated as in Table 4

Table 4. Treatment of newborn conjunctivitis

Drug	Dose	Frequency	Duration
Tetracycline 1% ointment		Prevention: Single application within 24hrs of birth	Treatment: once a day for 7 days
Kanamycin injection IM	25mg/kg	Once	Single dose
Erythromycin orally	16mg/kg	3 times a day	5 days

Note: Parents should also be treated for sexually transmitted disease (STD)

Traumatic eye conditions

Trauma is an important cause of ocular injury and sometimes blindness in rural farming communities and in all areas due to accidents. Vegetative injury with thorns, grass and brooms predisposes to fungal

Diagnosis

Common presenting problems and some helpful questions to aid diagnosis			
Pain	Is the light sensitive?	Does it feel like sand or grit ?	How severe is the pain?
Itching	What makes it worse?	Any other part of the body itchy?	Is it seasonal?
Swelling / Lumps	How did it start?	Where is the swelling?	What makes it worse?
Discharge	What color is it?	Is it watering or thick discharge?	
Redness	What part of the eye is red?	What makes it worse?	Is it painful?
Vision	Is the whole of the vision cloudy or just parts?	Is it worse for distance or near?	Did it occur suddenly or slowly?
Double vision or eyes movement problems	Constant or Intermittent?	Does it get better when one eye is closed?	Are the images side by side or on top of each other?
Problem with children's eyes	When and how did it first start?	Do they sim to see as other children do?	Any other medical or developmental problems?
Floaters	Are new or getting worse?	Are they affecting vision ?	Associated with flashing lights?

Management of the Eye

Caution

Avoid use of topical steroid preparations in primary care settings. Some antibiotic eye preparations contain steroids and may be given for an infectious condition. Steroids cause raise in intraocular pressure which is difficult to treat and may lead to blindness.



Prevention

1	A diet rich in vitamin A and proteins: (green leafy vegetables, yellow fruits, fish, milk, beans)
2	Personal and environmental hygiene: (regular hand and face washing, proper disposal of garbage, human and animal waste and maintenance of a clean family environment)
3	Prevention of eye injuries: (education on vehicle seat belt usage and prevention of injures in the home and workplace)
4	Improve uptake of childhood immunization.
5	Reduction of neonatal infection: (routine application of tetracycline ointment immediately at birth)
6	Early referral and prompt treatment of serious eye diseases or injuries
7	Avoidance of both traditional eye medicine and sharing of medication between people
8	Improvement in management of chemical injury: (immediate flushing of eyes with clean cold water or milk

Examination of the Eyes

Equipment required

In a primary health care setting the following simple equipment is sufficient for examination of the front half (anterior segment) of the eye where 80% of eye problems occur:

1	Essential equipment	
2	Visual acuity chart and pinhole cover	
3	Torch	
4	Fluorescein dye drops or strips	
5	Preferable equipment	
6	Magnifying loupe	
7	Ophthalmoscope with a blue filter	
8	Local anaesthetic and dilating eye drops	

Management of Traumatic eye Conditions

Condition	Symptoms and signs	Treatment	Comment
Conjunctival hemorrhage	Red spot on the white of the eye, no pain or visual loss, history of blunt trauma, or may be spontaneous	Reassurance that it will heal without danger to the eye.	If there is pain or loss of vision, refer immediately. Check for high blood pressure
Conjunctival foreign body (FB)	Scratchy or FB sensation with lid movement, watery eye Eversion of eye lid may reveal a FB on tarsal conjunctiva	Apply anesthetic drops. Remove with cotton topped applicator and apply tetracycline ointment twice daily for 3 days .	Corneal staining with fluorescein may reveal scratch lines suggesting foreign body embedded in the tarsal plate.
Corneal foreign body (FB)	Often due to FB hitting the eye grinding or welding	Apply topical anesthesia and attempt removal with cotton tipped applicator	If unsuccessful, pad the eye and refer to eye unit for removal using Slit lamp.
Corneal abrasion	History of trauma, pain and tearing. Fluorescein staining shows linear epithelial abrasion	Exclude FB under eyelids. Reassure, pad and tetracycline ointment for 3 days	If not improving on antibiotics after 2 days then Refer

Key messages

- The eyes are the windows to the soul, and we are here to ensure those windows stay clear for all
- There are great connections between eye care and the holistic well-being of an individual
- The successful management of these diseases will lead to improvement in patients' quality of life
- Addressing oral, eye, and ear problems can enhance communication, social interaction, and overall physical and mental well-being
- The emotional and psychological impact of these conditions are import to patient-centered care which addresses these concerns beyond the physical symptoms
- The role of healthcare professionals is very essential in providing compassionate and empathetic care to patients experiencing these challenges


Thank
you