

Sawa private university

College of health and medical technology

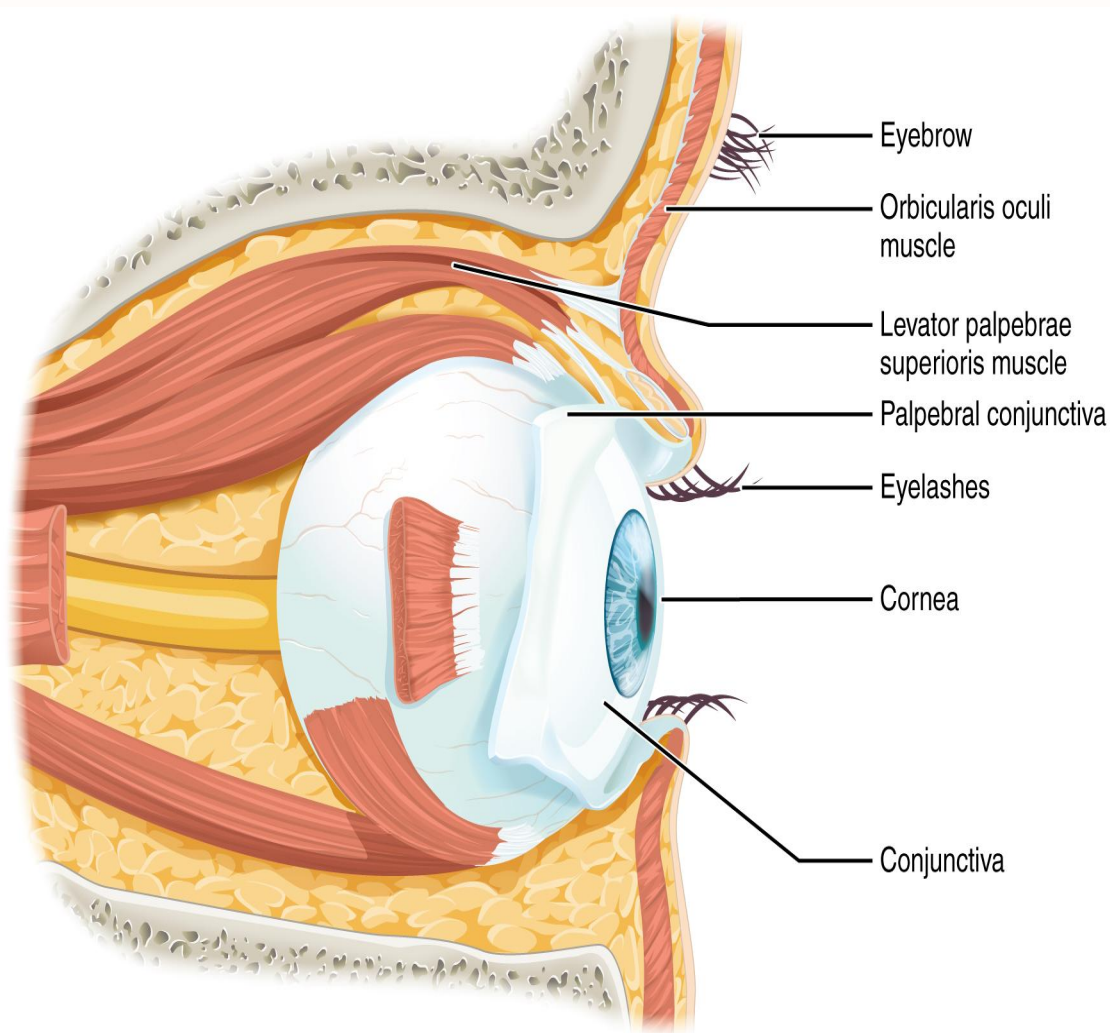
fourth class

2nd eye disease lecture

**Understanding infections and allergic conditions affecting the
protective barriers of our eyes**

Dr. Muhammad Sajad Hussan





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The Critical Role of

Protection

Shield eyes from trauma, excessive light, and environmental hazards

Moisture Control

Prevent dryness and maintain optimal ocular surface health

Vision Impact

Diseases can significantly affect visual function and cosmetic appearance

Today's focus centers on two major categories: **infectious conditions** and **allergic reactions** that commonly affect eyelid health and function.

Eyelid Anatomy: Four Essential Layers

Skin Layer

Thin, elastic tissue with no subcutaneous fat - highly sensitive to inflammation

03

Tarsal Plate

Fibrous structure providing shape and housing the crucial Meibomian glands

Key Glandular Structures

- **Meibomian glands:** Produce lipid secretions
- **Zeis & Moll glands:** Associated with eyelashes

02

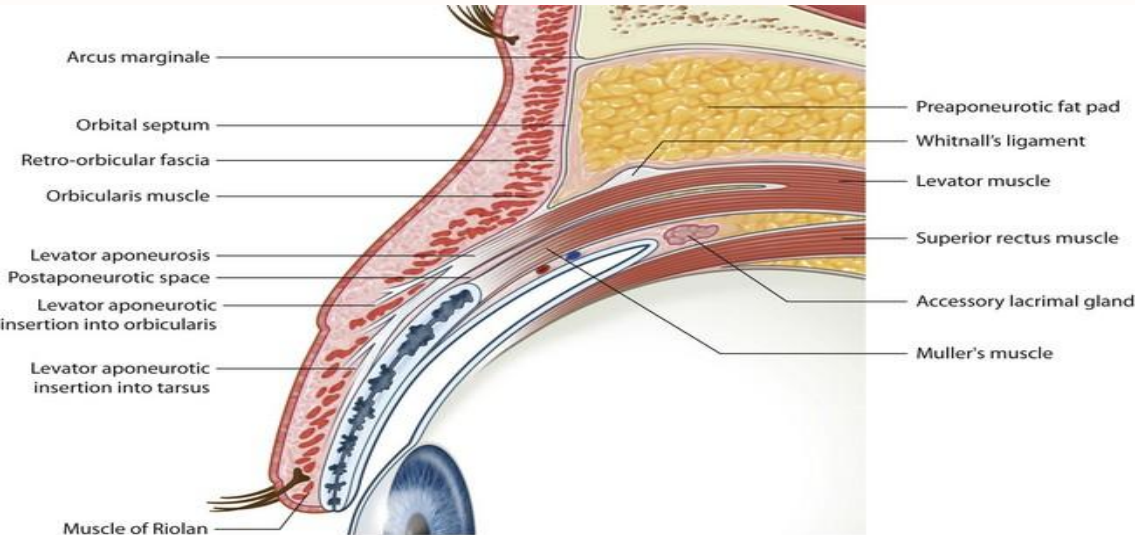
Orbicularis Oculi

Muscle Circular muscle responsible for eyelid closure and blinking mechanism

04

Conjunctiva

Mucous membrane lining the inner eyelid surface



Hordeolum: The Common Sty

Two Distinct

Types

External

Hordeolum

Infection of Zeis or Moll glands at the eyelash base

Internal

Hordeolum

Infection of Meibomian glands within the tarsal plate

Causative Organism: *Staphylococcus aureus*

Clinical

Presentation

- Painful, red, tender swelling
- Localized abscess formation at lid margin
- May develop purulent discharge



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1

2

3

Warm
Compresses

Apply 10-15 minutes, 3-4 times daily

Topical Antibiotics

Antibiotic ointment to affected area

Systemic

Oral antibiotics if recurrent or cellulitis

Made with GAMMA

Chalazion vs Hordeolum: Key

Differences

Chalazion

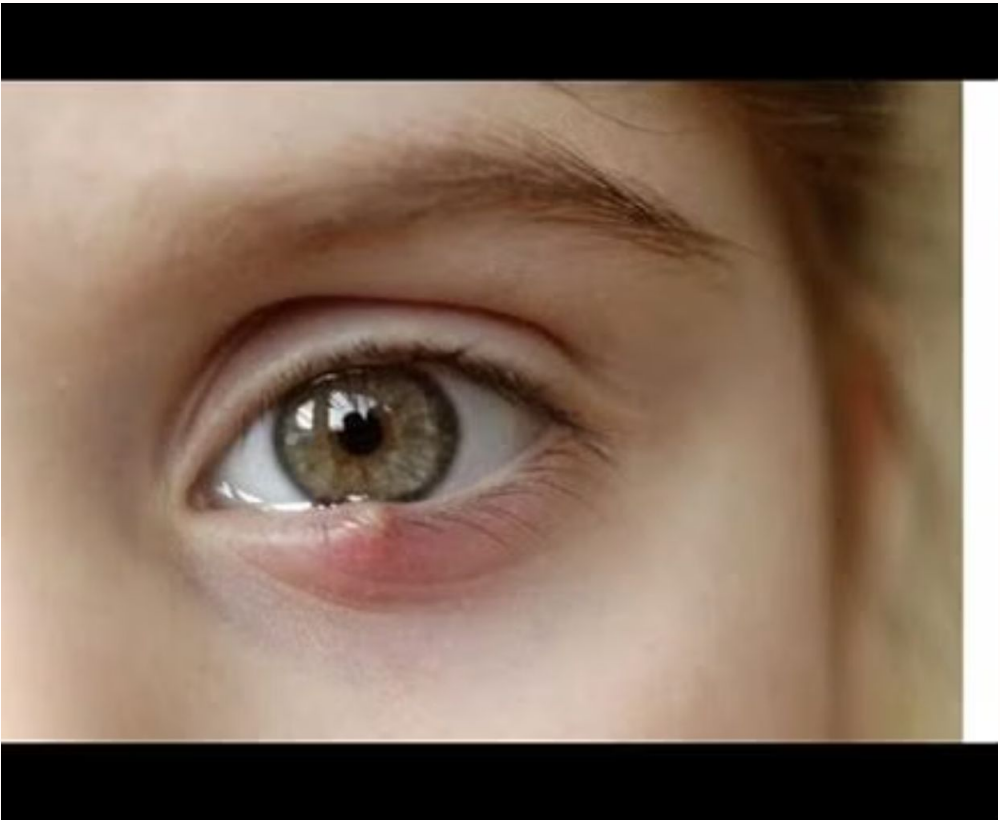
- **Chronic** granulomatous inflammation
- **Painless** firm nodule
- Meibomian gland dysfunction
- Gradual onset

Hordeolum

- **Acute** bacterial infection
- **Painful** tender swelling
- Zeis/Moll or Meibomian glands
- Rapid onset

Chalazion Management

Conservative approach with warm compresses. If persistent after 4-6 weeks, consider incision and curettage procedure.





Anterior Blepharitis

Inflammation at lash line

- Staphylococcal infection
- Seborrheic dermatitis



Posterior Blepharitis

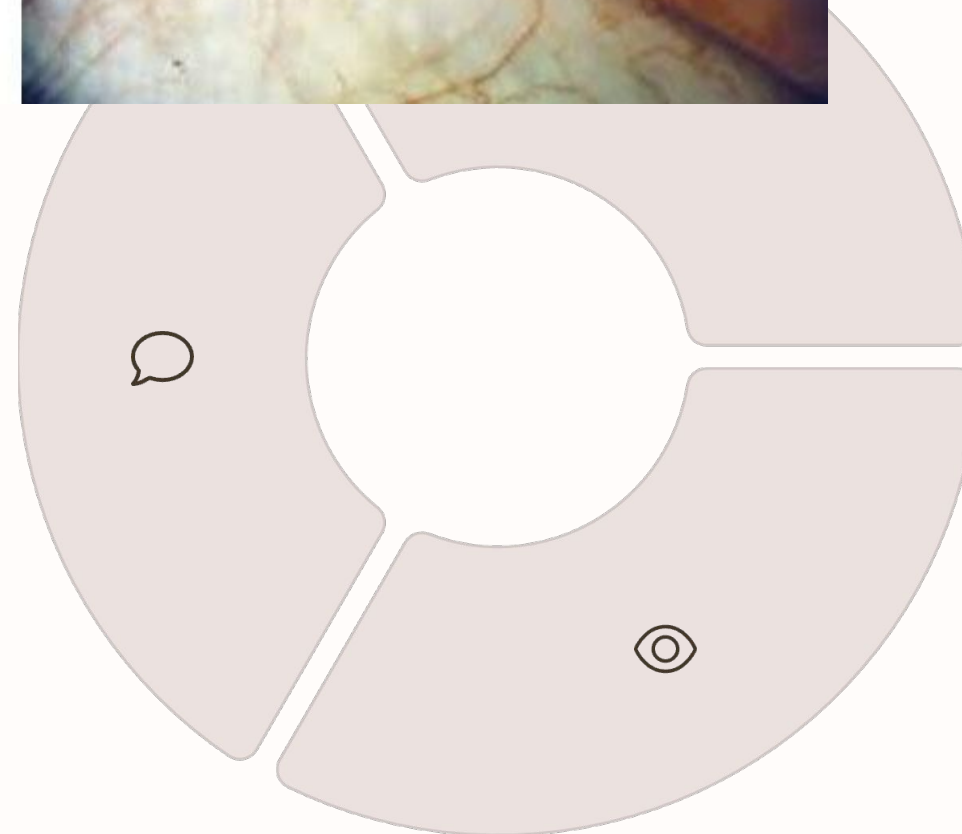
Meibomian gland dysfunction

- Blocked oil glands
- Altered tear film

Common Symptoms

Patient complaints include:

- Itching and burning
- Crusting of eyelids
- Foreign-body sensation



Blepharitis: Chronic Eyelid Inflammation

Preseptal Cellulitis: Serious Eyelid

Infection

Infection of eyelid tissue **anterior to the orbital septum** - a critical anatomical boundary that prevents spread to deeper orbital structures.

Common Causes

- Spread from local trauma or insect bites
- Extension from hordeolum or other lid infections
- Secondary to sinusitis

Clinical Features

- Significant pain and eyelid swelling
- Erythema and warmth
- **No proptosis** (eye protrusion)
- **Normal eye movements**



Critical Distinction: Unlike orbital cellulitis, preseptal cellulitis does NOT cause proptosis or limitation of eye movements. This differentiation is crucial for appropriate management.

Management: Oral antibiotics with close monitoring for signs of orbital involvement. Hospital admission may be required for severe cases or if orbital extension is suspected.

Allergic Eyelid

Conditions

Contact Dermatitis

Triggers: Cosmetics, eye drops, hair dye, jewelry

Symptoms: Redness, itching, swelling, vesicle formation

Management: Identify and avoid allergen, cold compresses, topical antihistamines



Atopic Dermatitis

Association: Systemic atopy (asthma, eczema, allergic rhinitis)

Features: Chronic itching, lichenification, scaling

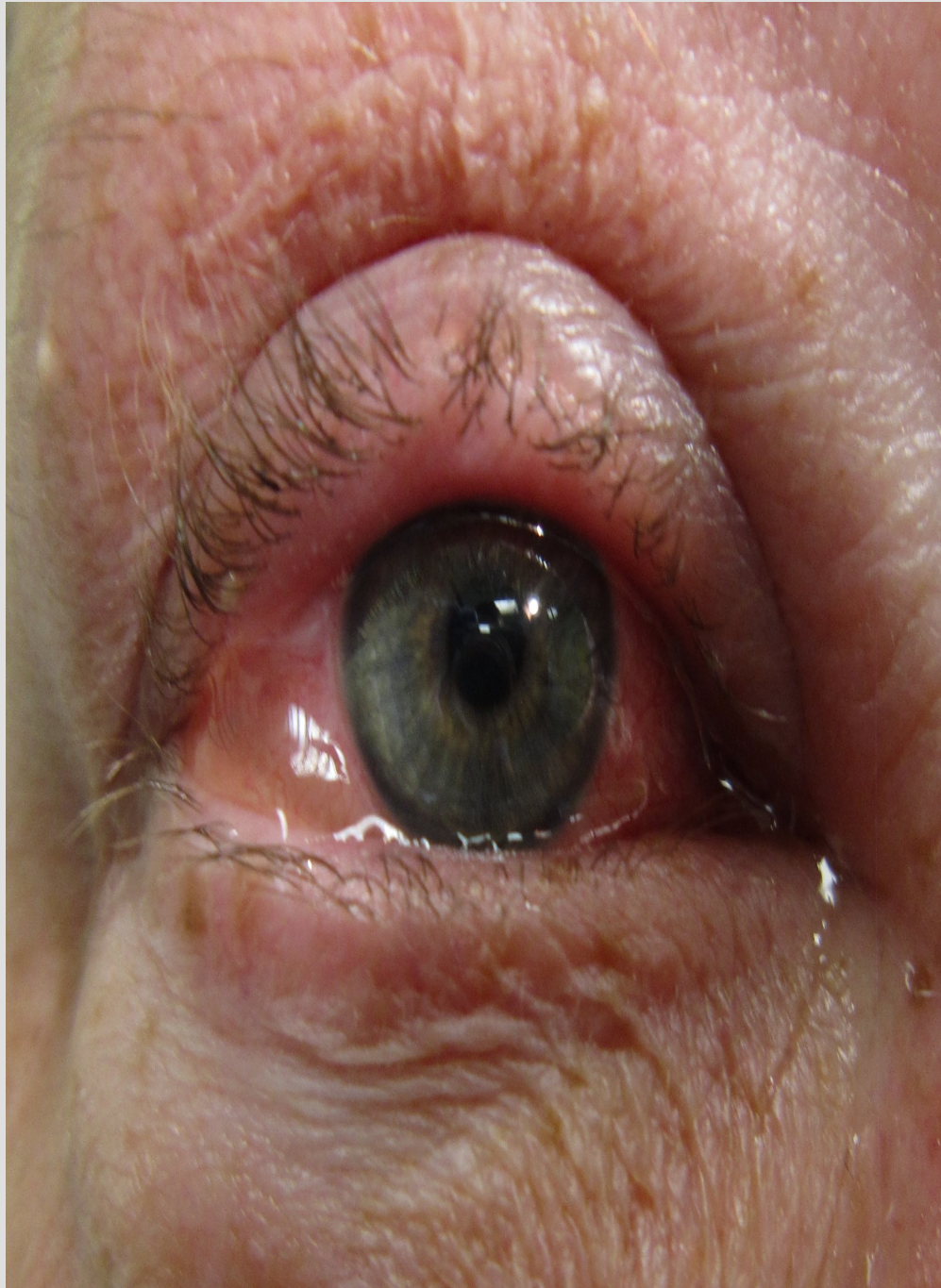


Angioedema

Cause: Sudden allergic reaction to food, drugs, insect bites

Key Feature: Painless, often bilateral swelling





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Clinical Case Studies

1

Case 1: Infective

Patient: 24-year-old female with 3-day painful upper eyelid swelling

Findings: Localized red, tender nodule at lid margin, no fever, normal vision

Diagnosis: External hordeolum (stye)

Organism: Staphylococcus aureus

Treatment: Warm compresses, topical antibiotic ointment, lid hygiene

2

Case 2: Allergic Disease

Patient: 16-year-old boy with sudden bilateral eyelid swelling after outdoor activity

Findings: Itching, watery eyes, no pain or fever

History: Asthma and hay fever

Diagnosis: Allergic angioedema

Treatment: Cold compresses, oral antihistamines, allergen avoidance

Key Learning Points

1 Accurate Diagnosis

Staphylococcus aureus is the most common cause of hordeolum.
Differentiate acute painful hordeolum from chronic painless chalazion.

3 Allergy vs Infection

Allergic conditions are typically **painless and bilateral**, while infections are **painful and localized**. History of atopy supports allergic etiology.

2 Critical Distinctions

Preseptal cellulitis lacks proptosis and eye movement limitation, unlike orbital cellulitis. This distinction guides treatment urgency.

4 Management

Principles
First-line treatment for allergic contact dermatitis is **allergen identification and avoidance**. Conservative management often succeeds before surgical intervention.

"Understanding eyelid anatomy and recognizing key clinical features enables accurate diagnosis and appropriate management of both infectious and allergic eyelid diseases."