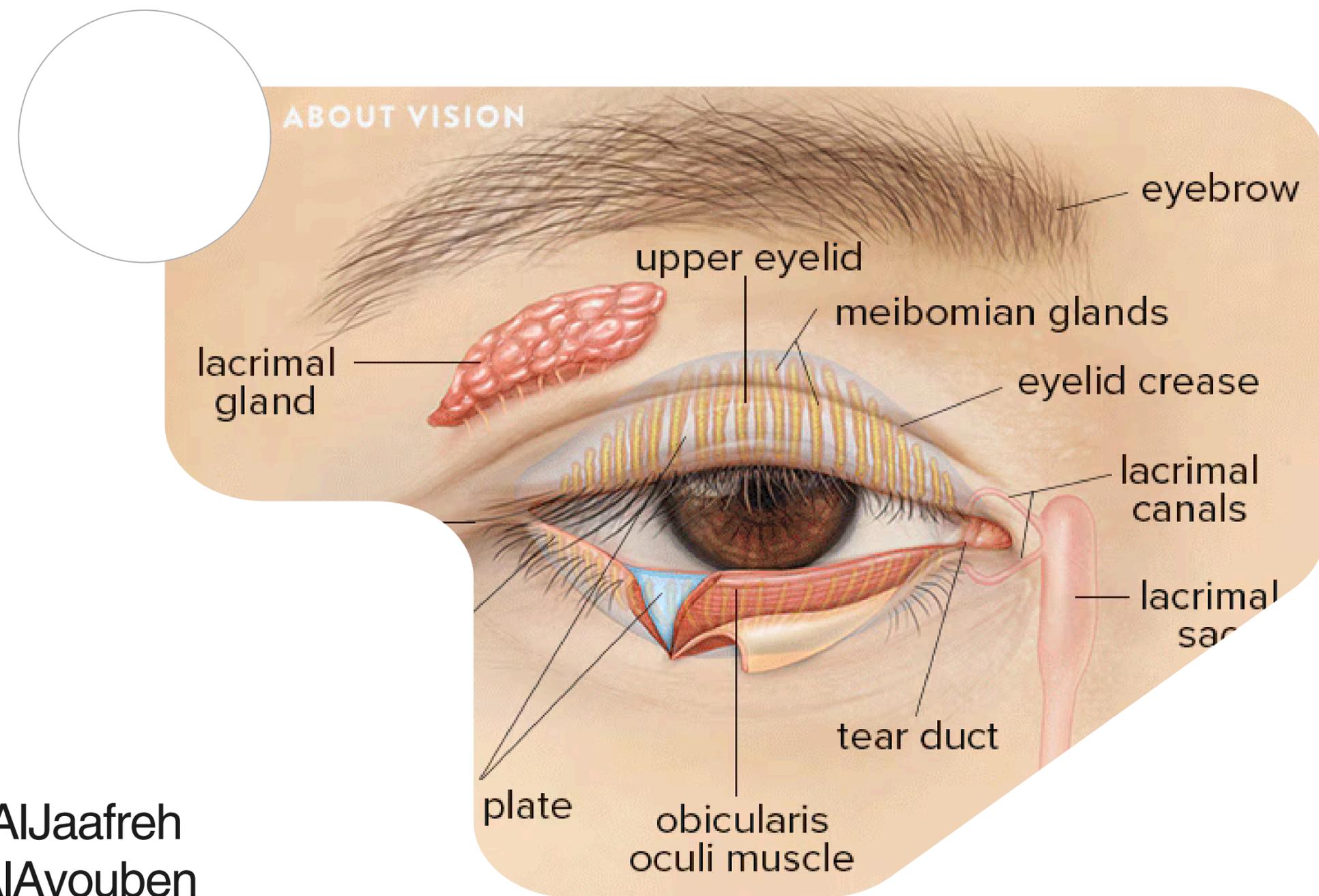


The Eyelids

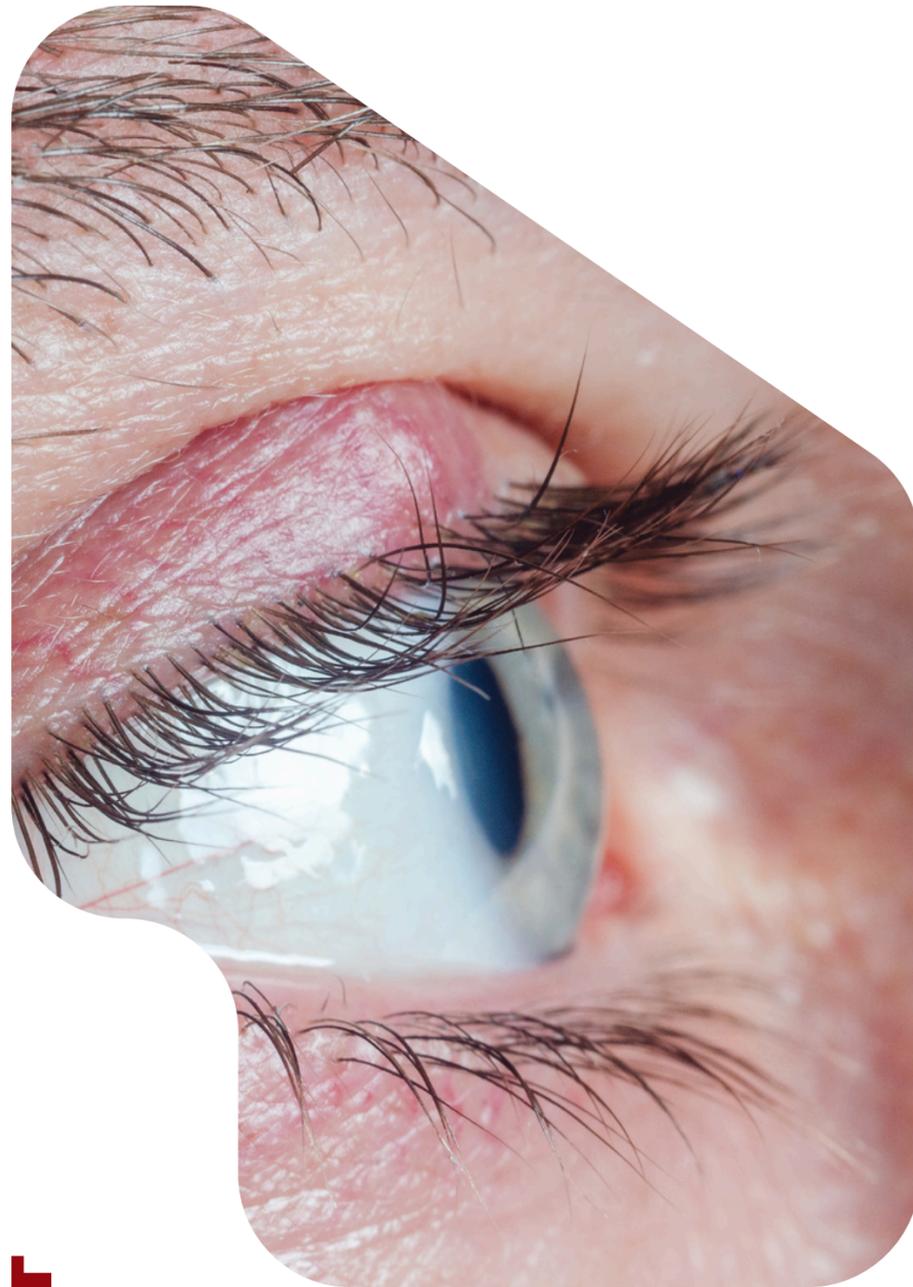
Shaping the Future



Raneem AlJaafreh
Shahed AlAyouben



Definition

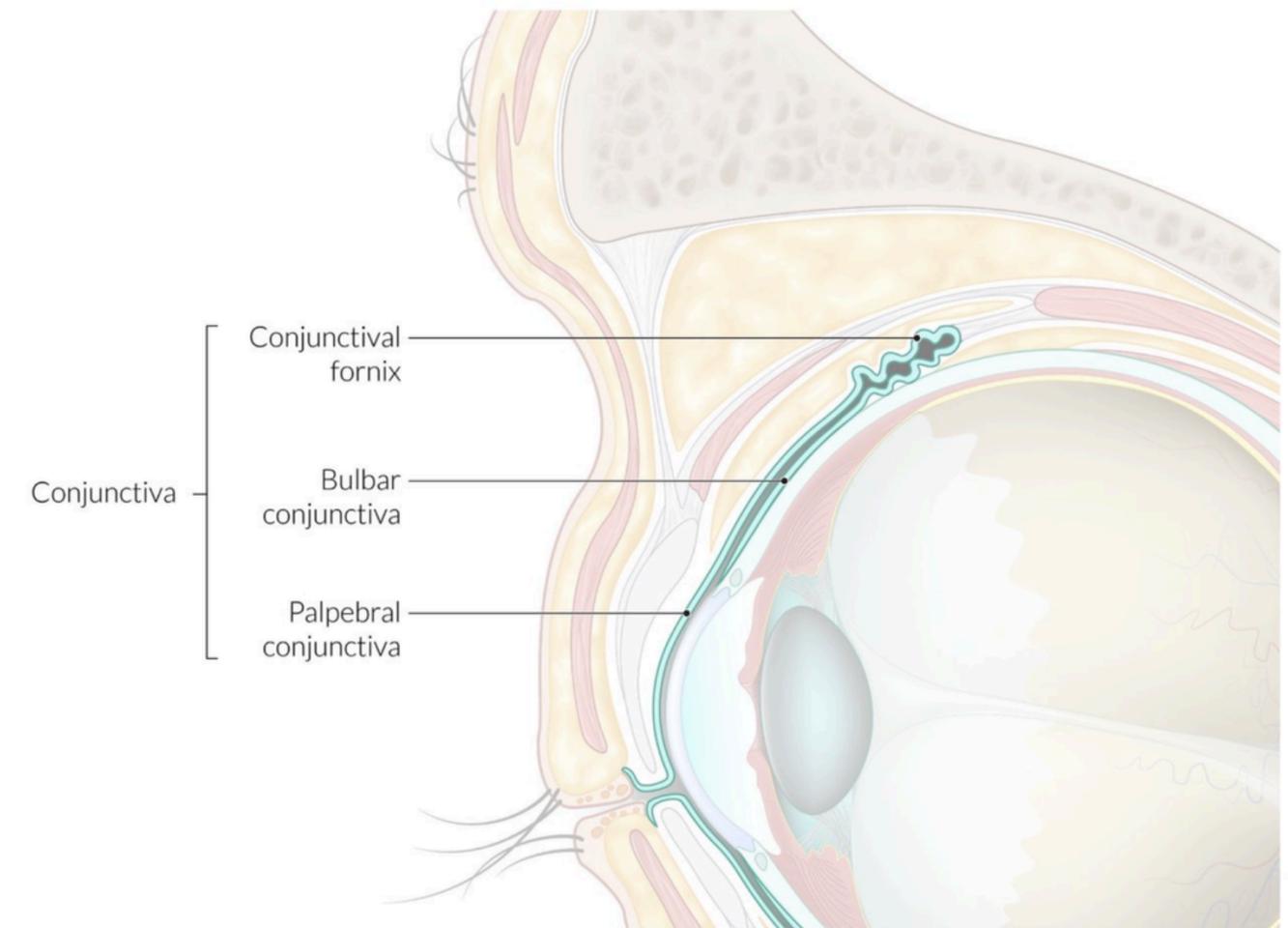
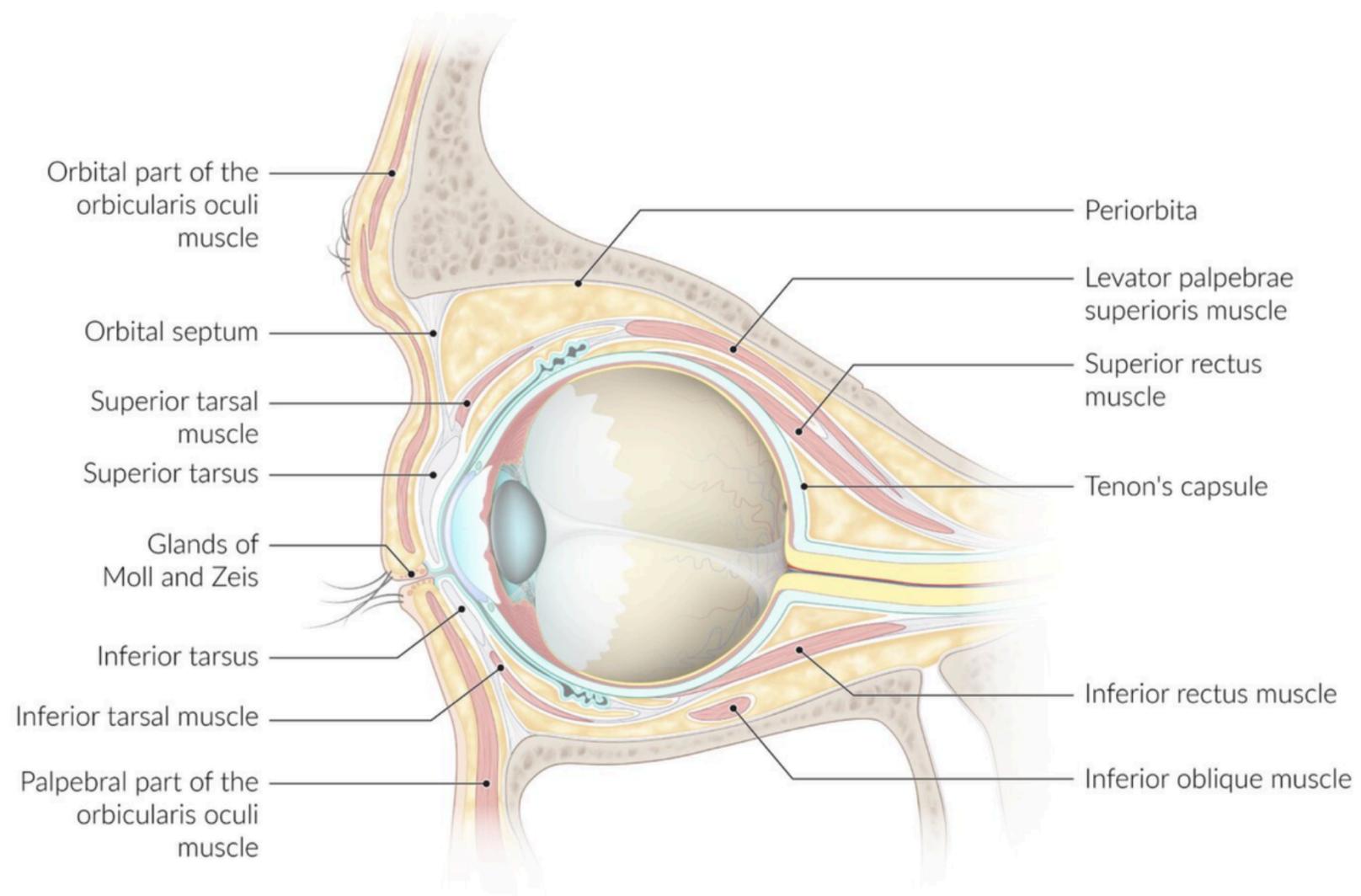


↳ Eyelid is the thin fold of skin that covers and protects the eye. It helps shield the eye from debris, injury, and excessive light. The eyelid also plays a role in lubricating the eye by spreading tears across its surface when blinking.

Each eyelid comprises:

1. An anterior layer of skin.
2. Palpebral part of the orbicularis muscle.
3. A Tough collagenous layer (Tarsal plate).
4. Epithelial lining : Tarsal conjunctiva.
5. The lash bearing, lid margins.





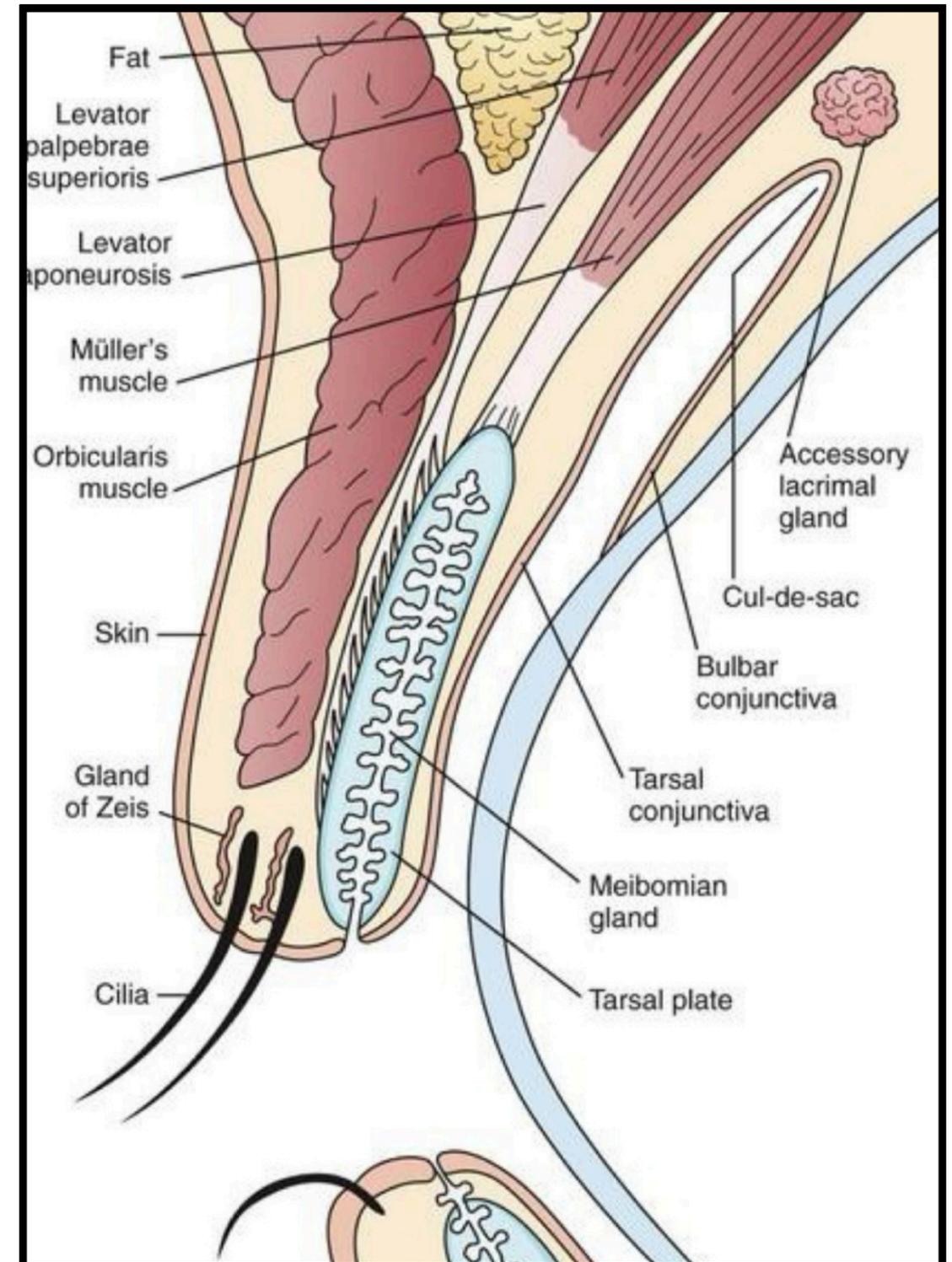
1. The Outermost Layer

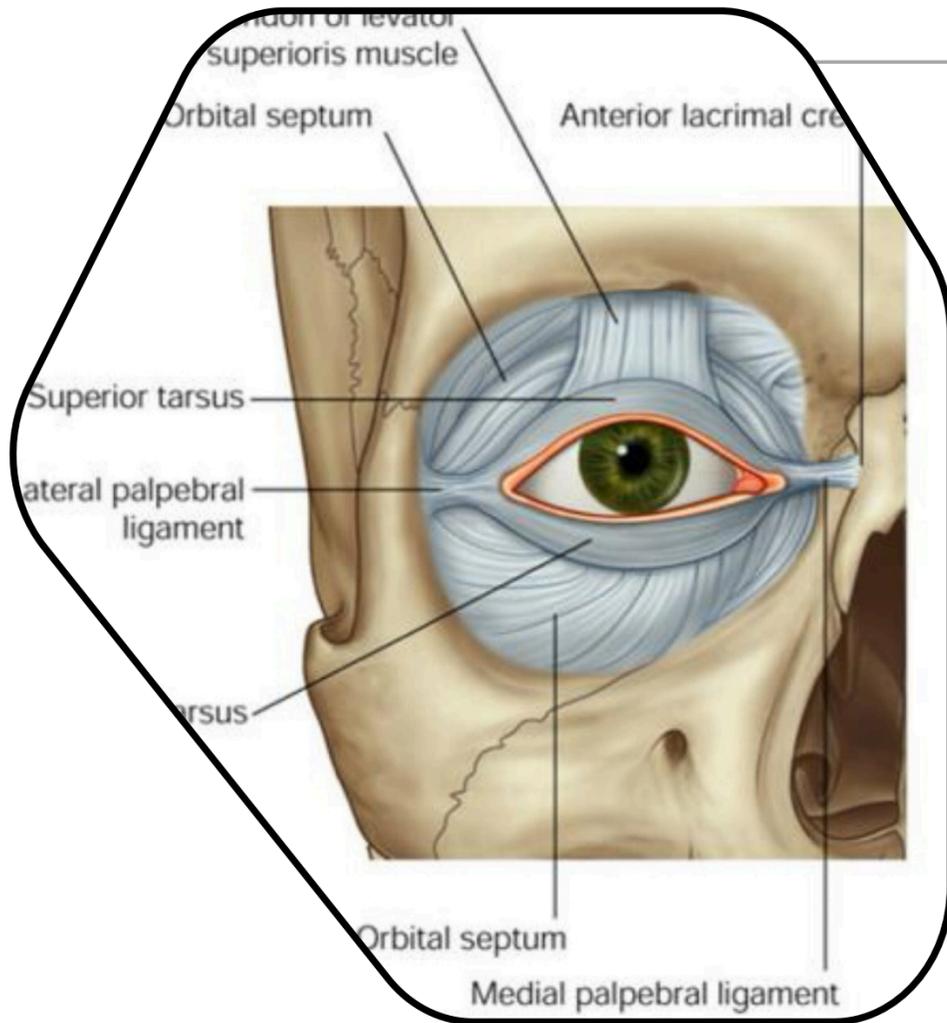
A. Skin

The superficial lining of the eyelids—it is unique because it has no subcutaneous fat and is thus the thinnest layer of skin on the body

B. Conjunctiva

- The internal lining of the eyelids—it is made up of non-keratinizing squamous epithelium containing mucin-secreting goblet cells and accessory lacrimal glands that assist in keeping ocular tissues lubricated.
- It is reflected at the superior and inferior fornices onto the anterior surface of the eyeball, with the epithelium being continuous with the cornea's epithelium.
- The upper lateral part of the superior fornix is pierced by the ducts of the lacrimal gland.





- Connective tissue that forms the anterior boundary of the orbit
- Runs from the margin of the eyelids to the periosteum of the orbital margin
- Within the eyelid, the orbital septum thickens and forms the tarsal plates, which provide stability to the eyelid.
- Landmark to differentiate between preseptal cellulitis and orbital cellulitis

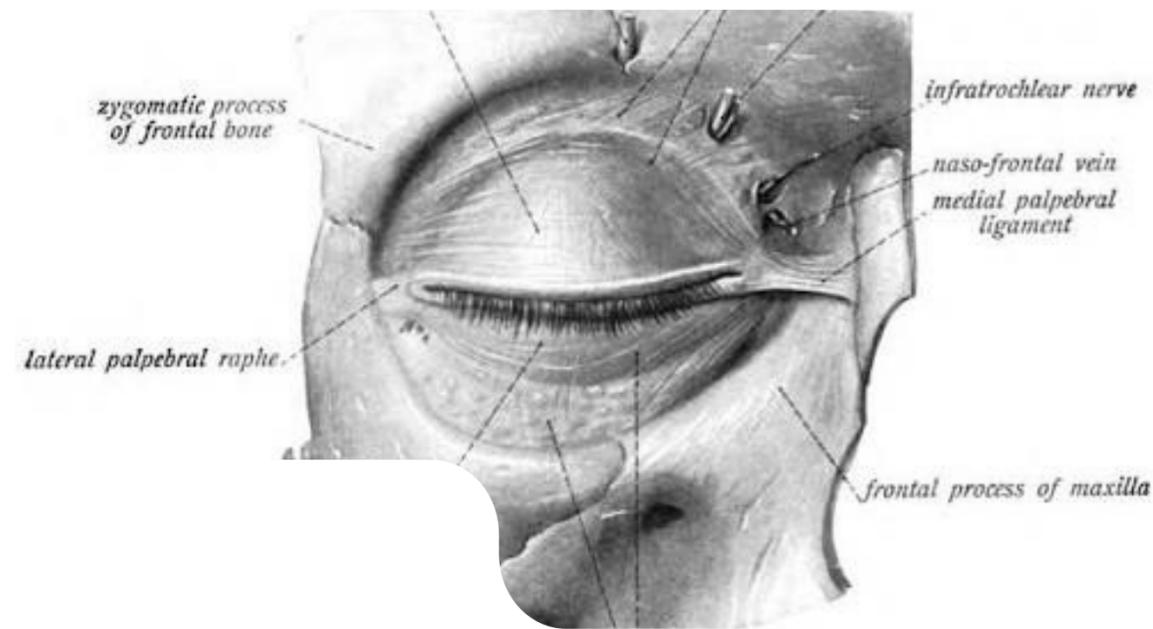
2. Orbital Septum



3. Tarsal Plates "Cytoskeleton"

main structural component of
the eyelids

The tarsal plates are made of dense connective tissue and are hinged to the orbital rim by the medial and lateral canthal tendons.



Eyelash follicles

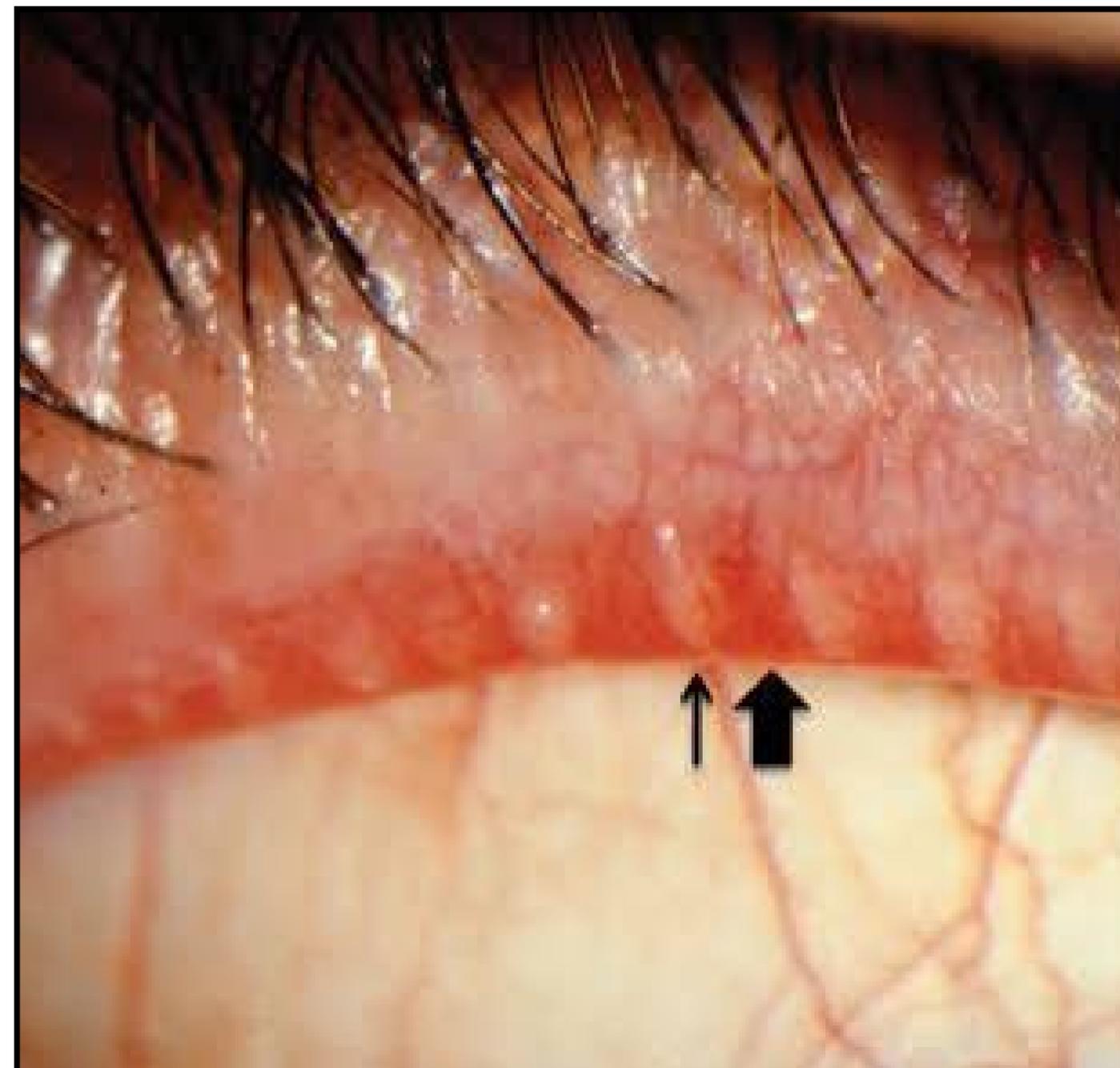
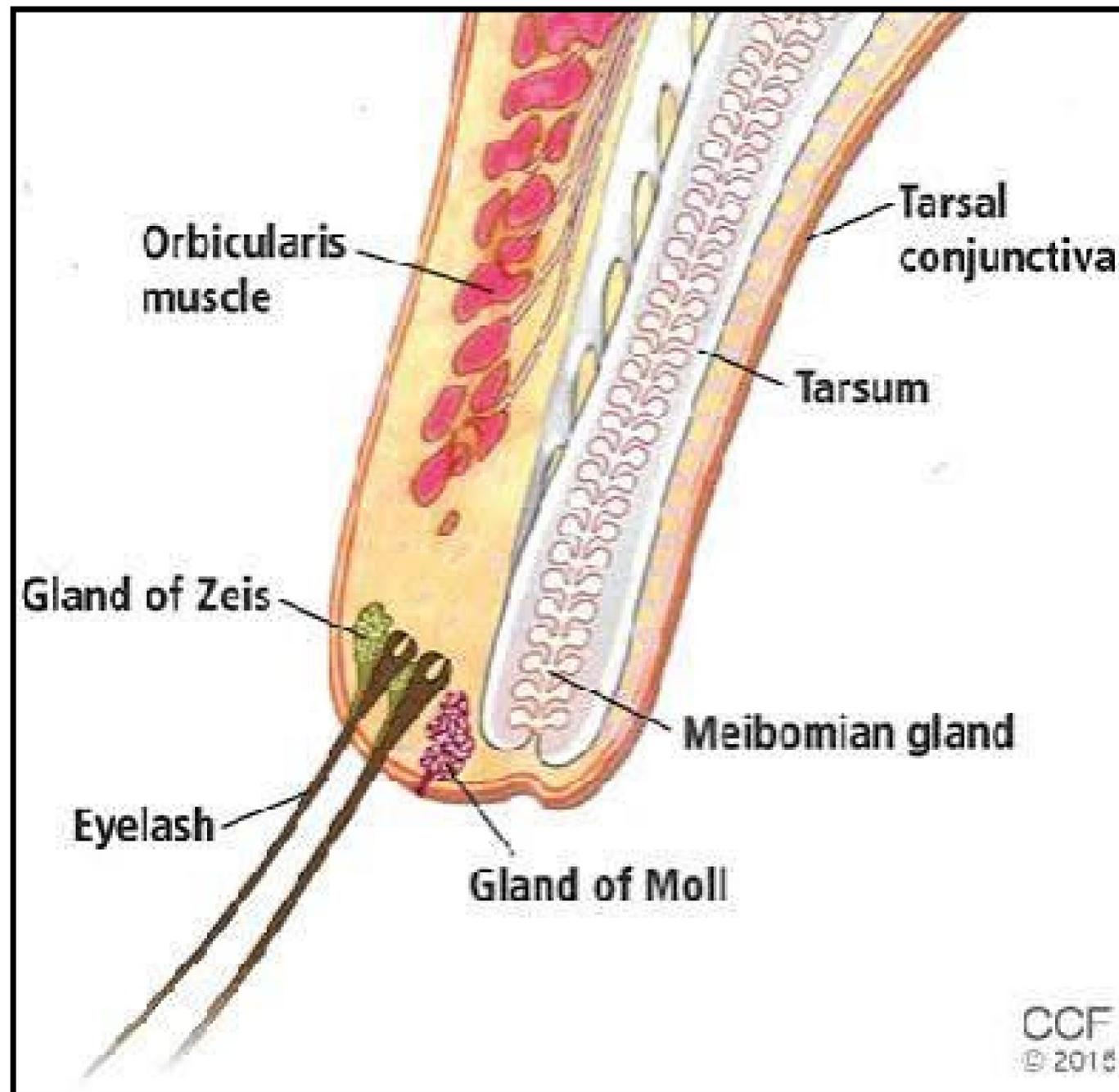
They are arranged at the mucocutaneous junction in double and triple rows.

Glands:

- Glands of Zeis: sebaceous glands opening directly into the eyelash follicle
- Glands of Moll (ciliary): modified sweat glands that open separately between the lashes.
- Meibomian (tarsal) glands: long, modified sebaceous glands that run in a row parallel to the lid margin and posterior to the lash line. They pour their oily secretion onto the margin of the lid to provide the lipid component of the tear film.

Subtarsal sulcus:

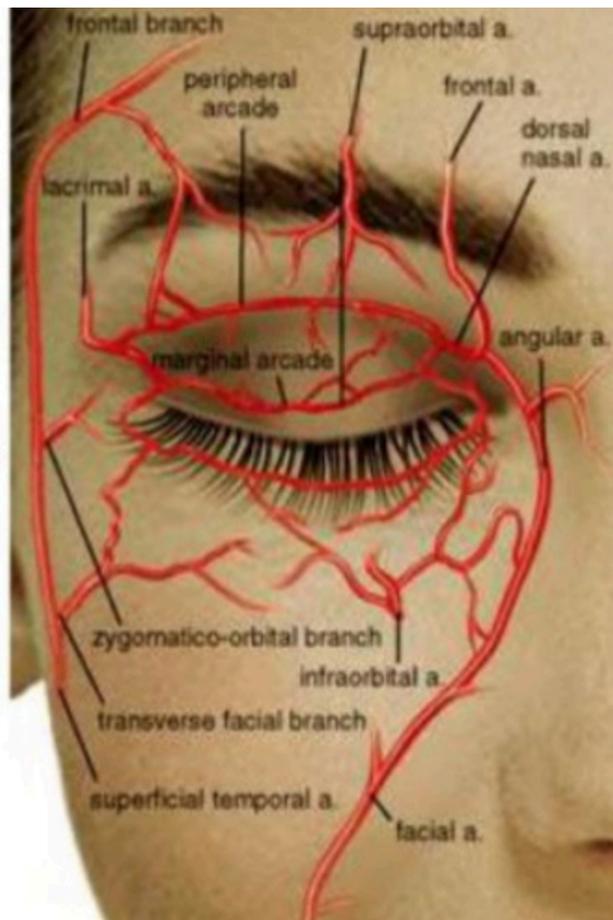
The subtarsal sulcus runs close and parallel to the margin of the lid and tends to trap small foreign particles introduced into the conjunctival sac, making it clinically important



EYELID MUSCLES

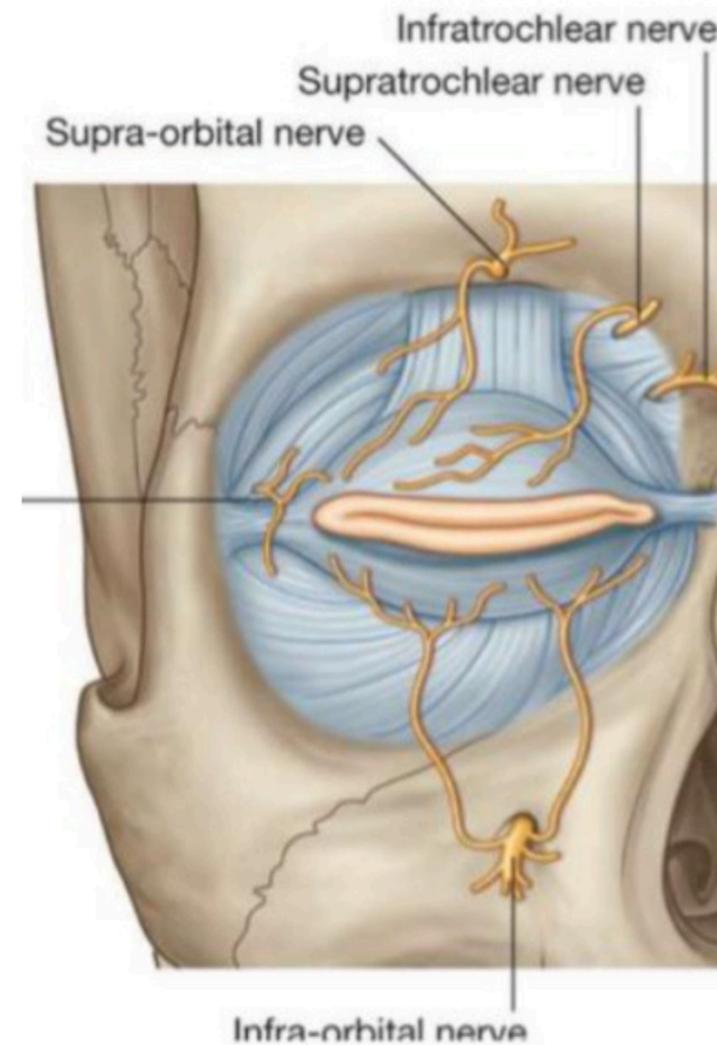
Function	Muscle	Role	Innervation	Disorders
Protractor (closure)	Orbicularis oculi	"Sphincter muscle" divided into 2 (or 3) parts: •Orbital part is voluntary •Palpebral part (pretarsal + preseptal); is involuntary (blinking)	CN VII (temporal and zygomatic branches)	Affected by facial palsy
Retractor (opening)	Levator palpebrae superioris	Retraction of upper eyelid (major role)	CN III superior branch	Complete ptosis • Neurogenic (CN III palsy) • Myogenic
	Muller's (superior tarsal) muscle	Retraction of upper eyelid (minor role)	Postganglionic sympathetic fibers of superior cervical sympathetic ganglion	Partial ptosis
	Capsulopalpebral fascia	Retraction of lower eyelid, analogous to the levator		
	Inferior tarsal muscle	Retraction of lower eyelid, analogous to Muller's	Sympathetic supply.	

EYELIDE



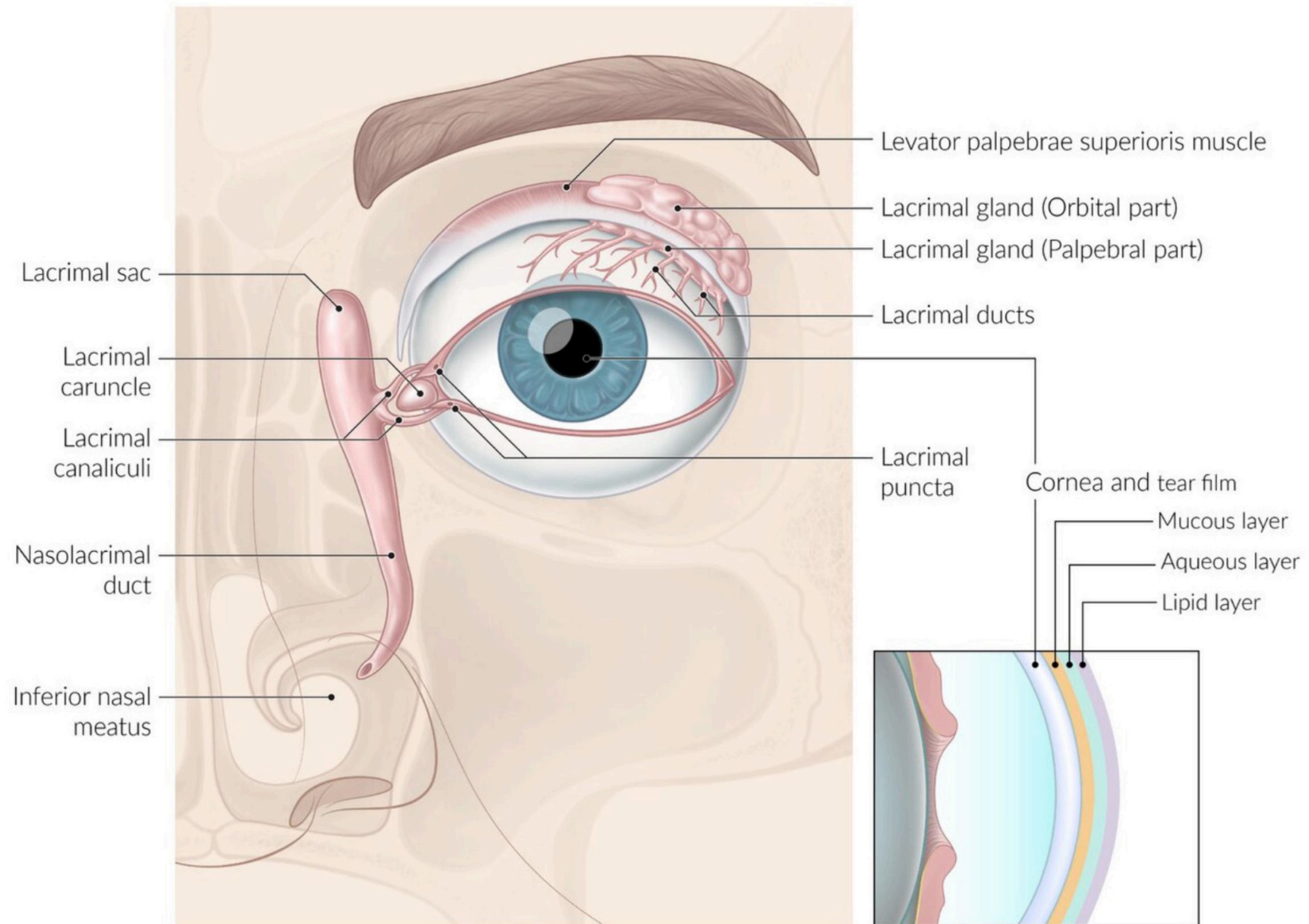
Arterial blood supply:

- **Lateral Palpebral artery**
(from lacrimal artery)
- **Medial Palpebral artery**
(from dorsal nasal artery)
- Marginal and peripheral palpebral arcades



Nerve supply:

- **Lower lid:**
infra-orbital (from V2)
Med. Aspect → infra-trochlear n. (V1)
- **Upper lid:**
Supra-orbital n.
Supra-trochlear n.
Lacrimal n. (V1)





Functions of the eyelids

- Provide physical protection to the globe
- Tear surfacing
- Tear drainage

Diseases of the eyelids

- Abnormal lid position
- Inflammation
- Lid lumps
- Eyelashes abnormalities

Lid position abnormalities

1) ptosis

full or partial drooping or falling
of one or both upper eyelids



Causes:

Mechanical causes

- a) Large lid lesions pulling down the lid.
- (b) Lid edema.
- (c) Tethering of the lid by conjunctival scarring.
- (d) Structural abnormalities including a disinsertion of the of the levator muscle, usually in elderly patients.

Neurological causes

- (a) Third nerve palsy.
- (b) Horner's syndrome, due to a sympathetic nerve lesion.
- (c) Marcus–Gunn jaw-winking syndrome: this is congenital ptosis, there is a mis-wiring of the nerve supply to the pterygoid muscle of the jaw (Trigeminal nerve) and the levator of the eyelid (Oculomotor nerve) so that the eyelid moves in conjunction with the chewing movements.

Myogenic causes

- (a) Myasthenia gravis.
- (b) Some forms of muscular dystrophy.
- (c) Chronic progressive external ophthalmoplegia

ptosis:



Symptoms

- 1) Upper lid dropping and cosmesis
- 2) Impairment of vision due to visual axis block
- 3) Associated symptoms of the primary cause as diplopia, reduced eye movements and anisocoria (unequal size of the eye's pupils)

Signs

1. There is a reduction in size of the palpebral fissure . which usually overlaps the upper limbus by 1–2mm.
2. Decrease of the function of the levator muscle.
3. Fatigue: If myasthenia is suspected the ptosis should be observed during repeated lid movement. Increasing ptosis after this is suggestive of myasthenia.
4. Other underlying signs, for example of Horner's syndrome or a third nerve palsy, may be present

FOUR DIAGNOSTIC TESTS MAY BE PERFORMED IF MYASTHENIA IS SUSPECTED:

01

In myasthenia, repeated elevation and depression of the eye results in an increased ptosis.

02

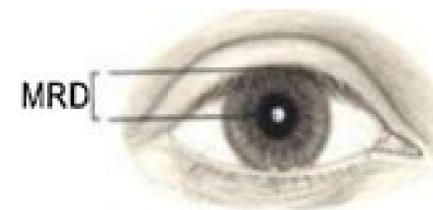
Manual retraction of the upper lid causes a ptosis or increased ptosis in the fellow eye. It is argued that the withdrawal of the stimulus to raise the retracted lid reduces the stimulus to elevation bilaterally.

03

Ask the patient to look down for 15 seconds and then look up at an elevated target. The lid overshoots and falls below the horizontal line.

04

Ice (in a rubber glove), applied to the lid for 2 minutes, significantly reduces a myasthenic ptosis.



- Distance between upper lid margin and light reflex (MRD)



- Mild Ptosis (2 mm of droop)



- Moderate Ptosis (3 mm droop)



- Severe Ptosis (4 mm or more droop)





- **Treatment of the underlying condition**
- **Surgical**
 - **Indications**
 - **Congenital ptosis**
 - **Impaired vision**
 - **Eye fatigue**
 - **Difficulty reading**

Treatment of ptosis

outward folding of the eyelid (usually the lower eyelid)

Etiology

- Congenital ectropion
- Acquired ectropion
 - Involutional: due to age-related laxity of the tarsal plates and canthal tendons
 - Cicatricial ectropion: due to trauma, inflammation, burns, surgery, cancer
 - Paralytic ectropion: paresis of the orbicularis oculi muscle due to facial nerve palsy
 - Mechanical ectropion
 - Mass
 - Conjunctival edema

Clinical features

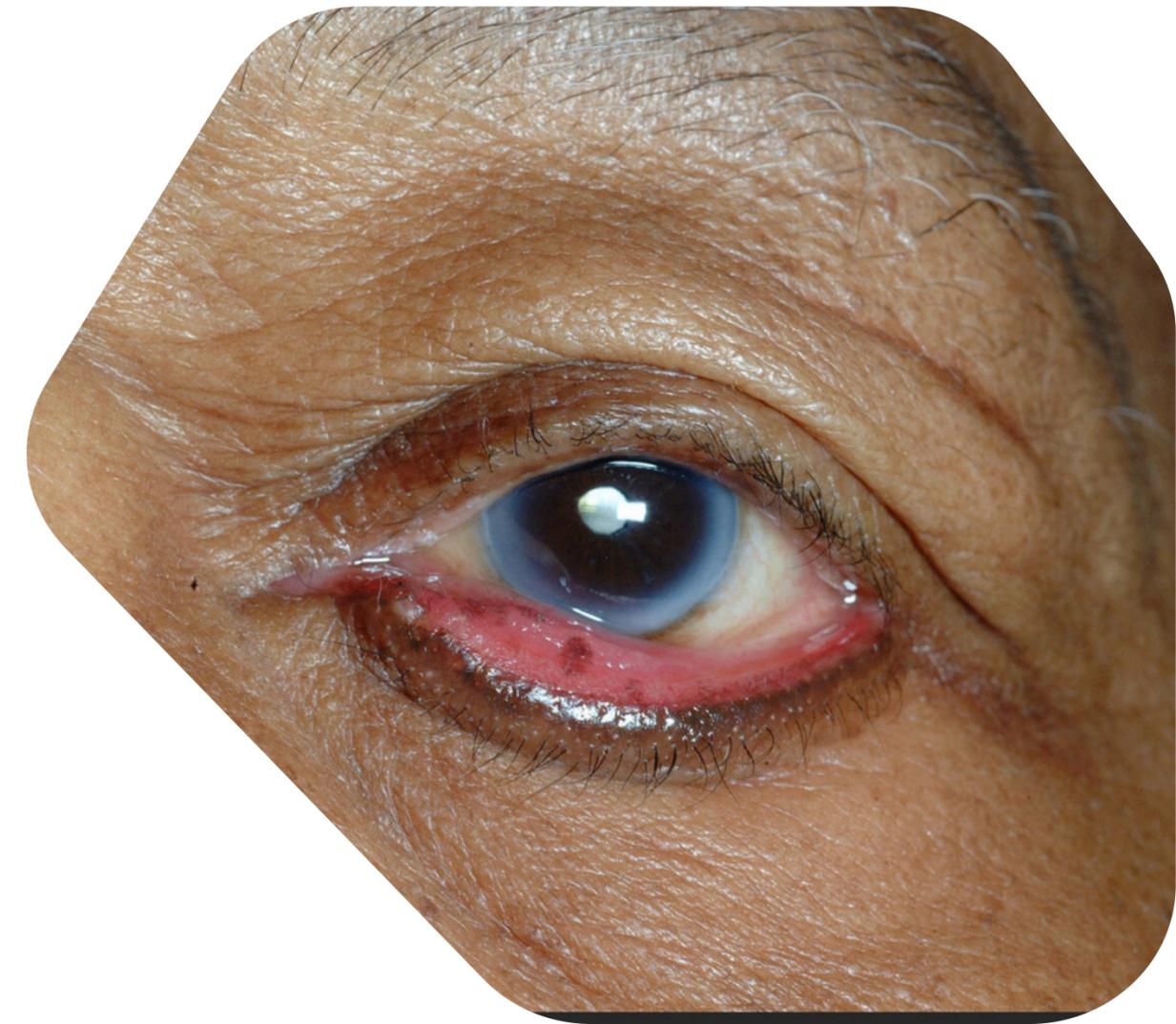
- Conjunctival hyperemia
- Blurry vision
- Photophobia
- Lagophthalmos
- Epiphora

Treatment

- Treatment of the underlying condition
- Symptomatic treatment
 - Artificial tears and ointments: lubricate the conjunctiva
 - Eye patch: prevents eyesiccation
- Surgery for definitive treatment



Ectropion



inward folding of the eyelid margin

Entropion

Etiology

- Congenital entropion
- Involutional entropion
- Spastic entropion
- Cicatricial entropion: Vertical tarsoconjunctival contracture and internal rotation of the eyelid margin .Due to scarring (e.g., due to trachoma, ocular pemphigoid, infection, trauma)



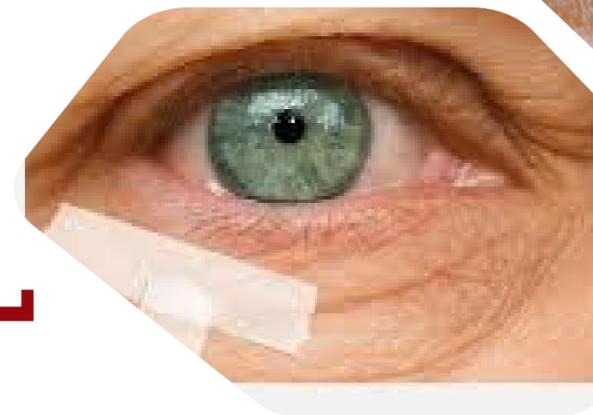
Clinical features

Congenital entropion: usually asymptomatic

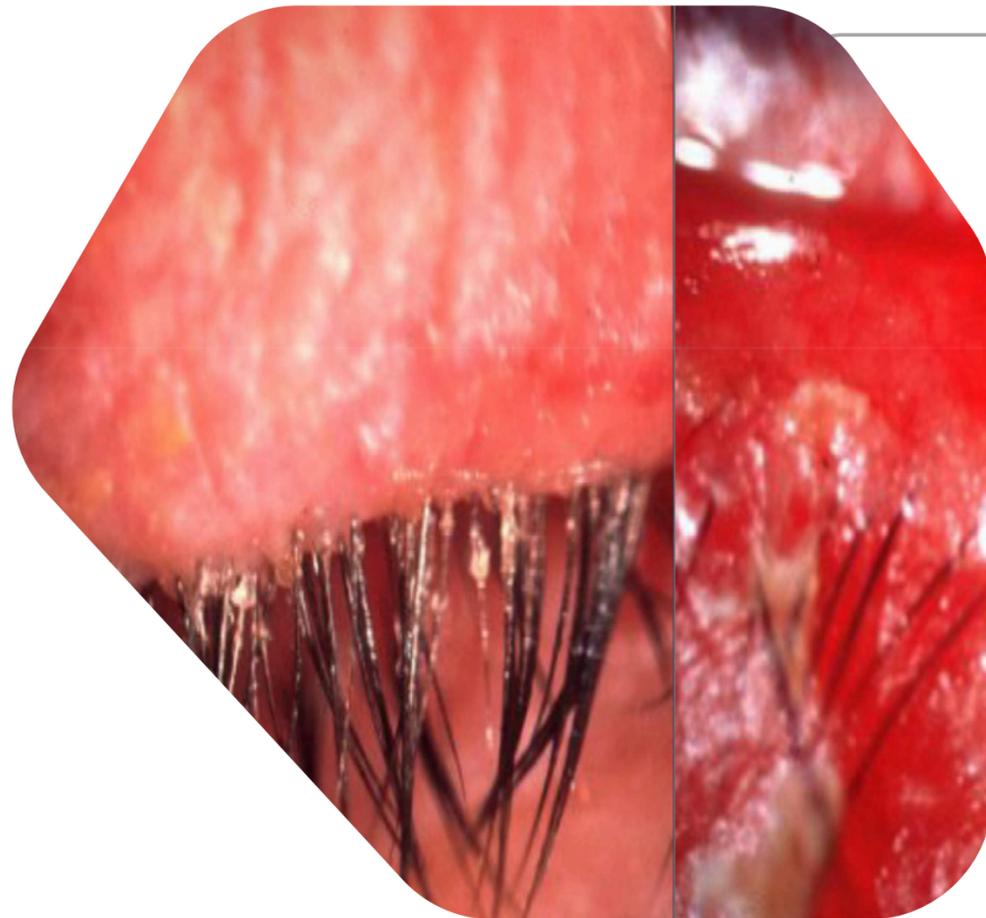
- Acquired entropion
 - Trichiasis
 - Recurrent blepharospasm
 - Ocular pruritus
 - Ciliary injection or conjunctival injection
 - Foreign body sensation in the eye
 - Epiphora
 - Hemifacial spasms (seen in spastic entropion)

Treatment

- Treatment of the underlying condition
- Symptomatic treatment
 - Artificial tears and ointments
 - Soft contact lenses
 - Skin tape
 - Botulinum toxin
 - Removal of the eyelashes
- Surgery for definitive treatment



Blepharitis



Is common chronic inflammation of the eyelids. Blepharitis usually affects both eyes along the edges of the eyelids, caused by clogged or malfunctioning oil glands in the eyelids, Infection, Allergies, including allergic reactions to eye medications or contact lens solutions ,Seborrheic dermatitis, Atopic dermatitis.

Types:

Anterior blepharitis:

concentrated anteriorly along the lash line of lid margin involving the skin, eyelashes, and follicles accompanied by squamous debris, staphylococcal overgrowth and in some small infiltrates or ulcers at the peripheral cornea (Marginal keratitis).

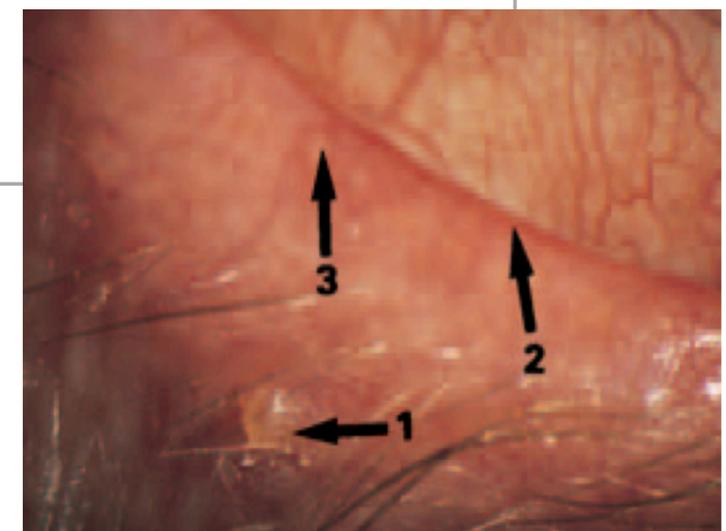
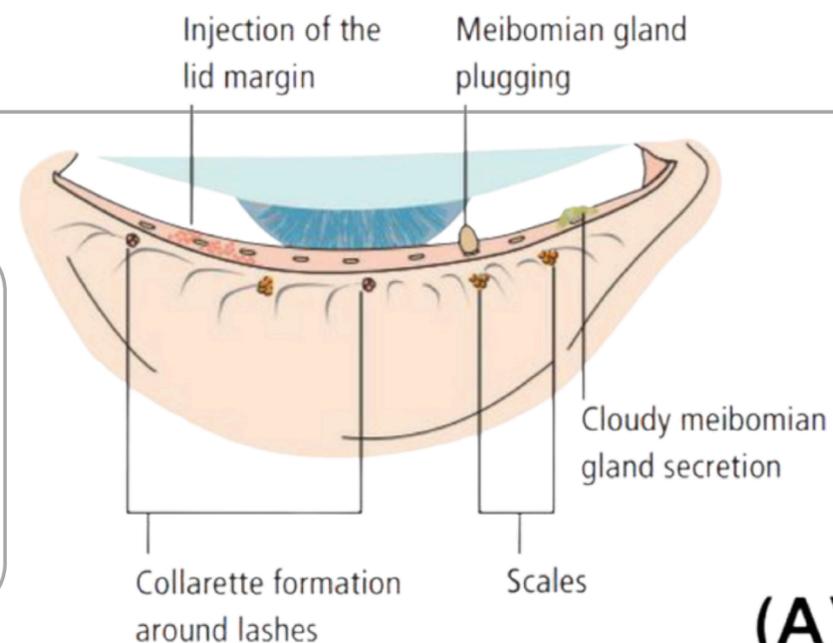
Posterior blepharitis : Meibomian gland dysfunction .

Related to the terminal duct of the meibomian gland are obstructed by squamous debris and the lipid products of the glands

Diagnosis

Diagnosis of blepharitis is **mainly clinical**:

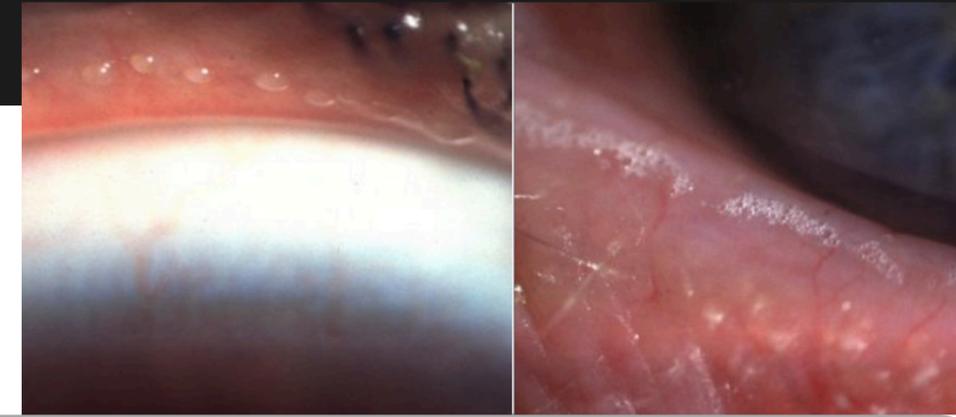
- Eye examination using magnification to check eyelids and eyes.
- Eyelid swab (in selected cases) to test for bacteria, fungi, or allergy.



(A)

The clinical appearance of the lid margin in Blepharitis: 1- the scales on the lashes, 2- Dilated blood vessels, 3- plugging of the meibomian gland

Blepharitis



Signs

- Scaling of the lid margin
- Inflammation of the lash follicles
- Decreased number of lashes
- plugging of meibomian gland ducts .
- Foamy tear film and tear film abnormalities
- In severe cases : blepharokeratitis and marginal keratitis
- Conjunctival infection .

Anterior Blepharitis Signs:

- 1)Redness and scaling of lid margins
- 2)some lashes may be ulcerated (sign of S. Aureus infection)
- 3)debris around the eyelashes
- 4)reduction in the number of eyelashes.

Symptoms

- Tiredness, itchy ,sore eye worse in the morning.
- Crusting of the lid margin in anterior blepharitis and redness in both types.
- Tearing

Treatment

General / Self-care:

- Eyelid hygiene: warm compresses, lid scrubs (diluted baby shampoo or bicarbonate solution).
- Helps remove crusts, unblock glands, and relieve symptoms.

Medical treatments

- Antibiotics: topical (drops, ointments, creams); oral if severe or unresponsive.
- Anti-inflammatories: short-course steroid drops/ointments; sometimes combined with antibiotics.

Notes:

Anterior blepharitis

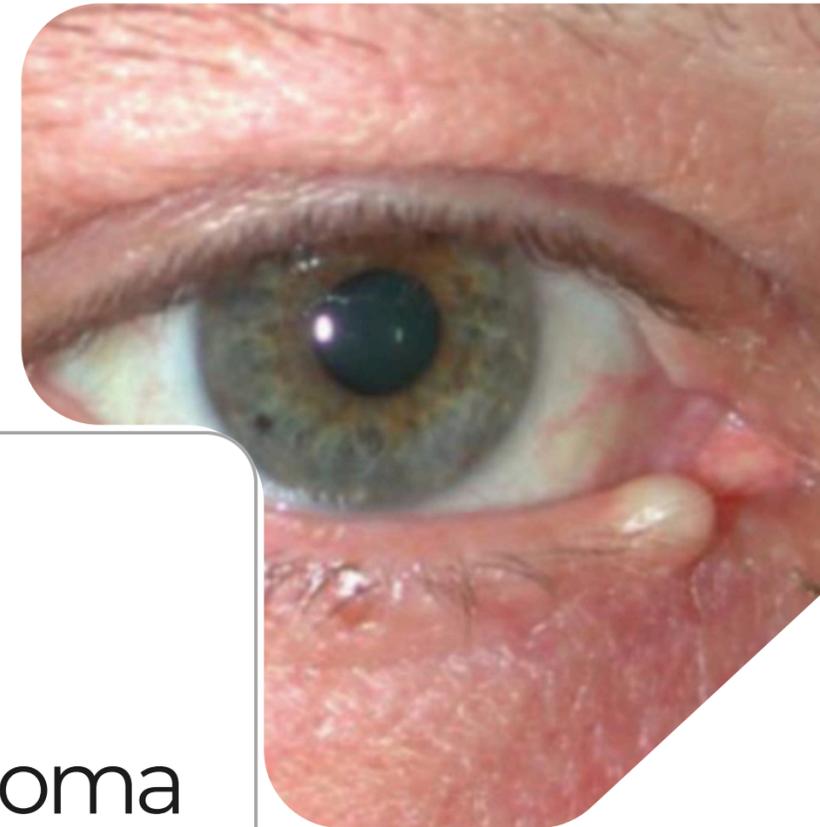
- Lid hygiene with cotton bud + diluted baby shampoo/bicarbonate solution.
- Topical steroids (short course, avoid frequent use).

For posterior blepharitis:

- Abnormal meibomian gland secretions can be expressed by lid massage after hot bathing.
- Meibomian gland function **can be improved by oral tetracycline.**
- Posterior blepharitis can be associated with a dry eye which requires treatment with **artificial tears**
- Staphylococcal lid disease may require therapy with topical antibiotics (fusidic acid gel) and, occasionally with systemic antibiotics



Types of Eyelid Masses:



Benign Lid lumps and masses

- Chalazion
- Molluscum contagiosum
- Cysts
- Squamous cell papilloma
- Xanthelasma
- Keratoacanthoma
- Nevuses

Malignant

- basal cell carcinoma
- squamous cell carcinoma
- malignant melanoma

- There are three types of glands located in the eyelids: Meibomian, Zeis and Moll.

—> Blockage of any of these glands results in corresponding focal collections/cysts, and these are commonly encountered in general practice.

Cysts

Sebaceous cysts are opaque, painless and may be removed for cosmesis



Eyelid lesions arising from glands

Eyelid Cysts – Moll vs Zeis

Feature	Cyst of Moll	Cyst of Zeis
Origin	Blocked apocrine sweat glands	Blocked sebaceous glands
Location	Eyelid margin	Eyelid margin
Appearance	Solitary, dome-shaped papule/nodule	Solid nodule
Contents	Clear fluid	Yellow, oily secretions
Transillumination	Positive (transilluminates)	Negative (does not transilluminate)



Hordeolum (Stye)

Definition

- A common, acute inflammation of one of the sweat and sebaceous glands around eyelash follicles, caused by infection with *Staphylococcus aureus*

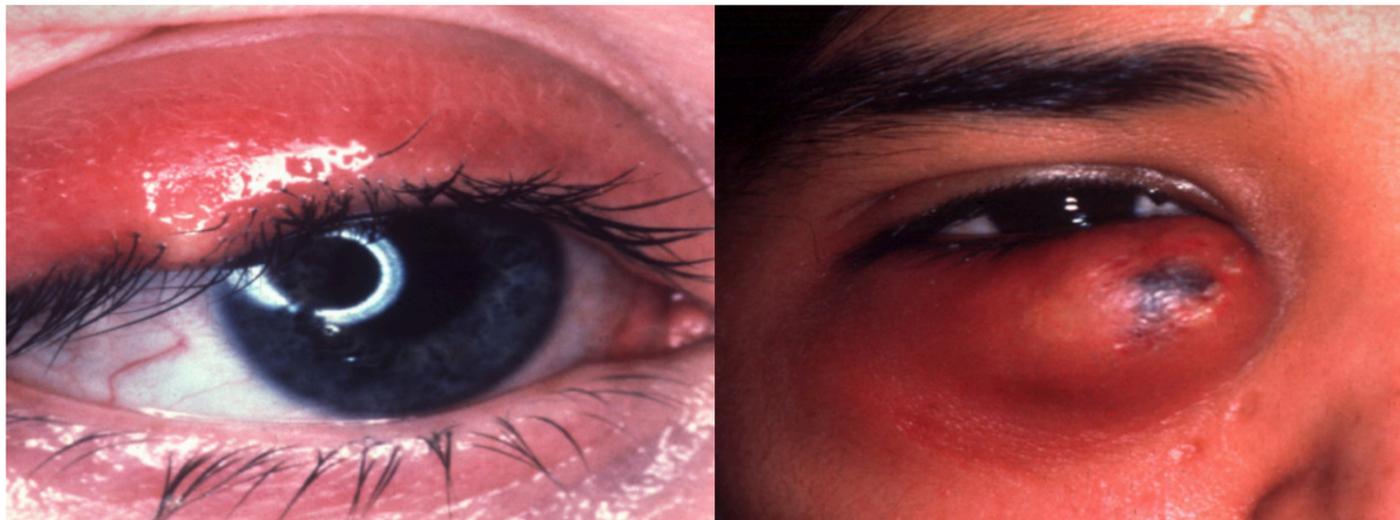
Classification

—> Classified according to location:

- **External hordeolum:** inflammation of a Moll or Zeis gland on the anterior lid margin
- **Internal hordeolum:** inflammation of a meibomian gland on the posterior eyelid

Clinical features :

Painful, erythematous, pus-filled nodule on the eyelid with associated edema



Treatment

Conservative:

—> Hordeola are usually self-limited, spontaneously improving in 1-2 weeks

- Eyelid hygiene: lid scrubs to remove debris and reduce bacterial load.
- Warm compresses: 10 minutes, 4 times per day → soften lesion and promote drainage.

Medical:

- Topical antibiotics: applied to the inferior fornix if the lesion is draining or if there is associated blepharoconjunctivitis.

Systemic therapy:

- Oral antibiotics (e.g., doxycycline) → indicated if complicated by preseptal cellulitis.

Complications

- **Preseptal cellulitis** : is common and can be treated with a course of oral antibiotics in addition to hot compress and massage.

Orbital cellulitis Orbital cellulitis is a rare but potentially sight-threatening and even life-threatening complication that occurs when infection breaches the orbital septum and presenting as signs of decreased visual acuity, Proptosis

- Refer urgently to ophthalmology if an emergency cause of red eye (e.g., preseptal cellulitis, orbital cellulitis) is suspected.

Chalazion

Definition

Common painless swelling as Focal granulomatous inflammation in tarsal plate due to retained Meibomian gland secretions from a blocked duct in upper & lower lids

Presentation

Painless, firm nodule in tarsal plate or lid margin with Variable size and commonly associated with blepharitis

Treatment

First-line (conservative):

Warm compresses, Lid massage, Eyelid margin hygiene (≥ 2 times/day)

Antibiotics:

Not needed unless secondary bacterial infection is suspected.

Definitive:

Usually resolves spontaneously within 1-2 months if not incision and drainage (Marsupialization) can be done .



Molluscum Contagiosum

Definition

Molluscum contagiosum is a self-limited cutaneous infection caused by the Molluscum contagiosum virus (a member of the Poxviridae family), primarily affecting immunocompetent young children and immunosuppressed individuals.

Presentation

- Lesions: 1–3 mm nodules, white, pink, or flesh-colored, with central umbilication.
- Can cause follicular conjunctivitis due to viral shedding into the tear film.

Treatment

- Most cases: No treatment required → **spontaneous resolution over time.**

Symptomatic or persistent lesions:

- Cryotherapy
- Curettage
- Excision



Xanthelasma

Definition: Yellowish plaques on the eyelids caused by lipid-laden macrophages in the superficial dermis and subcutaneous tissue.

Associations:

- Hypercholesterolemia or other lipid metabolism disorders
- May warrant investigation for underlying dyslipidemia

Treatment:

- Mainly cosmetic: surgical excision if desired
- Underlying lipid disorder should be managed medically



Squamous cell papilloma

Definition: small benign (non-cancerous) growth Frond like lesion with fibrovascular core and thickened squamous epithelium, The lesion is soft, smooth, round and attached by a “stalk” to the eyelid.

- Usually **asymptomatic**
- **Treatment** :for cosmetic reasons with cautery to the base

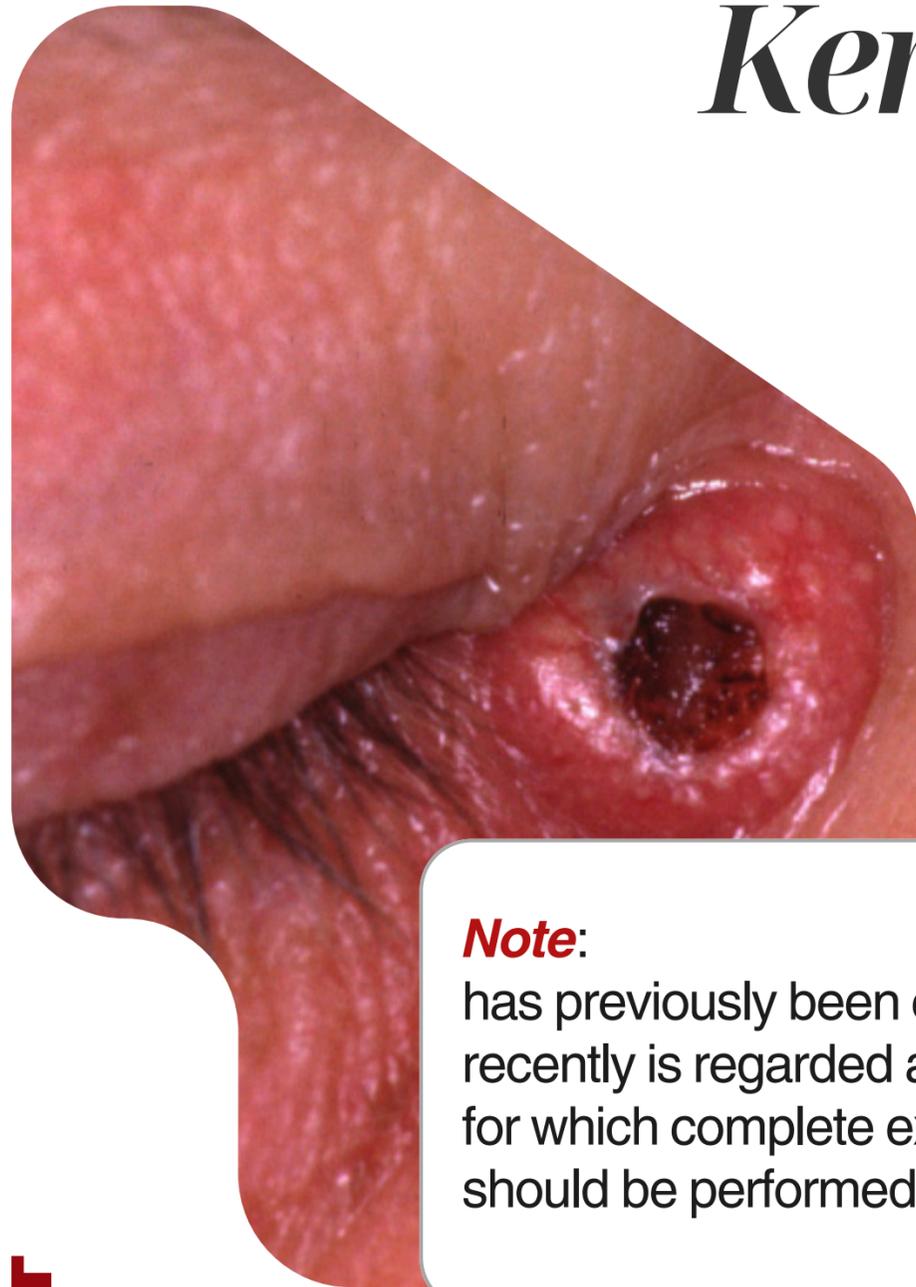


Nevus (mole)

- From melanocytes
- Can be pigmented or none
- No treatment needed



Keratoacanthoma



- Fast growing lesion with central crater filled with keratin
- Treatment with excision .

Note:

has previously been considered a benign lesion but more recently is regarded as a low-grade squamous cell carcinoma for which complete excision is recommended with histology should be performed



Malignant tumours

- **When to suspect malignancy lesion**

History

Risk factors: prior skin cancer, fair skin, previous radiation, immunosuppression, Gradual enlargement, Painless

Exam:

Ulceration, Induration, Irregular or 'pearly' borders, Destruction of eyelid margin, Loss of lashes (madarosis), Telangiectasia, Reduced sensation

Basal Cell Carcinoma (BCC)

- Most common eyelid malignancy (80–90% of cases)
- Lid BCC accounts for 10% of all BCC
- Typically occurs on: Lower eyelid, Medial canthus

It is a slow growing locally destructive and rarely metastasising tumour .

A classical presentation of a Basal cell carcinoma is the nodular type - a smooth, pearly-edged nodule with telangiectasia.

May develop *central ulceration* as tumor outgrows blood supply

Its **Painless lesion** of the lid

Can be :

- Nodular
- Sclerosing
- Ulcerative (Rodent ulcer)

Management

1. Gold-standard: Complete **surgical excision with intraoperative margin** control regardless of histological subtype and associated with low recurrence rates
2. Radiotherapy

Prognosis in general very good unless deep invasive tumor



Squamous Cell Carcinoma (SCC)

- Less common Accounts for ~5% of epithelial eyelid tumors
- More malignant **and** More aggressive than basal cell carcinoma
- Can metastatize to lymph nodes
- Can be : 1. De novo
- 2. From pre-malignant lesion (Actinic keratosis, Keratoacanthomas)

Presentation with nodule or scaly patch May have associated ulceration

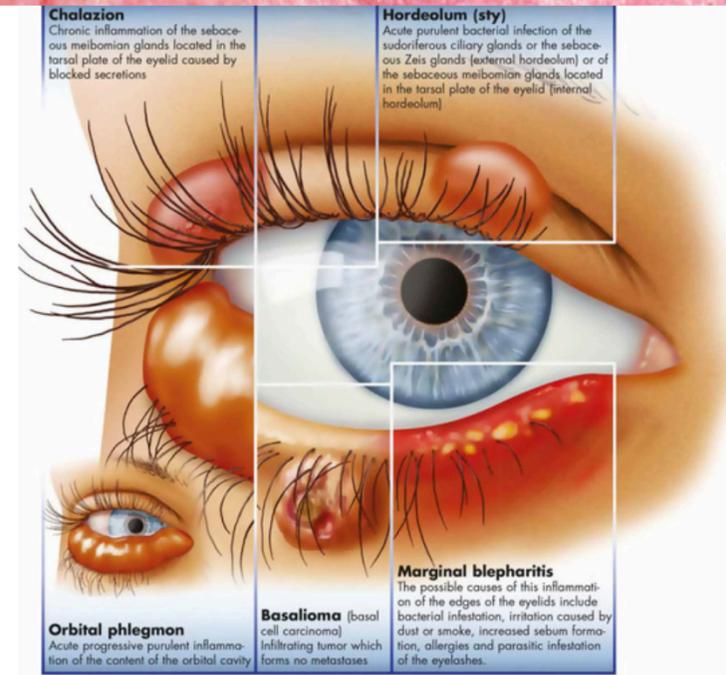
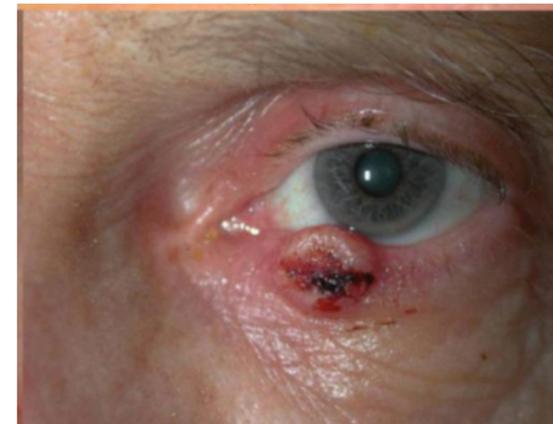
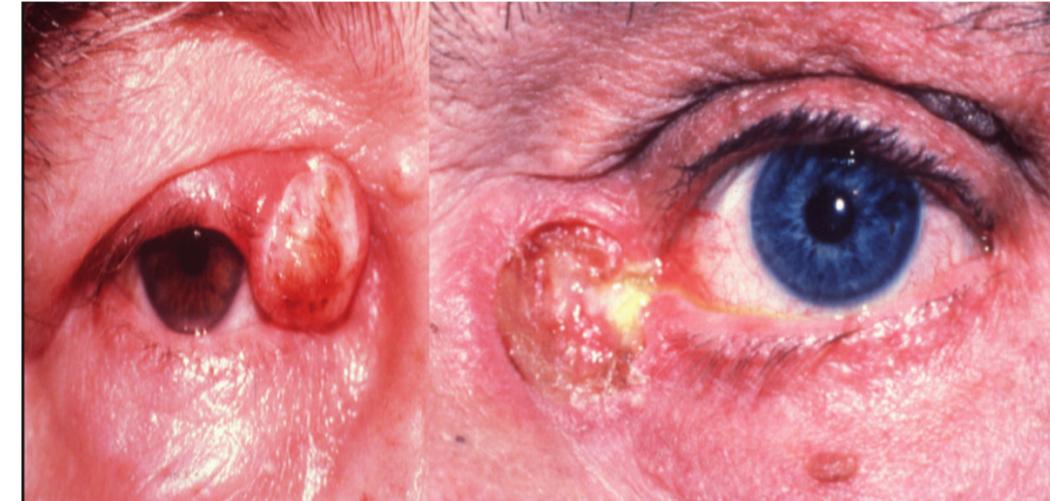
- **UV exposure is a risk factor(also for BCC) and immunocompromised patients**

Management

- Gold-standard: Margin-controlled surgical excision
- Advanced/metastatic disease:
 - Targeted therapy with:
 - Hedgehog pathway inhibitors
 - Epidermal growth factor receptor (EGFR) antibodies

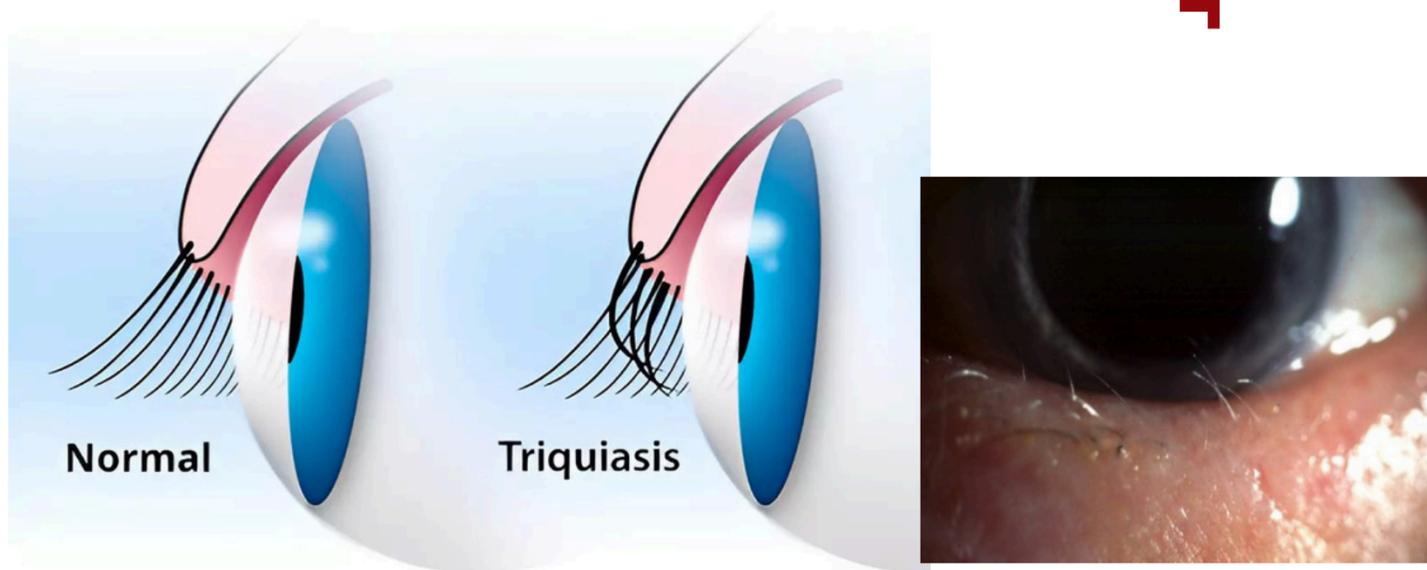
Malignant melanoma

Malignant melanoma account for <1% of all eyelid malignancies. The lower eyelid is more commonly involved. Any pigmented lesion that increases in size, has irregular borders or multiple colors or is associated with ulcerating and bleeding warrants further investigation



Eyelid lesions, Chalazion, difference between internal and external hordeolum

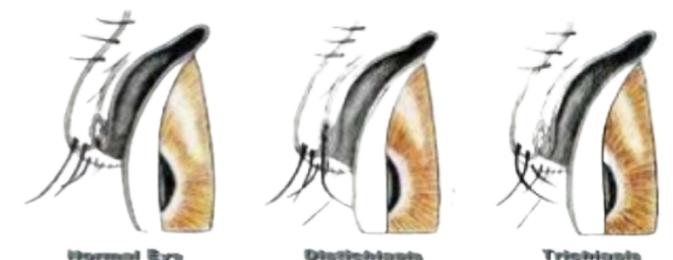
Eye lashes abnormalities



- Trichiasis** : abnormally backward directed eye lashes .
- Can be primary or secondary to cicatrization or inflammation as in Trachoma .
 - Continuous rubbing of the cornea can cause many complication as corneal opacity

- Treatment** : epilation of the abnormal lashes manually ,laser or surgery .
- A red L-shaped icon is positioned to the left of this text.

TRICHIASIS



Q & A



Keratoacanthoma: which is incorrect

1. Usually develops over a period of weeks
2. does not exhibit cellular atypia
3. may be associated with systemic malignancy
4. usually undergoes spontaneous involution
5. is usually umbilicated

Squamous cell carcinoma of the eyelids: which is incorrect

1. Is more aggressive than basal cell carcinoma
2. Is more common in lightly pigmented individuals than in dark pigmented ones
3. May be potentiated by immunodeficiency
4. Does not arise from actinic lesions
5. Often metastasizes along nerves

وَلَا تَقْفُ مَا لَيْسَ لَكَ بِهِ عِلْمٌ ? إِنَّ السَّمْعَ وَالْبَصَرَ وَالْفُؤَادَ كُلُّ أُولَئِكَ كَانَ عَنْهُ
مَسْئُولًا ﴿٣٦﴾ الإسراء