




Gaza Ophthalmic Centre

1.1 The Eye Lids

(Part 1)

Ophthalmology

4TH YEAR MEDICAL STUDENTS

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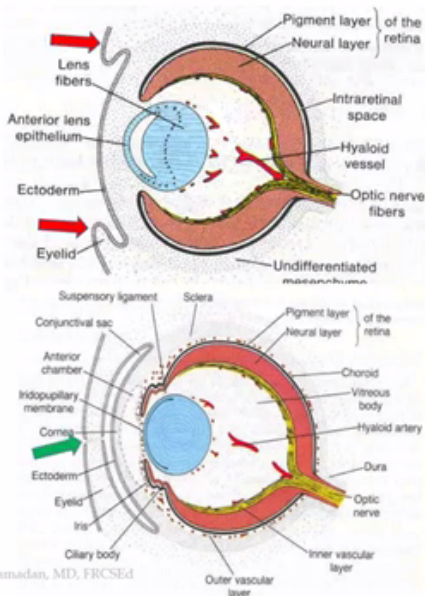

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Good morning. This is part one of the lectures about the eyelids and its diseases

Embryology

- 7th week
 - Upper & lower lid folds grow
- 8th week
 - Folds fuse together
- 5th to 7th months
 - Lashes develop
 - Glands develop
 - Lids separation starts



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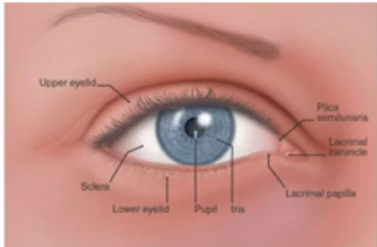
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embryological the eye arises from the brain as an outpouching vesicle from the forebrain. During the seventh week, the upper and lower eyelid folds start to come nearer to each other and they gradually fuse by the eighth week. Later on the at the fifth month, the lashes

Gross anatomy

- Two Eye Lids
- Movable Upper EL
- Muco-cutaneous folds
- Palpebral fissure
 - Space between the
 - To lid margins
 - When the lids are
 - Open



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Gross anatomy

- Upper eye lid
 - Covers the
 - Upper 1/6 of
 - Cornea
- Mobile
- Lower eye lid
 - Just at
 - Level of
 - Limbus

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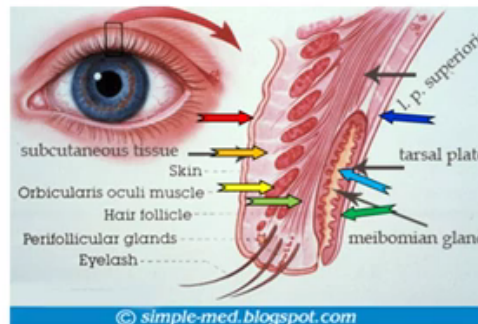
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The upper eyelid normally covers the upper 1/6 of the cornea or two millimeters and it is mobile up and down while the lower eyelid just touches the cornea at the level of the limbus

Minute anatomy

1. Skin
 - Subcutaneous layer
2. Muscular Layer
3. Submuscular Layer
4. Tarsus
 - Meibomian glands
5. Palpebral conjunctiva



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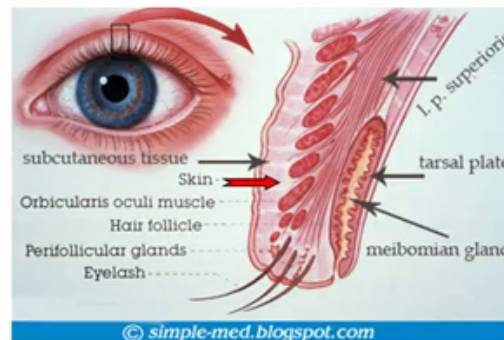
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the eyelid consists from anterior to posterior by the skin which is the outermost layer and it contains the subcutaneous layer. The then the muscular layer and the sub muscular layer and in the back we have the tarsus containing the meibomian gland in its middle and finally at the very posterior end we find the palpebral conjunctiva

Minute anatomy

- Skin:
 - thin skin
- Subcutaneous layer:
 - CT loose
 - With no fat



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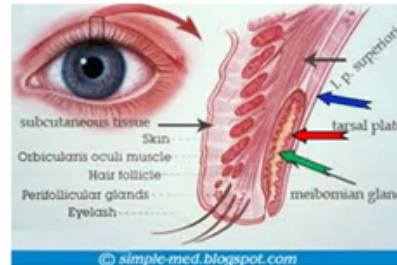
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The skin is a very skin and the subcutaneous layer is a connective tissue with no fat

Minute anatomy

- ▣ Tarsus:
 - Condensed fibrous tissue
 - Not cartilage
 - The skeleton of the lid
- ▣ Meibomian glands
 - Embedded in the tarsus
 - 30 in upper lid and
 - 15 in lower lid
- ▣ Palpebral conjunctiva:
 - Thin
 - Vascular
 - Firmly adherent to the tarsus

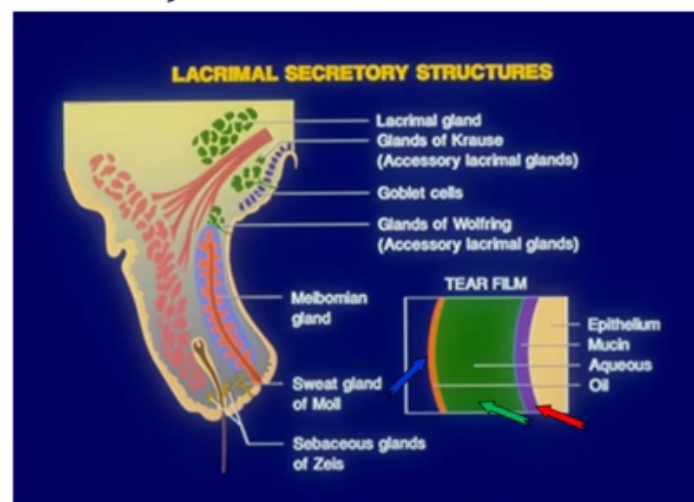


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the tarsus is a condensed fibrous tissue it is not the cartilage and it forms the skeleton of the eyelid. The meibomian gland is a pilosebaceous gland embedded in the tarsus, they are more numerous in the upper eyelid with numbers for almost 30 and half of that in the lower eyelid. The palpebral conjunctiva is very thin vascular firmly added to the tarsus mucous .membrane

Minute anatomy



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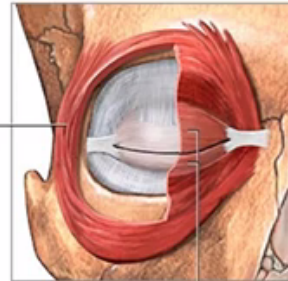
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The tear film is produced by the lacrimal gland as well as the meibomian gland which produces a lipid based secretion together with the crowds and goblet cells and wolfring glands in the Fornix. The tear film consists of three layers the one which is very adjacent and anterior to the corneal epithelium is mucinous layer followed by a thick, relatively thick aqueous layer. And finally, the outermost is a very thin oily layer produced by the .meibomian

The muscles of the lid

- *Orbicularis oculi muscle*
- *Levator palpebrae superioris muscle*
- *Muller's muscle*

Orbicularis oculi (Orbital part)



Orbicularis oculi (Palpebral part)

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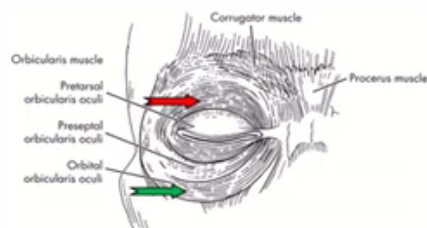
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The eyelids have two muscles. The first is the orbicularis oculi and the second is the levator palpebrae superioris. There is a part supplied by the sympathetic nervous system called .mullers muscle

The muscles of the lid

- ▣ **Orbicularis oculi:**
 - **Sphincter of the lid**
 - **Formed of**
 - Palpebral portion
 - Orbital portion



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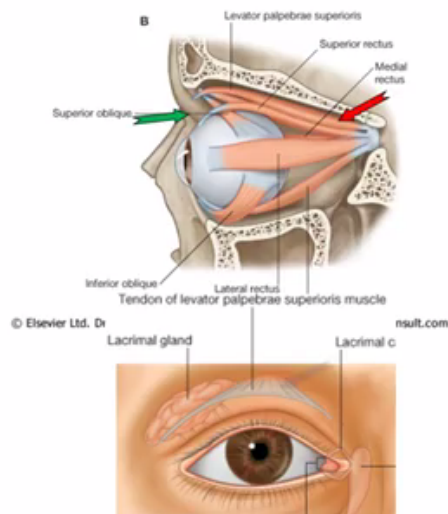
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The orbicularis oculi is the sphincter of the eyelid it is formed from the palpebral portion, which surround the eyelid itself and the orbital portion which is the outer part

The muscles of the lid

▣ *Levator palpebrae superioris* muscle:

- **Origin:**
 - From the apex of the orbit
- **Insertion:**
 - Skin of upper lid
 - Upper tarsus
 - Upper fornix



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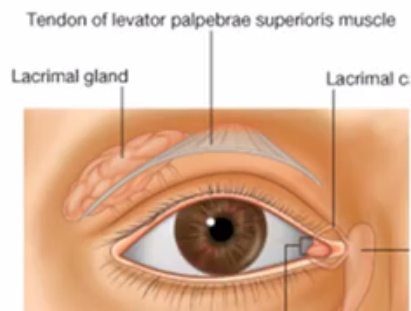
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the levator palpebrae superioris muscle takes origin from the apex of the orbit and then keeps going very near to the roof till it reaches the anterior margin width then changes direction vertically to be inserted into the skin of the upper eyelid and the upper tarsus as with the upper fornix

The muscles of the lid

▣ *Levator palpebrae superioris* muscle:

- **Action:**
 - Elevation of upper lid
 - (Paralysis → Ptosis)
- **Nerve supply:**
 - III Cranial Oculomotor nerve



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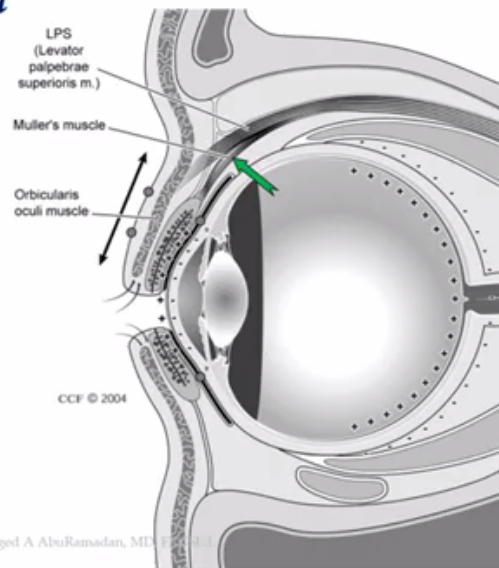
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the levator palpebrae superioris acts and pulling and elevating the upper eyelid. So paralysis, of this muscle cause drooping of the upper eyelid which we call ptosis. This muscle is supplied by the oculomotor nerve

The muscles of the lid

- **Muller's muscle:**

- Below Levator
- Nerve supply:
 - Sympathetic
- Assists and help to
 - maintain
 - upper lid elevation



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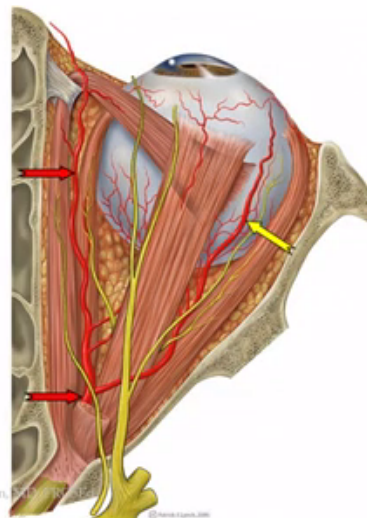


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Mullers muscle is very specialized part underneath the levator palpebrae superioris. Its gets a nerve supplied by the sympathetic nervous system. It assessed and maintains the elevation of the upper eyelid, paralysis of this muscle is a part of Horners syndrome

Blood supply of the eye lids

- Ophthalmic artery
- Lacrimal artery



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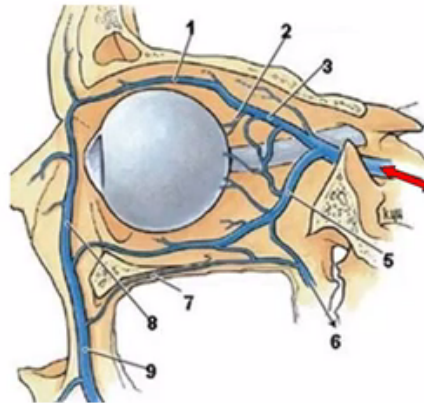
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The eyelids gets its blood supply mainly by the ophthalmic artery and the lacrimal artery on (the lateral

Blood supply of the eye lids

- **Veins:**

- Drain to ophthalmic vein



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where the veins drain in To the ophthalmic vein, which ultimately drains into the cavernous .sinus

1) Inflammation of the Eye Lids

- Lid margin

1. Squamous Blepharitis
2. Ulcerative Blepharitis
3. Angular Blepharitis
4. Parasitic Blepharitis

- Lid glands

1. Zeiss glands
Hordium externus
2. Meibomian glands
Hordium internus (Chalazion)

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The medial 1/3 of the eyelids are drained into the submandibular lymph node while the lateral two thirds either goes to the pre oracular or to the parotid lymph nodes. Note that .the eye itself have no lymphatic drainage as being part of the brain

1) Inflammation of the Eye Lids

- ❑ Lid margin
 1. Squamous Blepharitis
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 3. Angular Blepharitis
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- ❑ Lid glands
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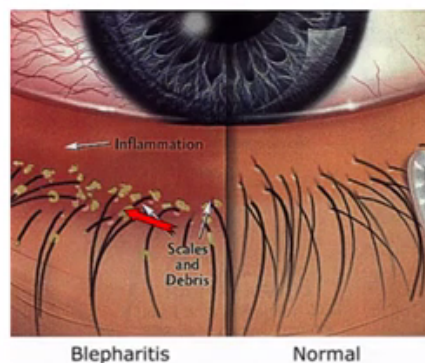
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The diseases of the eyelid involves several categories the first is inflammation the inflammation may involve the eyelid margin or the glands associated with the eyelids the eyelid margin have mainly four types of inflammation called squamous, ulcerative angular blepharitis or parasitic blepharitis while the lid glands can be inflamed, and the zeiss gland is inflamed, that's called hordeolum externum. hordeolum internus means meibomian gland chalazion

1.1 Squamous Blepharitis

- ❑ Chronic blepharo conjunctivitis
- ❑ Characterized by:
 - Presence of white scales
- ❑ Like seborrheic dermatitis
- ❑ Low grade infection
 - Staph. blepharitis



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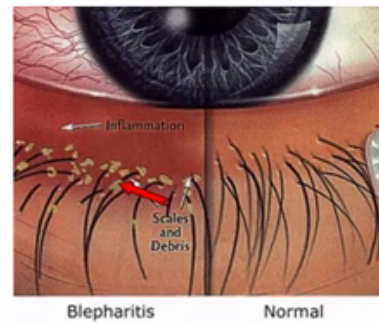
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squamous blepharitis is a chronic blepharoconjunctivitis, the conjunctiva is also involved is characterized by the appearance of white scales at the basis of the eyelashes, it is similar to .separate dermatitis and it may denote low grade infection with the staph blepharitis

1.1 Squamous Blepharitis

▣ Predisposing factors:

1. Poor hygiene
2. Diabetes
3. Malnutrition
4. Errors of refraction



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This sort of blepharitis is predisposed for by poor hygiene by diabetes by malnutrition and uncorrected errors of refraction

1.1 Squamous Blepharitis

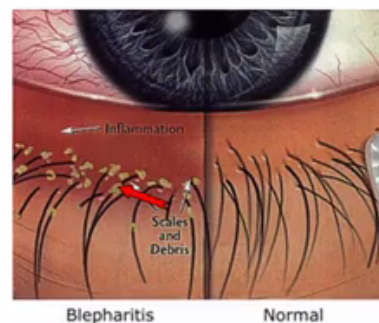
▣ Clinical picture:

■ C/O

1. Itching
2. Burning sensation
3. Lacrimation

■ O/E

1. Small, white scales
2. between lashes
3. Easily to be removed



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clinically the patient may complain of itching or burning sensation and lacrimation. On examination you can see the small white scales between the lashes and these scales are easy to be removed

1.1 Squamous Blepharitis

▣ **Treatment:**

- 1- General
 - ttt of the predisposing factors
 - Error of refraction
 - (eye strain)
 - DM
- 2- local
 - Lotion:
 - Baby Shampoo
 - to remove the scales
 - Hot compresses
 - Antibiotics
 - Steroids



The treatment is general toward the predisposing factor with error of refraction or control of diabetes. The local treatment contains lotion as baby shampoo to remove the scales, hot compresses antibiotics and steroids sometimes

1.2 Ulcerative Blepharitis

▣ **Etiology:**

- Infection of the lid margin
- Staph aureus
- Chronic type

▣ **Clinical picture:**

- C/o
 1. Itching
 2. Frequent falling of lashes
 3. Burning sensation
- O/E
 1. Lashes are glued together
 2. by yellow crusts,
 3. If removed,
 4. leave minute Bleeding ulcers



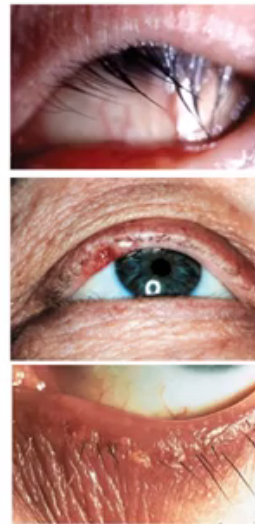
ulcerative colitis is rather severe form of blepharitis resulting from infection of the eyelid margin itself. Usually the organism is virulent as a staph aureus and the case is usually chronic. Clinically the patient complained with a itching, loss of the lashes and burning sensation. On examination we can see that the eyelashes are glued together by the yellow crusts and if we remove this crusts it leave bleeding ulcers underneath

1.2 Ulcerative Blepharitis

Complications:

□ lids :

1. Trichiasis
2. Madarosis



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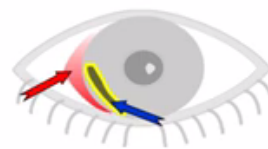


this case might be complicated by trichiasis or madarosis, trichiasis at the medial direction of the eyelashes due to fibrosis while madarosis means loss of the eyelashes as we can see

1.2 Ulcerative Blepharitis

Complications:

- Conjunctiva:
 - Chronic conjunctivitis
- Cornea:
 - Marginal corneal ulcers



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ulcerative blepharitis can also affect the conjunctiva with causing chronic conjunctivitis or it can affect the cornea producing marginal corneal ulcer which is a toxic reaction

1.2 Ulcerative Blepharitis

• Treatment:

- General
 - ttt of predisposing factors
 - + systemic antibiotics
- Local
 - I Lotion:
 - Baby shampoo
 - II Antibiotics:
 - Drops & ointment
 - organism is hidden in the lashes root
 - III Misdirected lashes:
 - Epilation
 - (not electrolysis)

ttt should continue 2-3 weeks after apparent cure



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Treatment once again is general directed to the predisposing factor plus systemic antibiotics in rare severe cases, locally baby shampoo, lotion, antibiotics in form of drops or ointments because the organism is hidden in the lashes roots, so we need the ointment may be superior to the drops. Any complication like Misdirected lashes can be epilated to be removed. The treatment should continue for at least two to three weeks after the apparent cure.

1.3 Allergic Blepharitis

▣ Etiology:

- ▣ Usually from cosmetics

▣ Clinical picture:

- ▣ Edema (Puffiness)
- ▣ Itching

▣ Treatment:

- ▣ 1 Removal of the causes
- ▣ 2 Topical Antihistaminic
- ▣ 2 Topical Steroids



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Allergic blepharitis is one of the most common diseases of the eye usually it is from cosmetic or other irritants. The patient was complained of edema and puffiness of the eyelids together with itching and rubbing. The treatment is of course removal of the causative agent, topical, antihistamine and topical steroids.

2) Inflammation of the Glands

1. Zeiss gland
 - Sty
2. Meibomian gland
 1. Acute
 2. Chronic
 - Chalazion



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Inflammation of the glands can involve Zeiss producing sty or meibomian gland which can be acute inflammation and in the chronic granulomatous chalazion

2.1 Sty

- **Definition:**
 - Acute
 - Suppurative inflammation
 - Zeiss gland and
 - Adjacent Hair follicle
 - Caused by
 - Staphylococcus aureus



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The sty is an acute suppurative inflammation of zeiss gland and its adjacent hair follicle. This is caused by usually staf oureus ,variant

2.1 Styne

- **Definition:**

- Acute
- Suppurative inflammation
- Zeiss gland and Adjacent Hair follicle
- Caused by Staphylococcus aureus



The predisposing factors are the same as in blepharitis like diabetes and anemia uncorrected refractive error and septic fochi elsewhere in the body. The organism is usually staf. Aureus

2.1 Styne

- **Clinical picture:**

- Symptoms:
 1. Painful red swelling
 2. Pain
 1. At first → Dull
 2. Later → Throbbing
- Signs:
 1. Early
 1. Red , tender swelling
 2. Diffuse edema
 2. Later :
 1. Pus accumulate &
 2. Point at a lash root



Clinically, there is a painful red swelling and pain is dull at first however it may become throbbing pain later on. Early you can see redness and tender swelling with diffuse edema in the margin of the eyelid. Later the pus accumulate and can point at the lash root

2.1 Styte

▣ Treatment:

- General:
 - ttt of predisposing factors
- Local,
 - Hot fomentation
 - Topical antibiotics

▣ When pointing occurs:

- Epilation
 - + Gentle pressure
 - Do not squeeze
- Horizontal incision



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Treatment is generally treating the predisposing factor in addition to local hot fermentation, topical antibiotics. If pointing occurs, a epilation with gentle pressure can take the pus out note that you should not squeeze this is the dangerous area of the face. Otherwise, a .horizontal incision or delete margin can evacuate the pus

2.2 Chalazion

▣ Definition :

- Granuloma
- Chronic inflammation
- of
- Meibomian gland



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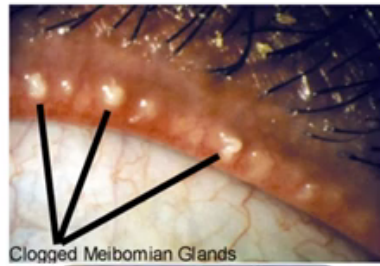
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Chalazion on the other hand is a chronic inflammation granulomatous type of the meibomian glands which are in the middle of the tarsal plate

2.2 Chalazion

□ **Etiology :**

- Obstruction of
- Meibomian Gland Duct by
 - Fibrosis or
 - Dry secretion
- → Retention of secretion
 - The retained secretion is irritant
- → excite granulomatous reaction
- → surrounded by fibrosis



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the Chalazion starts by first obstruction of the meibomian gland ducts by fibrosis or dry secretion, then the secretion is retained inside the meibomian gland which causes irritation and that's exhaust granulomatous reaction surrounded by fibroids

2.2 Chalazion

□ **Clinical Picture:**

- Symptoms:
 1. Lid swelling
 2. Painless
 3. of long duration
- →
 1. Painful if infected



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clinically there will be a lid swelling usually not painless and it's usually chronic, if infection is superseded then this swelling will become painful

2.2 Chalazion

▣ Signs:

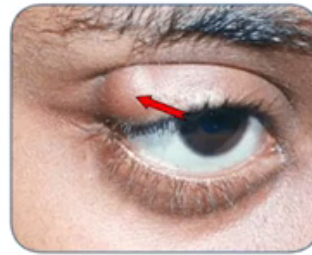
- lid swelling

▣ From skin side:

1. Tenderness
2. Firm
3. Skin can be pinched over it
4. Well defined
5. Better palpated than seen

▣ From conjunctival side:

1. Pale or bluish area
2. (opposite the chalazion)
3. Surrounded by
4. Little congestion



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on examination we find lid sign if you examine it from the skin side, it is mildly tender, but it is firm as skin can be pinched easily over it it is well defined. And it's better palpated than seen. However from the conjunctiva side you can see a pale or bluish area opposite to the .site of the Chalazion surrounded by little congestion

Eye Lids Glandular Inflammation

	Hordium Extremum (Stye)	Hordium internum (Chalazion)
Suppuration of	Zeiss gland	Meibomian gland
related to	A lash root	Tarsus
point on	The skin	The conjunctiva
Drainage	Horizontal skin incision or lash epilation	Vertical conjunctival incision

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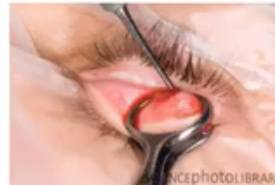
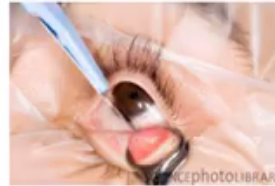
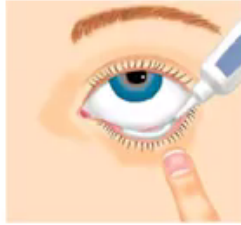
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To differentiate between this stye and Chalazion, stye is inflammation of the Zeiss gland which is present at the root of the lash, it points on the skin and the drainage is by skin incision or lash epilation however, Chalazion is an inflammation of the meibomian gland which is related to the Tarsus and it presence of from the conjunctiva side and it needs .vertical incision to be evacuated

2.2 Chalazion

▣ **Treatment:**

- Small
 - Leave alone
- Large
 - Infected
 - Vertical incision
 - Antibiotics
 - Not infected
 - Firm → incision & scraping



Treatment of the Chalazion depends on its size and if there is infection or not, if there is infection, then you need to give antibiotics and hot fermentation and then if pus is not relieved, you can do vertical incision. If it is not infected then we might incise and scrub if it is disfiguring and causing bad shape. If it is a small you can leave it alone it will go by time. Thank you