

# Conjunctiva

## Lecture 1

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# Subdivision of Lectures

## **APPLIED ANATOMY**

- Parts
- Structure
- Glands

## **SYMPTOMATIC CONDITIONS**

- Hyperaemia
- Chemosis
- Ecchymosis
- Xerosis
- Discoloration

## **DEGENERATIVE CONDITIONS**

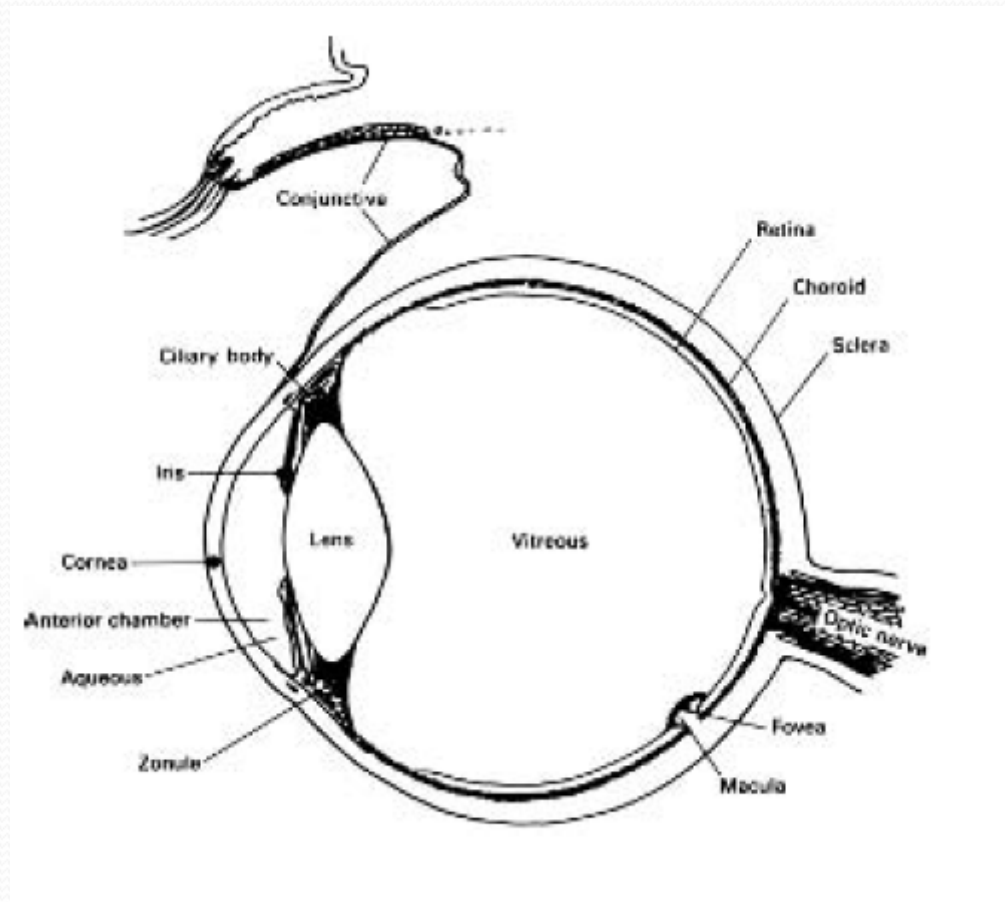
- Pinguecula
- Pterygium
- Concretions

## **INFLAMMATIONS OF CONJUNCTIVA**

- Infective conjunctivitis
  - – Bacterial
  - – Chlamydial
  - – Viral
- Allergic conjunctivitis
- Granulomatous conjunctivitis

## **CYSTS AND TUMOURS**

**Conjoin: to join.....** has been given to this mucous membrane owing to the fact that it joins the eyeball to the lids.

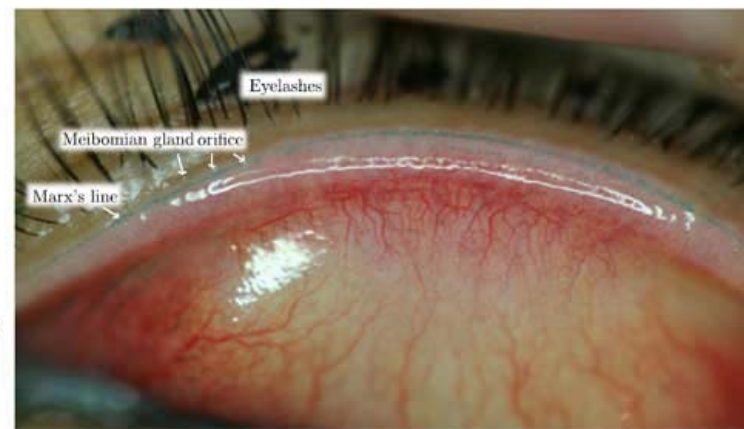
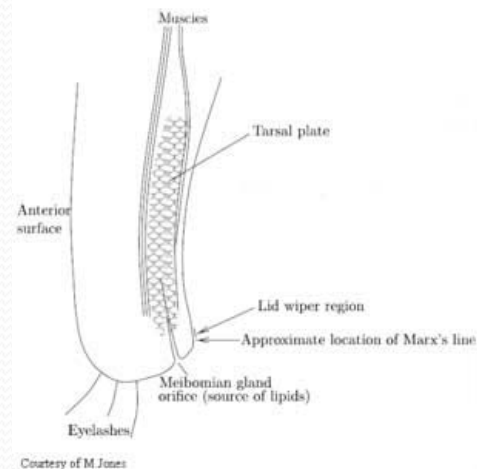


# Palpebral conjunctiva

**Marginal conjunctiva** extends from the lid margin to about 2 mm on the back of lid up to a shallow groove, the *sulcus subtarsalis*.

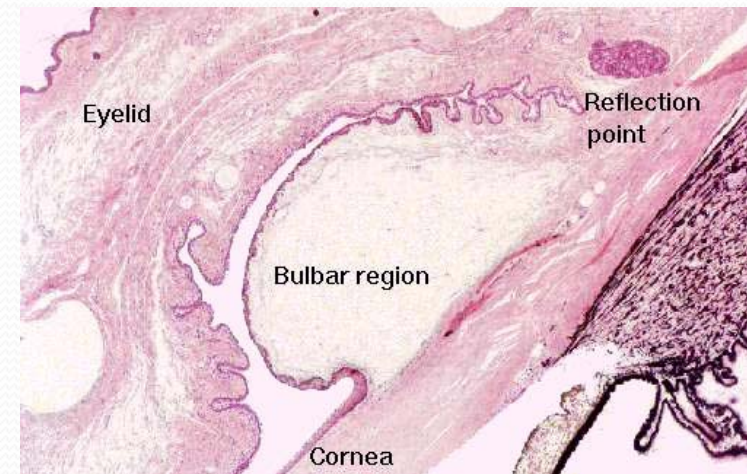
**Tarsal conjunctiva** is firmly adherent to the whole tarsal plate in the upper lid. In the lower lid, it is adherent only to half width of the tarsus.

**Orbital part of palpebral conjunctiva** lies loose between the tarsal plate and fornix.



# Bulbar conjunctiva

- Lies loose over the underlying structures and thus can be moved easily.
- It is separated from the anterior sclera by episcleral tissue and Tenon's capsule.
- A 3-mm ridge of bulbar conjunctiva around the cornea is called *limbal conjunctiva*.
- *In the area of limbus, the conjunctiva, Tenon's capsule and the episcleral tissue are fused into a dense tissue which is strongly adherent to the underlying corneoscleral junction.*
- At the limbus, the epithelium of conjunctiva becomes continuous with that of cornea

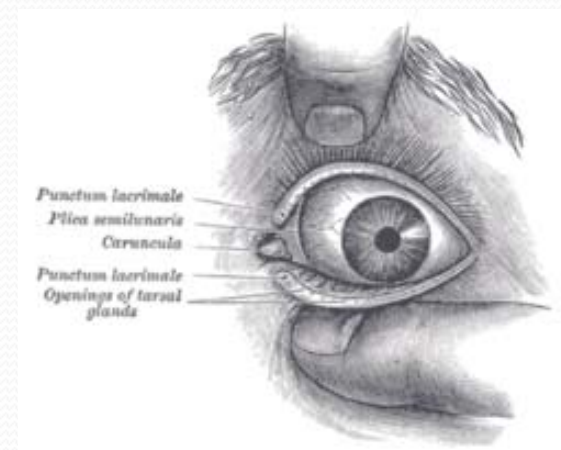


# Forniceal Conjunctiva:

- Joins the bulbar conjunctiva with the palpebral conjunctiva.
- It can be subdivided into superior, inferior, medial and lateral fornices.

## Caruncle:

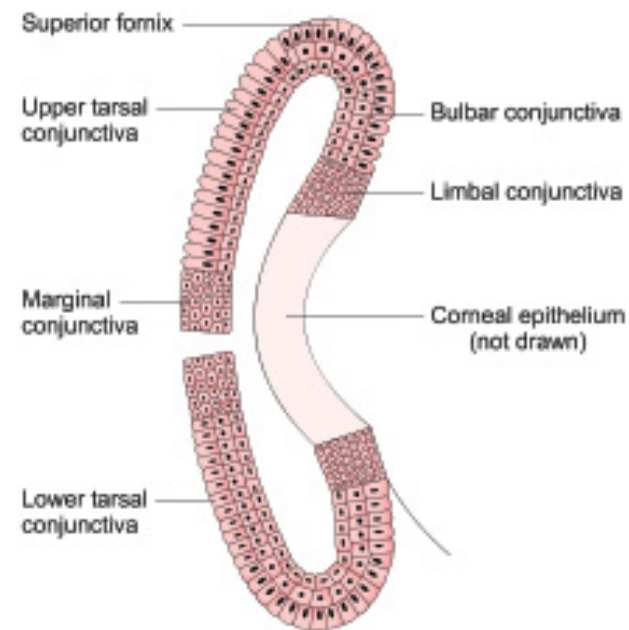
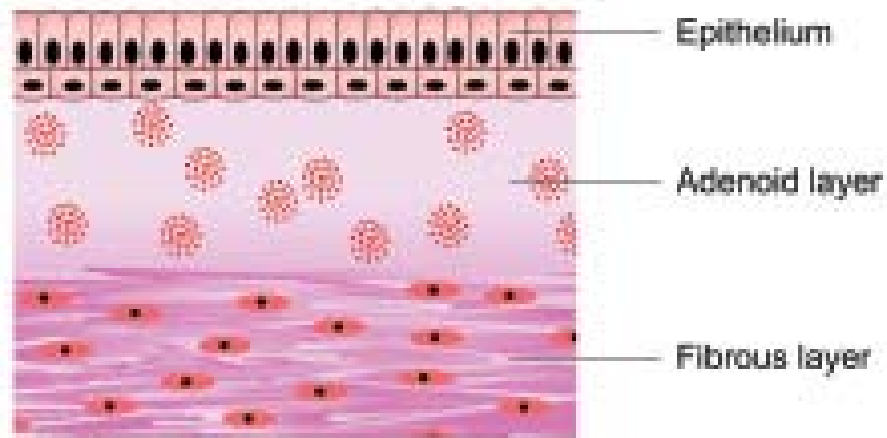
- Small (5 x 3 mm) fleshy nodular prominence in nasal portion of interpalpebral fissure between skin and conjunctiva
- lined by conjunctival epithelium and nonkeratinized squamous epithelium; contains cutaneous adnexal structures, accessory lacrimal gland tissue



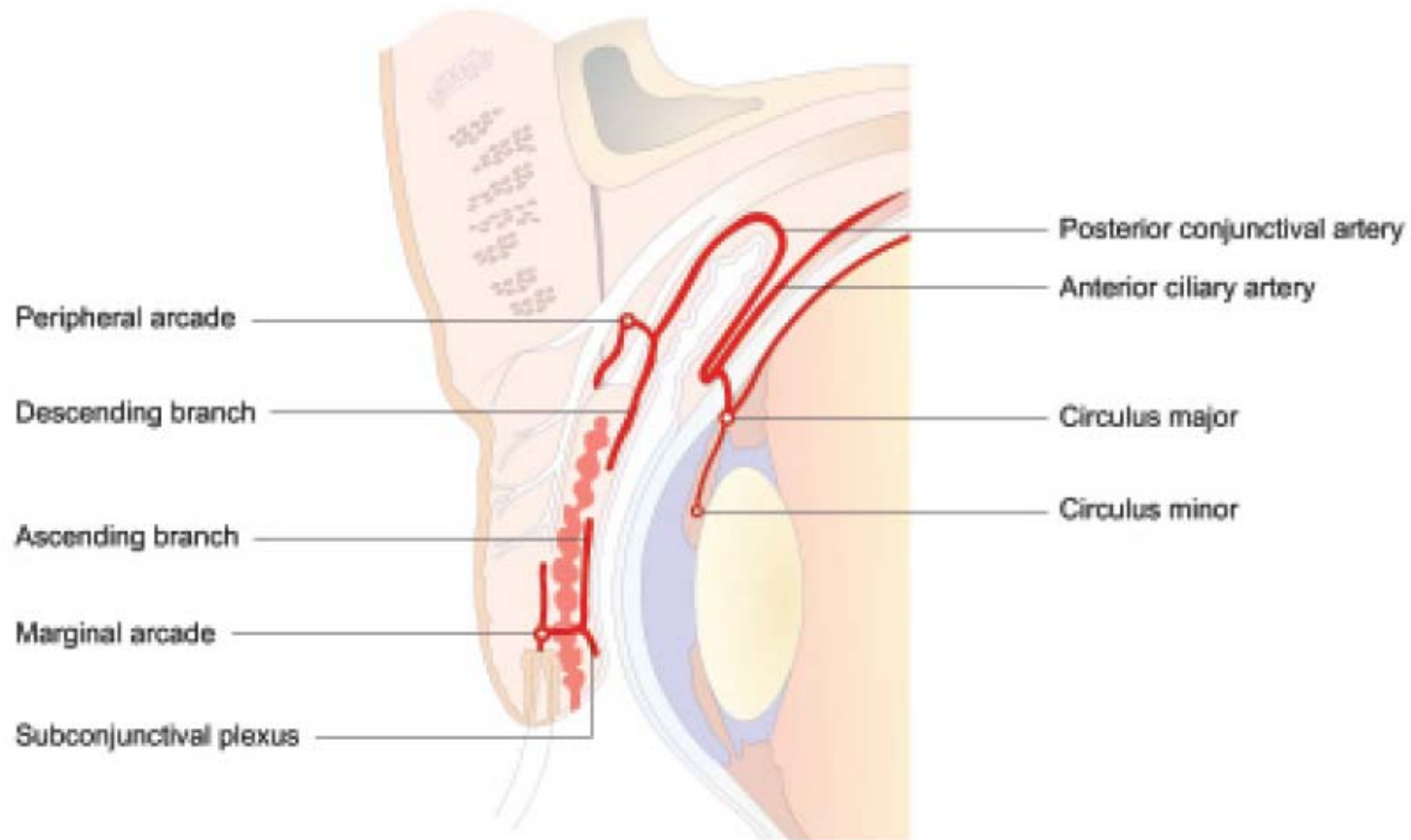
# Histologically

Three layers

(1) epithelium, (2) adenoid layer, and (3) fibrous layer



# Blood supply of conjunctiva







***Venous drainage:***

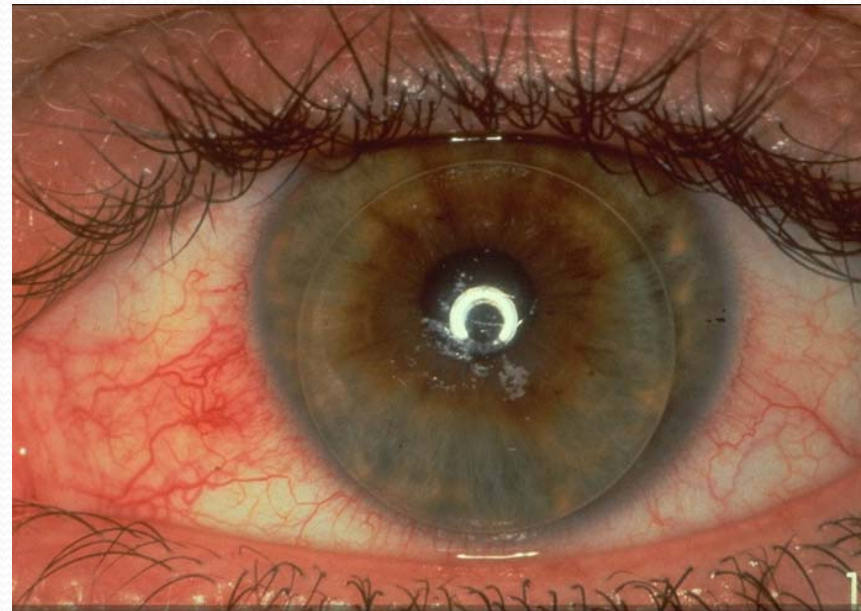
Drain into the venous plexus of eyelids and some around the cornea into the anterior ciliary veins.

# Nerve supply of conjunctiva

- A circumcorneal zone of conjunctiva is supplied by the branches from long ciliary nerves which supply the cornea.
- Rest of the conjunctiva is supplied by the branches from lacrimal, infratrochlear, supratrochlear, supraorbital and frontal nerves.

# Injection

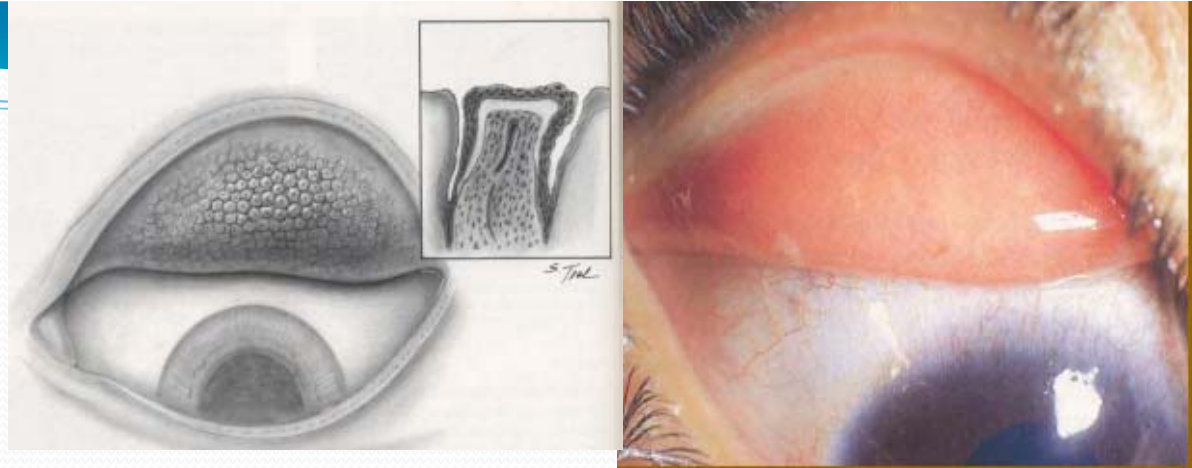
- Dilation of the conjunctival vasculature



# Chemosis



# Papillae



- Non-specific and less diagnostic
- Conjunctival epithelial hyperplasia
- Central vascular core, Surrounded edema and inflammatory cells
- Fibrous septa
- GPC



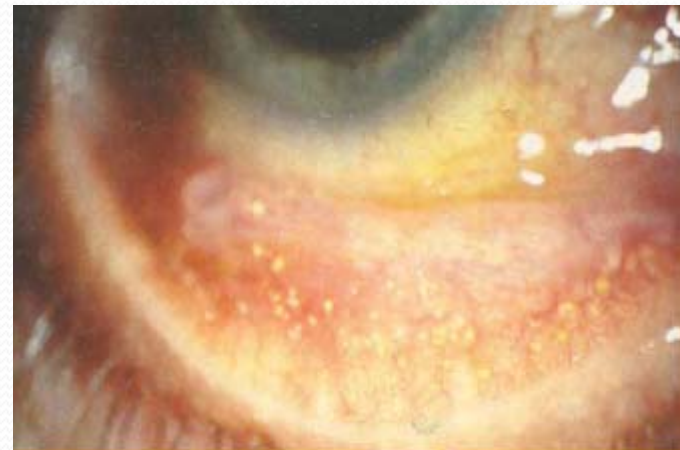
# Follicles

- Raised, gelatinous, oval lesions about 1mm in diameter found usually in the lower tarsal conjunctiva and upper tarsal border, and occasionally at the limbus.
- Each follicle represents a lymphoid collection with its own germinal centre.
- Unlike papillae, the causes of follicles are more specific (e.g. viral and chlamydial infections).



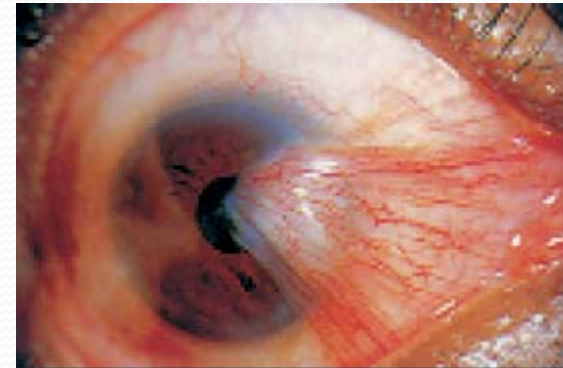
# Conjunctival concretions:

- Epithelial inclusion cysts
- Filled with epithelial and keratin debris,
- Common in elderly
- In cases of chronic conjunctivitis,
- Remove if there is irritation



# Pterygium

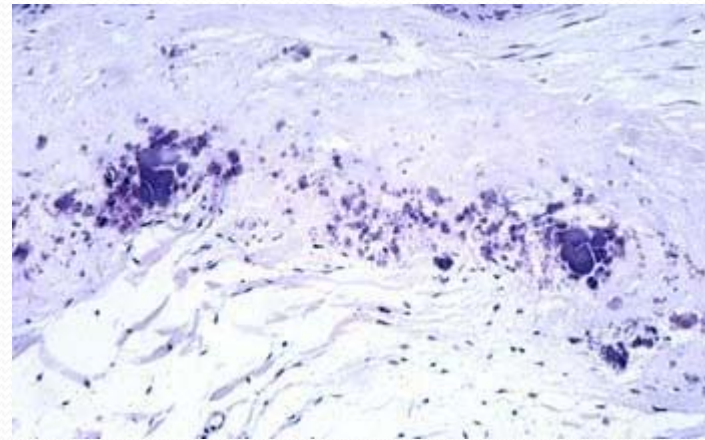
- Greek word *pterygion* meaning "wing".
- Elastoid degeneration
- Causes: Sun (uv light), wind
- Usually nasal side
- Also called as “ Surfer's eye”
- Rx:  
Surgery: Excision with conjunctival autograft
- When to consider surgery?  
Corneal astigmatism, visual axis involvement  
and cosmetic reasons







Kissing Pterygium



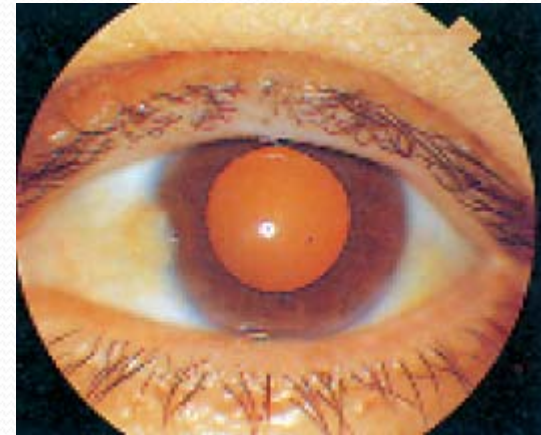
Basophilic degenerations

# Staging of Pterygium:

Stage I	Minimum invasion, thin translucent growth, thin vessels
Stage II	Moderately thick pannus, deep vessels not visible, significant invasion of cornea
Stage III	Thick fleshy growth covering pupil, dense vascularisation

# Pinguecula

- Benign
- Composed of collagen and elastin



# Subconjunctival hemorrhage

## Causes:

- spontaneous, or
- rubbing of the eye,
- vomiting,
- coughing,
- elevated blood pressure,
- or, rarely, bleeding disorders.

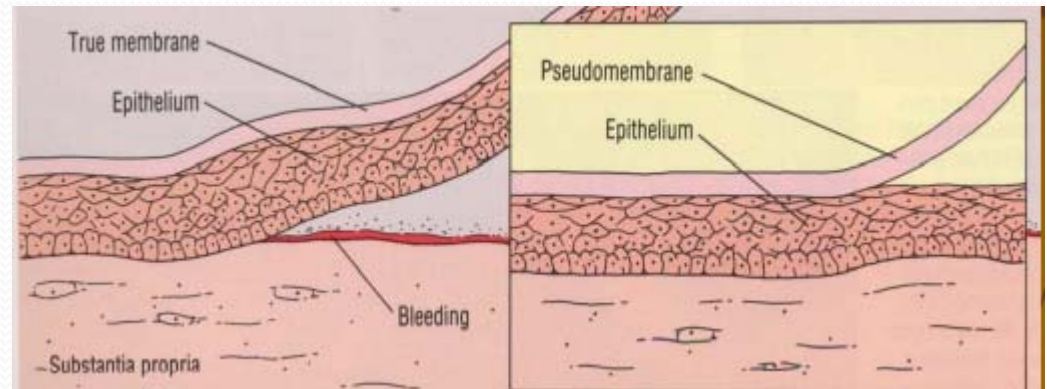
Recommend no rubbing, and no exercise or bearing down.

# Subconjunctival haemorrhage

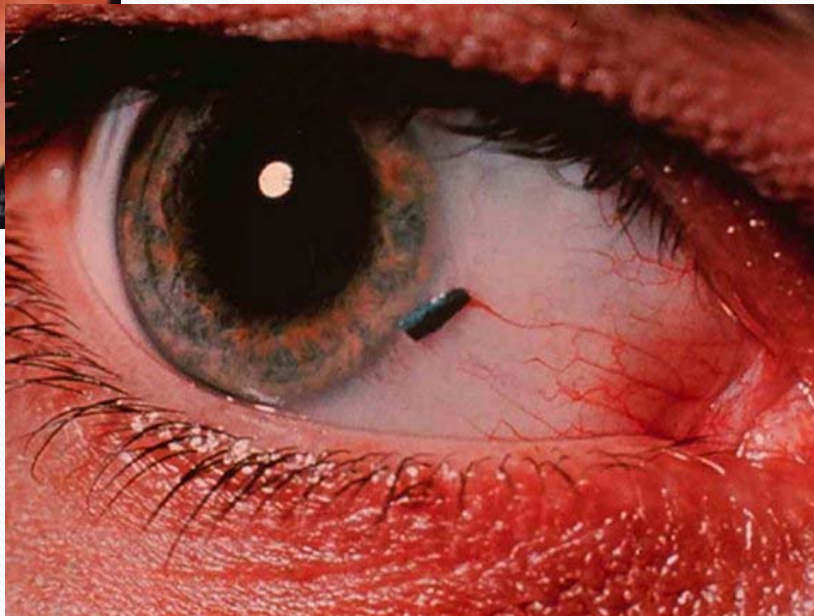
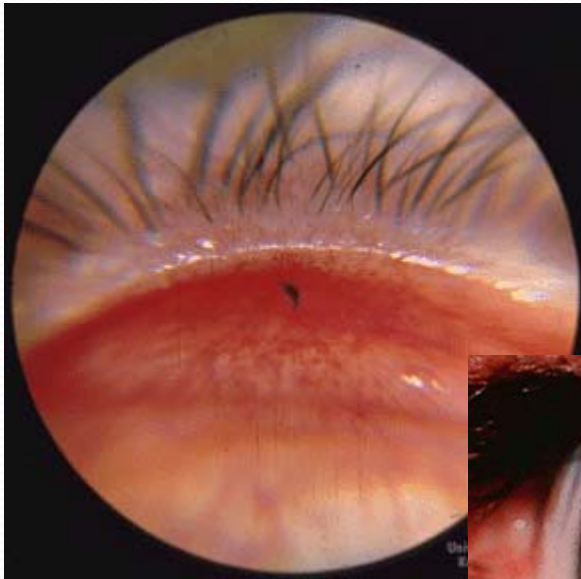
- Bright red in colour because it is fully oxygenated by the ambient air, through the conjunctiva.



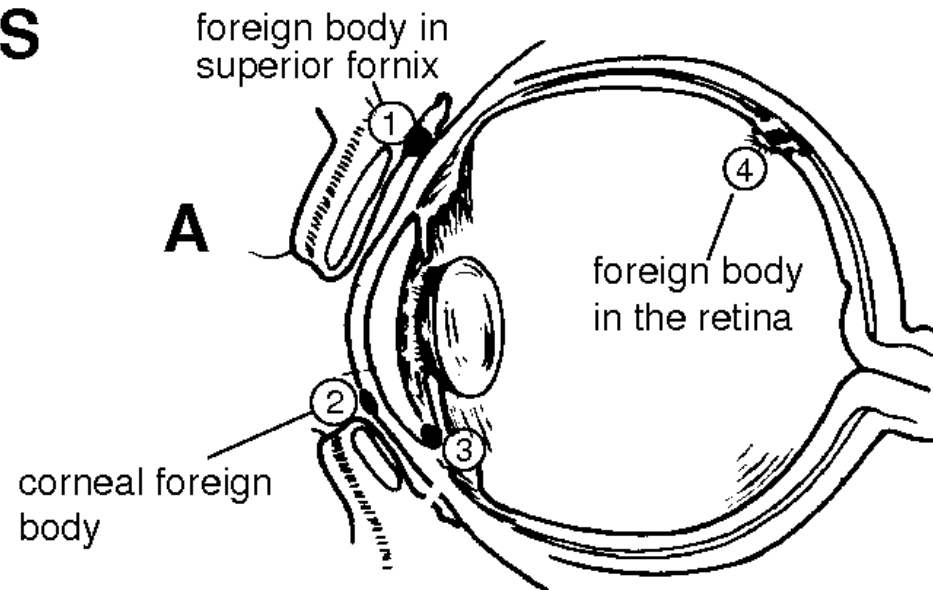
# Conjunctival membrane:



# Foreign body

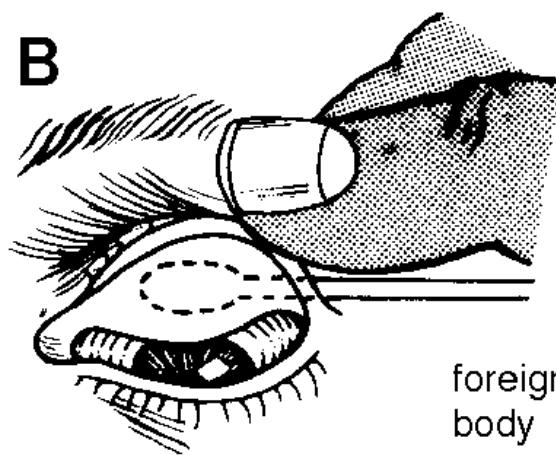


# FOREIGN BODIES IN THE EYE

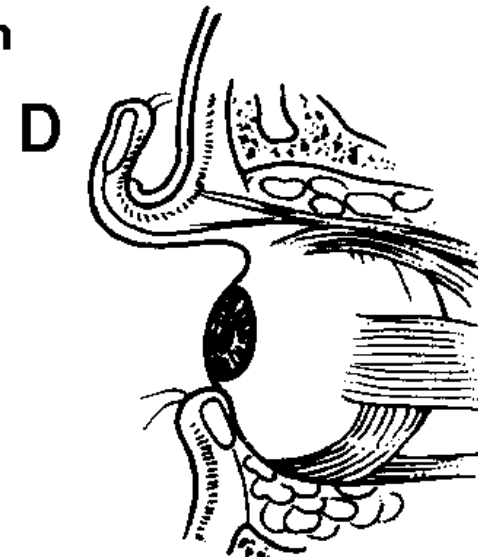
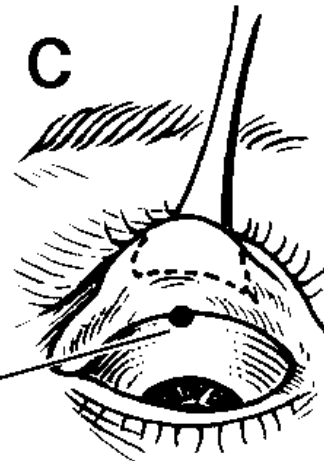


**Everting the eyelid**

**Single eversion**



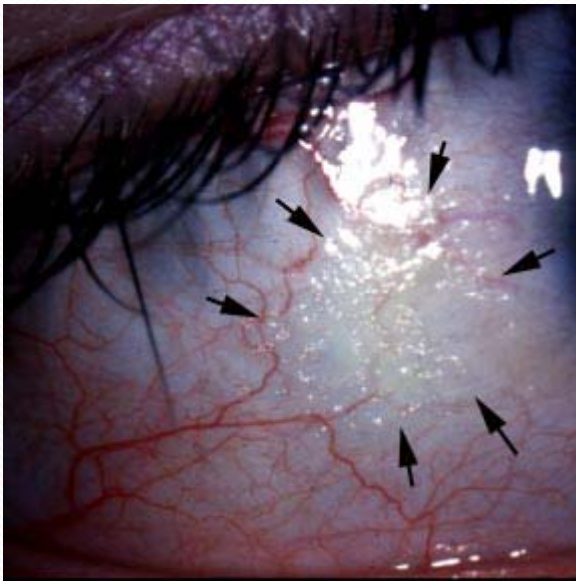
**Double eversion**




foreign body



# Conjunctival Xerosis:



- 
- Vitamin A plays a role in mucin and keratin expression
  - Def of Vit A leads to altered mucin expression in goblet cells and hence keratinisation of conjunctival epithelium