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# THE RED EYE

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Departments of Ophthalmology and Neurology  
University of Michigan Medical School

Fall, 2008



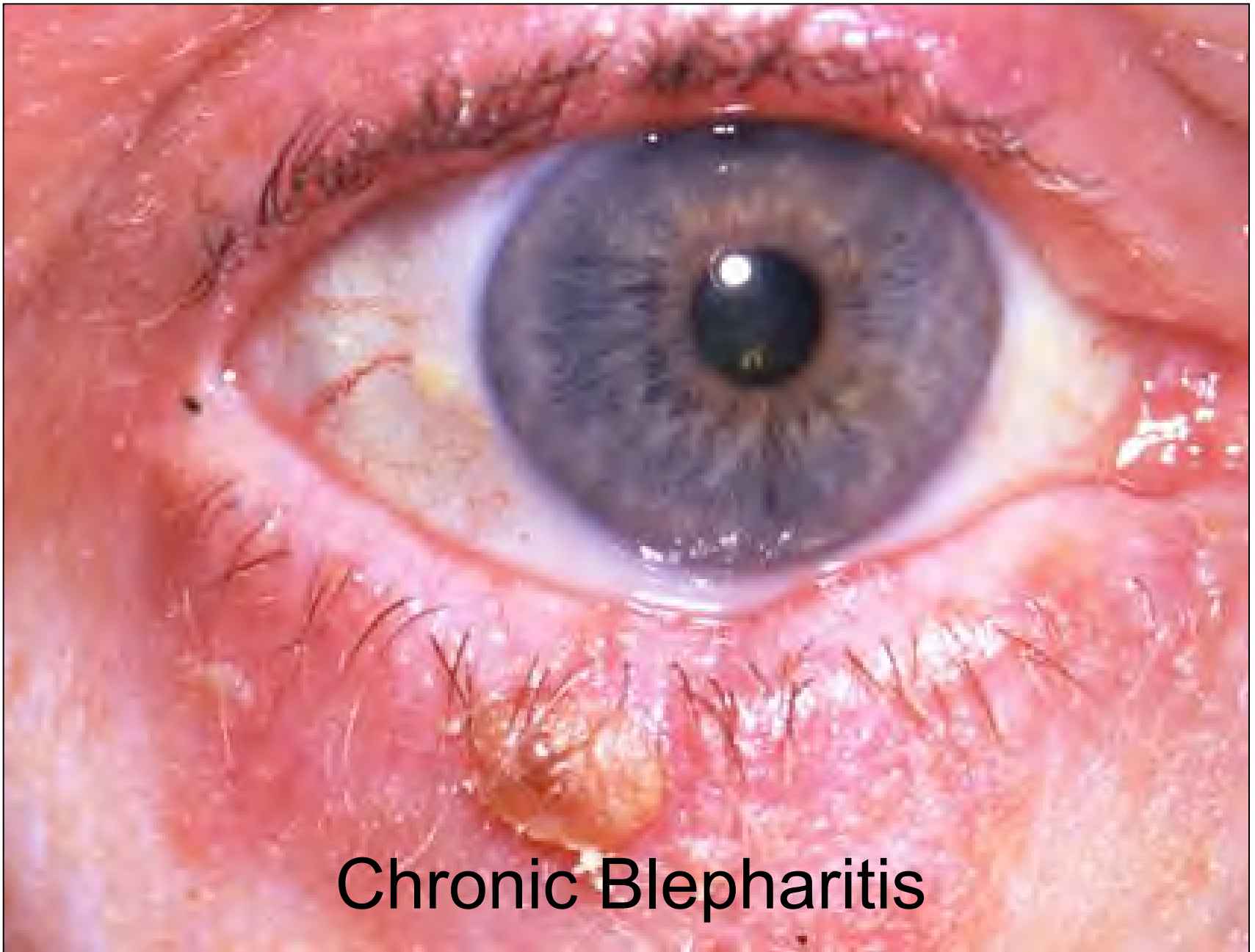
# Causes of Red Eye: Ocular Adnexal Tissues

1. Contact dermatitis
2. Chronic blepharitis
3. Stye
4. Dacryocystitis\*
5. Orbital cellulitis\*
6. Orbital tumor\*

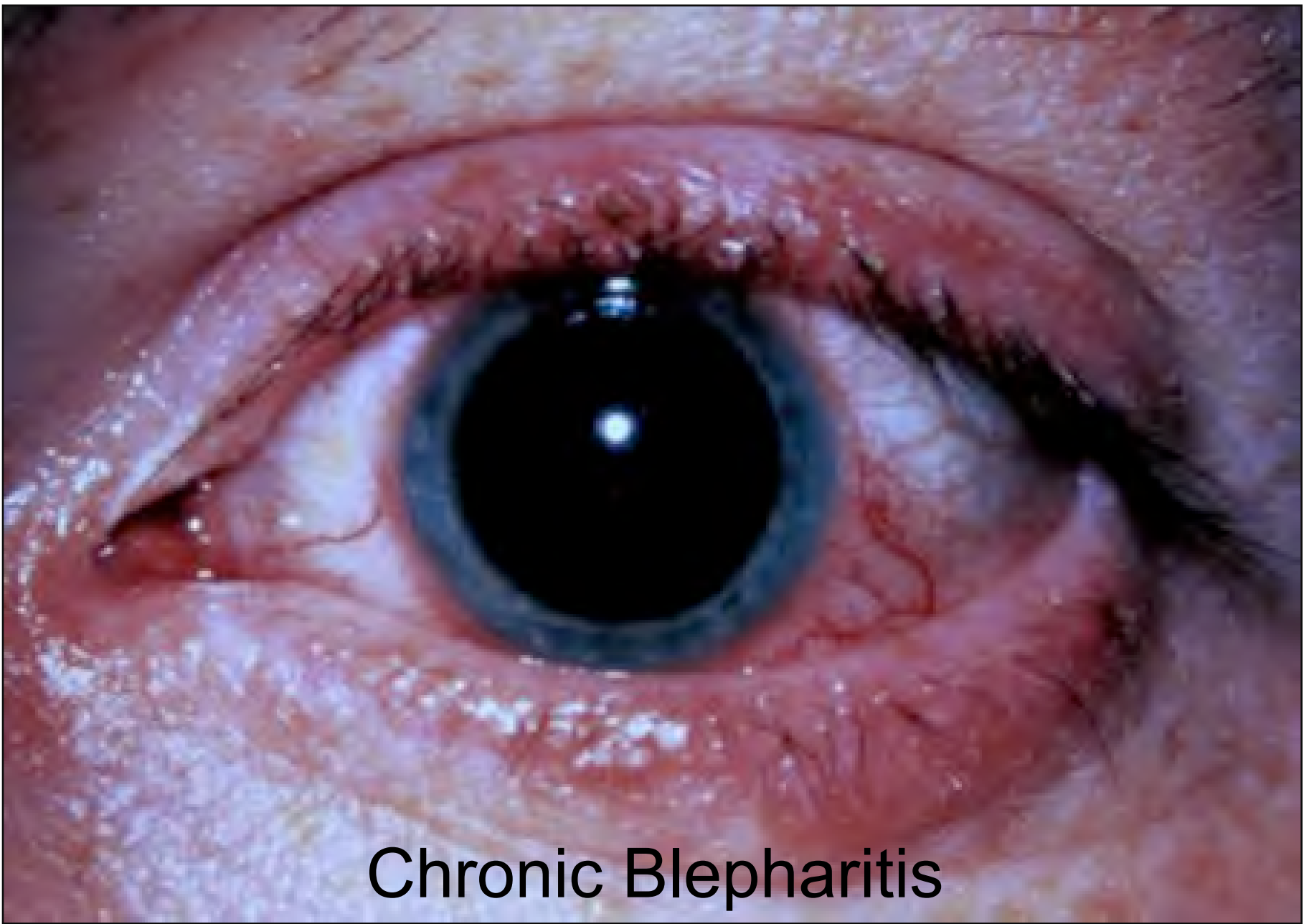
\*Dangerous conditions

# Contact dermatitis





# Chronic Blepharitis



# Chronic Blepharitis

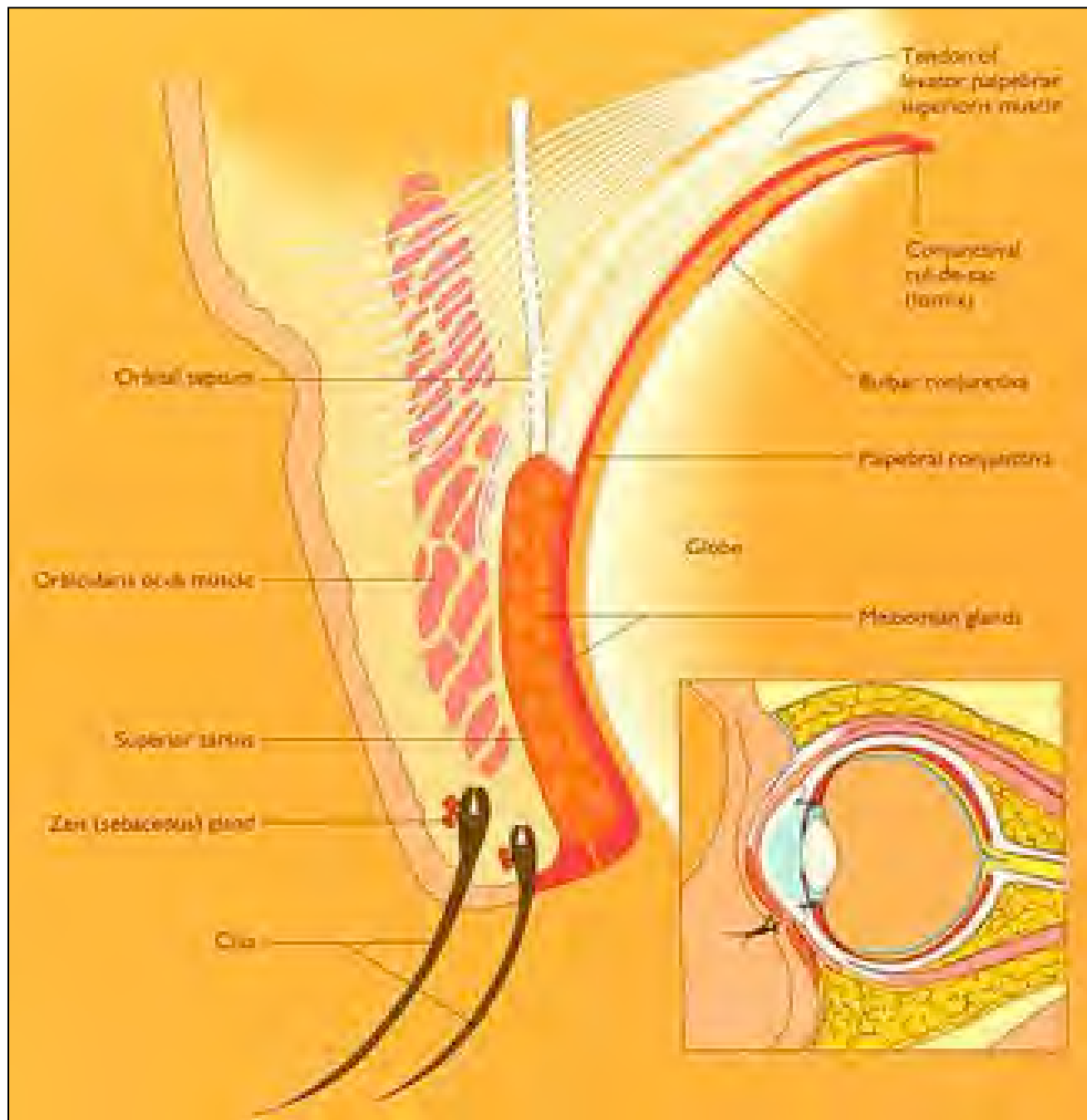


# Chronic Blepharitis



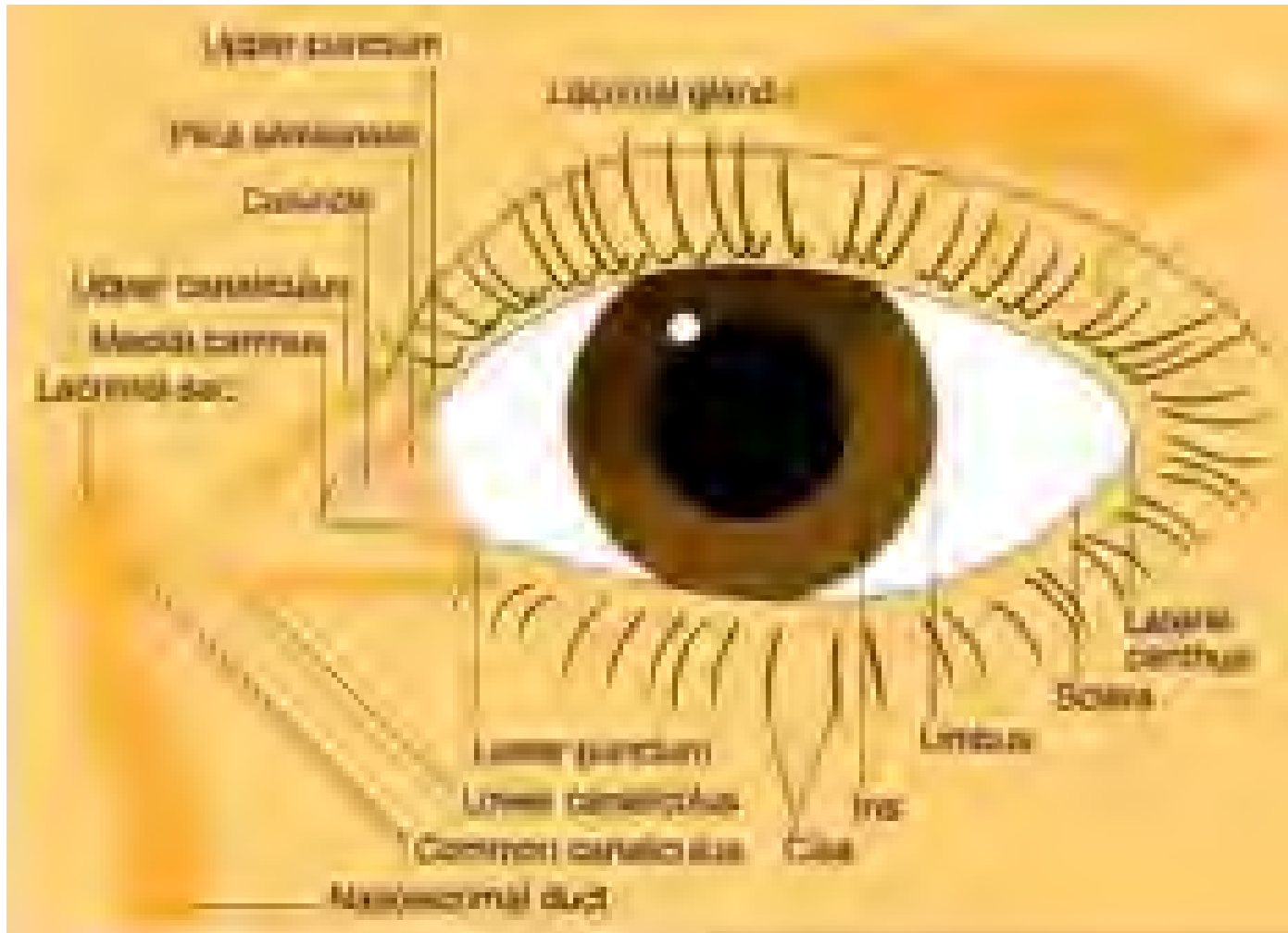


Stye (Hordeolum)



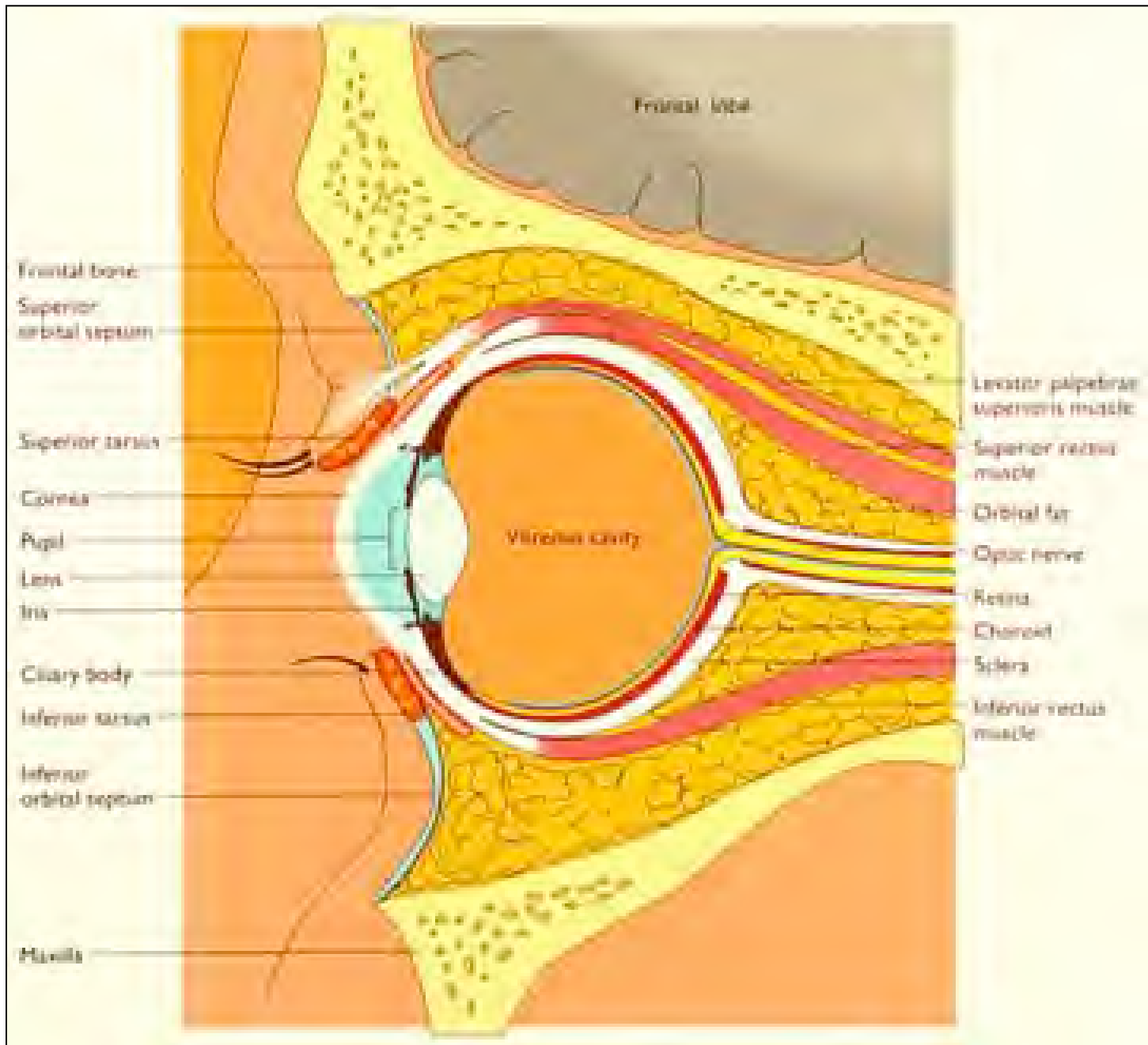


# Dacryocystitis



# Orbital Cellulitis



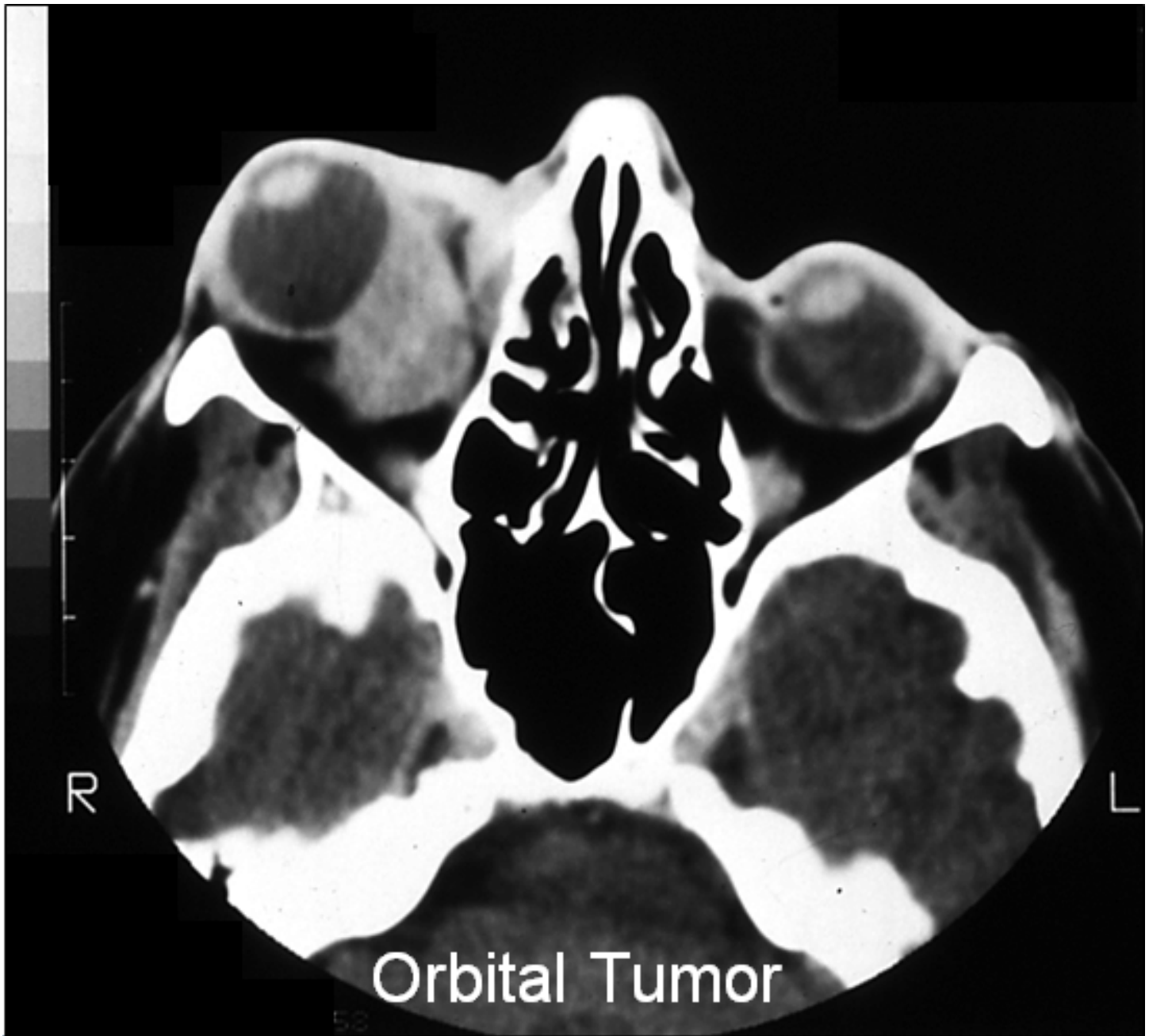






# Orbital Tumor





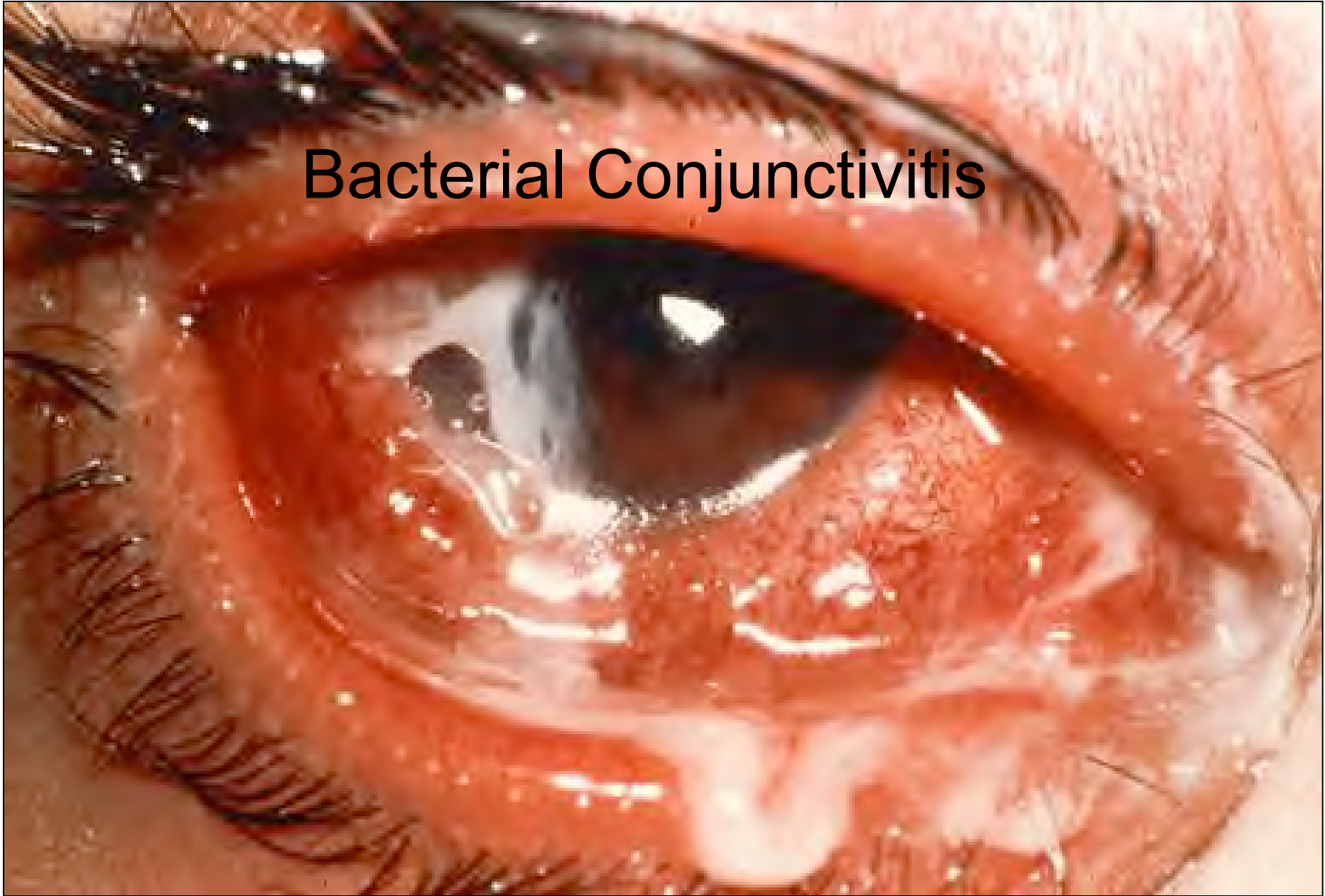
# Causes of Red Eye: Conjunctiva/Sclera

1. Conjunctivitis\*\*
2. Episcleritis
3. Scleritis\*
4. Pinguecula
5. Pterygium
6. Squamous carcinoma\*
7. Subconjunctival hemorrhage

\*Dangerous conditions

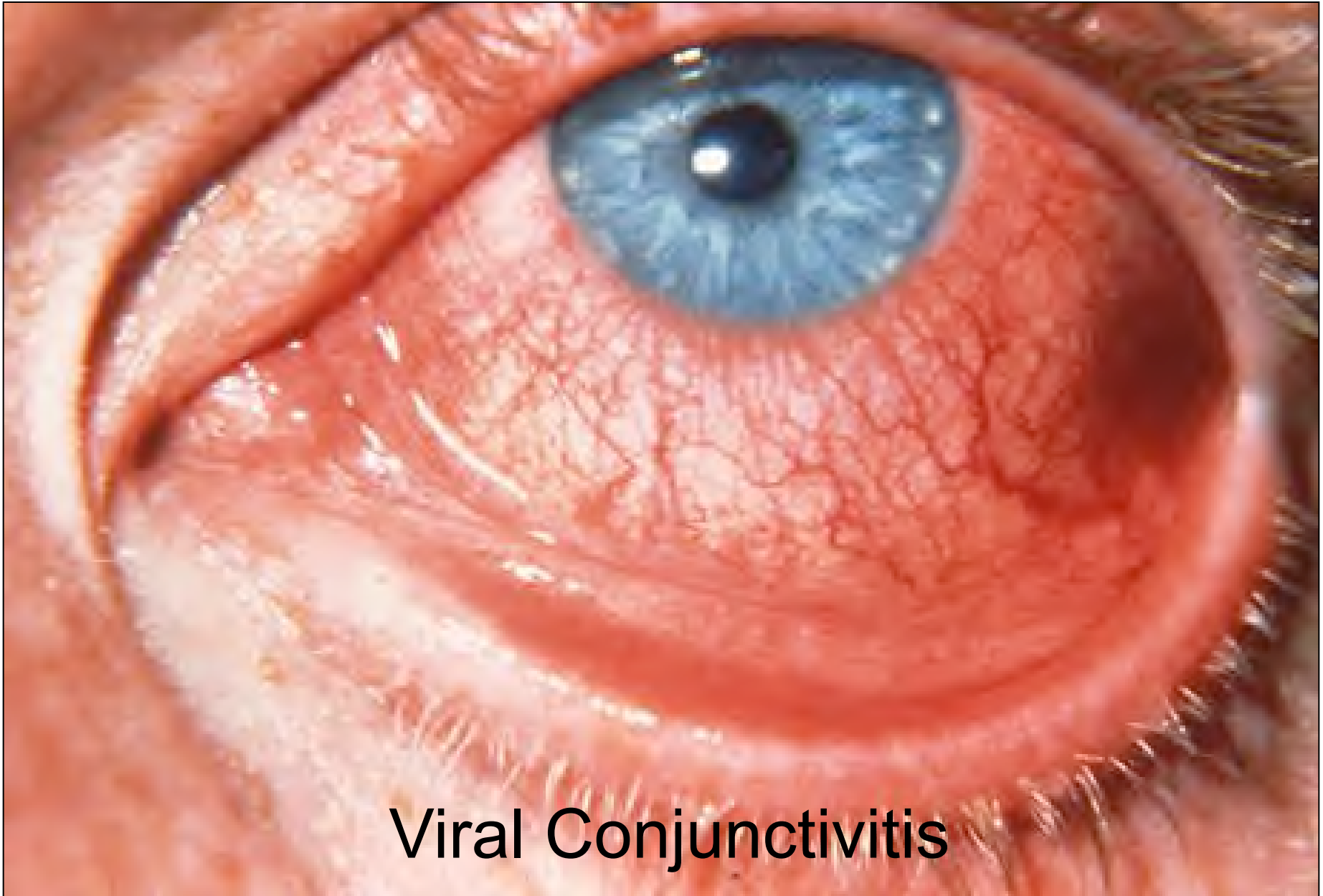
\*\*Dangerous only if bacterial

# Bacterial Conjunctivitis



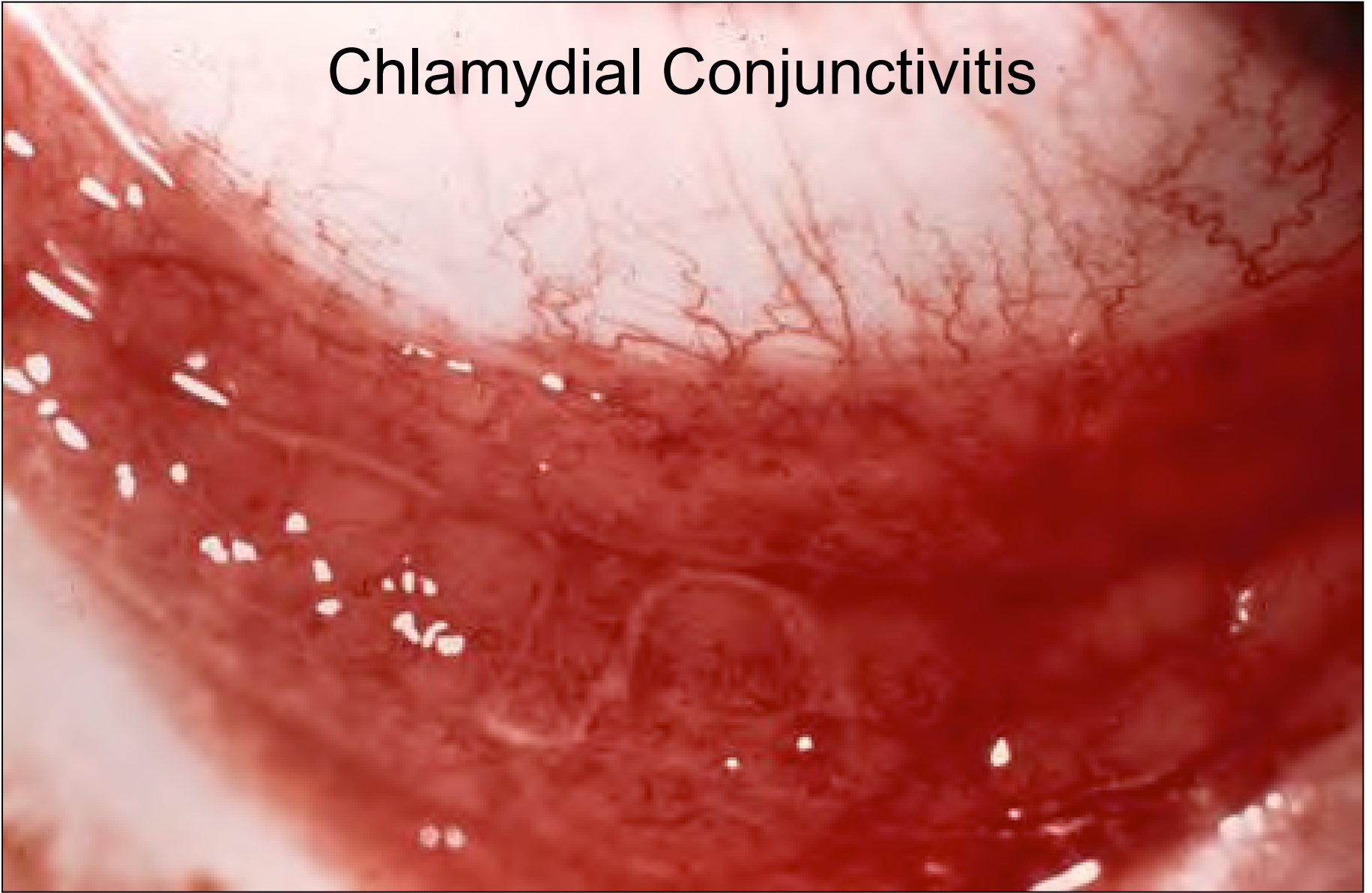
# Gonococcal Conjunctivitis





# Viral Conjunctivitis

# Chlamydial Conjunctivitis



A close-up photograph of a human eye. The sclera (white part) is significantly red and swollen, with visible blood vessels. The conjunctiva is inflamed and appears thickened. The iris is a light blue color. The eyelids are also red and appear to have some discharge or crusting. The overall appearance is characteristic of allergic conjunctivitis.

# Allergic Conjunctivitis



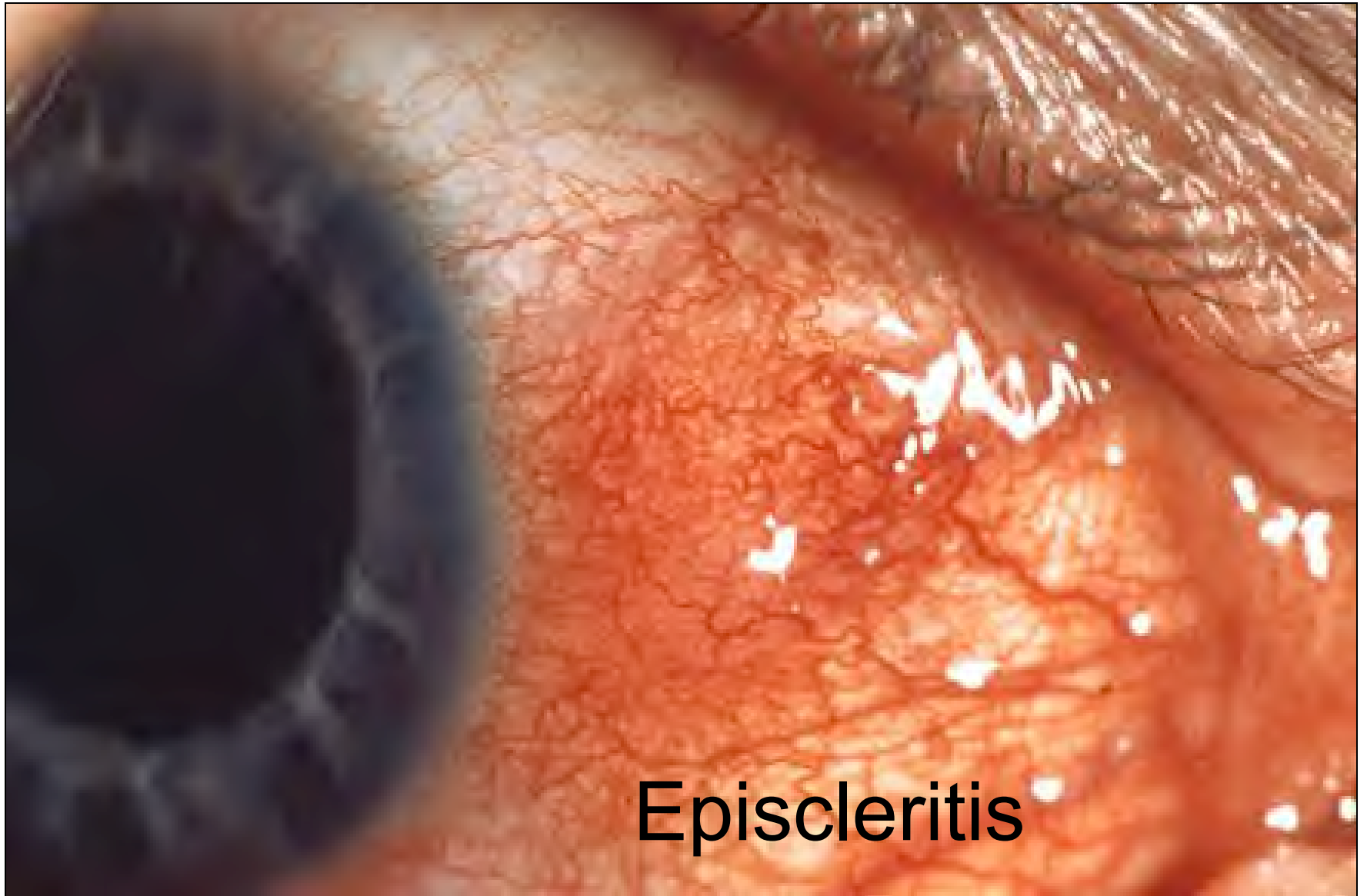
# Autoimmune Conjunctivitis





**Autoimmune Conjunctivitis:  
Graves' Disease**

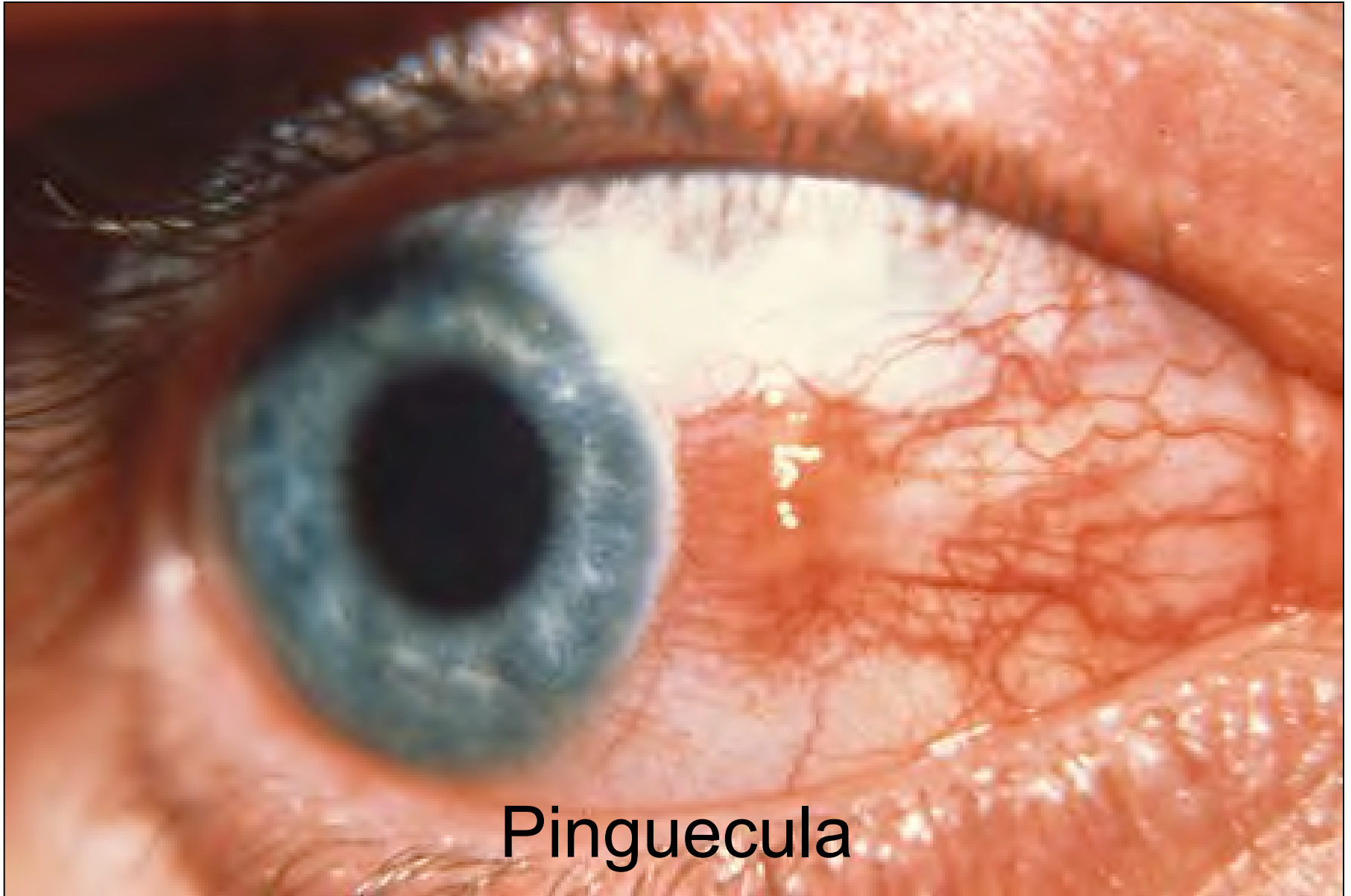
Drawing of  
an eye with  
diffuse  
hyperemia of  
conjunctivitis  
was  
removed.



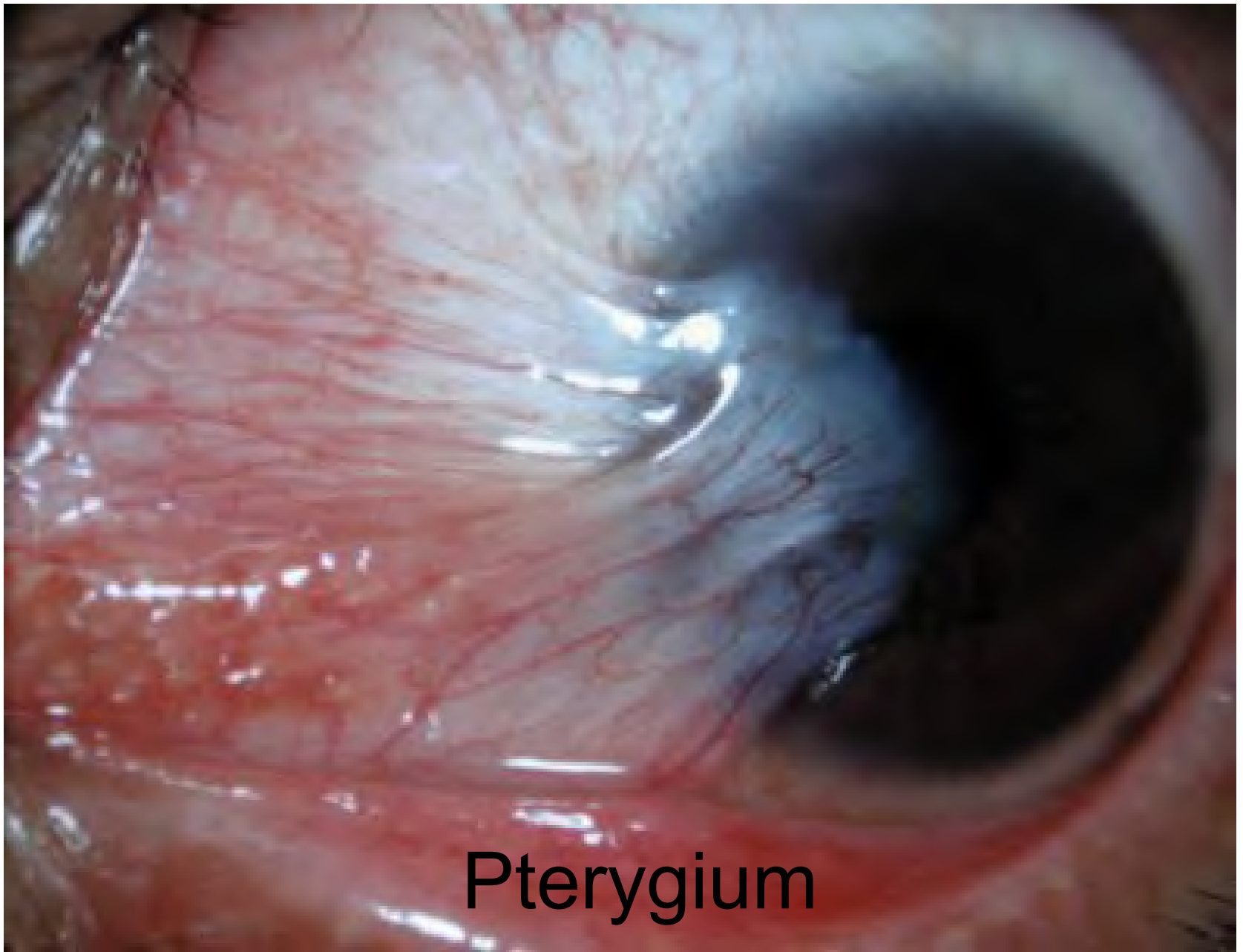
# Episcleritis



**Scleritis**



Pinguecula



Pterygium



## Subconjunctival Hemorrhage

Drawing of an  
eye with  
focal,  
conjunctival  
hyperemia  
with a mound  
was removed.

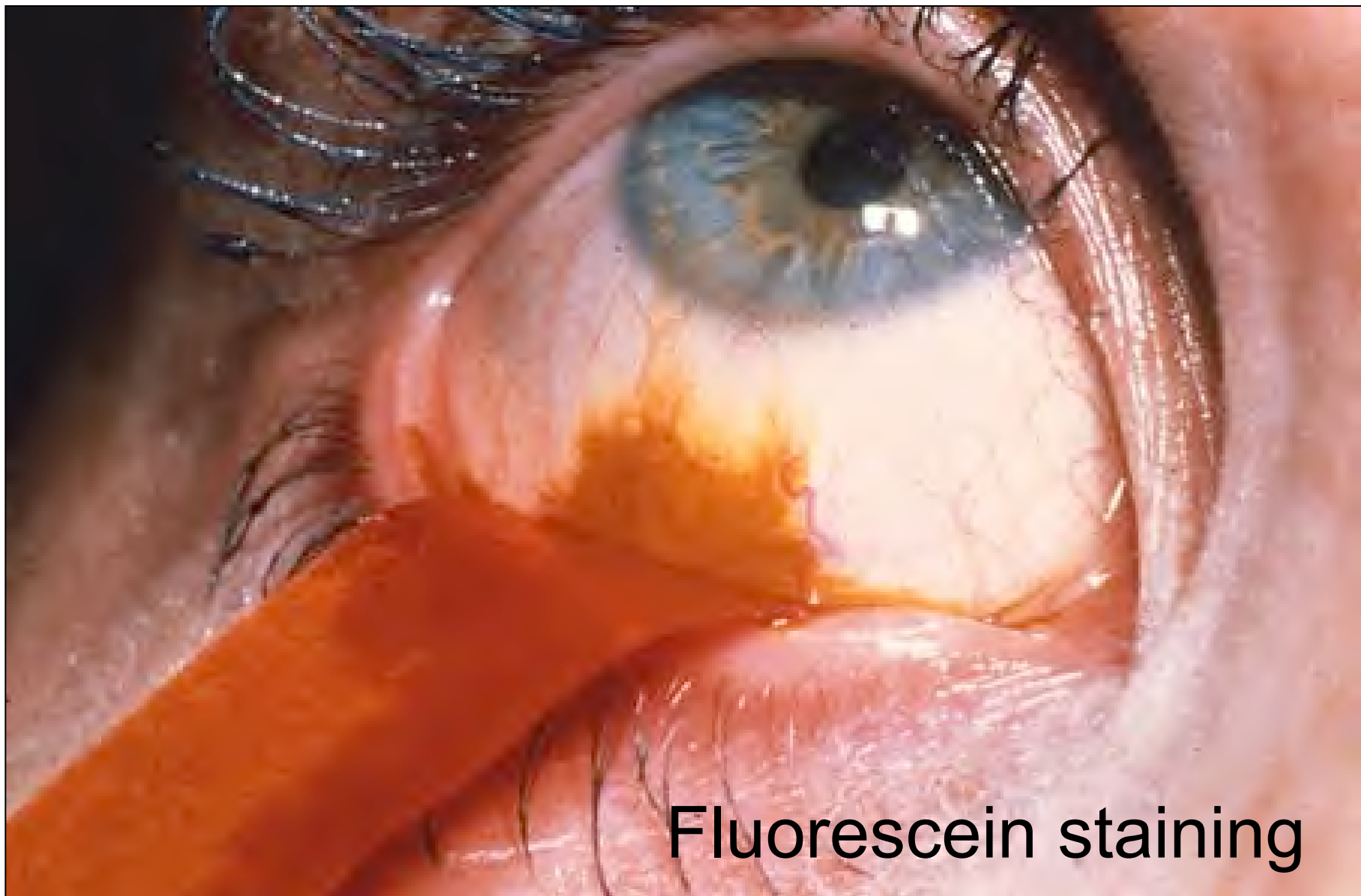


# Causes of Red Eye: Cornea

1. Abrasion

2. Non-traumatic keratopathy\* (infection, drying, corneal endothelial dysfunction)

\*Dangerous conditions



Fluorescein staining



# Corneal Abrasion



# Corneal Foreign Body

# Conjunctival Foreign Body





Non-traumatic keratopathy



# HERPES SIMPLEX KERATITIS

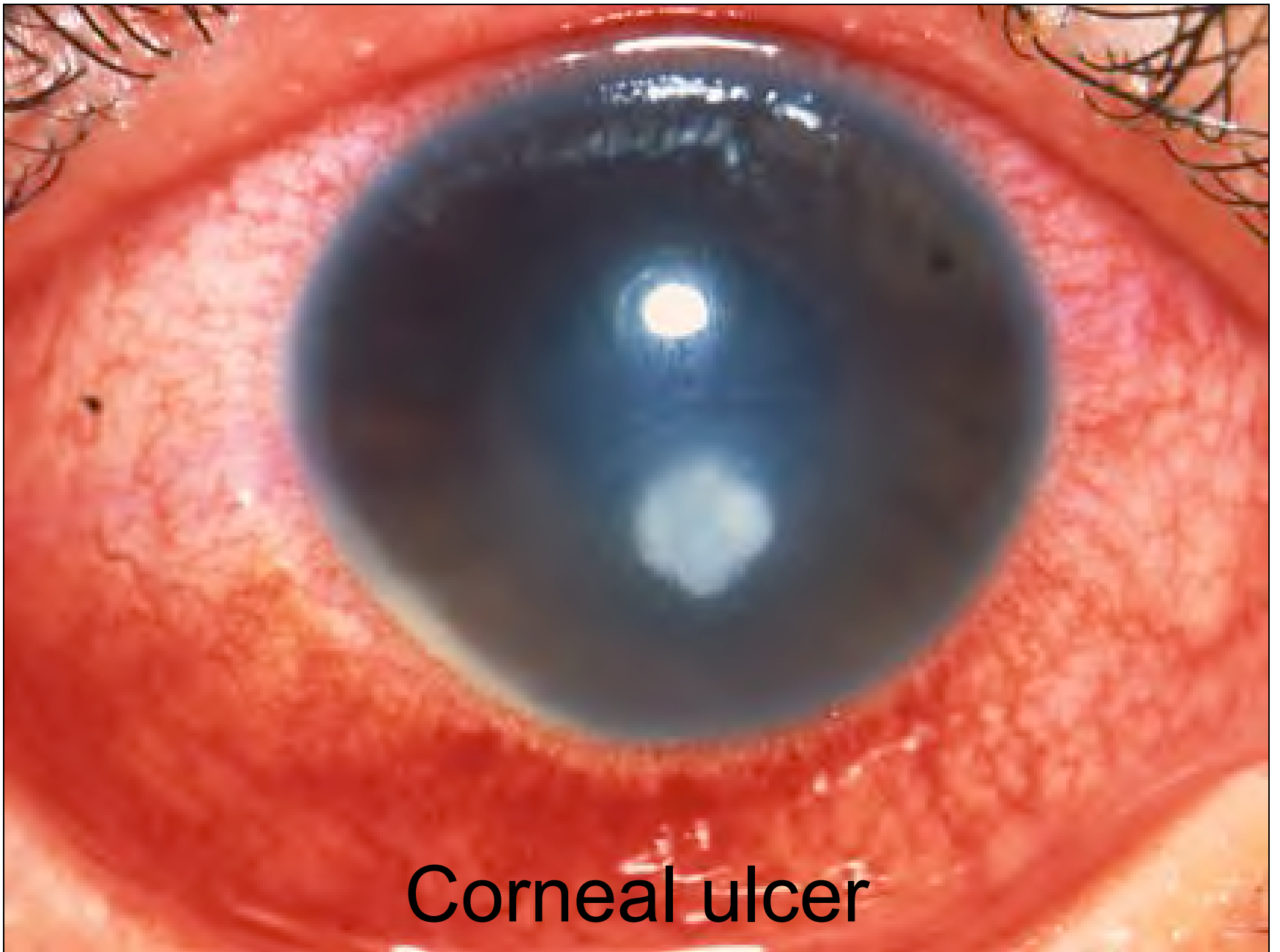


Herpes simplex keratitis:  
Typical “dendrite”





**Keratitis sicca**

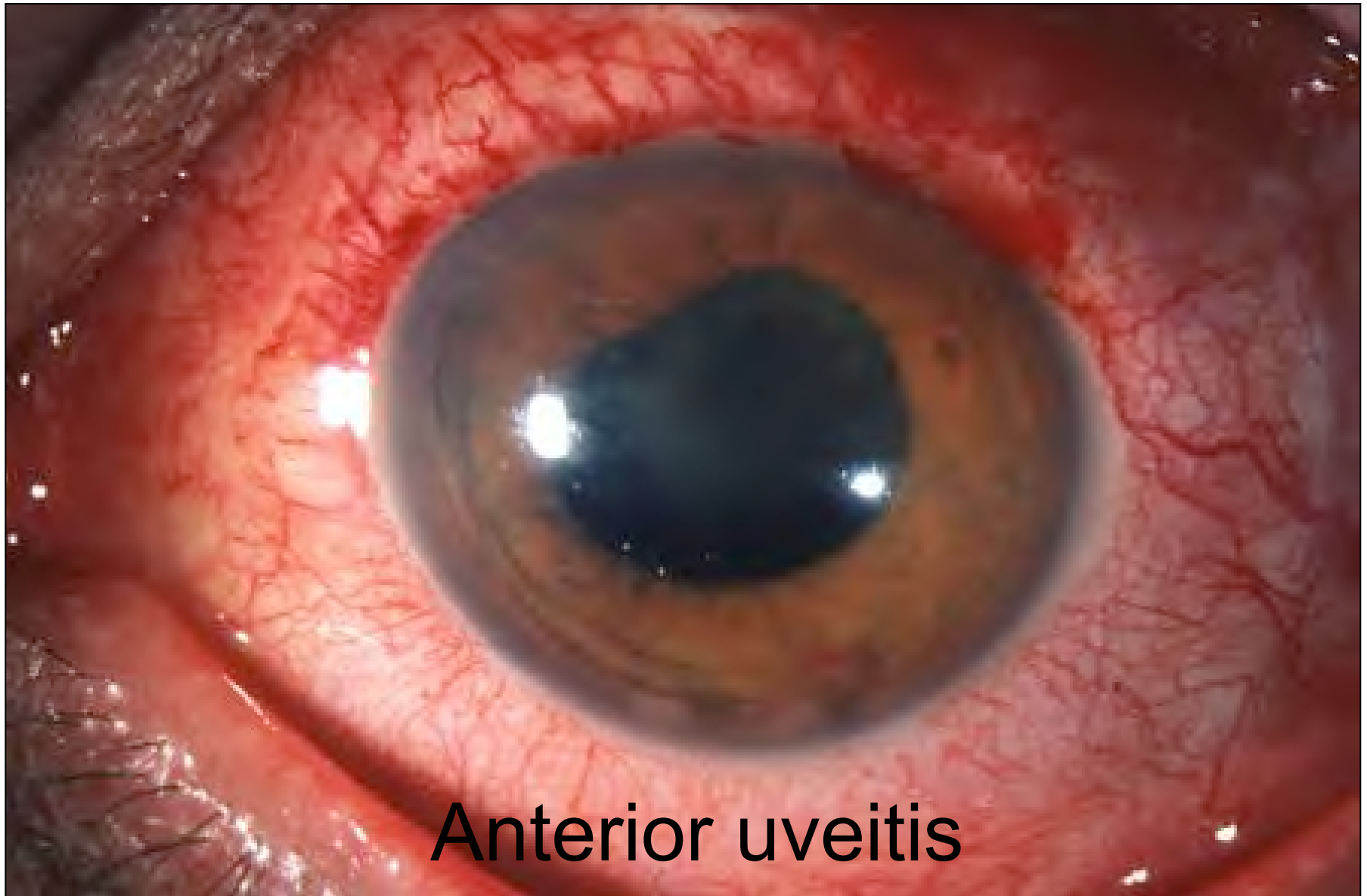


Corneal ulcer

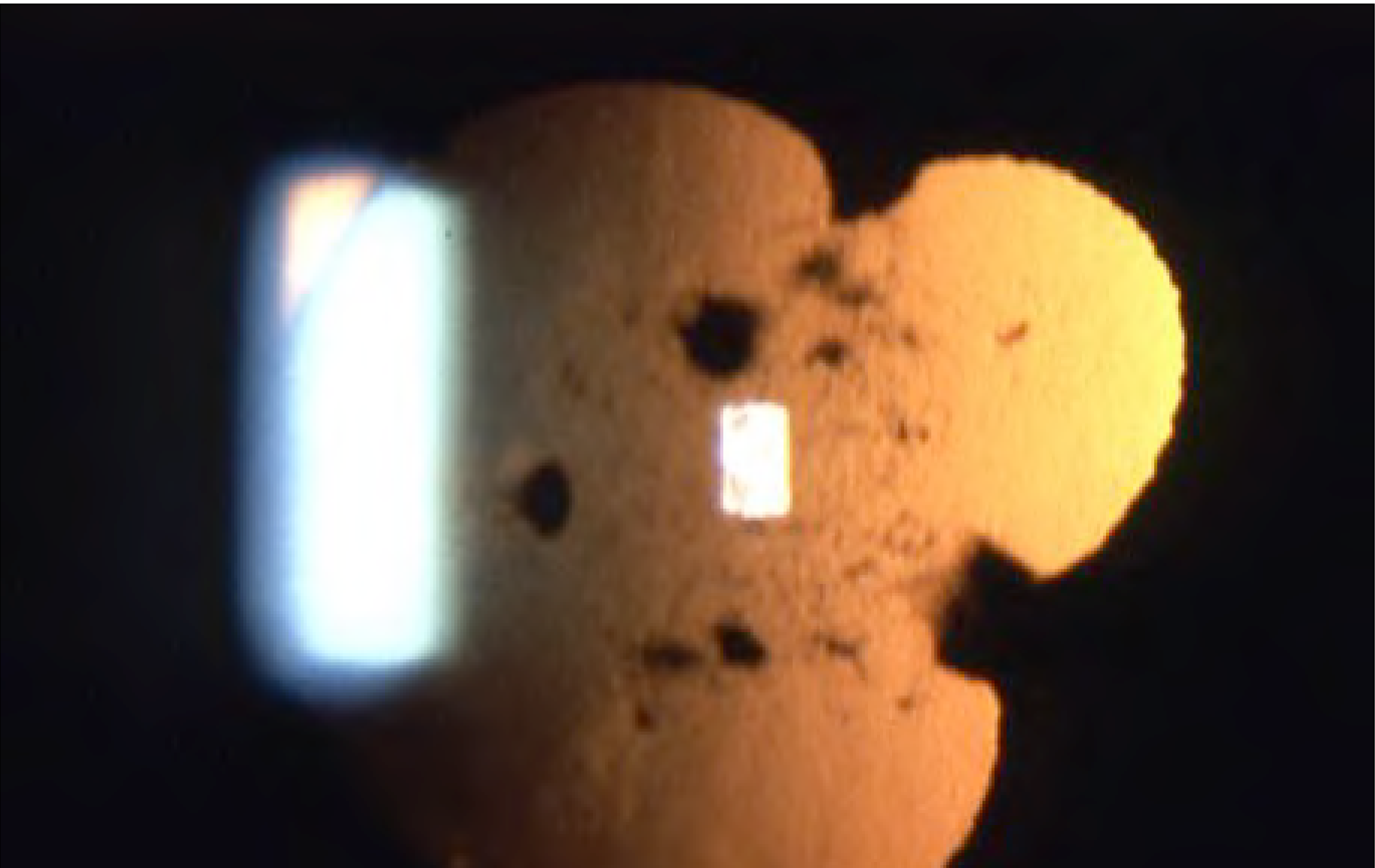
# Causes of Red Eye: Anterior Chamber

1. Uveitis\*
2. Angle Closure Glaucoma\*
3. Infection (Endophthalmitis)\*

\*Dangerous Conditions

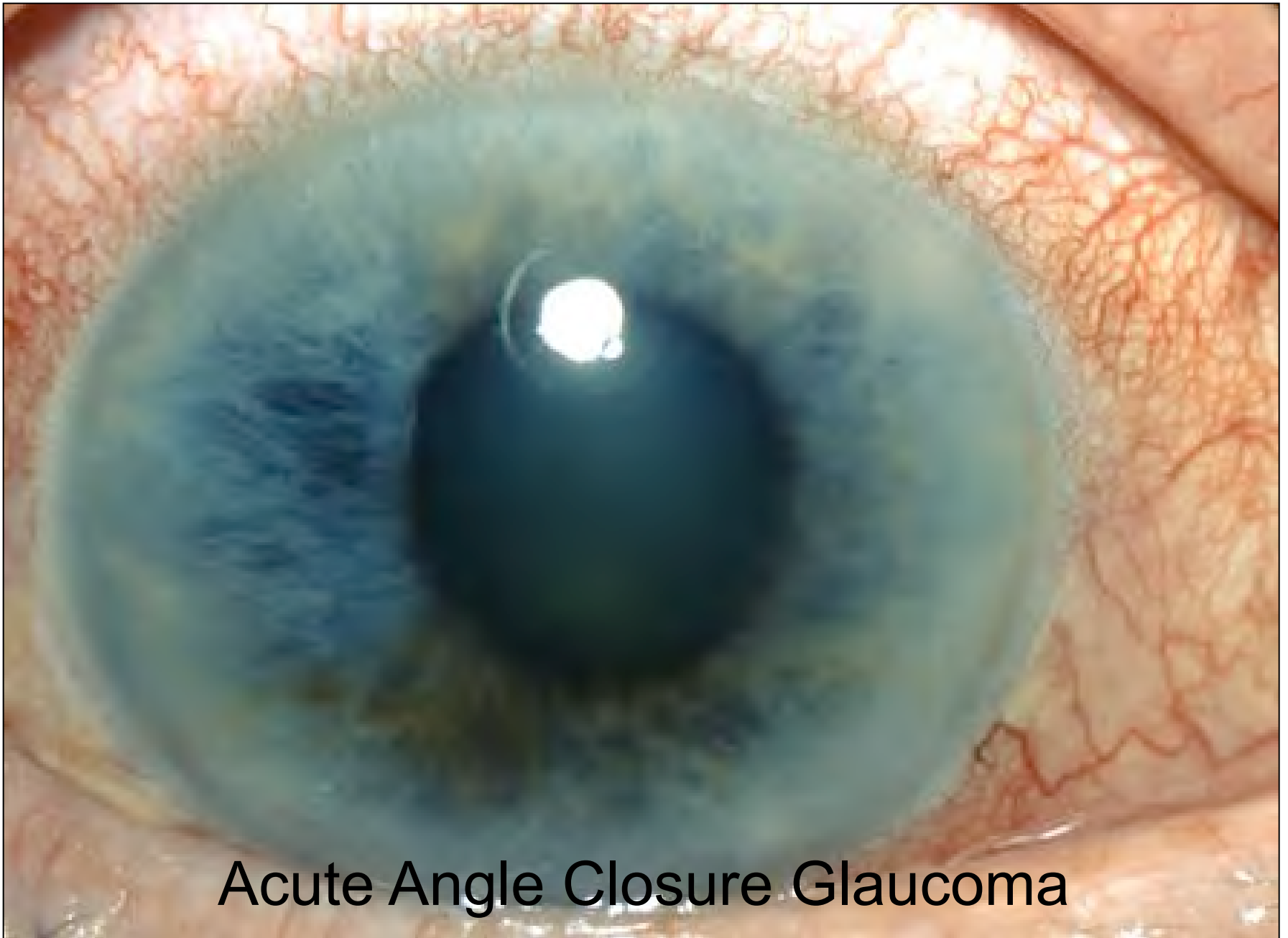


# Anterior uveitis

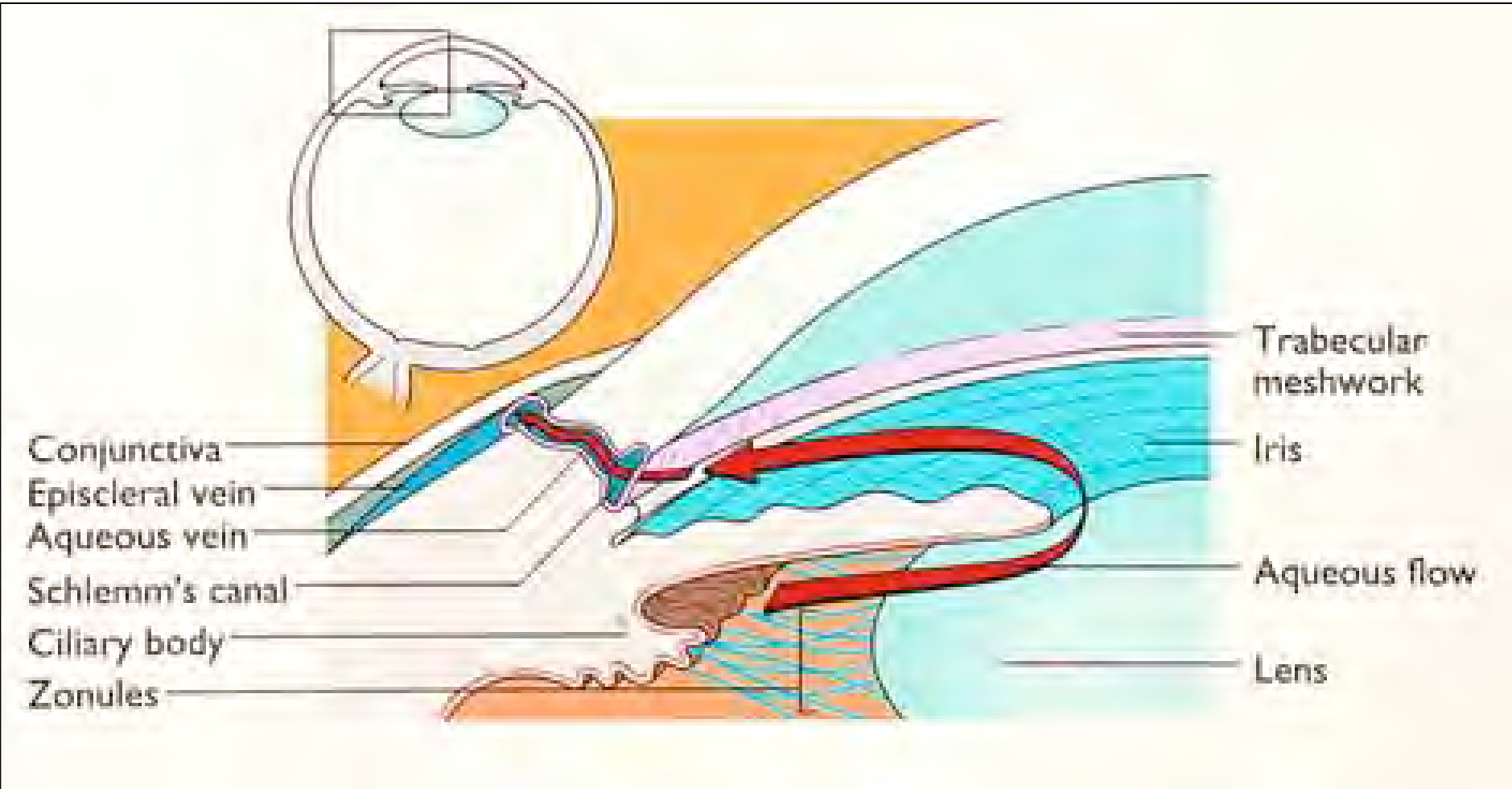


Posterior synechiae and lens pigment  
in anterior uveitis

This fundus photograph shows the posterior pole of the eye. The iris is partially obscured by multiple, irregular, brownish-yellow bands of posterior synechiae, which are adhesions between the iris and the posterior surface of the lens. The lens itself is visible, showing a dense, yellowish-brown pigment deposit on its anterior surface, characteristic of anterior uveitis. The background fundus is visible through the pupil, showing a normal reddish-orange color.

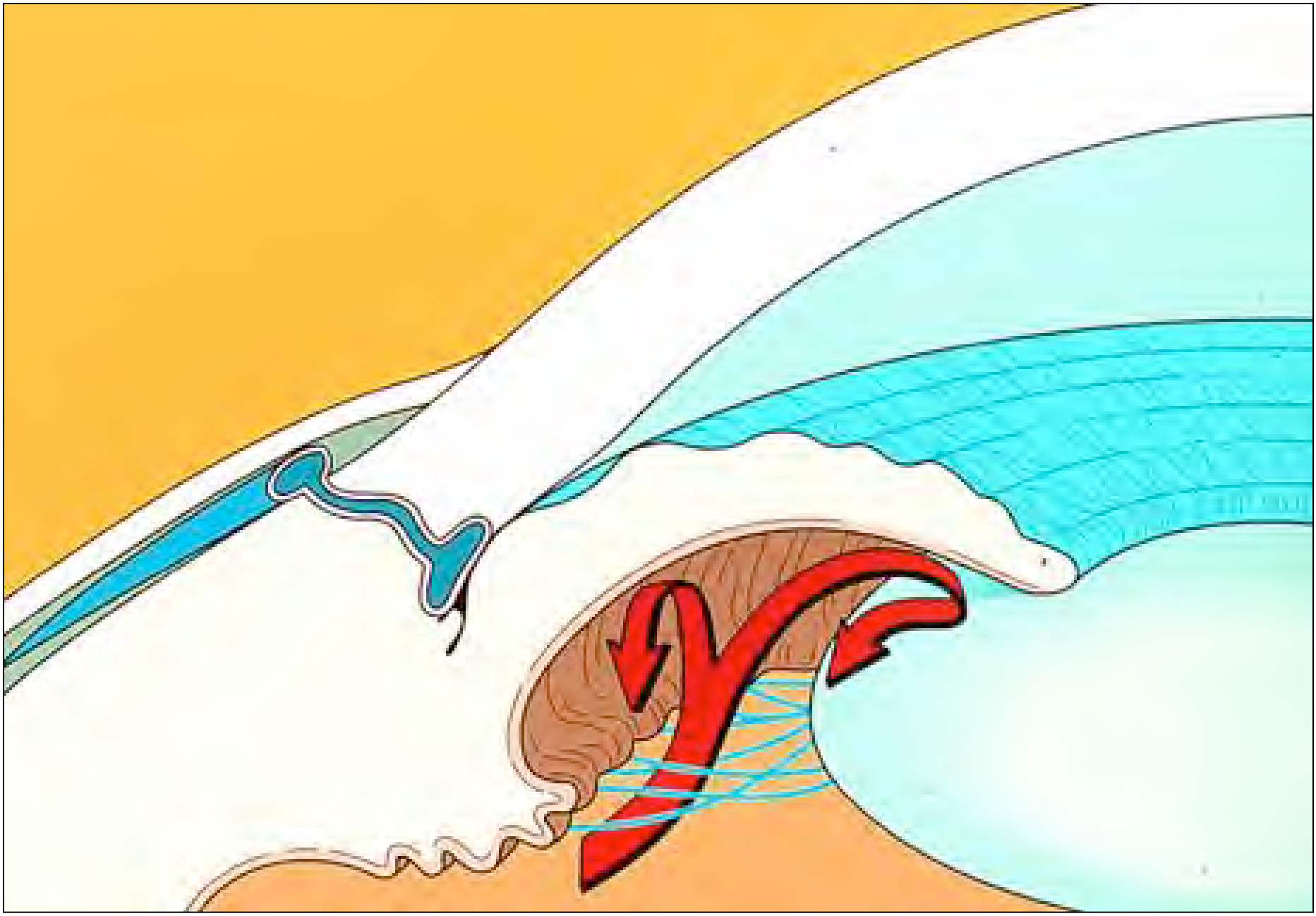


# Acute Angle Closure Glaucoma

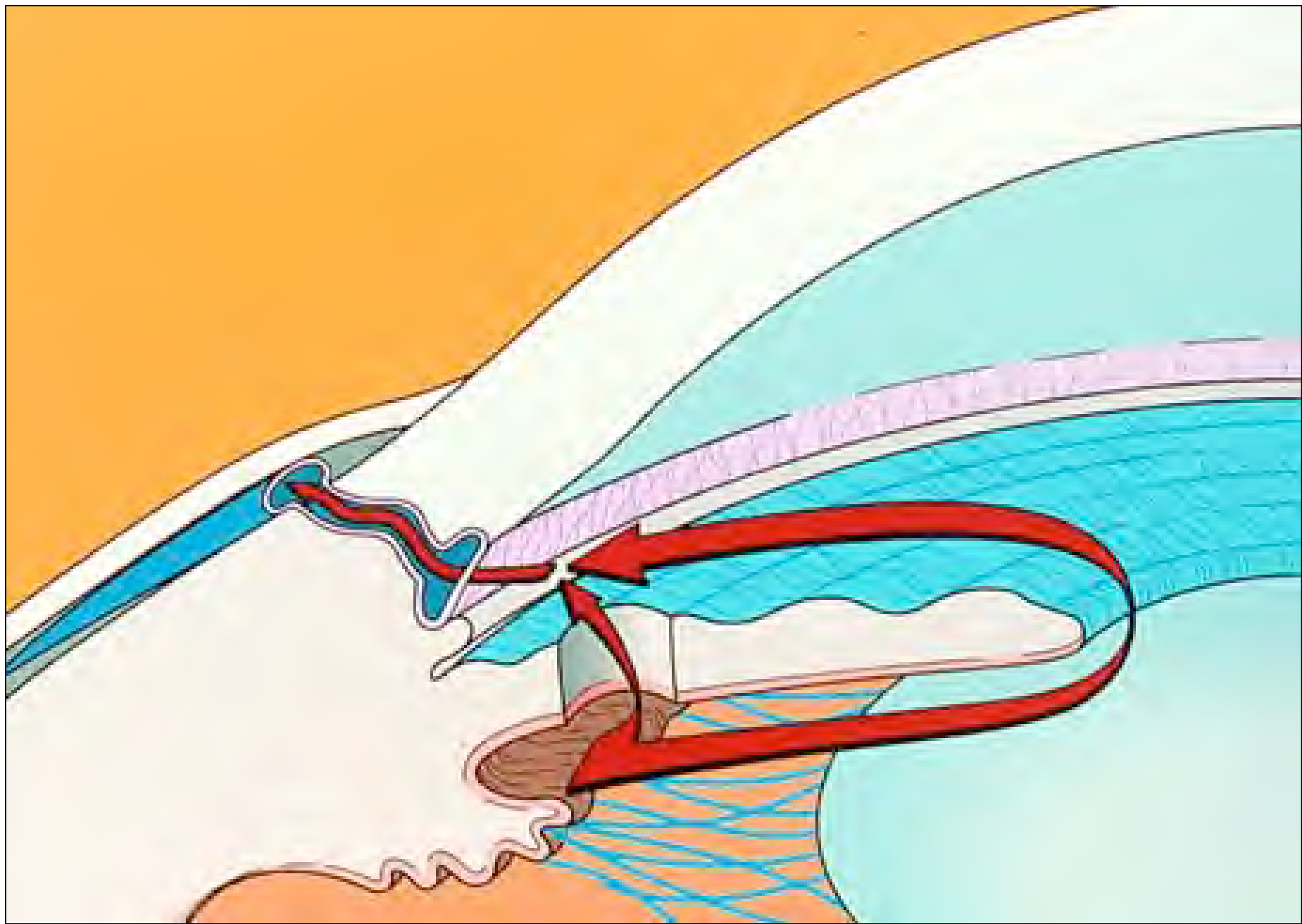


Conjunctiva  
 Episcleral vein  
 Aqueous vein  
 Schlemm's canal  
 Ciliary body  
 Zonules

Trabecular meshwork  
 Iris  
 Aqueous flow  
 Lens









# Endophthalmitis

Drawing of an eye with ciliary flush of corneal/ anterior chamber disorders was removed.

## The Seven Dangerous Red Eyes

	Pain	Vision loss	Discharge	Ciliary flush	Corneal haze	Urgency of treatment
Keratitis	+	+	(++)	+	+	(++)
Uveitis	+	(+)	-	+	-	+
Acute angle closure glaucoma	++	+	-	+	+	(+++)
Endophthalmitis	++	++	(++)	(+)	(++)	(++)
Orbital cellulitis	+	-	(+)	-	-	+
Orbital tumor	(++)	(++)	-	-	-	+
Bacterial conjunctivitis	(++)	-	(++)	-	-	(++)

# The Red Eye



# Additional Source Information

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Slide 5 – Source Undetermined

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Slide 7 – Source Undetermined

Slide 8 – “Chronic Blepharitis” Regents of the University of Michigan (The Eyes Have It)

<http://www.kellogg.umich.edu/theeyeshaveit/red-eye/blepharitis.html>

Slide 9 – Source Undetermined

Slide 10 – “Cross-section of an eyelid” Regents of the University of Michigan (The Eyes Have It)

<http://www.kellogg.umich.edu/theeyeshaveit/anatomy/external-eye.html>

Slide 11 – Source Undetermined

Slide 12 – “External anatomy of the eye” Regents of the University of Michigan (The Eyes Have It)

<http://www.kellogg.umich.edu/theeyeshaveit/anatomy/external-eye.html>

Slide 13 – Source Undetermined

Slide 14 – “Cross-section of an eye in orbit” Regents of the University of Michigan (The Eyes Have It)

<http://www.kellogg.umich.edu/theeyeshaveit/anatomy/sagittal-section.html>

Slide 15 – Source Undetermined

Slide 16 – “Orbital tumor” Regents of the University of Michigan (The Eyes Have It)

<http://www.kellogg.umich.edu/theeyeshaveit/red-eye/orbital-tumor.html>

Slide 17 – Source Undetermined

Slide 19 – Source Undetermined

Slide 20 – Source Undetermined

Slide 21 – “Viral conjunctivitis” Regents of the University of Michigan (The Eyes Have It)

<http://www.kellogg.umich.edu/theeyeshaveit/red-eye/viral-conjunctivitis.html>

Slide 22 – Source Undetermined

Slide 23 – “Allergic conjunctivitis” Regents of the University of Michigan (The Eyes Have It)

<http://www.kellogg.umich.edu/theeyeshaveit/red-eye/allergic-conjunctivitis.html>

Slide 24 – “Autoimmune conjunctivitis” Regents of the University of Michigan (The Eyes Have It)

<http://www.kellogg.umich.edu/theeyeshaveit/red-eye/immunologic-conjunctivitis.html>

Slide 25 – “Autoimmune conjunctivitis: Graves’ Disease” Regents of the University of Michigan (The Eyes Have It)

<http://www.kellogg.umich.edu/theeyeshaveit/acquired/graves-disease.html>

# Additional Source Information

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Slide 29 – “Pterygium” Regents of the University of Michigan (The Eyes Have It)

<http://www.kellogg.umich.edu/theeyeshaveit/red-eye/inflamed-pterygium.html>

Slide 30 – “Pterygium” Regents of the University of Michigan (The Eyes Have It)

<http://www.kellogg.umich.edu/theeyeshaveit/red-eye/pterygium.html>

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Slide 39 – Source Undetermined

Slide 40 – Source Undetermined

Slide 41 – Source Undetermined

Slide 42 – Source Undetermined

Slide 44 – “Anterior uveitis” Regents of the University of Michigan (The Eyes Have It)

<http://www.kellogg.umich.edu/theeyeshaveit/red-eye/anterior-uveitis.html>

Slide 45 – Source Undetermined

Slide 46 – “Acute angle closure glaucoma” Regents of the University of Michigan (The Eyes Have It)

<http://www.kellogg.umich.edu/theeyeshaveit/red-eye/angleclosure-glaucoma.html>

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