

# 3.6 Sclera / Episclera

## Anatomy:

Sclera is outermost white layer of eye. It is white because it has collagen fibers which are arranged haphazardly. Sclera blends with cornea anteriorly to complete outer most layer. In cornea same collagen fibers regularly to make it transparent.

Sclera has three layers and outer most layer is episclera.

## Vessels that you see on white part of eye:

- Superficial conjunctival vessels: Tortuous arteries and straight veins
- Superficial episcleral plexus. Vessels are radial and mostly involved in episcleritis
- Deep episcleral plexus. These are mostly involved in scleritis

## Episcleritis vs Scleritis

	Episcleritis	Scleritis
<b>Site</b>	Superficial layers of sclera	Deeper stroma involved
<b>Occurrence</b>	Very common	Rare
<b>Pain</b>	Discomfort, photophobia	Painful
<b>Mobility</b>	Congested area movable	Congested area fixed
<b>Treatment</b>	Topical steroids	Topical & systemic therapy
<b>Resolution</b>	In days to weeks	Takes much longer
<b>Complications</b>	Usually nil	May cause melting and perforation

# Episcleritis

## Episcleritis

- Common cause of red eye
- More in female
- Recurrence is common
- Etiology: Mostly idiopathic
- Pathology: Benign inflammation
- Association:
  - Ophthalmic like dry eye, Rosacea, Contact lens
  - Systemic like collagen vascular diseases and atopy
- Types:
  1. Simple localized (Most common)
  2. Simple diffuse
  3. Nodular
- Symptoms: redness & photophobia
- Signs: Flat localized or diffuse congested area in simple episcleritis while elevated area in nodular episcleritis
- Treatment: Self limiting or Topical steroids



1- Simple localized episcleritis



2- Simple diffuse episcleritis



3- Nodular episcleritis

# Episcleritis & Conjunctivitis

Clinically episcleritis must be differentiated from conjunctivitis.

Conjunctivitis is mostly bacterial or viral.

Bacterial conjunctivitis is often associated with discharge and sticky eyes.

Viral conjunctivitis is associated with severe watering and almost always bilateral.

## Scleritis

- Painful rare cause of red eye
- Resolves in weeks to months
- Types
  1. Anterior non necrotizing scleritis
  2. Anterior necrotizing scleritis
  3. Posterior scleritis
- Symptoms:
  - Pain and redness
  - Pain lasts for weeks
- Signs
  - May be diffuse or nodular
  - Moderate to severe redness
  - Vascular congestion and dilatation
  - Secondary lid swelling, uveitis and glaucoma



1- Anterior non necrotizing scleritis

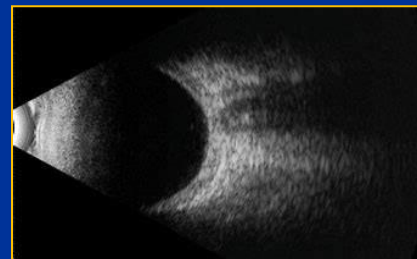


2- Anterior non necrotizing scleritis

- Systemic associations
  - Rheumatoid arthritis
  - Systemic lupus erythematosus
  - Polyarthritis nodosa
  - Ankylosing spondylitis
  - Herpes zoster
- Investigations
  - Blood complete with ESR
  - X-ray chest
  - Serological tests (RA factor, ANA, ANCA, ds DNA antibodies)
  - Tests for tuberculosis
- Treatment
  - Treat systemic disease
  - Topical & systemic steroids
  - Immunosuppressive drugs
  - Treat complications like glaucoma
- Complications
  - Scleral & corneal melting
  - Secondary uveitis
  - Secondary glaucoma



3- Posterior scleritis



3- Posterior scleritis (B-scan showing thickness: T sign))