

# pain

An unpleasant sensory and emotional experience associated with actual and potential tissue damage (American Pain Society [APS],2003;Gordon,2002)

- Physical and emotional experience, not all in the body or all in the mind. It is in response to actual or potential tissue damage, so there may not be abnormal lab or radiographic reports despite real pain.
- Pain is described in terms of such damage.
- BUT, it isn't necessary that every damage tissue give arise pain, At least not in initial phage
  - E.g. Acute Conjunctivitis



# Basic classification of Pain

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## DURATION

**Acute pain**- lasts only through the expected recovery period whether it has a sudden or slow onset and regardless of intensity.

**Chronic pain**- is prolonged, usually recurring or persisting over months or longer, and interferes with functioning.

- Mild to severe,

- Constant or recurring without anticipated or predictable end and a duration of greater than 6 months.

(Ackley&Ladwig, 2006)



# Conjunctiva

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- Conjunctival pain may due to involve Bacterial/viral/chlamydial conjunctivitis, Xerosis, Foreign body, Dry eye etc.
- In most cases conjunctivitis don't arise pain, until corneal involvement



# Cornea

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- One of the most densely innervated tissue
- Density of central corneal nerve endings is estimated to be around 7000 nerve terminals per square millimeter
- The corneal density of nociceptors in nerve endings is about 300-600 times that of skin
- Ocular neuropathic pain also referred to as corneal neuropathic pain.
- It is frequently accompanied by blurred vision, congestion and photophobia

# Causes of corneal neuropathic pain

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## 1-Chronic ocular neuropathic pain

### a-Dry eye syndrome

-Friction during blink can cause abrasion btw lid and cornea

### b-Recurrent corneal erosions

### c-Chemical burns

### d-Ocular surface neoplasia



# Angle Closure Glaucoma

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An attack of acute rise in IOP in patients with primary angle closure (PAC) may occur due to pupillary block causing sudden closure of the angle.

-It is a sight threatening emergency disease

- Clinical features are

- Severe Pain along V nerve distribution (ear, teeth)

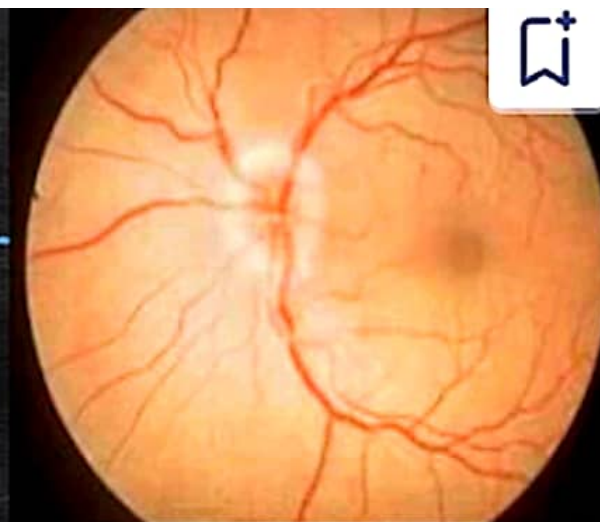
- headache, nausea, and vomiting

- mistaken for migraine because of headache with coloured haloes

## Optic neuritis

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- An inflammatory condition of the optic nerve



- Pain -Dull often cause behind the eye or pain upon eye movement,
- Vision/ Visual field loss,
  - Loss of color vision,
  - Flashing lights.



# Thyroid and eye ball pain

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Considered an autoimmune disease with orbital fibroblasts as the primary target of inflammatory attack and EOM being secondarily involved

The pain most often originates from

- Exposure keratitis,
- Ocular motility defects,
- Optic neuropathy-
  - Causes direct compression of the nerve
  - Enlarge rectus muscles at the orbital apex
  - Manifest as papilloedema or optic atrophy



# Functional Cause

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1-Eye Strain: Ciliary Muscle Stressed, Overworked.

2- Refractive Error:

- Un-corrected Astigmatism
- Un-corrected Hypermetropia
- Un-corrected Presbyopia.
- Over Corrected Myopia
- Over-Corrected Presbyopia

3-By Spectacles:

- Wrong Power in Spectacles, Wrong IPD, Improper Centration of Glass.



#### 4. Accommodative Anomalies:

E.g. Accommodation insufficiency-Excess reading  
in young patient

#### 5. Convergence Anomalies:

E.g. Convergence Insufficiency.

#### 6. Ocular Muscle Problem: Tropia/Phoria.



# Ocular pain & Refractive Error

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- Myopia, Hyperopia , Astigmatism, Presbyopia causes blurred vision
- The cause of pain associated with vision problems stems more from our eye and brain trying to compensate for the disorder (ocular pain/Headache)
- Squinting and intense focusing can cause pain to build up inside and behind the eye.

The diagnostic criteria for pain associated with refractive errors defined as

- 1. Uncorrected or miscorrected refractive errors such as hyperopia or astigmatism
- 2. Mild headache in the frontal region and in the eyes themselves,
- 3. Pain absent on awakening and aggravated by prolonged visual tasks at the distance or angle where vision is impaired.

Disappearance of the pain following successful treatment of the underlying refractive disorder is another important diagnostic criterion.