The Upper Eye Lid, Levator Palpebrae Superioris and Horner's Syndrome

LEVATOR PALPEBRAE SUPERIORIS

**Origin** from bone just above tendinous ring

**Insertion** into
1. Eyelid skin
2. Tarsal plate
3. Conjunctival sac
**Origin** from bone just above tendinous ring

**LEVATOR PALPEBRAE SUPERIORIS**

**Insertion** into
1. Eyelid skin
2. Tarsal plate
3. Conjunctival sac

**Nerve supply:**
- **III (oculomotor)** to all three insertions (somatic) so defect gives complete ptosis
- **Sympathetic** to tarsal plate only (autonomic) so defect gives only partial ptosis

**Note:** For the muscle to function correctly both somatic and sympathetic supply must be intact

**Cervical sympathetic ganglia**
(All branches are postganglionic)

- **Somatic branches**
  - (Vasomotor
  - Sudomotor
  - Pilomotor)

- **Visceral branches**

- **Vascular branches**
PUPIL AND LID APPEARANCES
IN NORMAL PEOPLE
AND IN PATIENTS WITH
HORNER’S SYNDROME
AND
3RD NERVE PALALYSIS
NORMAL

LEFT HORNER'S SYNDROME
• Moderate ptosis
• Small pupil
• No problems with eye movements
NORMAL

LEFT HORNER'S SYNDROME
- Moderate ptosis
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LEFT 3rd NERVE PALSY
- Severe ptosis
- Large pupil
- Down/out gaze

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LEFT 3rd NERVE PALSY
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### HORNER'S V III NERVE LESION

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NOTE: Levator palpebrae superioris needs both sympathetic and somatic nerves to function correctly

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PATIENT LOOKS DOWNWARDS AND OUTWARDS (sole action of superior oblique & lateral rectus)
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<th>SIZE OF PUPIL &amp; REACTION TO LIGHT</th>
<th>CAUSES</th>
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<td>SMALL PUPIL normal reaction to light</td>
<td>Old age; Horner's syndrome; Pontine lesion</td>
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<td>SMALL PUPIL impaired reaction to light</td>
<td>Opiates; pilocarpine drops for glaucoma; diabetes; Argyll-Robertson pupil of neurosyphilis (accommodation but no reaction to light)</td>
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<td>LARGE PUPIL normal reaction to light</td>
<td>Normal finding in children</td>
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<tr>
<td>LARGE PUPIL impaired reaction to light</td>
<td>Atropine drops; II &amp; III nerve lesions; Holmes Adie pupil (myotonic pupil with slow contraction to light &amp; slow dilatation in dark); post anoxia</td>
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