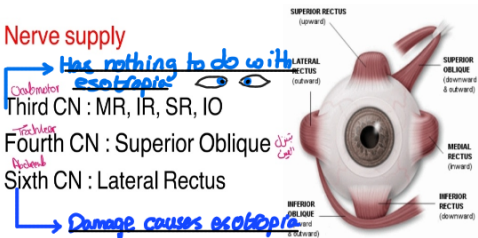
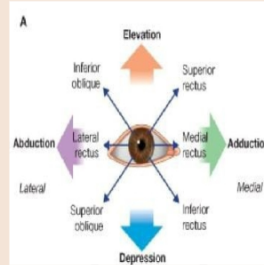
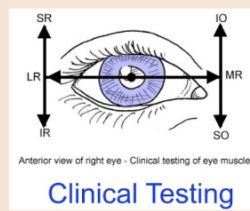


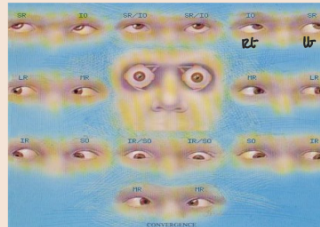
Normal movement of the eye (6 extraocular muscles)



- Rectus -> same direction up and down +adduction
- Oblique -> opposite up and down + abduction
- Clinical Testing : thd opposite just in terms of adduction and abduction ..



- 1-6-> Cardinal position of gaze (primary straight) , looking up
- 2 Muscle for each movement

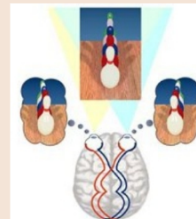


- +another 3 (Primary position (and down ..~Total of 6 .. (in both eyes?) ..

- Evaluation of Binocular eye movement -> H examination

o We check for :

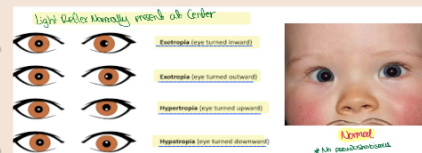
- 1-True paresis or paralysis (Nerve level)
- 2-Restrictive myopathy (Muscle level)
- 3-Underlying Strabismus (Brain center)



- Binocular Single Vision and stereopsis (two eyes each produce an image on retina but both are converted into one 3rd picture)

- Importance of stereopsis :

- 1-Increase visual field
- 2-Eliminate blind spots (blind spot of one eye fall on the opposite)
- 3-Binocular acuity is greater than monocular
- 4-Depth perception
- 5-Estimation of Distance ..



- Strabismus /squint definition : is a misalignment of the two eyes ,so both eyes are not looking to the same direction ..

- Note : in physical examination -> epicanthus does not exclude strabismus ..

- History:
- o Frequency
- o Onset
- o Family history
- o Past medical/surgical history

- Examination:
- o Visual acuity
- o Epicanthus (Be very cautious as its presence doesn't exclude strabismus)
- o Facial asymmetry
- o Cover/uncover test
- o Alternate cover test (latent squint/phoria)
- o Refractive error (topical atropine/cyclopentolate)

To know the total amount of refractive error, mainly in young hypermetropes, paralytic cataracts.

- •••SQUINT:

- >1 • Non-paralytic(concomitant): each eye is able for full movement a

- lone but only one is directed to the target when together ..

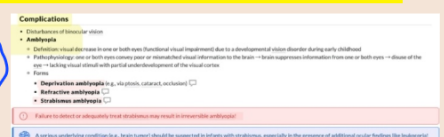
- Angle of deviation is constant

- commonly seen in children and is usually congenital but can develop in child with hypermetropia or blurred vision..

- No diplopia but amblyopia can occur .(since thd brain ignores one eye)

- this type of Squint should be treated before age of 10 by partial covering of the intact eye ,otherwise permanent amblyopia can occur ..

Tx : Glasses , partial patching of better eye & surgery ..



otherwise :

—>2●Paralytic squint (Incomitant) :

●Both eyes are affected whether while alone or together due to decreased action of one or more of the extra-ocular muscles

●Causes include : nerve palsy☆ or mechanical restriction☆ ..(indicates an isolated nerve palsy or an extra-ocular muscle ds)

●Usually acquired (non is inherited ,paralytic is not)

●angle of retraction is variable depending on the direction of gaze ..

●Diplopia is present ..

●Causes of paralytic squint (incomitant squint) :

1.Isolated Nerve palsies :

●6th nerve :Failure of abduction (false local sign -> increased IOP in adults +pds , hypermetropia in peds)

●4th nerve:defective depression + adduction

●3rd nerve :failure of adduction ,elevation and depression (+ptosis +dilated pupil) ,mcc

:aneurysm (ancyl aneurysm of posterior cerebral artery)

2.Extraocular muscles diseases:

●Dysthyroid eye ds :(infiltration of the eom with lymphocytes and the deposition of gags in



the tissues causing tissue proptosis ,exposure of the globe and limitation of its movement

●myasthenia gravis :ach receptor targeted abs

Female > male ,15-50 years of age ,40%involves eom only ,variable diplopia and ptosis due to fatigue

Dx: by edrophonium test ..

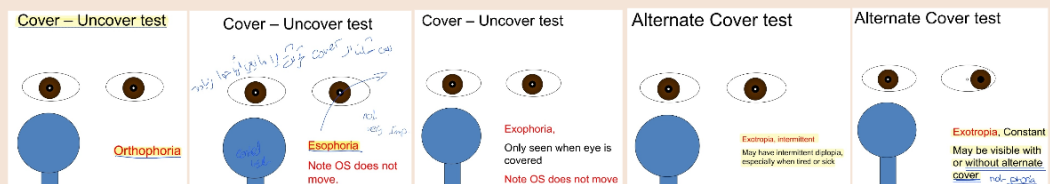
Tx: by neostigmine (acetylcholine esterase inhibitor) ,thymectomy ..

●ocular myositis

●ocular myopathy

●Browns syndrome

●Duane's syndrome



●☆●Esotropia:

1-Right ,left or alternating (variable fixation)

2-Concomitant or incomitant

3-1ry ,2ry or consecutive (overcorrection)



1-Cocomitant Esotropia :

●Congenital (Infantile) Esotropia : occur in the 1st 6 months of life in otherwise neurologically healthy child,, not associated with hypermetropia

●Large angle of deviation

●Tx: recession in both medial recti..

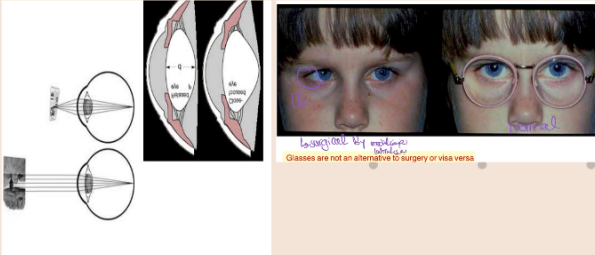
● Accommodative Esotropia:

-Accommodative esotropia is often seen in patients with a moderate of hypermetropia .

-The hypermetrope, in an attempt to "accomodate"..

● Non-Accomodative :

-The hypermetrope, in an attempt to "accommodate" or focus the eyes ,converges the eyes as well ,as convergence is associated with activation of the accommodative reflex (synkinesis)



● Non-accommodative esotropia :

Induced by:

1-Emotional or physical stress (illness)

2-Sensory deprivation (untreated congenital cataract , optic atrophy)

3-Retinoblastoma ..

● Exotropia : (two types) :

1-Intermittent Exotropia :onset before 5 years ..

1-visual inattention

2-Fatigue

3-stress

4-During illness

●If exotropic eye was exposed to a bright light -> reflex closure of one eye ..

2-Constsnt Exotropia (non-accommodative exotropia) :

-Crouzon's syndrome -> defect in fbgr2

-Autosomal dominant ,chromosome 10 ..

-Shallow eye sockets after early fusion of surrounding bones

-Craniosynostosis

-Hypertelorism.(greater than normal distance btw the eyes)

-PDA and aortic coarctation ..

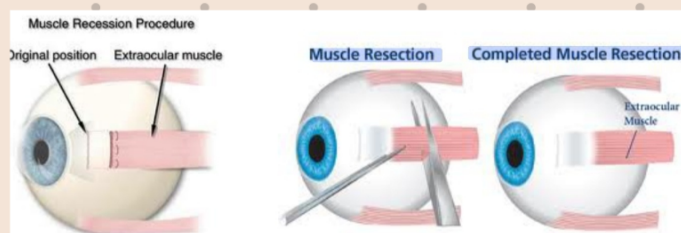


● Management of exotropia:

1-Early detection

2-Glasses

3-Surgery (Recession or Resection)



● Amblyopia:

-Unilateral PERMANENT reduction in vision acuity with the absence of organic pathology ..

●Types :


1-Strabismic (in case strabismus persisted beyond the age of 10)

2-Anisometropic (there is unequal refractive error btw the 2 eyes ,the more clear eye


become dominant eye while the image on that eye become blurred

3-From deprivation


●Form -deprivation amblyopia : results when the ocular media become opaque such as is the case with cataracts or corneal scarring from forceps injuries during birth..



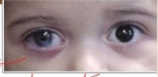
congenital cataract



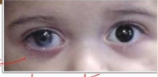
corneal opacity



hemangioma



leukocoria



corneal scar

* leukocoria → Sign of Retinoblastoma

* corneal opacity → by red reflex

during birth.

Take home messages

- Strabismus is a symptom/sign (similar to fever) which might be the presenting sign of life threatening conditions.
- Parents are always true about their complaint of presence of squint.
- There is nothing called Pseudo strabismus.
- Never patch the eye of a child.

ادرك انك قد تاملت هذه امرا في طفلك ...

