

CHILDHOOD STRABISMUS

1. Examination

2. Esotropia

- Essential infantile esotropia
- Refractive accommodative esotropia
- Non-refractive esotropia

3. Exotropia

- Constant exotropia
- Intermittent exotropia

4. Special syndromes

- Duane syndrome
- Brown syndrome
- Double elevator palsy
- Möbius syndrome

5. Alphabet patterns

- 'V' pattern deviation
- 'A' pattern deviation

SQUINT

Anatomy of extraocular muscles

Listing plane

Axis of fick

SQUINT

Defination

Visual axis

Optical axis \ Anatomical axis

Angle kappa

Tropia

phoria

Hirschberg test

- Rough measure of deviation
- Note location of corneal light reflex
- 1 mm = 7° or 15 Δ



Reflex at border of pupil = 15 Δ



Reflex at limbus = 45 Δ

Pseudo-deviations

Pseudo-esotropia



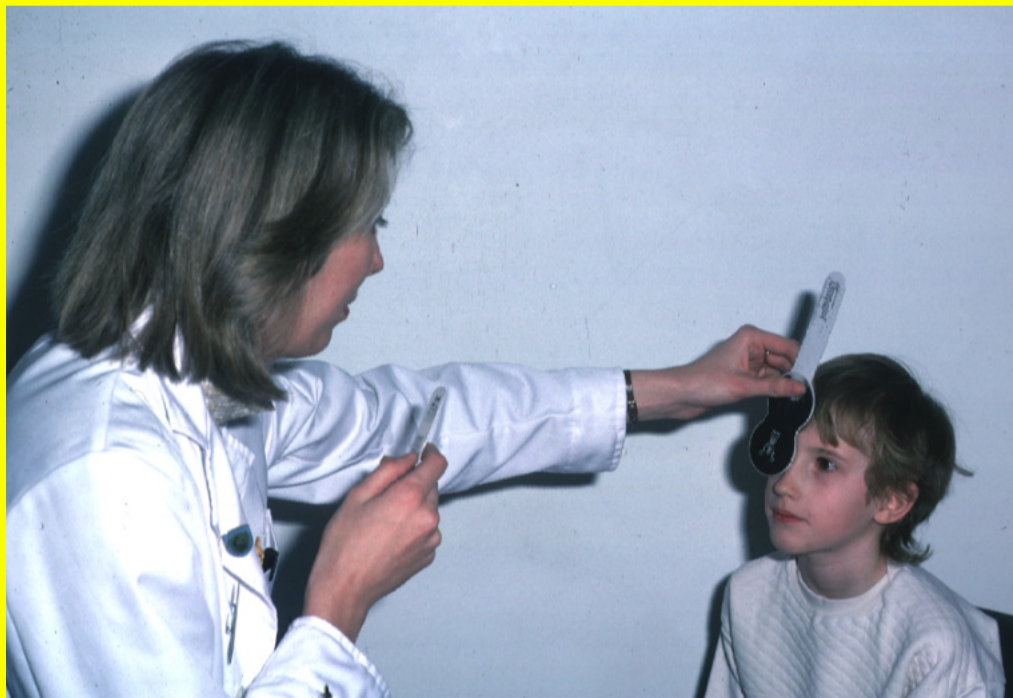
- Epicanthic folds
- Short interpupillary distance
- Negative angle kappa

Pseudo-exotropia



- Wide interpupillary distance
- Positive angle kappa

Cover tests



- **Cover test detects heterotropia**
- **Uncover test detects heterophoria**
- **Alternate cover test detects total deviation**

- **Prism cover test measures total deviation**

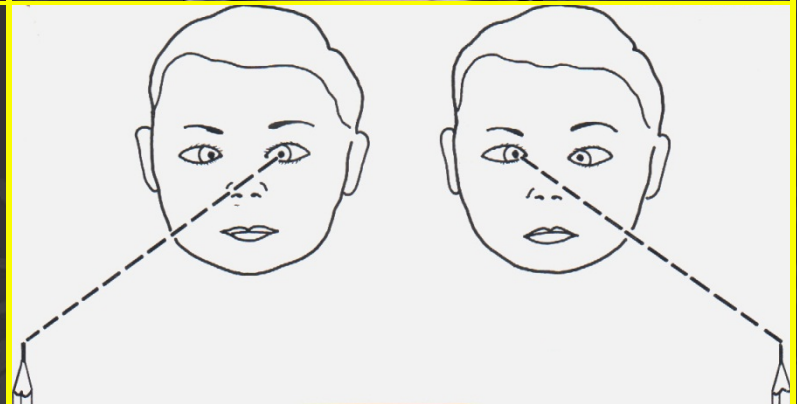
Essential infantile esotropia

Presents within first 6 months

Signs



- Angle large and stable
- Nystagmus in some cases
- Normal refraction for age
- Poor potential for BSV
- Amblyopia in about 30%



• Cross fixation

Management of essential infantile esotropia



- Correct amblyopia if present
- Surgery before age 12 months

- Bilateral medial rectus recessions
- Ideal alignment within 10 Δ

Subsequent problems

Inferior oblique overaction



- Most common onset 2 years
- Usually eventually bilateral

Dissociated vertical deviation



- Up-drift with excyclodeviation of eye under cover
- When cover removed affected eye moves down




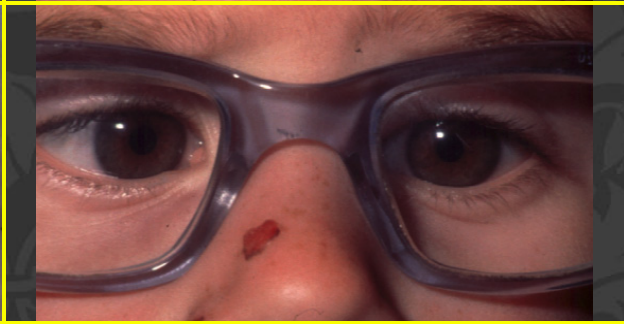
Microtropia



- Very small angle - may not be detectable on cover testing
- Central suppression scotoma

Refractive accommodative esotropia

- Presents between 18 months - 3years
- Initially intermittent
- Normal AC/A ratio
- Excessive hypermetropia

Fully accommodative	Partially accommodative
	
Esotropia greater for near	Straight for distance
	
Straight for distance and near	Esotropia for near

Non-refractive accommodative esotropia

- Presents between 18 months to 3 years
- High AC/A ratio
 - due to increased AC (convergence excess)
 - due to decreased A (hypoaccommodative)
- No significant refractive error

Signs



Straight for distance



Esotropia for near

MANAGEMENT,

Aim of management

history-

Age

Family

General health

Visual acuity

Refraction---fundoscopy motility..... -----ocular examination

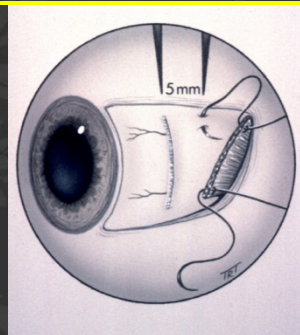
Management of accommodative esotropia

Refraction - prescribe full cycloplegic refraction under age 6 years

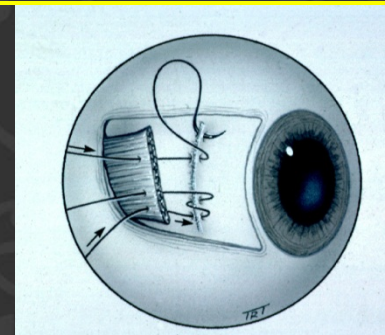
Treatment of amblyopia



Surgery - if spectacles do not fully correct deviation



Recession



Resection

Constant exotropia

Congenital



- Presents at birth
- Large angle
- Alternating fixation
- Normal refraction for age

Sensory



- Disruption of binocular reflexes by acquired lesions, such as cataract

Consecutive - follows previous surgery for esotropia

Intermittent exotropia

Signs



- Presents - usually prior to 5 years
- Usually alternating (amblyopia uncommon)
- Treatment - surgery

Basic

- Angle greater for near

Convergence weakness

- Angle greater for near
- May be associated with myopia

Divergence excess

- Angle greater for distance
- May be true or simulated

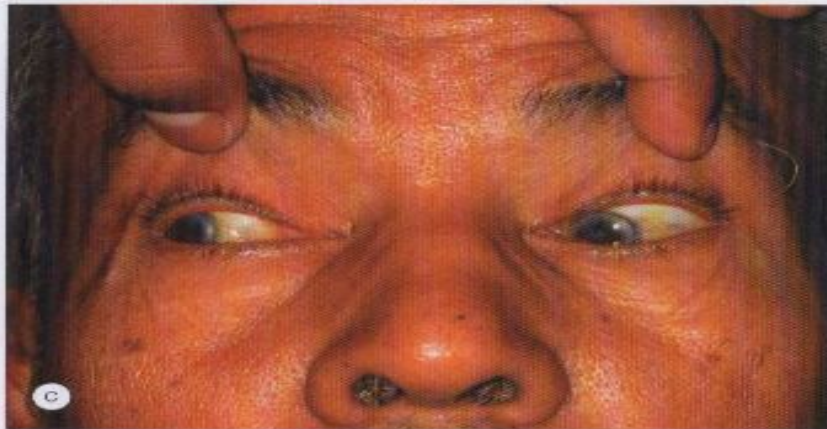
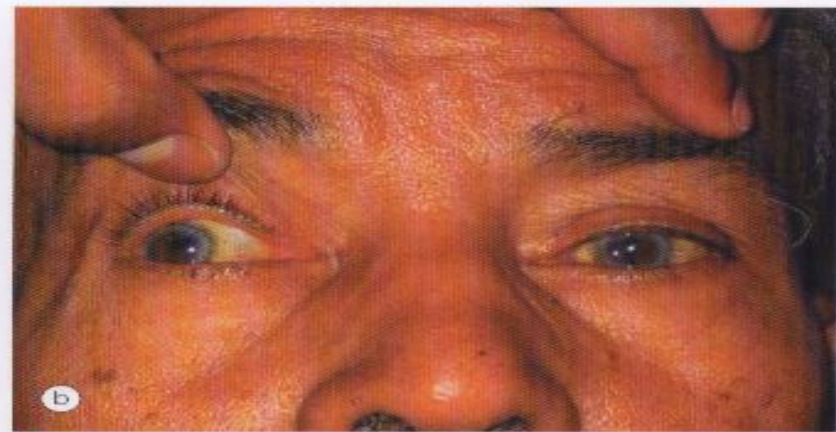
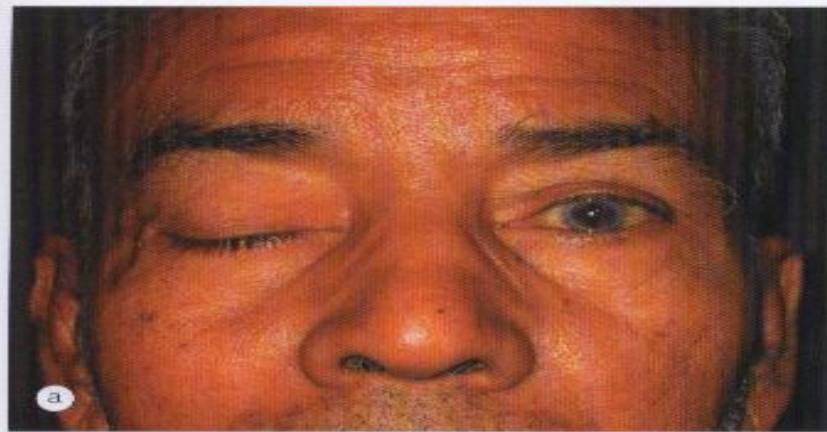


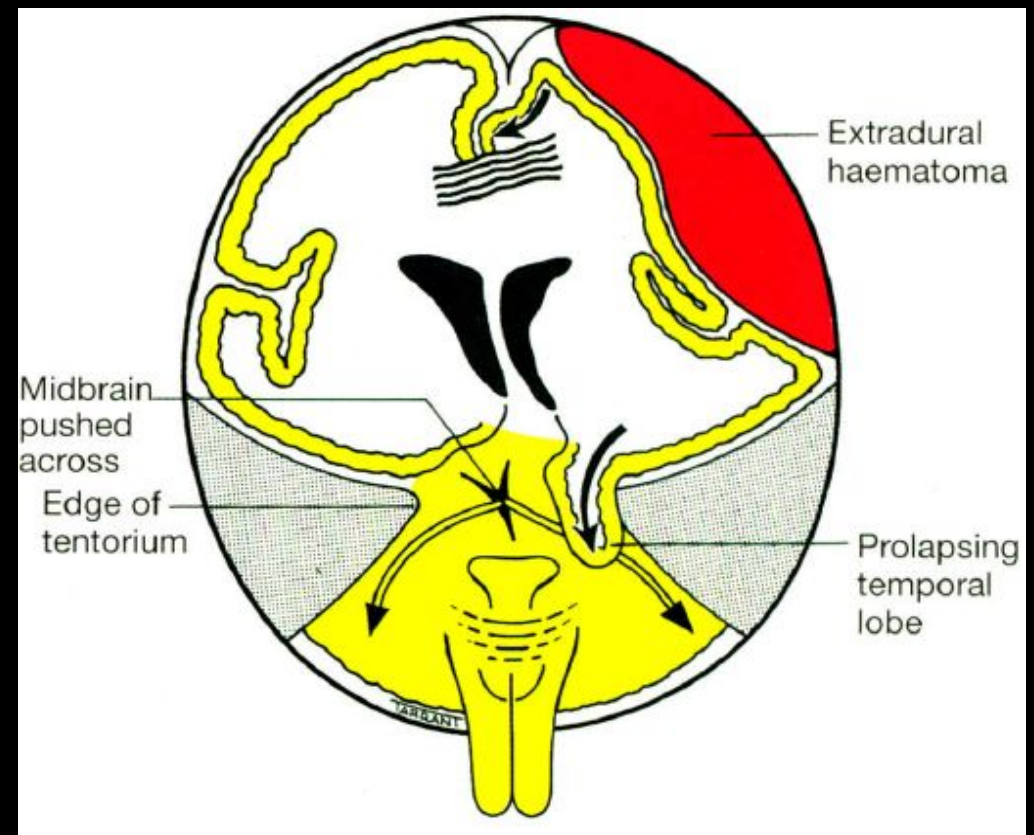
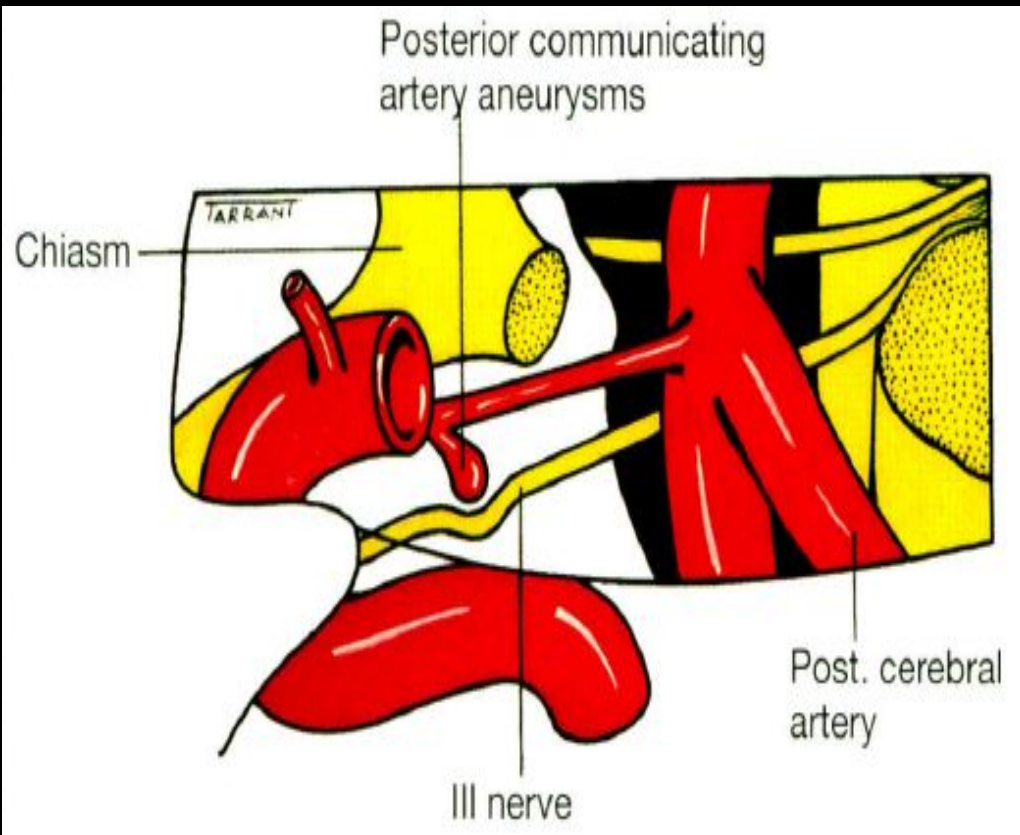
Fig. 21.41 Right third nerve palsy. (a) Total right ptosis; (b) right exotropia in the primary position; (c) normal abduction; (d) limitation of adduction; (e) limitation of elevation; (f) limitation of depression (Courtesy of S Kumar Puri)

Complete Third Nerve Paralysis



Fig. 7.19
Complete left ptosis (looking straight ahead).

SUBARACHNOID SPACE LESIONS



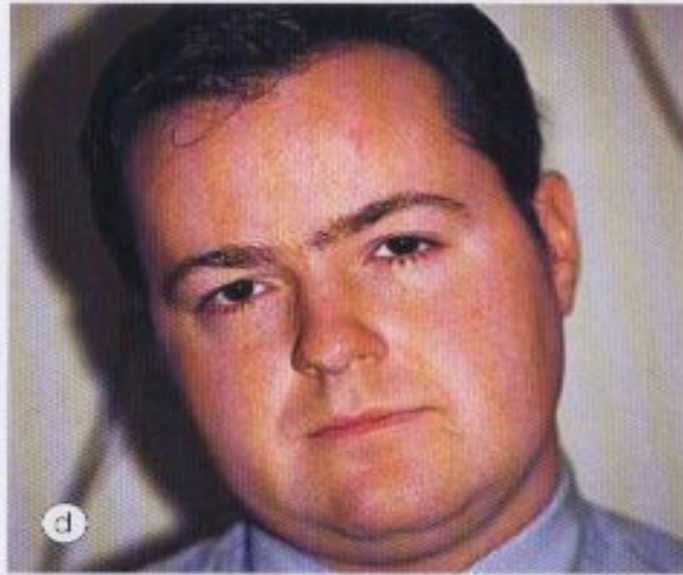


Fig. 21.43 Left fourth nerve palsy. **(a)** Left hypertropia (left-over-right) in the primary position; **(b)** left limitation of depression in adduction; **(c)** left inferior oblique overaction on right gaze; **(d)** head tilt to right, face turn to left and chin depressed

