Essential infantile Esotropia

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Definition
Essential infantile Esotropia is a form of comitant strabismus, usually defined as a constant large-angle esotropia with an onset between birth and 6 months of age in which accommodative, restrictive, and paretic factors have been ruled out as the principal cause. Other terms that have been used more or less synonymously include:

- Congenital esotropia
- Congenital-infantile esotropia
- Infantile-onset primary esotropia

Prevalence, Etiology
Essential infantile esotropia is the most common form of strabismus (0.1% of the population). The etiology of essential infantile esotropia is unknown.

Differential Diagnosis
- Bilateral (abduccens paralysis)
- Duane syndrome type 1
- Möbius syndrome
- Refractive accommodative esotropia
- Sensory esotropia
- The nystagmus blockage syndrome
- Esotropia in association with other central nervous system manifestations, such as Down syndrome, albinism, cerebral palsy, mental retardation, and so on.
**Duane syndrome type 1**

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**Möbius syndrome**

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**Refractive accommodative esotropia**

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Clinical characteristics

- **Consistent findings**
  - Onset from birth – 6 months
  - Large angle (≥ 30 PD) (near = distant) Normal AC/A
  - Stable angle which may increase with time initial alternation with crossed fixation
  - No clinically apparent CNS involvement
  - Asymmetrical Optokinetic Nystagmus

- **Variable findings**
  - Amblyopia
  - Apparently defective abduction
  - Apparently excessive adduction
  - Up- or downshoot on adduction
  - A or V Pattern
  - DVD / DHD
  - Manifest – Latent Nystagmus
  - Anomalous Head Posture
  - Hereditary

Ciancia syndrome

Ciancia described a group of patients with essential infantile esotropia, Latent Nystagmus, a head turn toward the adducting eye, and apparently limited abduction in both eyes.

Asymmetrical Optokinetic Nystagmus

OKN is abnormal in essential infantile esotropia when elicited under monocular conditions. OKN is generally symmetrical, but with essential infantile esotropia it is asymmetrical

\( T \rightarrow N \) elicit a brisker response than \( N \rightarrow T \)

Treatment

- **Goals of treatment**
  - A cure of strabismus may be defined as a restoration of single binocular vision in the practical field of gaze, that is orthotropia or asymptomatic heterophoria, normal visual acuity in each eye, normal stereoacuity on random dot testing, NRC, and stable sensory (bifoveal) and motor fusion

- **Nonsurgical treatment**

- **Surgical treatment**

Nonsurgical treatment

- Hypermetropic refractive errors not exceeding 2D to 3D are physiologic variants in infants.
- Correct all hypermetropic refractive errors > + 2.50 D before considering surgery
- In uncooperative infants a trial of miotics may be considered in lieu of glasses
- Amblyopia should be treated rigorously before surgery
- Prism prescription
- Botulinum toxin injection

Surgical treatment

- **Timing of surgery**
  - 6 months – 2 years of age

- **Type of surgery**
  - Bilateral medical rectus recession is the most common surgical therapy
  - Although a recess-resect procedure may also be used

- **Amount of surgery**
### One commonly Employed Surgical Algorithm for Esotropia

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<th>Preoperative Deviation</th>
<th>Bimedical Recession</th>
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<tr>
<td>15 PD</td>
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<tr>
<td>&gt;60 PD</td>
<td>7.0mm</td>
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Adapted from Parks

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Thank You for your attention