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1. An Overview of Strabismology

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Introduction to binocular vision, basic terms, types of strabismus, consequences of strabismus and their adaptations, role of a strabismologist.

2. Applied Anatomy and Physiology of Extraocular Muscles

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Anatomy of extraocular muscles, their origins, insertions and other characteristics, nerves supplying them, action of extraocular muscles, agonists–synergists, antagonists. Hering's law, Sherrington's law, Donder's and Listing's law, the physiology of eye movements: pulse step and ramp innervations, torsional eye movements, physiological basis of strabismus surgery, length-tension curves, Muscle pulleys.

3. Related Aspects

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Histopathology of extraocular muscles, embryology, accommodation—convergence relationship, types of eye movements, relevant neuroanatomy.

4. The Physiology of Binocular Vision, Amblyopia and Anomalous Retinal Correspondence

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Understanding sensory aspects, localization in space, horopter, Panum's area, stereopsis, monocular cues, binocular vision and squint, adaptations to squint: motor and sensory. amblyopia—its types, clinical features and pathophysiology, anomalous retinal correspondence: pre-requisites, diagnosis by various tests.

5. The Preliminary Examination and Assessment of Visual Acuity

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History taking, refraction, cycloplegia, examination of anterior and posterior segment, fundus examination for torsion. Visual acuity, types of visual acuity, methods of assessment in children, hyperacuity, vernier acuity, stereoacuity, screening methods in children.

6. Examination of a Case of Squint

Essential, desirable and additional equipment. Examination of motor status: head posture, ocular deviation, cover-uncover tests, measurement of deviation, measurement in different gaze positions subjective-objective tests, Synoptophore, diplopia charting, Lees' screen, binocular fields of fixation; measurement, limitation of eye movements and grading overactions and underactions. Examination of sensory status: tests for binocularity, correspondence: normal anomalous, suppression, its extent and depth, stereopsis. Fixation disparity and its tests.

7. Esotropia

Classification, essential infantile esotropia: characteristics, variants, differential diagnosis, etiology, phenomenon of saccadic under actions management, surgery-when, factors in consideration of surgery, guidelines, postoperative goals; Accommodative esotropia: classification, clinical presentation, accommodative convergence relationship, management; late onset esotropia; microtropia; nystagmus blockage syndrome; sensory esotropia.

8. Exotropia

Classification, factors of progression, phases of exodeviation, essential infantile exotropia, intermittent exotropia, Magician's forceps phenomenon non-surgical management, surgical management: indications and timing and choice of surgery, preoperative and postoperative assessment.

9. A-V Patterns

Types of A-V patterns, prevalence, etiology: horizontal, vertical and cyclovertical school, structural factors, role of sagittalization. Clinical features and measurement, management of A and V patterns.

10. Paralytic Strabismus

Incomitant strabismus, clinical features of paralytic squint, distinction from comitant and restrictive squint, Individual nerve paralysis; oculomotor nerve, abducens nerve and trochlear nerve; double elevator palsy; Gaze palsy; Internuclear ophthalmoplegia Management of paralytic strabismus; non-surgical, surgical. Myasthenia and myopathies: clinical features, pathogenesis, diagnosis and management.

11. Restrictive Strabismus

Features of restrictive squint, musculofascial anomalies, Duane's retraction syndrome: its types, pathogenesis, clinical features and management;

Brown's superior oblique sheath syndrome, strabismus fixus, congenital muscle fibrosis, dysthyroid orbitomyopathy, other restrictive conditions.

12. Vertical Strabismus

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Classification of cyclovertical strabismus, special considerations. Dissociated vertical deviation: clinical features, variants: dissociated horizontal and torsional deviations, etiology, management; Strabismus sursoadduction.

13. Nystagmus

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Definition and documentation of nystagmus, classification, clinical features, infantile nystagmus, manifest, latent nystagmus, periodic alternating nystagmus, nystagmus blockage syndrome, Upbeat nystagmus, downbeat nystagmus, vestibular nystagmus, physiological nystagmus, Management: non-surgical and surgical.

14. Non-Surgical Management

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Optical treatment: refraction, proper prescription, use of prisms; occlusion and alternatives to occlusion; orthoptic treatment: fusional vergence exercises, antisuppression exercises, active vision therapy, Home vision therapy; medical treatment: miotics, cycloplegics, other drugs, Botulinum toxin chemodenervation.

15. Surgical Management

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General considerations, special tests; Instruments and OT set up surgery on horizontal recti: weakening and strengthening procedures: recession, hang-back recession, adjustable recession, myotomy retro-equatorial myopexy (Faden); resection, advancement, double-breasting and cinching; transposition of muscles; surgery on vertical recti: special consideration; surgery on oblique muscles: inferior oblique weakening: generalised and selective, recession. Anteropositioning: inferior oblique strengthening: advancement: superior oblique weakening: tenotomy, tenectomy, recession, silicon expander lengthening, translational recession, posterior tenectomy. Superior oblique strengthening: tucking, advancement, Harada-Ito procedures for selective strengthening, periosteal fixation.

16. Complications of Strabismus Surgery

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Intraoperative complications: Complications due to anesthesia, complications due to surgery; postoperative complications.

17. Orthoptic Appliances

Synoptophore, cheiroscope, Pigeon cantonnet stereoscope, stereoscopes, Remy separator, diploscope, stereograms, bar readers, Maddox Tangent scale, Maddox rod, Maddox wing, Worth four dot test, binocular gauges Bishop Harman diaphragm test. Prism bar, Bagolini glasses, neutral density fitters, red-green glasses, Hess (Lees) screen visuscope, projectoscope, euthyroscope, coordinator, tests for stereopsis and selected Hess charts.

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4. Alternate PBCT
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B. Surgical Videos

1. Recession resection horizontal recti
2. Adjustable important steps
3. Inf oblique Mod E&N
4. Inf oblique compilation of different techniques
5. Posterior tenectomy of Sup oblique
6. Sup oblique tucking
7. Adjustable Harada-Ito
8. Faden with recession
9. Periosteal anchoring of LR
10. Partial vert rectus transpositioning