Basic Squint

Associate professor
DR Afzal Qadir
HOD
Paedritic ophthalmology

Objectives

- Definition
- Types
- Orthoposition
- Axis /Law
- Etiology
- Clinical testing
- Moments
- classification

Squint

- Definition: A “squint” is the common name for 'strabismus' which is the medical term used to describe eyes that are not pointing in the same direction, or which are misaligned.
- Squint refer to the deviation of the at primary position

STRABISMUS


NORMAL VISION


BINOCULAR SQUINT


BINOCULAR DIVERGENT STRABISMUS


MONOCULAR SQUINT


DIVERGENT STRABISMUS MONOCULAR

Types squint

- Latent squint : The condition in which the tendency of the eye to deviates is overcome by fusion reflex during binocular vision.
- Example

1. Esophoria
2. Exophoria
3. Hypophoria
4. Hyperphoria
5. In and Excyclophoria

Manifest squint

- Manifest : manifest squint is present when the eyes are open and being used.
- TYPES:

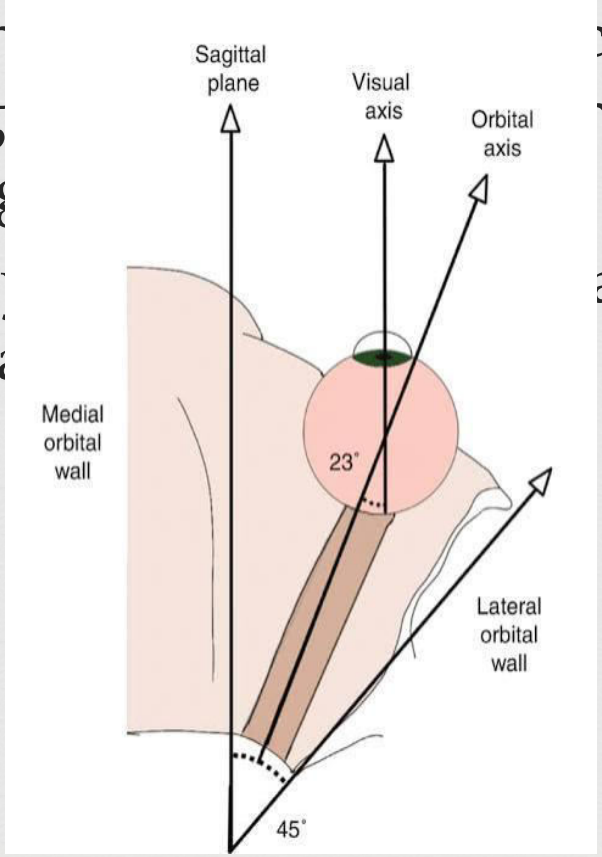
1. Concomitance of deviation .

- Comitant strabismus
- Incomitant strabismus

there maybe (Eso,Exo,Hyper,Hypo)

Orthoposition

- If there is no sh…contralateral eye, while covering …t is orthotropic (i.e. normal alig…
- A position of e…ary line of the sight intersect a…



Visual Axis

- **visual axis** :also known as the line of sight, is the imaginary line that connect the object of fixation to the fovea.
- It is path through which light reach the retina.
- **Optical axis/Pupillary axis** : optical axis is the imaginary line passing through center of the opitcal system.
- **Orbital axis**: the line passes through the apex of thr bony orbit and the center of the opening of the orbit.

Angle of kappa

- The angle between pupillary axis and visual axis.
  - **Anatomical variation**: orbital shape and size.
  - **Eye position**
  - **Corneal shape**
  - **Lens shape and position**

Etiology

- Sensory obstacles

1. Uncorrected refractive error
2. Anisometropia
3. Media opacity
4. Congenital ptosis

- Motor obstacles

1. Congenital abnormalities
2. Abnormal EOM
3. Heredity

Clinical testing

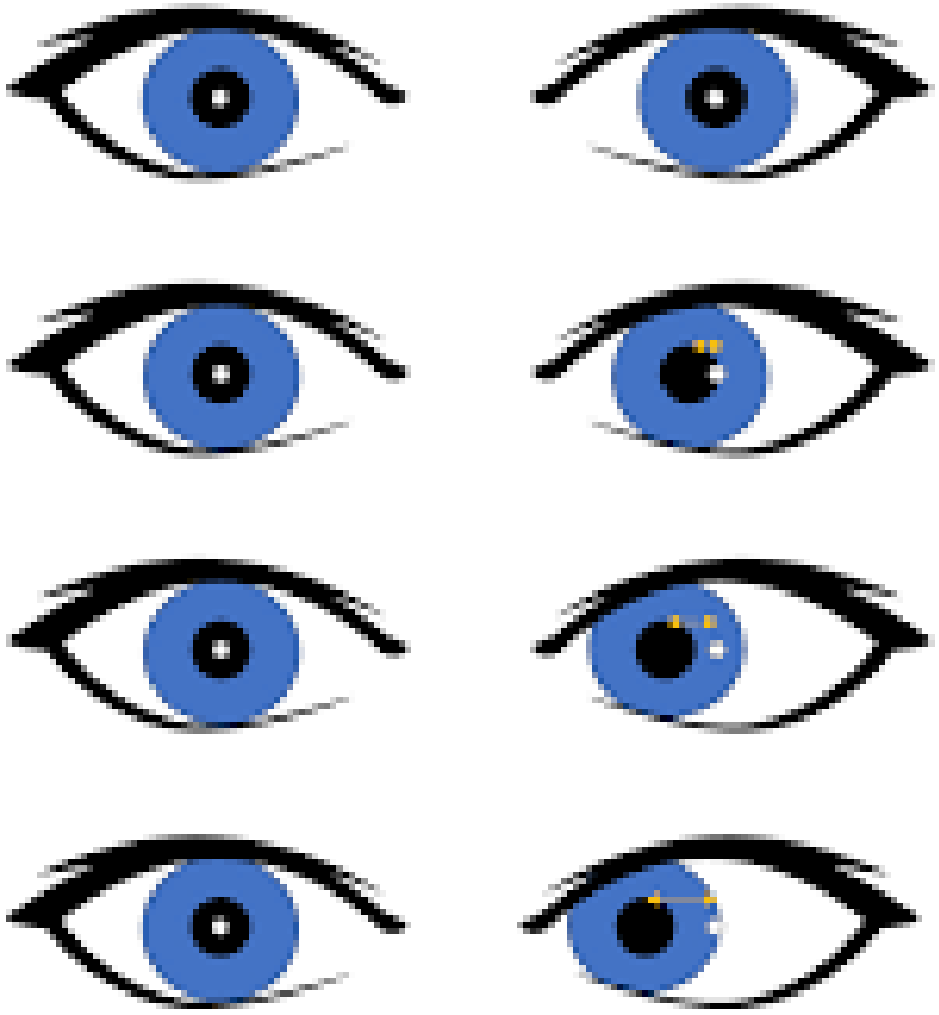
- Following clinical testing are used in squint such as given below

1. H.B
2. Cover uncover test
3. Krimsky test
4. Synoptophoria
5. Bruckner test

Hirschberg test

- The Hirschberg test (also known as the corneal light reflex test) is a quick and simple way to check ocular alignment.
- It is first very common one to rule out the deviation of the eye.

H.B degree



Normal corneal reflex

1 mm deviation ≈ 15 diopters

2 mm deviation ≈ 30 diopters

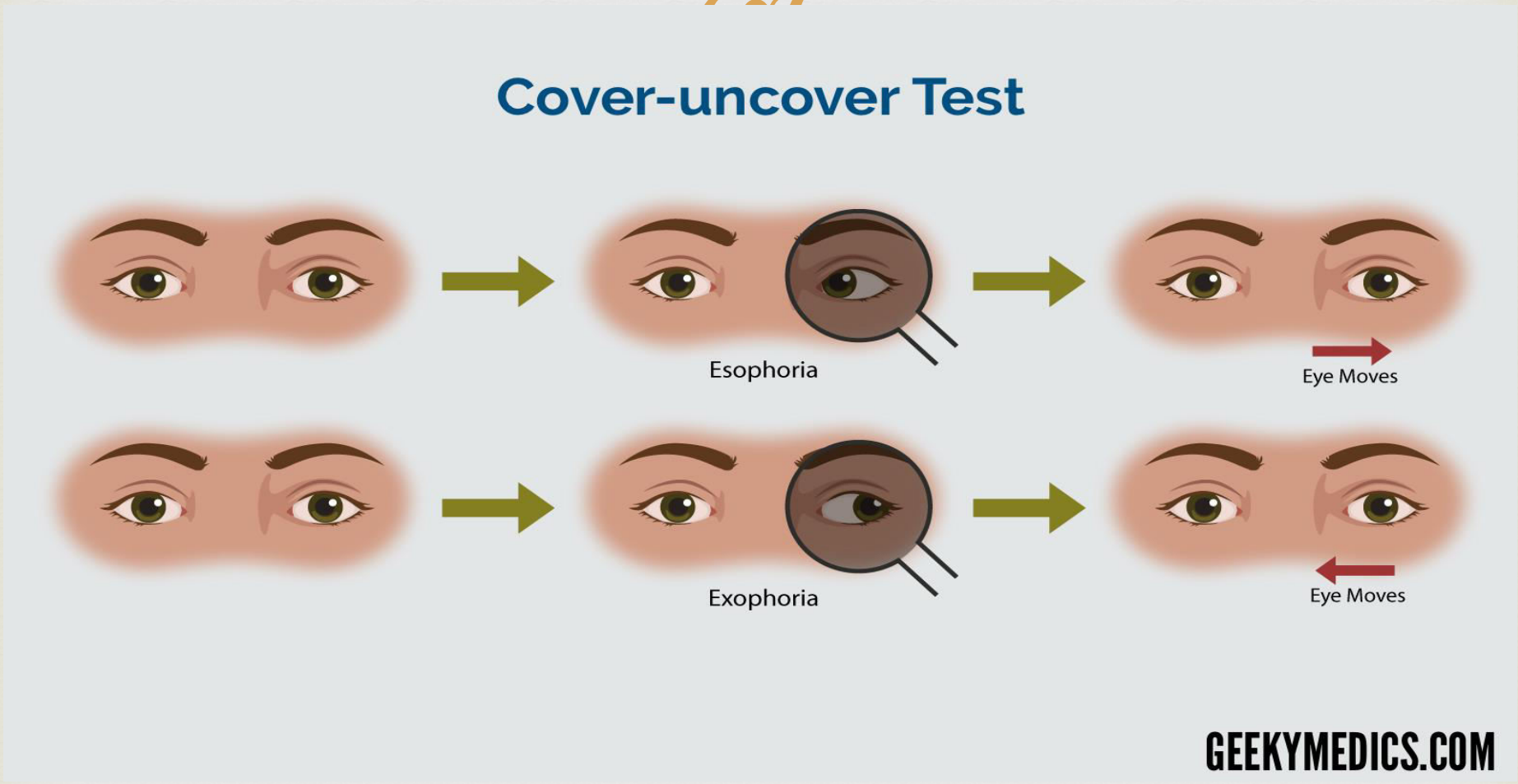
3 mm deviation ≈ 45 diopters

4 mm deviation ≈ 60 diopters

Cover uncover test

- The cover-uncover test is generally performed first. The cover-uncover test is useful to identify a tropia and differentiate it from a phoria. The test is done by using an opaque or translucent occluder to cover one eye. The occluder is held in front of the eye for a few seconds and then removed.

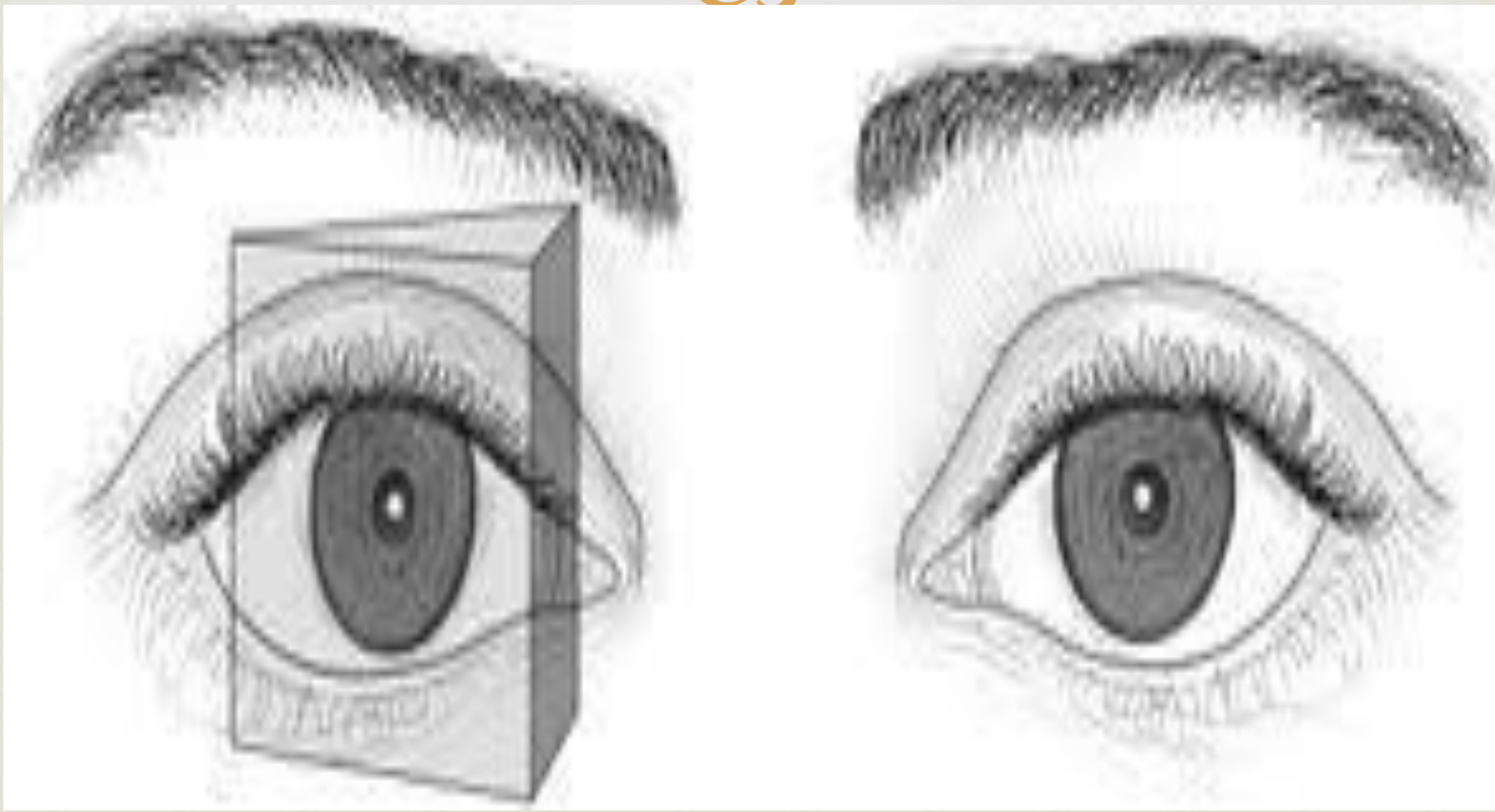
CONT


Cover-uncover Test
Esophoria
Eye Moves
Exophoria
Eye Moves
GEEKYMEDICS.COM

Krimsky test

- Krimsky test. Prism is placed in front of the deviating eye to correct the deviation of the corneal light reflex. The strabismus measurement is equal to the amount of prism necessary to center the corneal light reflex on the pupil of the deviating eye.
- The apex should toward deviation.

CONT



Synoptophoria

- Synoptophore is an instrument for assessing binocular vision, measuring angles of deviation and treating binocular anomalies by conventional orthoptic and peptic methods.

CONT

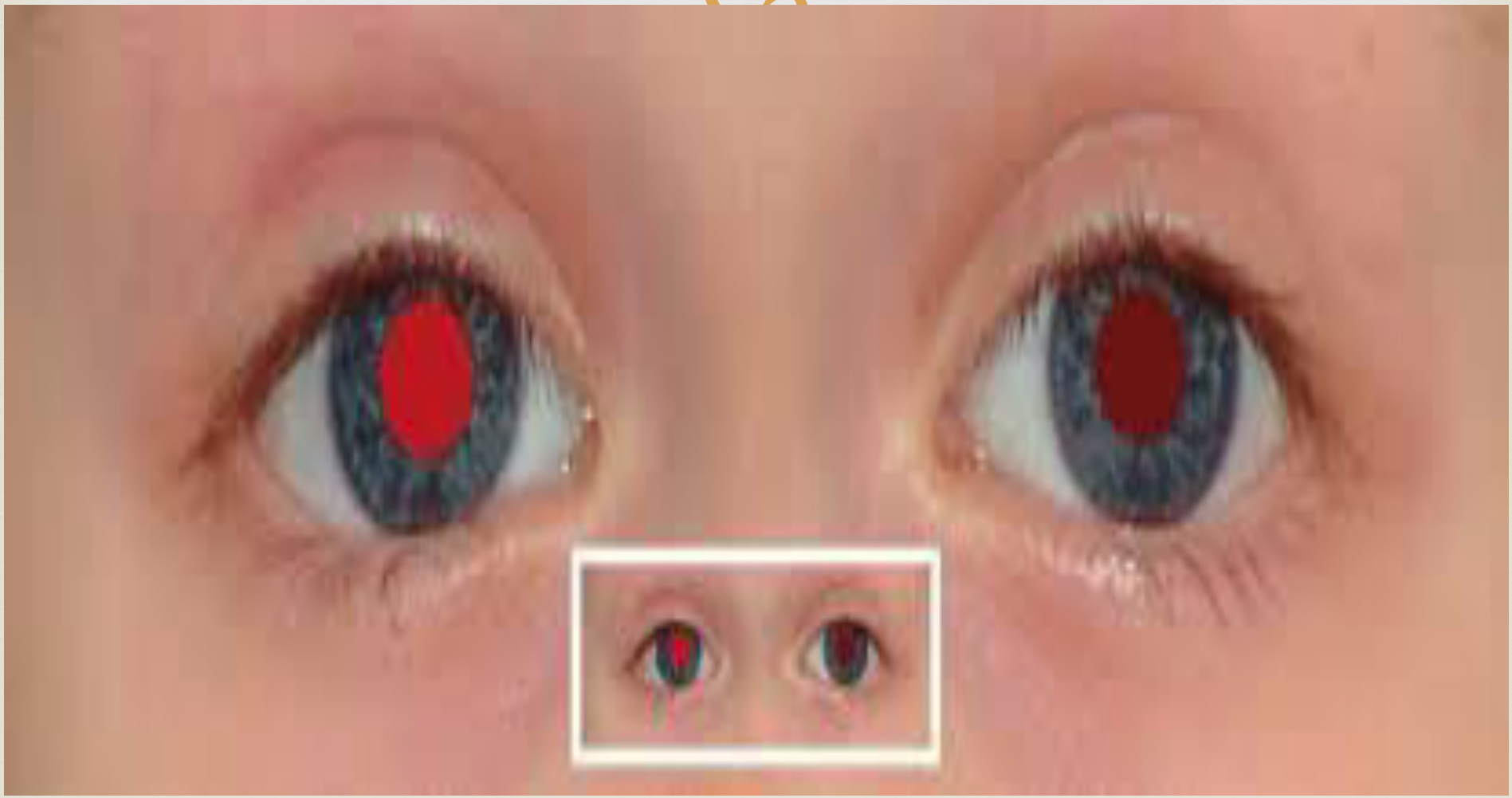
Bruckner test

- Brückner, in 1962, published a paper in German describing a “trans-illumination” test extremely useful in the diagnosis of small angle deviations and amblyopia in young uncooperative children. A bright coaxial light source, such as a direct ophthalmoscope, is used.

CONT


BRÜCKNER TEST
Md . Azizul Islam
Associate Optometrist
Oculoplasty Department (IIEI&H)

Cont



Moments

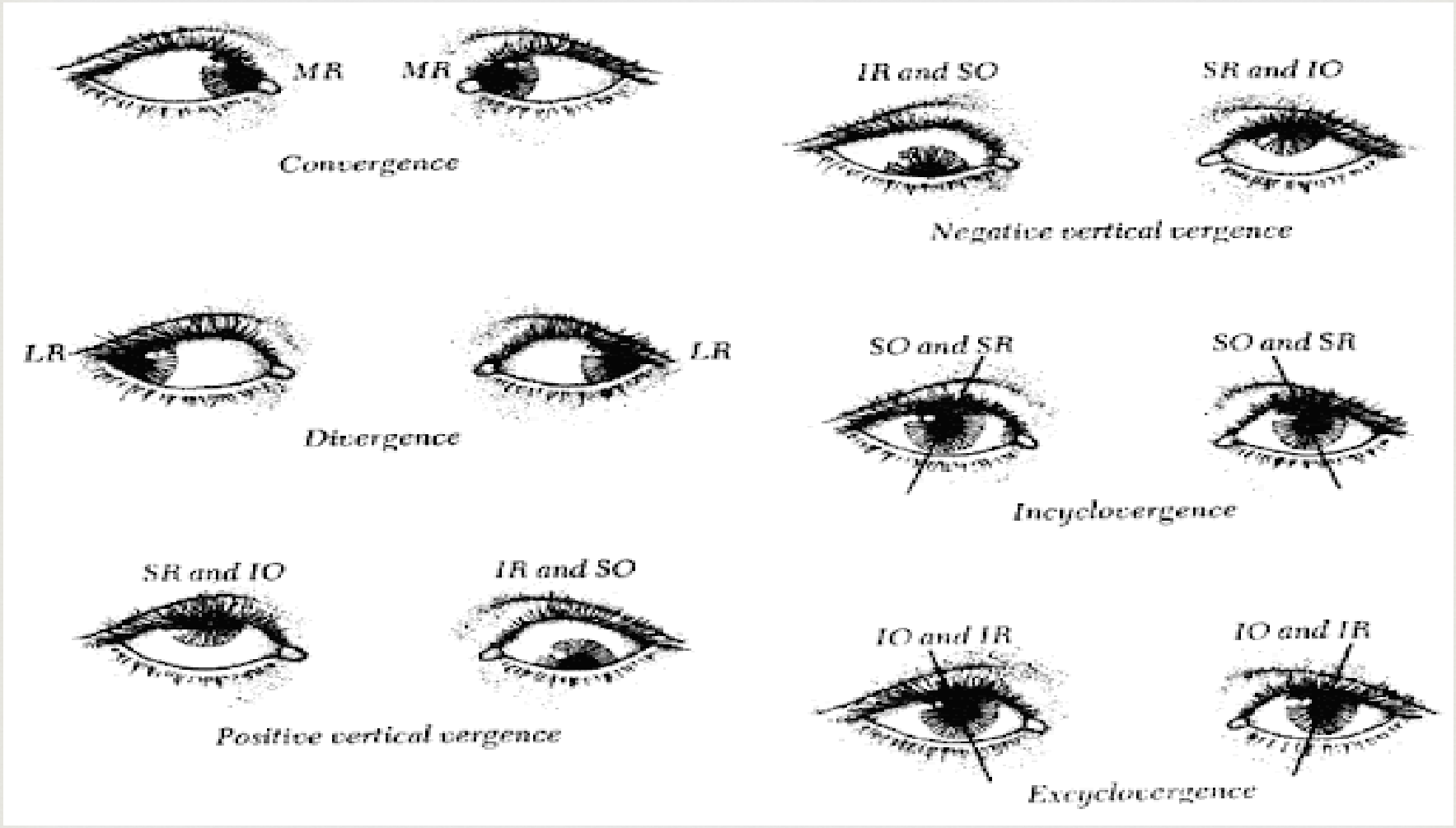
- Convergence
- Version
- vergences
- Saccade

➢ Version : Binocular eye movements are either conjugate (versions) or disconjugate (vergences). Versions are movements of both eyes in the same direction (e.g, right gaze in which both eyes move to the right). Dextroversion is movement of both eyes to the right, and levoversion is movement of both eyes to the left.

Vergences

- Vergence eye movements are disjunctive movements that move the eyes in opposite direction (i.e., convergence or divergence). Their function is to hold the images of a single object simultaneously on both foveae.

Vergences


MR
MR
Convergence
IR and SO
SR and IO
Negative vertical vergence
LR
LR
Divergence
SO and SR
SO and SR
Incyclovergence
SR and IO
IR and SO
Positive vertical vergence
IO and IR
IO and IR
Excyclovergence

Saccades Moments

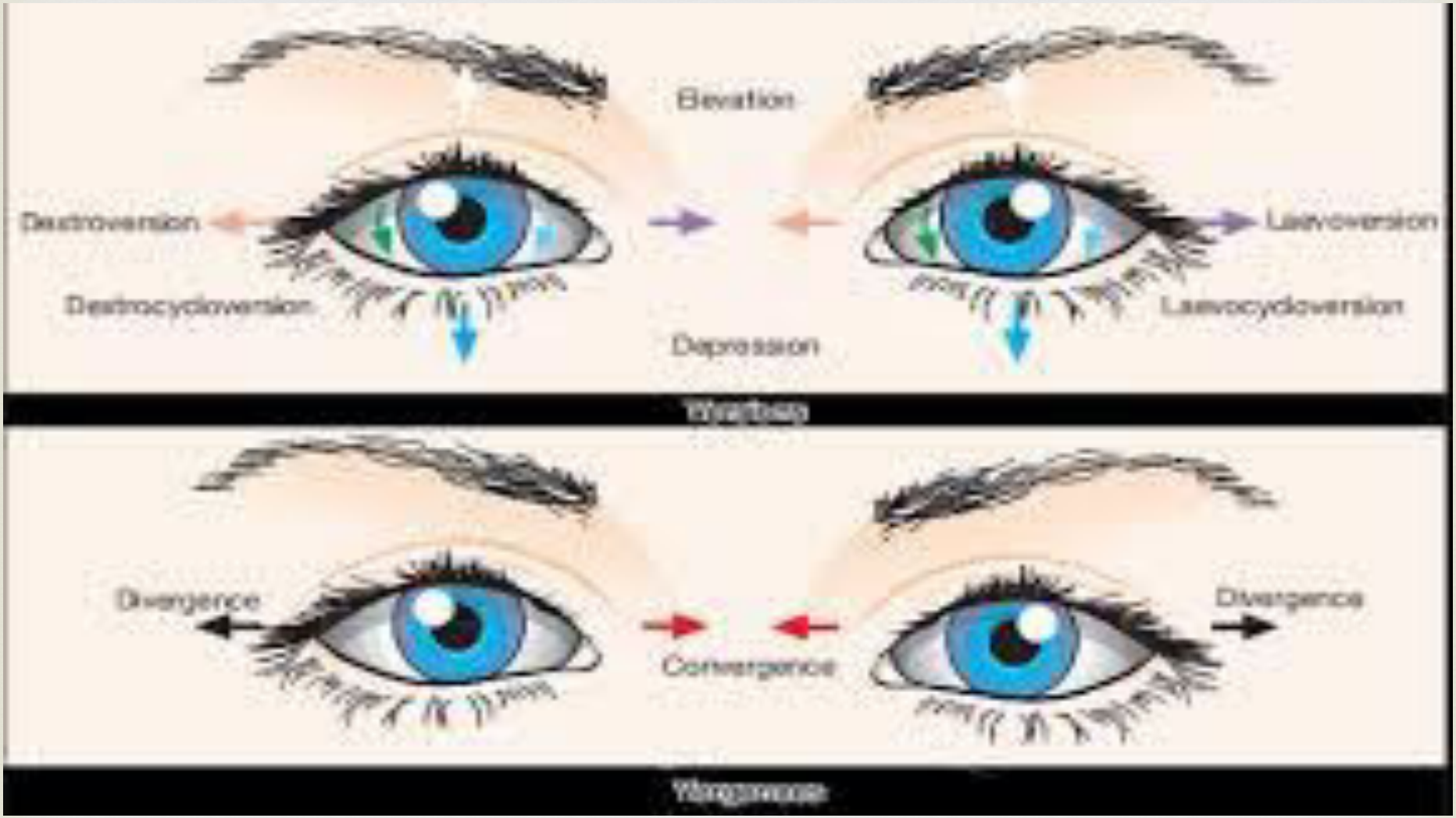
- Saccades are rapid, ballistic movements of the eyes that abruptly change the point of fixation. They range in amplitude from the small movements made while reading, for example, to the much larger movements made while gazing around a room.

CONT

Convergence

- “Convergence” describes the way your eyes move together and point inward when you look at nearby objects, such as books, tablets or smartphone screens. With convergence insufficiency, there's an eye coordination problem, in which your eyes instead drift outward as you look at objects close-up

CONT


Elevation
Dextroversion
Laevoversion
Dextrocycloversion
Laevocycloversion
Depression
Divergence
Convergence
Divergence

Classification

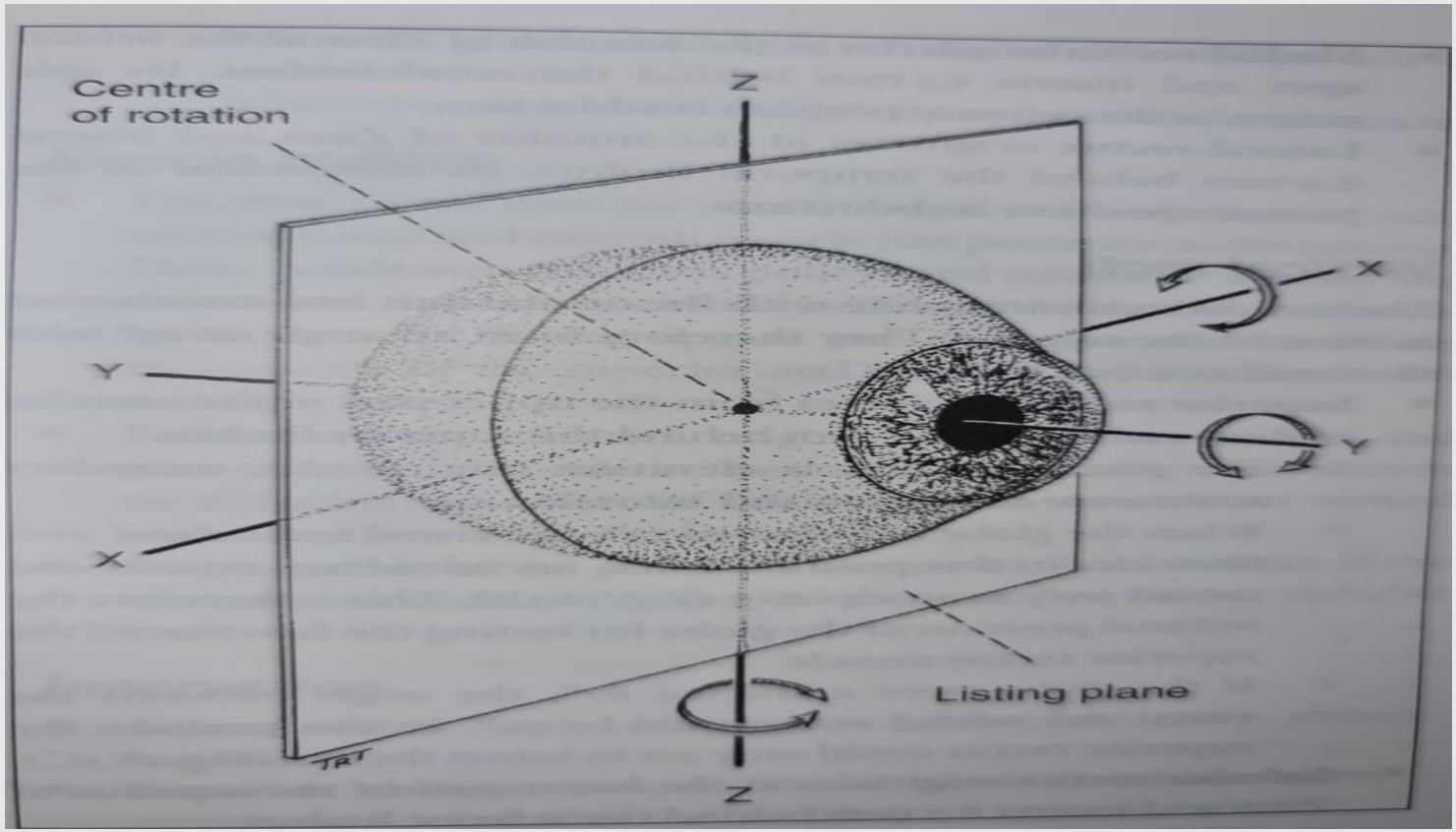
- Squints can be classified according to the direction of the turn of the eye: esotropia (convergent) refers to an eye that turns inwards towards the nose; exotropia (divergent) refers to an eye that points outwards; hypertropia is when the eye is in an upward direction

Esotropia

Exotropia

Hypertropia

Hypotropia


Centre
of rotation
Z
X
Y
Y
X
Listing plane
Z

ANY

QUESTIONS

THANK YOU