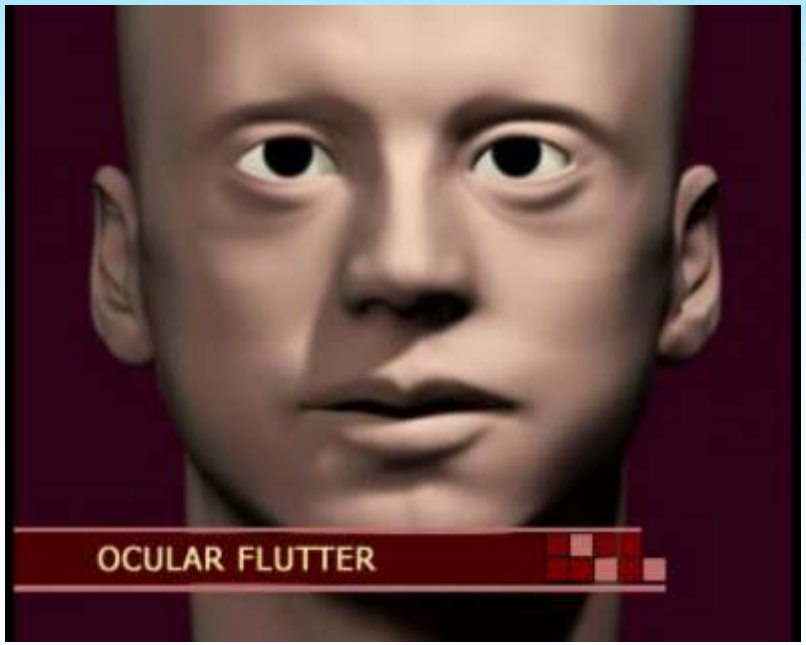
Characters of nystagmus

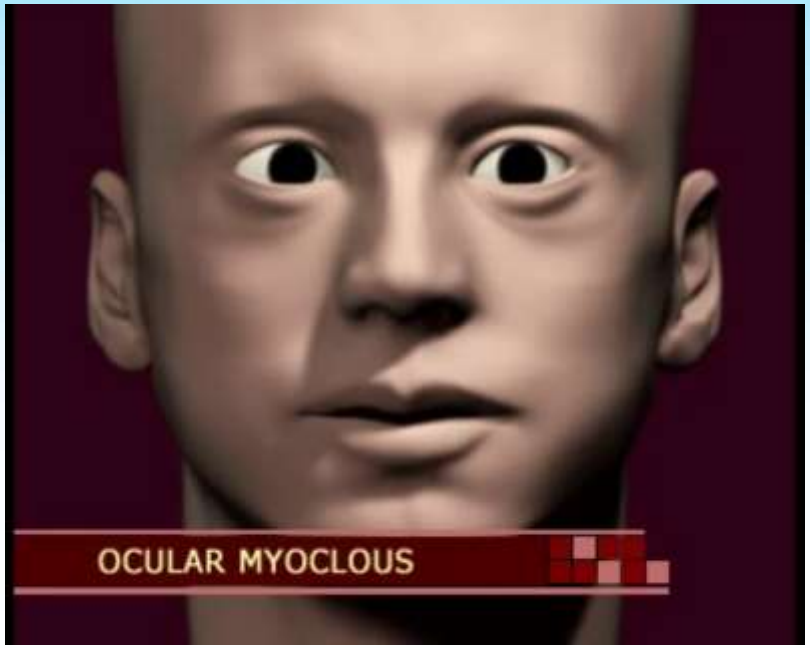
Special types of nystagmus

Ocular bobbing

Ocular flutter



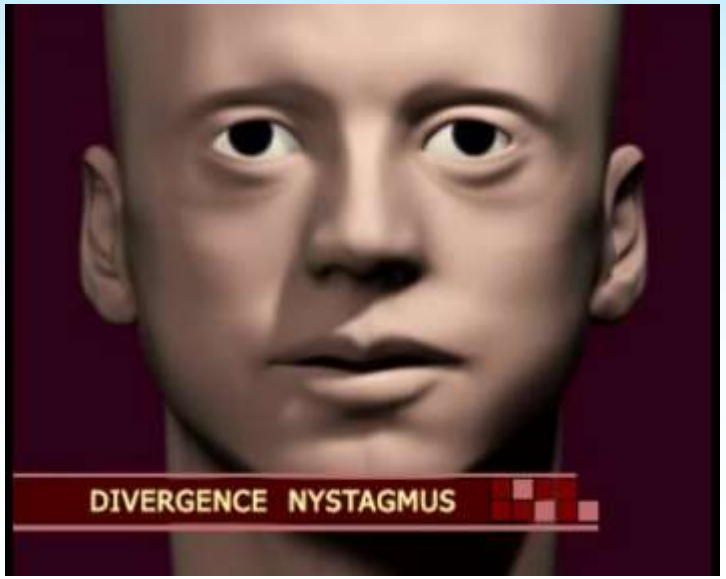
Ocular myoclonus



Characters of nystagmus

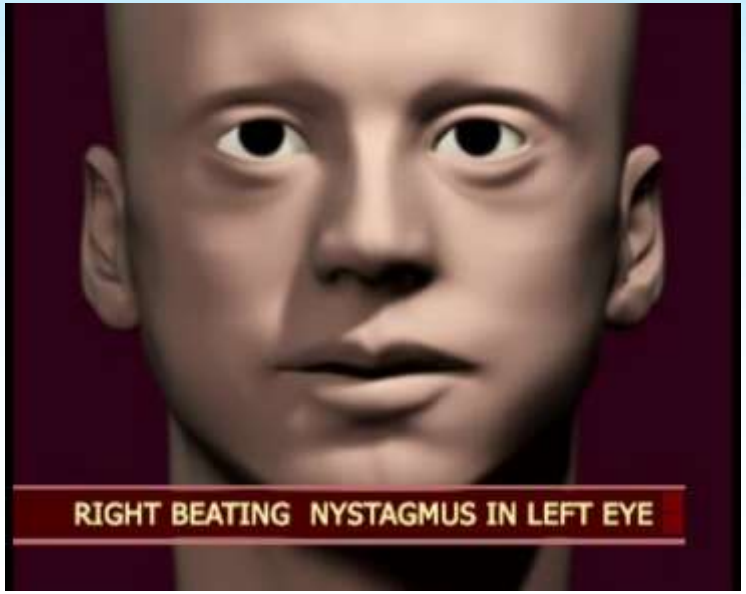
Special types of nystagmus

Disconjugate Nystagmus



Circumduction Nystagmus

Nystagmus in One Eye

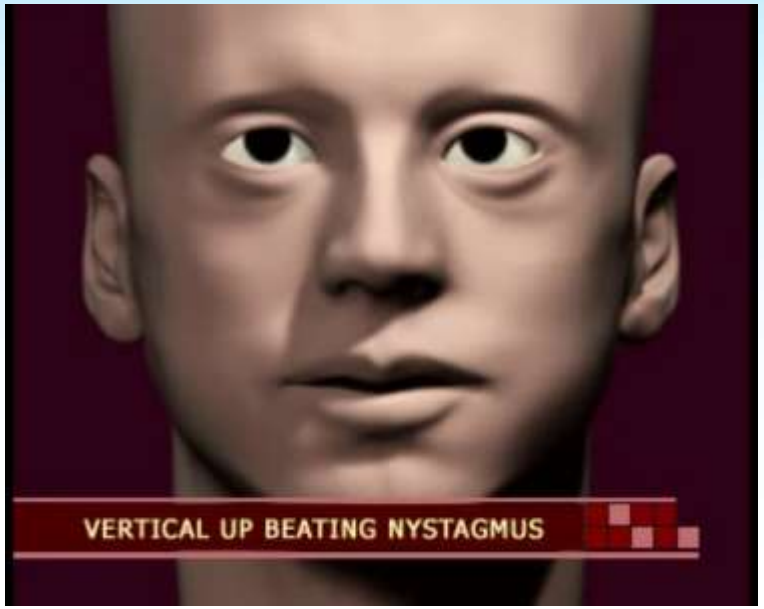


Characters of nystagmus

Special types of nystagmus

Vertically - Down - Beating Nystagmus

Vertically - Up - Beating Nystagmus



Periodic Alternating Nystagmus

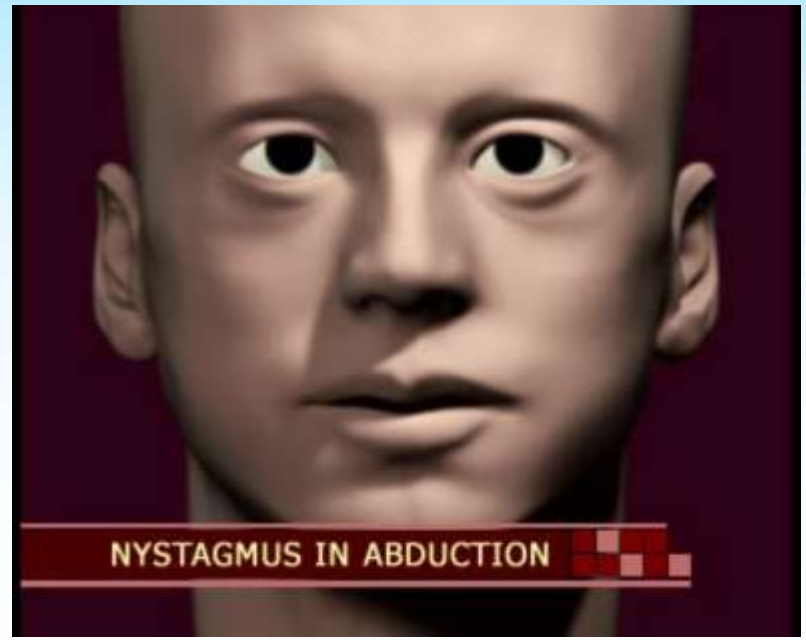
Characters of nystagmus

Special types of nystagmus

See Saw Nystagmus

Rebound Nystagmus

Nystagmus in Abduction



VESTIBULO-OCULAR TESTS (contd)

Tests for provoked nystagmus

gaze nystagmus test

head impulse test

positional / positioning nyst. test

labyrinthine fistula test

head-shaking nystagmus test

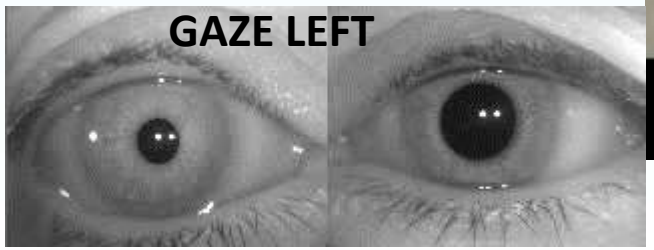
VESTIBULO-OCULAR TESTS

Gaze nystagmus test:-

Any nystagmus abnormally induced by looking 30° away from mid- point rt / lt / up / dn is looked for

-evaluates gaze holding function

-nystagmus in any position of gaze is abnormal and suggests a CNS lesion



VESTIBULO-OCULAR TESTS

Tests for provoked nystagmus

Head Impulse test:-

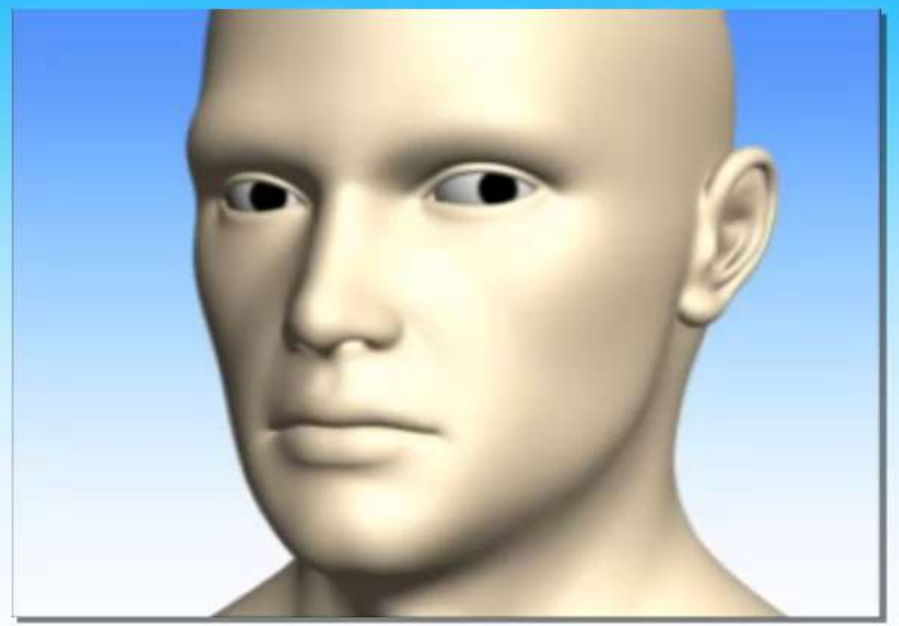
-evaluates the Vestibulo-Ocular Reflex (VOR) gain of the 3 semi-circular canals of both sides

-considered to be one of the best and most reliable bedside tests to assess labyrinthine function

Head Impulse test

HIT normal & pathological in extreme slow motion

NORMAL



PATHOLOGICAL

VESTIBULO-OCULAR TESTS

Tests for provoked nystagmus

Positional and Positioning tests:-

Any nystagmus abnormally induced by change of position is looked for

VESTIBULO-OCULAR TESTS

Tests for provoked nystagmus

Fistula Test : a Seigle's speculum snugly fitted in the ext. meatus or the probe of an impedance audiometer can be used for exertin pressure in the ear

Any nystagmus is looked for

VESTIBULO-OCULAR TESTS

Tests for provoked nystagmus

Head Shaking Test :-

Any nystagmus abnormally induced by head shaking is looked for

-pt asked to keep eyes closed and head shaken side to side for 20 times

-then pt asked to immediately open the eyes

-any nystagmus looked for

-lt beating nystagmus suggests a rt peripheral vest lesion and vice versa

VOR may be jeopardized by defects in the OCULOMOTOR system viz.

- Ocular malalignment /skew
-Defective SMOOTH PURSUIT SYSTEM
-Defective SACCADIC system
-Disorders in CONVERGENCE /DIVERGENCE systems
- Defective OPTOKINETIC system
-Defective VOR / VORS

All prevent the execution of a perfect VOR

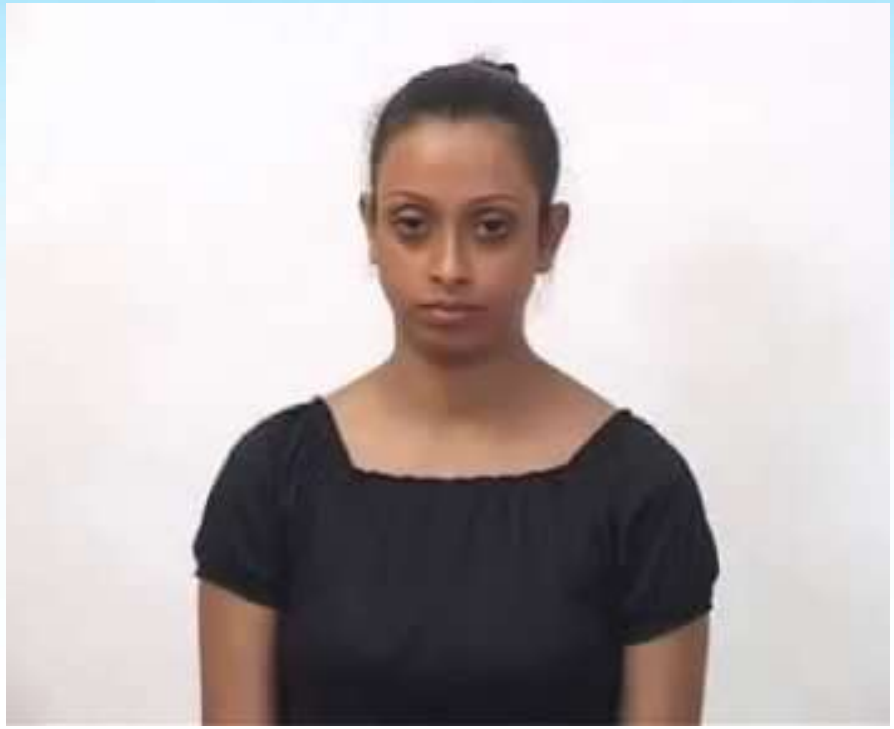
Eye tests relevant to Vest. System

1) Identification of HEAD TILT and OTR

Head Tilt

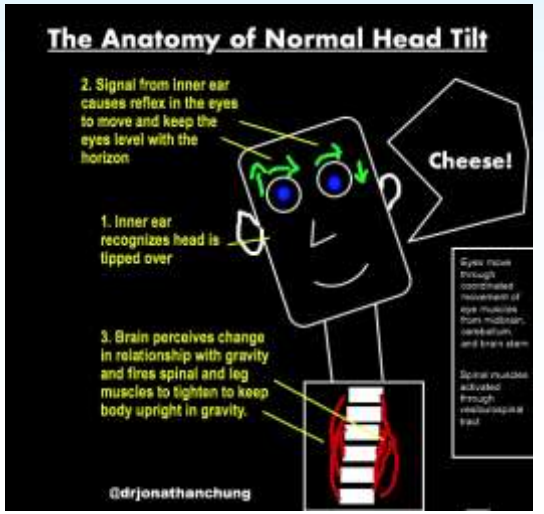
Contraversive tilt

- lesions in medial long. fasciculus
- superior oblique muscle paresis



Ipsiversive tilt

- peripheral vest. lesions
- lower ponto-medullary lesions



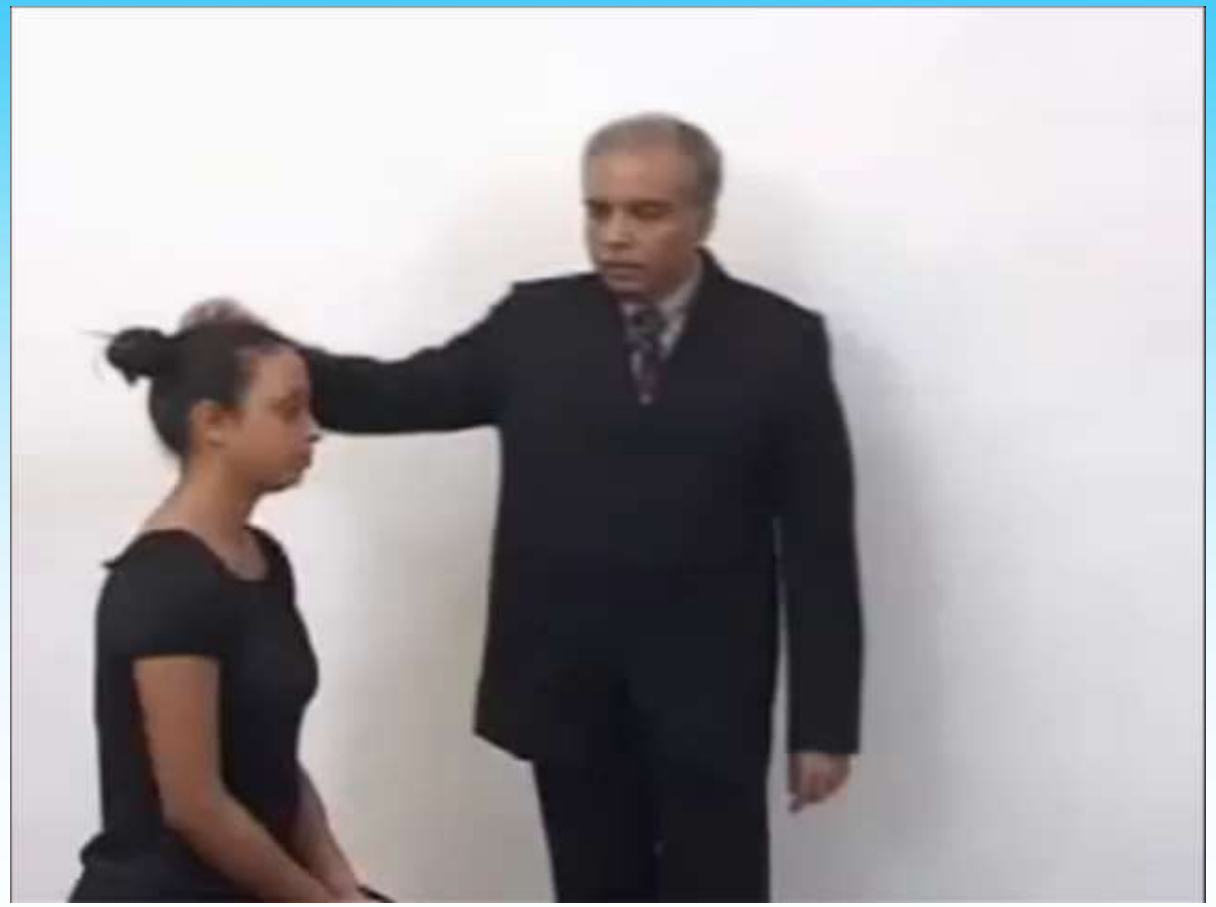
2) Test for Heterotropia – COVER test

(*to detect misalignment of visual axes*)

- fixate vision at distant target (20 ft)
- one eye covered
- any movement of other eye looked for while pt. fixates eye continuously on distant target

+ ve test indicates

OCULAR MISALIGNMENT / ABNORMAL SKEW

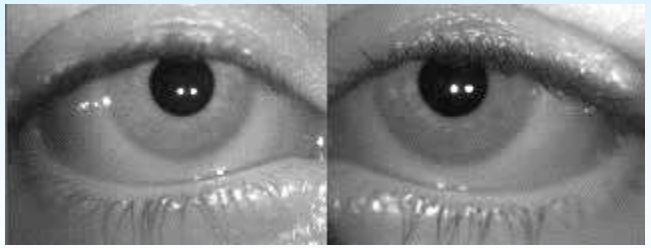


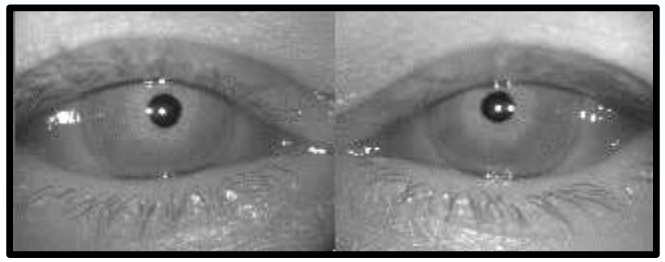
3)Test for SMOOTH PURSUIT

- pt. visually tracks a target moving at 15 - 20^0/sec
  18 inches in front horizontally & vertically

- any jerky eye movement looked for

- presence of saccades indicate a disorder in the smooth pursuit system (e.g., cerebellar disorder like spinocerebellar ataxia)





4)SACCADE test

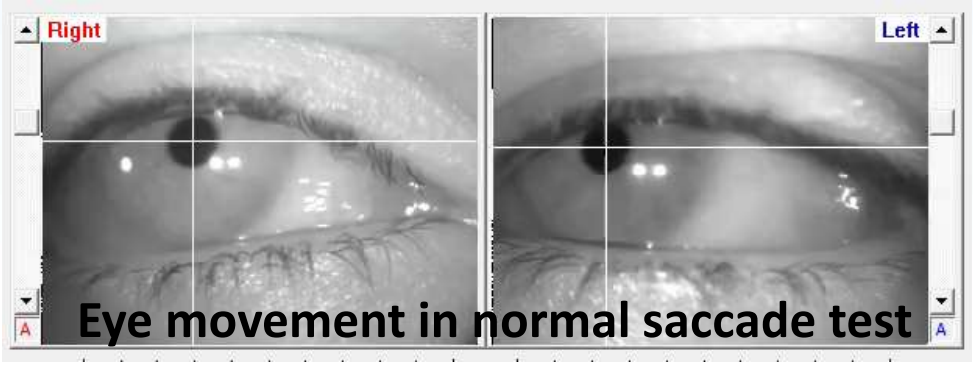
Patient looks back and forth between 2 objects (examiner`s fingers) placed 2 ft. away from each other in horizontal and vertical axes

- To look for

- any to & fro eye movement on reaching target before fixation

- any oscillation

Abnormality suggests central vestibular lesion



Eye movement in normal saccade test

5) VERGENCE test

- Examiner holds index finger 18 inches in front of patient`s eyes
- Slowly brings the finger towards patient`s bridge of nose

Normal response - ***near vision triad viz.***

- ***eyes converge towards midline***
- ***accommodation for near vision***
- ***pupillary constriction***

Absence of any one suggests VERGENCE disorder

HINTS- *a clinical test based on derangement of otolithic pathways*

- **Very useful clinical test in ER for patients presenting with acute vertigo called Acute Vestibular Syndrome (AVS)**
- **Used to differentiate Cerebellar Stroke Vs Vestibular Neuritis in patients presenting with acute vestibular symptoms**
- **HINTS examination is more sensitive than MRI in detecting cerebellar stroke in first 48hrs in patients** *(Newman-Toker 2013)*

HINTS Test- a combination of 3 tests

HI

- Horizontal Head Impulse
- Impulse Normal

N

- Nystagmus
- Fast-phase Alternating

TS

- Test of Skew
- Refixation in (alternate) Cover Test

ABCD2 Risk Score for Stroke

Five-item ABCD2 risk score	Stroke score
Age	A ≥60 years = 1
Blood pressure	B systolic ≥140 or diastolic ≥/90 = 1
Clinical features	C unilateral weakness = 2, speech disturbance without weakness = 1, any other symptom = 0
Duration of symptoms	D <10 min = 0; 10–59 min = 1; ≥60 min = 2
Diabetes	D present = 1

SCORE of 4 or more is indicative of a risk of STROKE