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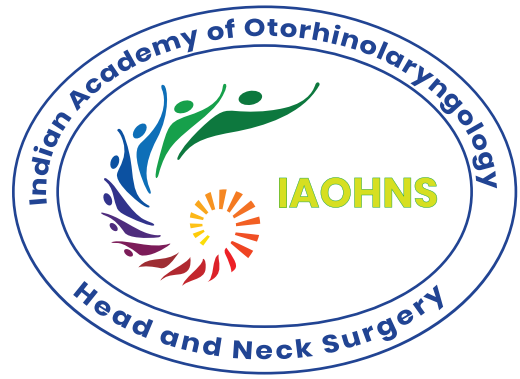

Vertigo Checklist: A Comprehensive Approach to Diagnosis of Balance Disorders

A) Detailed history taking[1–3]

1. Medical history for:

- Heart disease
- Migraine
- Thyroid disease
- Hypertension/hypotension
- Kidney disease
- Familial ataxias
- Epilepsy
- Psychiatric disease
- Hypercholesterolemia
- Diabetes
- Metabolic disorders like celiac disease
- Any neurological disease (e.g., stroke)
- Any ear surgery

2. Medication history: List of medications taken by patient (e.g., antihypertensives, cardiological medications like those for arrhythmias, antiepileptics, and psychotropic drugs that are known to induce balance problems)

3. Any known allergies

4. Previous head injury

5. Description of symptoms:

- **Rotating/spinning sensation**
- **Unsteadiness** with or without falls
- **Sinking sensation** with blurring of vision/blackouts/falls with LOC
- **Dizziness** i.e., the surroundings are not stable, feeling of losing balance but no rotating/spinning sensation and no falls
  - Rotating/spinning sensation suggests disorder in one of the vestibular labyrinths
  - Unsteadiness suggests a disorder either in the central nervous system or in both vestibular labyrinths together as happens in ototoxicity
  - Sinking sensation suggests a disorder in the cardiovascular system
  - Dizziness is usually due to some non-vestibular disorder—the commonest cause being some psychogenic disorder

6. Chronology of symptoms:

- Single attack that gradually subsided
- Constant or persistent with or without waxing/waning
- Episodic, i.e., recurrent attacks but normal in the intervening period

7. First occurrence/episode (age of onset)

8. Frequency of attacks in a day

9. Length of time each attack lasts

10. Attacks occurring at any particular time of day or night

11. Any warning signs before an attack

12. Triggers (if any):

- Change of head position
- Fatigue
- Hunger
- Food intake (high salt)
- Menstrual period
- Darkness
- Stress
- Emotional upset
- Alcohol
- Exposure to irritating fumes, paints, etc.

13. Symptoms experienced during dizzy spell:

- Lightheadedness or swimming sensation in the head
- Confusion or blacking out or loss of consciousness
- Tendency of falling: To the left, to the right, forward, or backward

LOC: Loss of consciousness.

- Sensation of themselves or objects spinning or turning around them
- Loss of balance while walking: Veering to the left or veering to the right
- Headache/migraine
- Nausea or vomiting
- Pressure in the head
- Tingling/numbness/weakness in the arms, legs, or around the mouth

14. Difficulty in hearing:
- Both ears • Right ear • Left ear • Associated with attack

15. Noise/ringing sensation in the ears:
- Both ears • Right ear • Left ear • Associated with attack

16. Aural fullness:
- Both ears • Right ear • Left ear • Associated with attack

17. Discharge from ears:
- Both ears • Right ear • Left ear • Associated with attack

18. Double or blurred vision or blindness

19. Difficulty of speech

20. Difficulty with swallowing

21. Pain in neck or shoulder

B) Clinical examinations

Physical examinations

HINTS examination[3]

- Helps distinguish a possible stroke (central cause) from acute vestibular syndrome (peripheral cause)

Head-impulse	Nystagmus	Test of skew
Peripheral: A saccade (rapid movement of both eyes)—disrupted vestibulo-ocular reflex	Peripheral: Spontaneous unidirectional horizontal nystagmus—worsens when gazing in the direction of nystagmus	Central: Abnormal results (vertical deviation of the covered eye after uncovering)
Central: No eye movement	Central: Spontaneous nystagmus dominantly vertical or torsional—changes direction with the gaze	

Dix–Hallpike maneuver[3]

- Is used to diagnose triggered vertigo, such as BPPV
- Transient horizontal torsional nystagmus → Diagnosis of peripheral etiology → BPPV (if timing and trigger are consistent with BPPV)
- Nystagmus → Central etiology (if timing and trigger are inconsistent with BPPV)
- May induce vertigo in the patient

C) Advising requisite investigations[3–5]

Features	Peripheral etiology	Central etiology
Dix–Hallpike Nystagmus	Horizontal, torsional, <1 min	Vertical, torsional, >1 min (if present)
HINTS Head-impulse Nystagmus Test of skew	Saccade Horizontal, unidirectional, worsens when gazing Normal	No saccade Spontaneous, changes direction with gaze Abnormal
Postural balance	Able to walk; unidirectional instability	Unable to walk, stand; severe instability
Auditory symptoms	Can be present	Usually absent
Nausea, vomiting	Severe	Varies
Neurological symptoms	Absent/rare	Usually present/common

BPPV: Benign paroxysmal positional vertigo; HINTS: Head-impulse, nystagmus, test of skew.

Types of vertigo: Quick reference algorithm[3–5]

BPPV:

Episodic → Trigger: Change in head position → Onset and duration: Seconds to minutes → No auditory symptoms → Dix–Hallpike positive → Nystagmus (<1 min) → Peripheral etiology

Meniere's disease:

Episodic → Spontaneous → Onset and duration: Hours → Hearing loss (sensorineural), tinnitus, aural fullness → Peripheral etiology

Vestibular neuritis:

Constant → Spontaneous → Onset and duration: Seconds to minutes → Imbalance, no auditory symptoms → History of viral infection → HINTS: Saccade, unidirectional horizontal nystagmus, normal test of skew → Peripheral etiology (inflammation of vestibular nerve)

Labyrinthitis:

Constant → Trigger: Change in head position → Onset and duration: Seconds to minutes → Tinnitus and hearing loss → History of viral infection → Peripheral etiology (inflammation of labyrinthine organs)

Vestibular migraine:

Episodic → Spontaneous → Onset and duration: Hours → Migraine headaches, no auditory symptoms → HINTS: No saccade, nystagmus dominantly vertical, torsional or gaze-evoked bidirectional, abnormal test of skew → Central etiology

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