LEGACY HEALTH PARTNERS

Vertigo Evaluation
Clinical Collaboration Guide

Right patient, right service, right time

Patient presents with Vertigo

Distinguish from other cause of "dizziness"

Spinning is key, but not always present. May have "tilting" or spatial disorientation. Often associated with nausea. The brain adapts to true vertigo, it may be episodic, but never truly continuous for more than a few weeks.

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History

Time course: acute onset and sustained vs. episodic
Aggravating Factors: position, specific movements- consider BPV
Recent illness- suggests labyrinthitis, consider meningitis
Traumatic head extension- consider vertebral artery dissection or BPPV
Headache/Migraine Hx- suggests vestibular migraine
Stroke Risk factors?
Exposures- aminoglycosides, chemotherapy?
Other neuro symptoms- consider multiple sclerosis, other CNS disease
Severe Headache- consider CNS bleed

Central vs. Peripheral?

	Peripheral	Central
Nystagmus	Unidirectional Fast towards normal ear	Can reverse direction
	Horizontal, some torsion Never vertical	Any direction
	Suppressed by fixation	Not suppressed
Other Neuro signs	Absent	Can be present
Postural Instability	Unidirectional instability, walking preserved	Severe instability, often falls
Deafness or Tinnitus	May be present	Absent

Key Physical Examination Points:

Extraocular movements: look for spontaneous nystagmus and gaze evoked nystagmus (seen when looking to the side). Be aware that fixation may suppress nystagmus.

- Peripheral cause: fast beat is unidirectional, away from the affected side
- Central cause: not suppressed by visual fixation, bidirectional with gaze

Balance and Gait: Peripheral causes make patients lean/fall toward the affected side (Romberg)

Full neuro exam (Cranial nerves, motor, sensory): new deficits suggest central cause

Ear exam: vesicles suggest Ramsey Hunt (shingles)

Hearing: Associated sensorineural loss suggests peripheral cause, consider Meniere's, labyrinthitis, sudden sensorineural hearing loss (SSNHL).

- Weber- Tuning fork on forehead: Louder in normal ear = Sensorineural. Louder in affected ear = Conductive
- Rinne- Tuning fork next to ear vs. on mastoid: Air better than bone = Sensorineural. Bone better than air = Conductive.

Dix-Hallpike (for intermittent vertigo without spontaneous nystagmus): Rapid lying down from sitting with neck extended and turned to one side. Causes torsional nystagmus and vertigo. Delayed, gets less intense with repetition. Suggests Benign Positional Vertigo.

HINTS (primarily for acute onset, sustained vertigo with spontaneous nystagmus):

- **Head Thrust Test**: Have patient fix on distant target, about 10 degrees from straight, examiner rapidly turns by 15 degrees. Normal response is to stay fixed, abnormal is for focus to "drag" and then beat back to the target. Abnormal finding suggests peripheral lesion (more specific than sensitive).
- **Nystagmus**: as above under "extraocular movements"
- **Skew deviation**: Cover/uncover each eye, looking for vertical correction with uncover (low sensitivity, high specificity for central lesion)

Common Causes

	Timing	Hx	Nystagmus	Neuro Sx	Auditory Sx	Other
BPV	Recurrent, intermittent, brief (minutes)	Head movements/ position triggers	Peripheral	None	None	Dix-Hallpike positive
Vestibular Neuritis	Acute onset, persistent (days)	Prior viral illness	Peripheral	No brainstem findings	Usually none	Head Thrust abnormal
Meniere Disease	Recurrent episodic	Spontaneous Men=women Age 20-50	Peripheral	None	Ear fullness, Hearing loss Tinnitus	Hearing loss on exam
Vestibular Migraine	Recurrent	Hx of migraine	Can look central or peripheral	Migraine Sx	Usually none	
Vertebrobasilar TIA/ CVA	Recurrent (TIA) Sudden onset (CVA)	CVA risk factors, or recent cervical trauma	Central	Other brainstem symptoms: gait prob, focal weakness, clumsiness	None	
Cerebellar Tumor	Sustained >3 weeks		Central	Possible	Only with Schwannoma	

Imaging Recommendations

Most peripheral causes of vertigo do not require imaging. If there is clinical suspicion for central lesions, MRI brain is the recommended modality.
Of note- ENT and Neurology providers do not require an MRI to be done prior to referral.

Referral Indications

ENT	Neurology
Unclear diagnosis	Findings suggestive of central lesion
Symptoms not responding to appropriate therapy	Sustained (not intermittent) symptoms > 3 weeks
History c/w BPPV but negative Dix-Hallpike	

References:
UpToDate: Evaluation of the patient with vertigo: Joseph M Furman, MD, PhD, Jason JS Barton, MD, PhD, FRCPC.

The HINTS exam in Vertigo: Peter Johns MD, FRCPC, Department of Emergency Medicine University of Ottawa. https://www.youtube.com/watch?v=1q-VTKPweuk

Dizziness: Approach to Evaluation and Management, Herbert L. Muncie, MD, Susan M. Sirmans, Pharm D, Ernest James, MD. Am Fam Physician, 2017;95 (3):154-162

ACR Appropriateness criteria: https://acsearch.acr.org/docs/69488/Narrative/

Disclaimer: No guideline can anticipate all the unique circumstances of patient care, and as such, there are times when good clinical judgement will result in and require deviation from this guideline. In those settings, the reason for such deviation from this guideline should be documented in the medical record.

Contact: If you have questions or comments about this guide or are interested in the development of future collaboration guides, please email LHP medical director Albert Chaffin, , at achaffin@lhs.org.