

# DIZZINESS

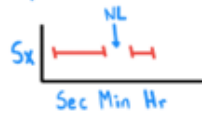
 \*Recent Onset

Associated "Non-Neuro" Sx yes, Sx Guides Dx

- Step 1: Associated Sx?  
 Step 2: Timing  
 Step 3: Triggered or Spontaneous  
 Step 4: Targeted Exam

↓ no

Episodic, Normal @ Rest



Acute Persistent



### Positional Triggered

- |                  |   |
|------------------|---|
| <u>Benign</u>    | <u>Dangerous</u>                                  |
| - BPPV (seconds) | - CPPV<br>- Posterior Stroke<br>- Posterior Tumor |

### • Orthostatic Hypotension

- Meds      - Life-Threatening Bleed

#### Exam

- Dix-Hallpike
- Orthostatic Vitals
- Nystagmus Direction

### Spontaneous

- Benign
- Vestibular Migraine
  - Vasovagal Syncope

- Panic Attack
  - Meniere's
- Dangerous

- Vertebrobasilar TIA
- SAH
- Arrhythmia
- PE
- ↓ Glu

### Exposure

- Trauma
- Blunt Head Trauma
  - Whiplash

- Toxin
- Anticonvulsant
  - Amiodarone
  - TCA
  - Illicit Drugs
  - Carbon Monoxide

### Spontaneous

- |                       |  |
|-----------------------|--|
| <u>Benign</u>         | <u>Dangerous</u>                                       |
| - Vestibular Neuritis | - Stroke<br>- Brainstem<br>- Cerebellum<br>- Inner Ear |

#### Exam

• HINTS



### HINTS Exam

	Peripheral	Central
Head Impulse	Saccade	No saccade
Nystagmus	Unidirectional	Bidirectional
Test of Skew	No skew	Vertical skew

Vertigo Cause	Work-up	Management
1. Labrynthitis	<ul style="list-style-type: none"> <li>- Audiometry with unilateral hearing loss</li> <li>- HINTS exam suggesting peripheral etiology</li> </ul>	<ul style="list-style-type: none"> <li>- Steroids</li> <li>- Treat nausea</li> <li>- consider vestibular rehab</li> </ul>
2. Benign Paroxysmal Positional Vertigo	<ul style="list-style-type: none"> <li>- Dix-Hallpike Maneuver</li> </ul>	<ul style="list-style-type: none"> <li>- Epley Maneuver</li> <li>- Consider vestibular rehab</li> </ul>
3. Meniere's Disease	<ul style="list-style-type: none"> <li>- 2 episodes of vertigo lasting 20min - 12 hrs.</li> <li>- Audiometry with hearing loss</li> <li>- Tinnitus or fullness in ear</li> </ul>	<ul style="list-style-type: none"> <li>- Meclizine</li> <li>- Diuretics</li> <li>- Low Salt Diet</li> <li>- Consider vestibular Rehab</li> </ul>
4. Cerebellar Stroke	<ul style="list-style-type: none"> <li>- HINTS Exam suggesting central etiology</li> <li>- MRI Imaging (If concern for stroke, go straight to stroke protocol MRI)</li> </ul>	<ul style="list-style-type: none"> <li>- Consider alteplase</li> <li>- Consult Neurology; consider endovascular therapies</li> <li>- anti-PLT, maintain euglycemia, treat hypoxia, etc.</li> </ul>

## Dizziness Pearls

- Don't classify dizziness into types such as: vertigo, pre-syncope and unsteadiness/disequilibrium based on patient's description. In a systematic review of cardiac patients who had an underlying cardiac cause for their dizziness, >50% patients described vertigo rather than presyncope (PMID: 18843523) indicating this is not a valid way to differentiate the etiology. **Instead focus on timing, triggers & a targeted exam to help guide your differential, such as the categories defined above.**
- Patients w/ vertigo get worse w/ head movements: **KEY DISTINCTION:** Do head movements **trigger** vertigo (suggests episodic vertigo) vs. **exacerbate** vertigo (suggests acute vestibular syndrome)
- Don't use head CT first for vertigo thought to be caused by stroke, unless there are other deficits, and you are ruling out a hemorrhagic stroke to give TPA. The sensitivity of CT is only 7-16% in acute phase of stroke. Therefore, just start with MRI if you are concerned for stroke.
- Don't give meclizine for BBPV. It is not an appropriate treatment, given symptoms are short in duration (seconds - minutes). The NNT for the Epley maneuver

### Classification and Etiologies

