

## Talk Dizzy to Me


A Review of Types of Dizziness Using Patient Cases

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### Continuing Medical Education Credit Information


- **Activity Description/Statement of Need:**  
 "Dizziness" can be an ambiguous term to describe a variety of sensations. However, it is important to be able to distinguish types of dizziness and identify situations that warrant referral. This course will review the most common types of dizziness using patient cases to explore descriptors of symptoms, common examination findings, treatment strategies, and situations that warrant referral.
- **Target Audience:** All Providers



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### Designation Statement


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### Disclosure Information

- The Planners involved in this activity have no relevant financial relationships to disclose.
- The Faculty/Presenters involved in this activity have no relevant financial relationships to disclose.




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### Learning Objectives

At the conclusion of this activity, participants should be able to:

- Identify 4 major categories of "dizziness" and their clinical presentations.
- Describe basic pathophysiology of each category of dizziness.
- Discuss basic treatment approaches for each category of dizziness.
- Recognize patient presentations that warrant immediate referral




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### Picture this.

Clinic. Friday afternoon. A woman walks into your office for an evaluation of knee pain and gait instability. You take an EXCELLENT history as the wonderful clinician you are. You are completing a functional screen, and following a series of movements including bending over, squatting, and lifting an item off the ground, the woman reports she feels dizzy.

What do you do next?



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# Dizziness

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## Dizziness could mean...

Spinning  
Swaying  
Rocking  
Moving  
Lightheaded  
Off balance  
Falling

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## Definitions<sup>1</sup>

- Dizziness: “any distortion of the sensation of where one is within a space”
- Vertigo: “a false sensation of movement”



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## Causes of dizziness<sup>2</sup>

Stroke BPPV Vestibular neuritis TIA  
Dysautonomia Vestibular migraine PPPD  
Meniere's disease Tumor Trauma Infection  
Medication side effects Heart disease  
Labyrinthitis Metabolic Acoustic neuroma  
Neurodegenerative disease Perilymphatic fistula  
Superior canal dehiscence

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## Traditional categories<sup>2,3</sup>

- Vertigo
- Disequilibrium
- Presyncope / lightheadedness
- Psychogenic

**OUTDATED**

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## Classification by symptom descriptors

- Spinning → vertigo
- Swaying → vestibular hypofunction
- Lightheaded → cardiac
- Off balance → disequilibrium



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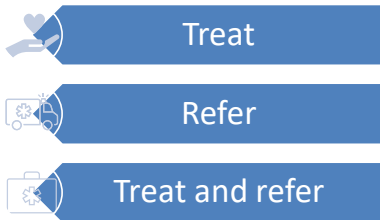
## Classification by symptom behavior<sup>2</sup>

- Acute vestibular syndrome
- Episodic vestibular syndrome
- Chronic vestibular syndrome
- Acute imbalance syndrome
- Patients not classifiable (unclear etiology)



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## Clinical decision making



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## Case #1

Mary is a 64 year old female who presents to the ED with dizziness, nausea, and vomiting. She reports symptoms began this morning when she got out of bed. Symptoms are described as feeling like the room is spinning around her; this sensation lasted about 30 seconds before subsiding. Mary reports she immediately vomited and has been very nauseous since.



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## Differential diagnosis

- Central
  - Stroke
  - Space-occupying lesion (tumor, etc.)
  - Degenerative disease
- Peripheral
  - BPPV
  - Neuritis
  - Labyrinthitis
- Other



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## More information...

- CT of head: no acute abnormality
- Positional testing:
  - Left Dix-Hallpike: negative
  - Right Dix-Hallpike: positive, right upward torsional nystagmus lasting 14 seconds with reports of room-spinning dizziness



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## Resolution

Mary was prescribed Meclizine for symptom management and referred to outpatient vestibular physical therapy. She was discharged to home.

She presented to her initial evaluation where she was treated for BPPV; her vertigo resolved following one repetition of the Epley maneuver.



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## BPPV [benign paroxysmal positional vertigo]<sup>1</sup>

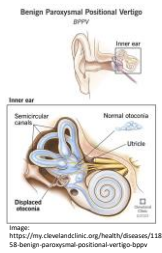
- The lingo
  - Crystals
  - Ear rocks
  - Debris
- Symptoms
  - Vertigo (usually described as room-spinning dizziness, but not ALWAYS)
  - Last seconds to minutes
  - Occur with change in position
  - May have brief latency
  - May include N/V and/or sense of imbalance
  - Should NOT include hearing loss or other neuro signs

} otoconia



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## BPPV<sup>1,4</sup>



Causes may include:

- Injury
- Infection
- Diabetes
- Migraine
- Osteoporosis
- Prolonged bedrest
- Aging
- Vitamin D deficiency
  - Season of year



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## BPPV<sup>1</sup>

Diagnosis

- Tests
  - Dix-Hallpike test
  - Roll test
  - Sidelying test
- Positive tests include
  - Symptom reproduction
  - Nystagmus pattern

Treatment

- Epley maneuver
- Semont maneuver
- BBQ roll
- Gufoni maneuver
- Li maneuver
- ...and more!



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## Case #2

John is a 53-year-old male who presents to his PCP with reports of dizziness. He notes that last week he felt very dizzy for a few hours, but he was sick with the flu and didn't think much of it. He has been continuing to experience symptoms in waves ever since. Symptoms are described as feeling like he is moving. If he lays down and remains very still, his symptoms improve. Symptoms worsen with movement.



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## Differential diagnosis

- Central
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  - Space-occupying lesion (tumor, etc.)
  - Degenerative disease
- Peripheral
  - BPPV
  - Neuritis
  - Labyrinthitis
- Other



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## More information

John was referred for a VNG which indicated R unilateral vestibular hypofunction. He began outpatient vestibular physical therapy and was prescribed vestibular adaptation exercises. He ultimately reported complete resolution within one month.



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## Vestibular hypofunction<sup>5</sup>

- Imbalance or asymmetry within vestibular system
  - Due to decreased function of vestibular organ and/or nerve
- Symptoms
  - Vertigo
  - Nausea
  - Spontaneous nystagmus
  - Oscillopsia
  - Disequilibrium
  - Postural instability



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## Vestibular hypofunction

- Diagnosis
  - Head impulse test
    - Video head impulse test
  - Dynamic Visual Acuity
  - Caloric testing
  - Rotary chair testing
  - Vestibular evoked myogenic potentials



Image: <https://brainiacall.org/blog/halmage-earthy-rapid-head-impulse-test>



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## Vestibular hypofunction<sup>5</sup>

- Treatment approaches for vestibular disorders
  - Adaptation
  - Substitution
  - Compensation
  - Habituation



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## Case #3

Bob is 74 year old male who has been attending occupational therapy to address cognitive decline. He arrives to his session today and reports he feels dizzy. When questioned further, it is revealed that his symptoms began about an hour ago and have been constant. He is unable to describe the sensation other than “dizzy.”



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## Differential diagnosis

- Central
  - Stroke
  - Space-occupying lesion (tumor, etc.)
  - Degenerative disease
- Peripheral
  - BPPV
  - Neuritis
  - Labyrinthitis
- Other



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## Case #4

Barbara is a 77 year old female who presents to her outpatient physical therapy evaluation with complaints of frequent falls. She reports she feels dizzy frequently, especially when she is in the shower and when she goes to the bathroom in the middle of the night.

PMH: Type 2 diabetes, L TKA, HTN, osteoarthritis

Medications: metoprolol, metformin, lisinopril, hydrochlorothiazide



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## Differential diagnosis

- Central
  - Stroke
  - Space-occupying lesion (tumor, etc.)
  - Degenerative disease
- Peripheral
  - BPPV
  - Neuritis
  - Labyrinthitis
- Other



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## Selected tests and measures

- ABC [activities-specific balance confidence] score = 48%
- Sensation testing: unable to detect 10g monofilament on bottom of bilateral feet
- FGA [functional gait assessment] score = 16/30
- CTSIB-M [modified clinical test of sensory interaction on balance] scoring:
  - Firm surface, eyes open: 30 seconds
  - Firm surface, eyes closed: 25 seconds
  - Foam surface, eyes open: 30 seconds
  - Foam surface, eyes closed: 7 seconds



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## Disequilibrium<sup>3</sup>

- Sensation of falling and imbalance
  - Feel better when sitting, etc.
- Commonly experienced with
  - Neurologic diseases (Parkinson's, peripheral neuropathy)
  - Medication side effects
  - Cervicogenic dizziness
  - Cerebellar pathologies
  - ... and more



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## Clues from case

- Frequent falls
- Dizziness in situations with decreased visual input
  - Closing eyes in shower
  - Nighttime
- Medical history
  - Diabetes
- Medications (polypharmacy)
- Performance on balance tests
- Low ABC score
- Impaired protective sensation



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## So... back to the beginning. What do you do next?

Clinic. Friday afternoon. A woman walks into your office for an evaluation of knee pain and gait instability. You take an EXCELLENT history as the wonderful clinician you are. You are completing a functional screen, and following a series of movements including bending over, squatting, and lifting an item off the ground, the woman reports she feels dizzy.



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## Conclusion

Dizziness is complex.  
Humans are complex.



With the right tools in our toolboxes, we can quickly and accurately determine the best path forward for the person in front of us.



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## Resources

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## Resources

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## Questions?



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