ECHO Summary,5/December/2025 Session Title: Approach to the Patient with Dizziness

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Areas Covered

- Key History: Understanding the critical history behind a patient presenting with acute dizziness.
- Prehospital Care: Protocols for prehospital care and inter-facility transportation of dizzy patients.
- Emergency Assessment: Conducting an emergency assessment, including the primary survey and nursing care.
- ED Management: Strategies for Emergency Department management and treatment of dizziness.
- Special Categories: Understanding dizziness within special patient categories.
- Disposition: Developing a disposition plan (admission vs. discharge) for patients with acute dizziness.
- Differentiation: Distinguishing between life-threatening and benign causes of dizziness

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Patient Case Presenters: Dr. Rebecca Assimire

Moderator: Dr. Emmanuel David Okumu

Background/Epidemiology

- "Dizziness" is an imprecise term and a common symptom of many disease processes.
- Approximately half of acutely dizzy patients presenting to the ED have an underlying medical etiology (CV, toxic, metabolic, or infectious). Among the remaining 50% without a clear underlying medical cause, causes can generally be differentiated into vestibular syndromes depending on symptom onset (acute, spontaneous episodic, and triggered episodic).
- Approximately 15% of patients presenting to the ED with dizziness have a dangerous underlying cause.

Timing-and-trigger-based 'vestibular* syndromes' in acute dizziness

This table lists the more common diseases causing these presenting syndromes and is not intended to be exhaustive.

Syndrome	Description	Common benign causes	Common serious causes
Acute Vestibular Syndrome	Acute, continuous dizziness lasting for days, accompanied by nausea, vomiting, nystagmus, head motion intolerance and gait unsteadiness	• Vestibular neuritis • Labyrinthitis	• Posterior circulation ischemic stroke • Trauma • Post-exposure
Spontaneous Episodic Vestibular Syndrome	Episodic dizziness that occurs spontaneously, is not triggered†, usually lasting for minutes to hours	• Vestibular migraine • Meniere disease	• TIA
Triggered Episodic Vestibular Syndrome	Episodic dizziness brought on by a specific, obligate trigger (typically a change in head position or standing up), usually lasting for <1 minute	• Benign paroxysmal positional vertigo	• Central paroxysmal positional vertigo • Orthostatic hypotension due to serious medical illness

Abbreviations: TIA, transient ischemic attack
* Note that the use of the word "vestibular" here connotes vestibular **symptoms** (dizziness or vertigo or imbalance or lightheadedness, etc.), rather than underlying vestibular **diseases** (eg, benign paroxysmal positional vertigo, vestibular neuritis).
† Dizziness is "triggered" (not dizzy at baseline, dizziness develops with movement), as in positional vertigo due to BPPV. This must be distinguished from dizziness that is "exacerbated" (dizzy at baseline, worse with movement); such exacerbations are common in acute vestibular syndrome, whether peripheral (neuritis) or central (stroke).

Risk Factors

- Age: Dizziness is more common in older patients. It is one of the most common chief complaints among the elderly.
- Medications: Antihypertensives, anticonvulsants, chemotherapy drugs, and painkillers can cause dizziness, particularly in the elderly.
- Infection: Recent upper respiratory tract infections can predispose patients to conditions like vestibular neuritis.
- Psychiatric History: Anxiety disorders, panic attacks, depression, and somatization disorders can present as dizziness.

Key points for Prehospital care (if applicable)

- Equipment/Medications: may need oxygen and oxygen delivery systems, cardiac monitors, ECG machine, defibrillator, IV fluids and equipment, penlight torch, glucometer, thermometer, blanket
- Medications: antihistamines, benzodiazepines, steroids or antibiotics, antiemetics
- Perform an initial assessment and stabilization (ABCs), obtain a history (specifically, the patient's description of dizziness, timing of symptoms, and triggers), and perform a targeted exam.
- Transport depends on patient's stability and the distance to the receiving facility. Ground is appropriate for most patients. Air transport can be used for critically ill patients.
- During transport, monitor vitals, cardiac, and neurologic status
- Give a structured handoff (can use ISBAR)

NB: follow local protocols and medical direction - there may be regional differences.

Clinical features

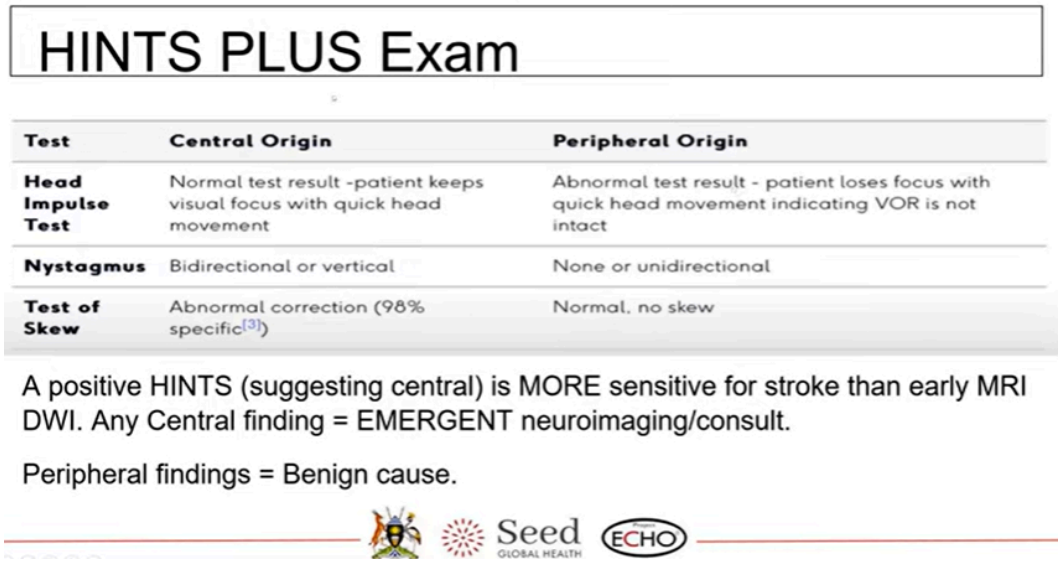
As with all patients presenting to the Emergency Department, do an initial assessment:

- **AIRWAY**: Assess patency by checking if the patient can vocalize and speak in full sentences
- **BREATHING**: Assess respiratory effort, respiratory rate, and tidal volume. Monitor oxygen saturation and check for signs of respiratory distress or symmetry in chest movement
- **CIRCULATION**: Assess for hemodynamic instability, such as tachycardia, hypotension, or orthostatic hypotension.
- **DISABILITY**: Assess AVPU, pupil size, RBS, focal neurologic deficits
- **EXPOSURE**: Check temperature (fever), random blood sugar (hypoglycemia), and examine for rashes, deformities, or signs of trauma
- **History:**
    - ❖ Should include "What do you mean by dizzy?" to categorize symptoms into vertigo (spinning sensation), syncope/presyncope (lightheadedness, feeling faint), dysequilibrium (unsteadiness, feeling off-balance), or other
    - ❖ Sudden vs gradual onset?
    - ❖ Triggers? Position change, head/neck movement
    - ❖ Duration? Critical Seconds: BPPV, minutes:TIA, migraine:Hours, Menieres:days-vestibular neuritis
    - ❖ Associated symptoms: hearing loss, tinnitus- peripheral, neurologic: any focal deficit- central. nausea/vomiting non-specific

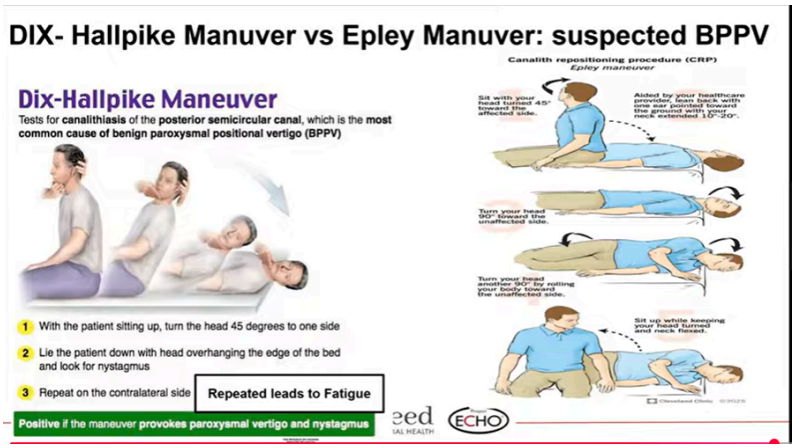
- ❖ Past medical history: migraines, CVD, diabetes
- ❖ Medications: loop diuretics, ototoxic drugs, chemotherapy

NB: Red flags are
Cardiac: chest pain, palpitations, syncope
Neurologic: sudden severe headache, diplopia, dysarthria, dysphagia, ataxia
Systemic: Fever with neck stiffness, significant hemorrhage

- **Physical Exam:**
  - ❖ Cardiac exam: vitals, murmurs, rhythm
  - ❖ Neurological Exam: Assess cranial nerves, cerebellar function (finger-nose, heel-shin, rapid alternating movements), and gait. Check hearing
  - ❖ **HINTS-plus** (Head Impulse, Nystagmus, and Test of Skew plus hearing) exam: is used to differentiate peripheral vertigo (e.g., vestibular neuritis) from central causes (e.g., stroke) in patients with acute vestibular syndrome. Watch HINTS plus exam



- ❖ Hearing Test: Hearing loss should raise suspicion of a central cause, such as stroke.
- ❖ Dix-Hallpike Maneuver: Used in patients whose symptoms are triggered and episodic. A positive test is suggestive of BPPV; however, sensitivity varies and is around 80%.

❖ 

Diagnostics

- **Imaging:** CT scans may be done to rule out stroke, but can miss posterior strokes in the acute phase; use if suspicious for hemorrhage or if MRI is unavailable.
  Diffusion-weighted MRI is THE GOLD STANDARD for posterior (cerebellar/brainstem) strokes that cause dizziness. **Obtain if: Red flags, abnormal HINTS, focal neurologic deficits**
- **Labs:** Random blood sugar, CBC, electrolytes, thyroid/liver/renal function tests, and toxicology as indicated.
- **Cardiac:** ECG and Echo if cardiac causes like arrhythmia are suspected

Treatment

- Posterior stroke/TIA: Neurology consult, consider thrombolysis
- Vertebral dissection: anticoagulation/antiplatelet
- Peripheral vestibular causes:
  - Antiemetics: Ondansetron or Promethazine for nausea and vomiting.
  - Benzodiazepines: Alprazolam, diazepam, or lorazepam can be used for anxiety, panic disorders, or vestibular suppression.
  - Antihistamines: Meclizine or diphenhydramine are often first-line for peripheral vertigo.
  - Steroids: May be considered for vestibular neuritis.
- BPPV: The Epley maneuver is used to treat/correct BPPV and can be taught to patients.
- Presyncope/Syncope: Treat cause (fluids, meds, Cardiology consult)
- Medication-induced: Discontinue or adjust the drug
- Nursing Care: Implement fall precautions (bed rails up, bed low), encourage slow position changes, and provide a calm, quiet environment

Complications

- Falls and Injury: Patients are at risk for falls due to impaired balance and dizziness.
- Dehydration and Electrolyte Imbalance: Vomiting can lead to fluid volume deficit, hypokalemia, and loss of hydrogen ions/chlorides.

- Shock: Severe dehydration may progress to shock.
- Missed Diagnosis: A serious cause, such as a posterior circulation stroke, may be missed if assumed to be benign

Disposition

- Discharge: Consider if the cause is benign (e.g., BPPV), symptoms are controlled, the patient can ambulate safely, tolerate oral fluids, and has follow-up arranged.
- Admit: Consider if there is a suspected stroke or dissection, severe dehydration/vomiting, cardiac instability, inability to ambulate, or diagnostic uncertainty with concerning features.
- Referral: Utilize a multidisciplinary approach involving ENT, Neurology, or Psychiatry, depending on the etiology

Special Notes

- Most Common vs. Most Concerning: Clinicians must balance diagnosing the most likely cause (e.g., vestibular neuritis) while ensuring they rule out the most concerning cause (e.g., stroke).
- Imaging Limitations: A normal head CT does not rule out a posterior circulation stroke; a thorough neurological and HINTS exam is more sensitive in the acute phase. MRI DWI is the gold standard.

Collaborating Partners

1. Ministry of Health of the Republic of Uganda
2. Seed Global Health
3. Techies Without Borders

References

- Siket M, Edlow J. Vertigo and Dizziness. In: Swadron S, Nordt S, and Mattu A, eds. CorePendium. 6th ed. Burbank, CA: CorePendium, LLC. https://www.emrap.org/corependium/chapter/rec4hVWEPJ9LZSiDx/Vertigo-and-Dizziness#h.ycfca45s764f. Updated January 7, 2026. Accessed January 16, 2026.
- https://youtu.be/84waYROlI4U?si=lpynwF6JJ4qKnxVl

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