



**To: Neurological Emergencies Providers and Educators**

**From: Edward Sloan, MD, MPH  
FERNE President and Board Chair**

**Re: FERNE Questions for Dizziness Educational Modules**

**Date: Feb 22, 2022**

**Please find below questions that can help guide your learning and teaching activities regarding the optimal diagnosis and treatment of dizzy patients in the Emergency Department and beyond. I hope these questions will help you in your management of these challenging neurological emergencies patients. Please note that the section titles are linked directly to the YouTube content.**

**My thanks go to Jonathan Edlow, MD for his work on this monograph, and to all my skilled associates at EB Medicine (EBMEDICINE.net) who continue to produce clinically relevant publications in the support of excellent acute patient care.**

**Lastly, thank you to John Griffin for his great videography, and to Paul Hiller, who creates value through his work with our FERNE.org website and our social media outreach. Good job by all!**

## Dizziness Educational Modules Questions

- **Introduction Evaluation ED Dizziness Pts**

What is the background to this FERNE dizziness lecture?

- **Educational Objectives Evaluation ED Dizziness**

What are the educational objectives for this FERNE dizziness lecture?

- **History in Evaluation ED Dizziness Pts**

What are the essential elements of the history when evaluating dizziness patients?

Why is the history relevant when evaluating patients with dizziness?

What is the OPQRSTU method for obtaining the history from patients with dizziness?

What disease states must be excluded when evaluating a dizzy patient?

What is the ATTEST method for obtaining the history from a dizzy patient, and what do the letters in this mnemonic stand for?

- **Etiologies & Case Presentations in the Evaluation of ED Dizziness Pts**

How is dizziness defined?

What are the normal vestibular organs and mechanisms for preventing dizziness?

What are the three general systems pathologies that cause dizziness?

What case studies allow the provider to better understand dizziness causes and the utility of the ATTEST method for the evaluation of dizzy patients?

- **Neurological & Nystagmus Exams in the Evaluation of ED Dizziness Pts**

What are the essential elements of the physical exam when evaluating dizziness patients?

What are the key elements of the eye exam in patients with dizziness?

What are the key elements of the neurological exam in patients with dizziness?

How is nystagmus evaluated in dizzy patients? How is the exam for nystagmus conducted? What mechanisms for dizziness control are being evaluated?

Where does the word nystagmus come from? How is nystagmus described? Which eye movement indicates how the nystagmus is named? How is the exam for nystagmus conducted?

With central gaze, what nystagmus findings are abnormal, suggesting a likely central etiology of the nystagmus? If nystagmus improves with central gaze, does this suggest a peripheral or central cause of the nystagmus?

- **New Physical Exam Approach to the Evaluation of ED Dizziness Pts**

What are the three key questions addressed by the history and physical exam in patients with dizziness?

What history and exam findings suggest a general medical cause for the dizziness?

What is meant by Acute Vestibular Syndrome (AVS) in patients with dizziness?

In intermittently dizzy patients, what is the significance of dizziness that occurs spontaneously as opposed to dizziness that is triggerable?

What four nystagmus findings suggest a central etiology in patients who present with Acute Vestibular Syndrome (AVS)?

What diagnosis must be established prior to determining the significance of nystagmus findings?

How do nystagmus findings differ depending on the presence of AVS as opposed to triggered episodic vestibular syndrome (t-EVS)?

What one nystagmus finding suggests a central nystagmus etiology even in the setting of t-EVS?

What one nystagmus exam finding helps to differentiate a central from peripheral etiology of dizziness?



- **Neuroimaging Evaluation of ED Dizziness Pts**

What neuroimaging should be conducted in patients with dizziness? What is the initial neuroimaging test of choice, and why? When should neuroimaging be performed in dizzy patients?

What are the limitations of MR-DWI testing in dizzy patients with suspected cerebral ischemia?

- **ATTEST Exam in the Evaluation of ED Dizziness Pts**

What are meant by the letters in the mnemonic ATTEST?

What is meant by Acute Vestibular Syndrome (AVS)?

What is the difference between triggered and spontaneous episodic vestibular syndrome (EVS)?

What should be documented in the EMR to exclude general medical causes for dizziness?

What should be documented in the EMR to establish the diagnosis of Acute Vestibular Syndrome (AVS)?

What should be documented in the EMR to differentiate triggered EVS (t-EVS) from spontaneous EVS (s-EVS)?

What two diagnoses should be considered in patients with Acute Vestibular Syndrome (AVS)?

What two diagnoses should be considered in patients with triggered EVS (t-EVS)?

What two diagnoses should be considered in patients with spontaneous EVS (s-EVS)?



- **Acute Vestibular Syndrome Bedside Tests in the Evaluation of ED Dizziness Pts**

Which five exam findings each by themselves suggest a possible posterior circulation stroke finding in dizzy patients?

What findings are seen in central pattern nystagmus in AVS?

What is skew deviation with vertical correction, and why does it suggest a central dizziness etiology?

What is meant by a negative exam, with no unilateral correcting fast saccade on head impulse test (HIT) exam, and why does this suggest a central dizziness etiology? How should this exam finding be entered into the EMR?

What CNS signs on neurological exam suggest a posterior circulation stroke?

Why do patients with truncal or gait ataxia likely have a central dizziness etiology?

- **AVS Testing & EMR Statements in the Evaluation of ED Dizziness Pts**

What five statements can be made in the medical record from the results of the five physical exam tests that support the diagnosis of vestibular neuritis or labyrinthitis in patients with Acute Vestibular Syndrome? (This one is really good! Use it!)

- **Acute Vestibular Syndrome and the Evaluation of ED Dizziness Pts**

What are the common benign causes and the more serious causes of Acute Vestibular Syndrome and Episodic Vestibular Syndrome that is either spontaneous or triggered?

What are the symptoms and signs that suggests posterior circulation stroke in dizzy patients?

- **Spontaneous Episodic Vestibular Syndrome, the Evaluation of ED Dizziness Pts**

What diagnosis is important to consider in patients who have repeated “spells” that may include dizziness?

What are the common benign causes, the more serious causes, and important rare causes of spontaneous Episodic Vestibular Syndrome (s-EVS)?

- **Triggered Episodic Vestibular Syndrome in the Evaluation of ED Dizziness Pts**

What are the common benign causes, the more serious causes, and important rare causes of triggered Episodic Vestibular Syndrome (t-EVS)?

What is BPPV, and what is important about the significance of these nystagmus findings in this triggered Episodic Vestibular Syndrome (EVS) etiology as compared to these same findings in Acute Vestibular Syndrome (AVS)?

What is Central Paroxysmal Positional Vertigo (CPPV), why is it important to consider, and what nystagmus findings are seen with this disorder?

When should orthostatic hypotension be considered as the cause of triggered EVS, and what vital sign changes should be observed to make this diagnosis?

What is Bow Hunter's syndrome, and is it a rare cause of triggered EVS?

- **Benign Paroxysmal Positional Vertigo in the Evaluation of ED Dizziness Pts**

What are the two types of Benign Paroxysmal Positional Vertigo (BPPV), and which is the most common canal type?

What is the pathophysiology of dizziness in patients with BPPV? How is dizziness in BPPV related to the Vestibular-ocular Reflex (VOR)?

What are the common maneuvers that are diagnostic and therapeutic in treating BPPV?

How is the Dix-Hallpike Test performed, and when is it considered to be a positive test?

How does the Epley Maneuver improve dizziness caused by BPPV? Why does the patient's head need to be turned in three directions? How is the Epley Maneuver like physical therapy for other illnesses and injuries?



- **Risk Management & Case Conclusions Evaluation ED Dizziness Pts**

What are the common pitfalls in the diagnosis and management of ED patients with dizziness?

How are dizziness symptoms, signs, and tests such as dizziness with head movement, dizziness with headache or hearing loss, dizziness in young patients, the absence of nystagmus, and negative CT or MR-DWI neuroimaging important items to understand fully when evaluating ED dizziness patients?

In young patients with dizziness, what five tests must be performed when the diagnosis is Acute Vestibular Syndrome?

What diagnosis is likely in patients who state that dizziness wakes them out of their sleep?

- **Dizziness & COVID 19 Evaluation ED Dizziness Pts**

What are the CNS mechanisms by which the COVID-19 virus causes nerve injury, and neurological dysfunction?

How can COVID-19 infection cause dizziness both by direct labyrinthine effects and by central CNS effects?

How might COVID-19 infection cause dizziness by secondary effects not directly related to peripheral or central CNS effects?

- **Conclusions & Recommendations Evaluation ED Dizziness Pts**

How is Acute Vestibular Syndrome (AVS) diagnosed?

What is the important distinction to be made in patients with intermittent dizziness?

What three diagnoses top the list of diagnoses to be considered in dizzy patients?

What are the five physical exam tests to be performed in patients with AVS?

With what maneuvers is BPPV diagnosed and treated?

How might COVID-19 infection cause dizziness?

What EMR templates and dot phrases might be used to make the evaluation and treatment of ED dizziness patients more systematic and easily accomplished?

What six dizziness pathologies are to be considered in the three diagnostic strata, leading to three treatment strategies?

Why must nystagmus findings be interpreted considering whether the diagnosis of Acute Vestibular Syndrome (AVS) has been made?

**Notes:**

