Society for Academic Emergency Medicine

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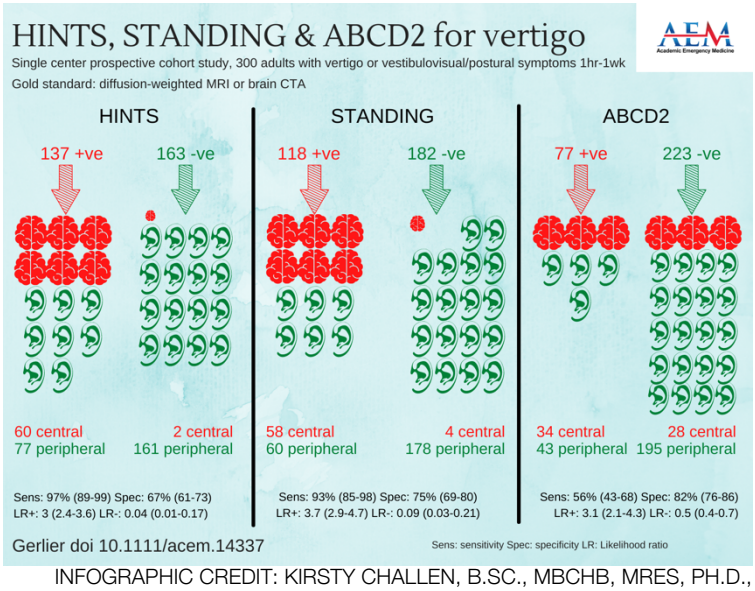
Differentiating central from peripheral causes of acute vertigo in an emergency setting

A diagnostic cohort study using HINTS, STANDING, and ABCD2 tests

Des Plaines, IL – In the hands of emergency physicians (EPs) in the emergency department (ED), the HINTS and STANDING tests outperformed ABCD2 in identifying central causes of vertigo. For diagnosing peripheral disorders, the STANDING algorithm is more specific than the HINTS test. That is the conclusion of the article titled Differentiating central from peripheral causes of acute vertigo in an emergency setting with the HINTS, STANDING, and ABCD2 tests: A diagnostic cohort study, published in the December 2021 issue of *Academic Emergency Medicine (AEM),* an official journal of the Society for Academic Emergency Medicine.



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Vertigo, unsteadiness, and imbalance are common chief complaints in EDs. For EPs, the challenge is generally to differentiate a benign vestibular (inner ear) disorder from a dangerous disease in which the brain does not receive adequate blood or oxygen. Therefore, it is necessary that frontline providers recognize vestibular disorders efficiently for ruling out a cerebral disease. EPs commonly manage this diagnostic dilemma according to cardiovascular comorbidities. This approach has raised concerns because it could also lead to overuse of neuroimaging, especially brain computed tomography (CT) and MRI. These findings support the need of an objective clinical examination that can help control costs while achieving diagnostic accuracy.

The HINTS test (head impulse, nystagmus, test of skew) can help differentiate causes of acute vestibular syndrome. However, it is still misused or misunderstood by many EPs having no eye-

examination skills. The accuracy of HINTS performed by emergency physicians (EPs) is unknown and therefore, the structured four-step bedside diagnostic algorithm named STANDING has been proposed. Finally, it may be attractive to use a stroke risk stratification tool that requires no clinical skills, like the ABCD2 score, but findings of previous studies are conflicting about its relevance with ED dizzy patients.

The objective of this study was to determine the accuracy of the HINTS examination performed by trained EPs for diagnosing central cause of acute vertigo and unsteadiness and to compare it with, STANDING and ABCD2. In summary, the study finds that trained EPs can use the HINTS and STANDING tests as part of their workup to identify central acute vertigo with high sensitivity. With reasonable training, these structured clinical approaches showed better accuracy than the traditional stroke risk stratification, ABCD2. The study also finds that HINTS and STANDING could be useful tools saving both time and costs related to unnecessary neuroimaging use.

The lead author of the study is Camille Gerlier, MD, an emergency medicine physician and head of clinical research of the emergency department at Groupe Hospitalier Paris Saint-Joseph in Paris, France.

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ABOUT ACADEMIC EMERGENCY MEDICINE

Academic Emergency Medicine, the monthly journal of Society for Academic Emergency Medicine, features the best in peer-reviewed, cutting-edge original research relevant to the practice and investigation of emergency care. The above study is published open access and can be downloaded by following the DOI link: 10.1111/acem.14337. Journalists wishing to interview the authors may contact Tami Craig at tcraig@saem.org.

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