

Evidence Discussion (HD-23.1)

Dizziness/Vertigo

- MRI brain is the preferred initial imaging modality for evaluation of persistent vertigo, vertigo associated with an abnormal neurologic exam, and vertigo due to a suspected central cause. ^{1,2}
- CT head is not recommended for the initial evaluation of dizziness due to inferior soft tissue resolution when compared to MRI Brain. In addition, MRI brain provides better visualization of the cerebellum and posterior fossa and is more sensitive for the detection of posterior fossa infarcts. ¹ For suspected superior semicircular canal dehiscence, CT temporal bone is the appropriate initial imaging study¹.
- In the evaluation of dizziness or vertigo in the emergency department, the positivity rate of CT head was 2%, for MRI brain 4%, with the diagnostic yield increasing to 12% for MRI brain if neurologic findings were present.¹
- For dizziness due to suspected vertebral-basilar insufficiency, MRA sensitivity reaches 97% when performed with contrast-enhancement.
- For suspected vertebral artery dissection, CTA had the highest sensitivity 100%, followed by MRA 77%, and Doppler ultrasound at 71%.¹
- Vascular imaging should include the entire vertebral artery from the origin at the aortic arch to the basilar artery.¹

References

1. Wang LL, Thompson TA, Shih RY, et al. ACR Appropriateness Criteria® Dizziness and Ataxia. Available at <https://acsearch.acr.org/docs/69477/Narrative/>. American College of Radiology. Revised 2023.
2. ACR ASNR SPR Practice Parameter for the Performance and Interpretation of Magnetic Resonance Imaging (MRI) of the Brain. Revised 2019.