

Evidence Discussion General

Guidelines – CT head (HD-1.4)



- CT head is the preferred modality for evaluation of bony structures, acute intracranial hemorrhage, trauma, and detection of abnormalities associated with calcifications.^{1,2,3,4}
- This modality is also useful for follow up of intracranial hemorrhage, hydrocephalus shunts, and post-operative follow up.^{1,2,3,4}
- CT head provides more rapid detection of intracranial abnormalities in urgent or emergent situations.^{1,2,5}
- CT has less motion artifact than MRI due to its faster acquisition and better spatial resolution than MRI.
- Limitations of CT include lower early detection rates for occult fracture than MRI, ionizing radiation exposure, and lower contrast resolution than MRI.

References

1. ACR–ASNR–SPR Practice Parameter for the Performance of Computed Tomography (CT) of the Head. Revised 2020.
2. Expert Panel on Neurological Imaging, Shih RY, Burns J, et al. ACR Appropriateness Criteria® Head Trauma: 2021 Update. J Am Coll Radiol. 2021;18(5S):S13-S36. doi:10.1016/j.jacr.2021.01.006
3. Kubal WS. Updated imaging of traumatic brain injury. Radiologic clinics of North America. 2012;50(1):15
4. Kidwell CS, Chalela JA, Saver JL, et al. Comparison of MRI and CT for detection of acute intracerebral hemorrhage. JAMA : the journal of the American Medical Association. 2004;292(15):1823-1830
5. Barnes PD. Imaging of nonaccidental injury and the mimics: issues and controversies in the era of evidence-based medicine. Radiol Clin North Am 2011;49:205-29