

Evidence Discussion (HD 4.2)

- Advanced brain imaging is supported for acute onset of mental status change, or worsening symptoms in the setting of a known intracranial process with MRI brain with or without a previous CT head.¹
- Advanced imaging supported for mental status change with precipitating factors including suspected seizure, COVID related symptoms, head trauma, stroke, mass or known malignancy, suspected increased intracranial pressure, intracranial infection, hypertensive emergency, presence of coagulopathy, pregnancy and postpartum period, associated headache.²

According to the ACR,³ advantages of MRI for altered mental state include: 1) higher sensitivity for detection of ischemia, encephalitis, subtle cases of SAH; and 2) enhancement of pathology compared with CT. The disadvantages of MRI in this clinical scenario are the same as with MRI in general, including patient inconvenience (longer examination time), imaging quality is susceptible to patients' movements, and implanted devices that are not MRI safe.

References

1. Uzelac.Imaging of Altered Mental Status.Radiologic Clinics of North America.2020
2. Expert Panel on Neurological Imaging: Luttrull MD, Boulter DJ, et al.
3. ACR Appropriateness Criteria® Acute Mental Status Change, Delirium, and New Onset Psychosis. J Am Coll Radiol. 2019;16(5S):S26-S37. doi:10.1016/j.jacr.2019.02.024 American College of Radiology ACR Appropriateness Criteria® Altered Mental Status, Coma, Delirium, and Psychosis (revised 2024).