

ACR-ASNR-SPR Practice Parameter for the Performance of Computed Tomography (CT) of the Head.

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Authors: From the Department of Radiology, University of Missouri.

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The document summarizes clinical indications, protocol and equipment specifications, and radiation safety considerations for head CT.

This practice parameter was revised according to the process described under the heading The Process for Developing ACR Practice Parameters and Technical Standards on the ACR website (<https://www.acr.org/Clinical-Resources/Practice-Parameters-and-Technical-Standards>) by the Committee on Practice Parameters – Neuroradiology of the ACR Commission on Neuroradiology and the Committee on Practice Parameters – Pediatric Radiology of the ACR Commission on Pediatric Radiology in collaboration with the ASNR and the SPR.

CT of the head is useful for rapid assessment of osseous structures, acute hemorrhage, and calcifications. Primary clinical indications include emergent/urgent imaging of trauma, acute neurologic deficits, ventricle evaluation, interventional planning, and postoperative follow-up. Secondary indications include situations in which MRI is unavailable or contraindicated. Examinations can be performed with conventional energy integrating detector or new photon counting technologies, and should meet specific performance standards. When radiation exposure is deemed medically necessary, dose minimization can be achieved through multiple approaches and depends on patient age, anatomy, and use case.

Appropriate use of head CT requires awareness of clinical indications, protocol and equipment specifications, and radiation safety considerations.