

Bryan Radiology Associates
CT BRAIN WO

Last update: 2021-01-03 JN

Setup:

1. Supine, AP and lateral scouts, no gantry angle
2. Patient Positioning: Tilt the patient's head so that a line connecting the lateral canthus of the eye and the EAC is perpendicular to the CT tabletop (see fig 1). Angle the gantry if unable to position head within 15 degrees of proper setup angle.

Scan:

1. Helical (unless gantry was angled).
2. Scan range: approx 0.5 cm inferior to skull base (fig 2) to approx 0.5 cm superior to outer table of skull vertex (fig 2)
3. Anterior part of starting line should be at lower outer bony cortex of frontal sinus and posterior part should be lower edge of occiput (fig 2)*
4. DFOV: Preferred 20 cm (Range 18-22 for adult; 15–22 for pediatric)

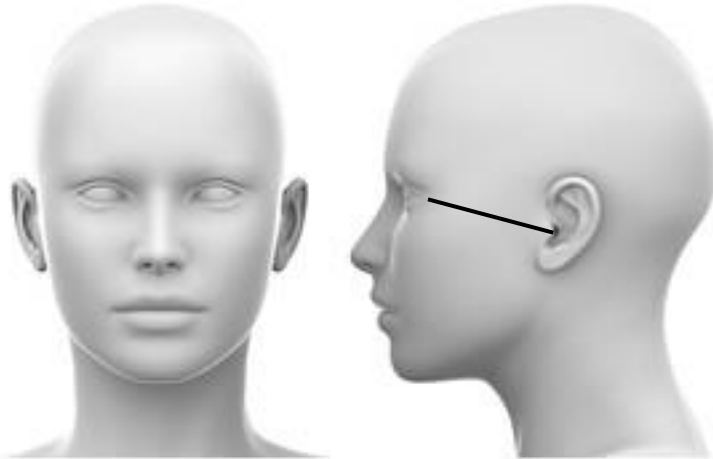
PACS:

- Topogram
- 3 x 3 mm brain AX
- 3 x 3 mm bone **kernel** (not just bone window) AX
- 3 x 3 mm brain COR
- 3 x 3 mm brain SAG
- (2.5 x 2.5 mm for all planes for pediatric age < 10)

*The goal is to minimize the radiation dose to the ocular lens to the population being scanned. This is not possible in many (most?) individual patients because of slight differences in anatomy and condition, and because we must not exclude the lowest portions of the frontal lobes. But we should be able to avoid irradiating the lens in at least a certain percentage of patients.

*For trauma and hemorrhage, the priority is different. Always scan helical. The goal of measuring intracranial hematomas accurately and consistently overrides the desire to avoid irradiating the lens, and some patients' necks should not or

cannot be moved. For follow up of hemorrhage or surgery, always scan helical, and try to scan at same angle as the prior scan, so that a hematoma can be measured by the radiologist consistently between each study.



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Fig 1

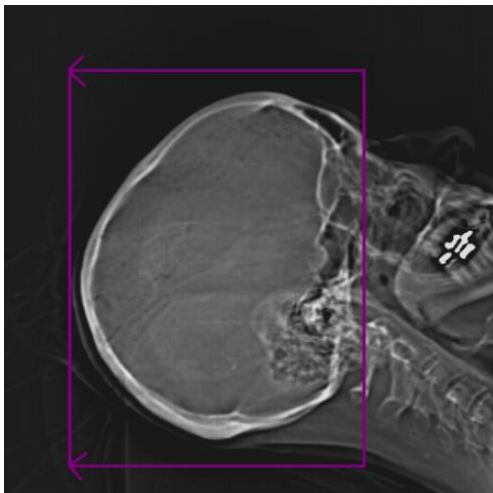


Fig 2 (from ARA)

CTDI: ~35-60mGy (do not exceed the ACR recommended 75mGy)

Adapted from ARA