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MRAD 281 Computed Tomography Theory 2 Reflection #1 Reflection: Reflection on CT Scanning of the Head



1. Describe the basic process of a CT head scan as you understand it. What are the key steps involved, from patient preparation to image acquisition?

Learning about CT scanning of the head has helped me understand both the technical process and the importance of careful patient preparation.

Before the scan begins, the technologist confirms the patient's identity, checks pregnancy status when applicable, explains the procedure, and asks the patient to remove any metal objects that could interfere with the images. If contrast is required, the patient is also screened appropriately and IV access is established. The patient is usually positioned supine on the CT table, with the head carefully centered at the gantry isocenter. Positioning aids and laser lights can be used to improve alignment and reduce movement.

A scout image is then obtained to plan the scan range. During image acquisition, the X-ray tube rotates around the patient while detectors measure the X-rays transmitted through the head. These data are processed by the computer to produce cross-sectional images. After acquisition, the technologist reviews the images for appropriate coverage, positioning, motion, and overall technical quality.

2. How has your understanding of CT head scanning enhanced your overall comprehension of neuroanatomy? Provide an example of how this imaging modality has clarified or reinforced your knowledge of brain structures.

Studying CT head imaging has also improved my understanding of neuroanatomy because I can now connect anatomical structures with how they actually appear on cross-sectional images. One example is the relationship between gray matter, white matter, the ventricles, and intracranial blood. The brain window allows subtle differences between these tissues to be visualized more clearly. I also learned that acute intracranial hemorrhage can appear hyperdense on a non-contrast CT, which explains why CT is so useful when a patient presents with sudden neurological symptoms. In comparison, the bone window is more appropriate when looking for skull or facial fractures.

Overall, learning CT head scanning has shown me that producing a diagnostic image involves much more than operating the scanner. Accurate positioning, appropriate image settings, patient communication, and recognition of normal anatomy all work together. This knowledge will help me become more confident and thoughtful in clinical practice and better understand why each step of the examination is important.


Thank You