

Computerized tomography

Noncontrast CT scans are often employed in emergency situations (to quickly rule out most acute abnormalities), to evaluate bone in great detail, or as a screening test. It excels in demonstrating acute blood (EDH, SDH, IPH, SAH), fractures, foreign bodies, pneumocephalus, and hydrocephalus. It is weak in demonstrating acute stroke (DWI MRI is preferred), and often has poor signal quality in the posterior fossa (due to bone artifact).

IV enhanced CT scans are used primarily for imaging neoplasms or vascular malformations, especially in patients with contraindications to MRI. All CT contrast agents contain iodine. A typical IV dose of contrast: 60–65 ml of e.g. Isovue 300® which delivers 18–19.5 grams of iodine.

X-ray computed tomography (x-ray CT) is a technology that uses computer-processed x-rays to produce tomographic images (virtual 'slices') of specific areas of the scanned object, allowing the user to see what is inside it without cutting it open. Digital geometry processing is used to generate a three-dimensional image of the inside of an object from a large series of two-dimensional radiographic images taken around a single axis of rotation.

Medical imaging is the most common application of x-ray CT. Its cross-sectional images are used for diagnostic and therapeutic purposes in various medical disciplines.

Because x-ray CT is the most common form of CT in medicine and various other contexts, the term computed tomography alone (or CT) is often used to refer to x-ray CT, although other types exist (such as positron emission tomography [PET] and single-photon emission computed tomography [SPECT]). Older, less preferred terms that also refer to x-ray CT are computed axial tomography (CAT scan) and computer-assisted tomography. X-ray CT is a form of radiography, although the word "radiography" used alone usually refers, by wide convention, to non-tomographic radiography.

Head computed tomography

see [Head computed tomography](#).

Cervical spine computed tomography

see [Cervical spine computed tomography](#).

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