C

Computed Tomography

Nathan D. Zasler¹ and Robin Sekerak²

¹Concussion Care Centre of Virginia, Ltd.,
Richmond, VA, USA

²Waikato District Health Board, Hamilton,
New Zealand

Definition

Tomography refers to sectional imaging through the use of any type of waves with penetrative properties. Tomography is used in radiology, biology, and many other areas of science. The technique relies on production of images based on the mathematical procedure of tomographic reconstruction. In conventional radiology, X-ray tomography is accomplished by making sectional images through of body parts by moving the X-ray source in the film in opposite directions during the period of radiation exposure. As a result, structures in the focal plane appear sharper, while structures another planes appear blurred. Current tomographic techniques typically rely on gathering projection data from multiple directions and feeding the data into a tomographic reconstruction software algorithms which is processed by computer that both requires the data and then generates a tomographic image. There are multiple different technologies that integrate tomography with some of the more common ones used in

the neurosciences being single photon emission computerized tomography, computed tomography, ultrasonic tomography, and positron emission tomography.

Current Knowledge

An imaging technique that produces views through the internal aspects of solid objects including the human body through application and recording of energy waves of various sorts through those structures. Images can be dimensional or multidimensional.

Cross-References

- [CT](#)
- [PET](#)
- [SPECT](#)

References and Readings

- American Academy of Neurology. (1991). SPECT and neurosonology qualifications approved. *Neurology*, 41, 13A.
- Kaufmann, H., & Schatz, I. J. (2004). Pure autonomic failure. In D. Roberston (Ed.), *Primer on the autonomic nervous system*, (2nd ed., pp. 309–311). Amsterdam: Elsevier. <https://www.britannica.com/topic/tomography>. Accessed 10 Aug 2016.