



# Ivane Javakhishvili Tbilisi State University

## The Faculty of Exact and Natural Sciences














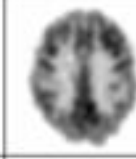


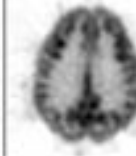
Nikoloz Kakhadze  
Third year of study

# POSITRON EMISSION TOMOGRAPHY (PET)

- ▣ Positron emission tomography (PET)
  - Positron Emission
  - Oncology
  - Neurology
  - Cardiology

Bailey DL, Townsend DW, Valk PE, Maisey MN (2005). Positron Emission Tomography: Basic Sciences.

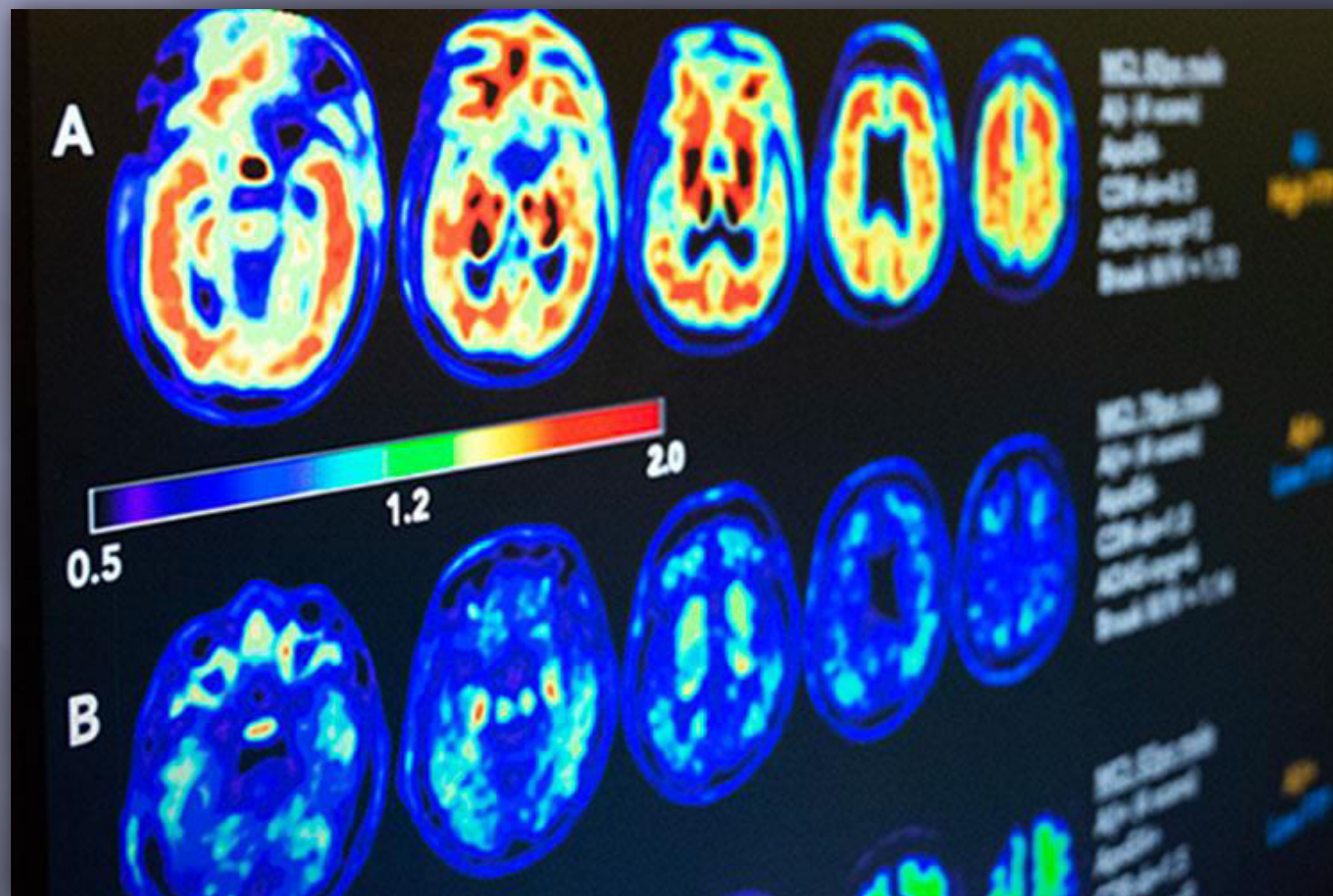
# (PET)

			<b>PET III 1975</b>
			<b>ECAT II 1977</b>
			<b>NeuroECAT 1978</b>
			<b>ECAT 931 1985</b>
			<b>ECAT EXACT HR+ 1995</b>

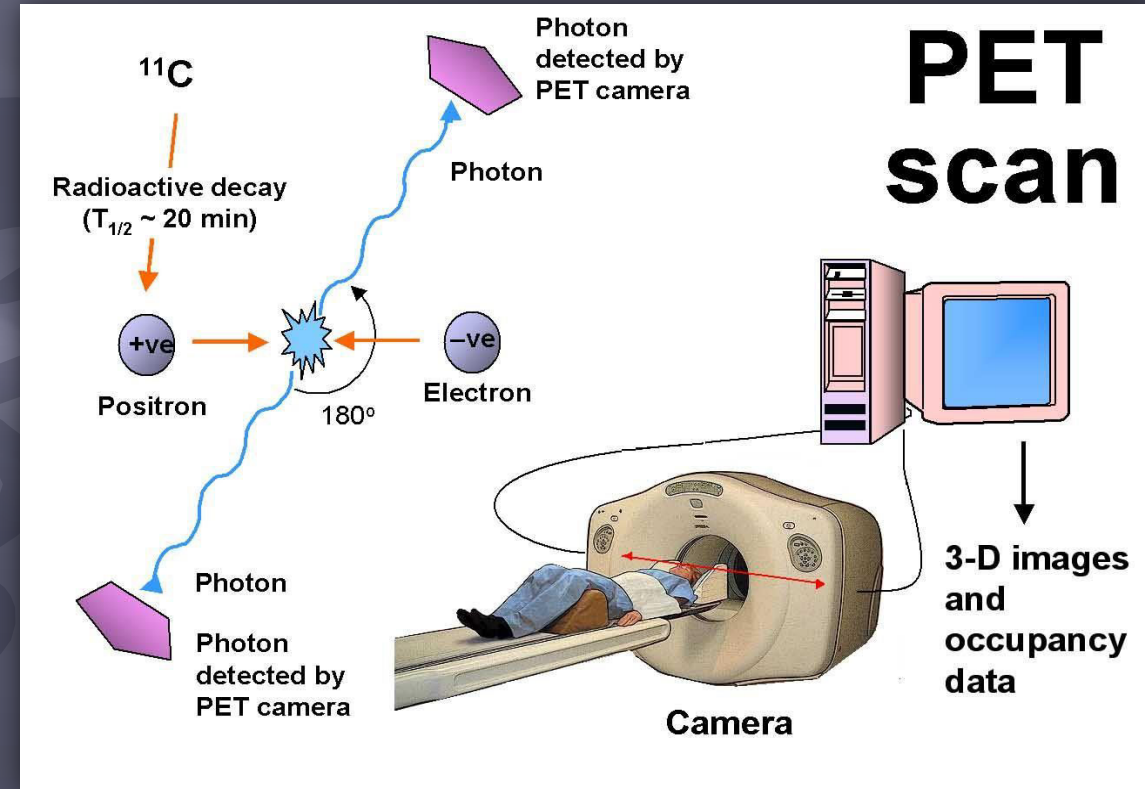


[https://chem.libretexts.org/Bookshelves/Physical\\_and\\_Theoretical\\_Chemistry\\_Textbook\\_Maps/Supplemental\\_Modules\\_\(Physical\\_and\\_Theoretical\\_Chemistry\)/Nuclear\\_Chemistry/Applications\\_of\\_Nuclear\\_Chemistry/Radiation\\_in\\_Biology\\_and\\_Medicine%3A\\_Positron\\_Emission\\_Tomography](https://chem.libretexts.org/Bookshelves/Physical_and_Theoretical_Chemistry_Textbook_Maps/Supplemental_Modules_(Physical_and_Theoretical_Chemistry)/Nuclear_Chemistry/Applications_of_Nuclear_Chemistry/Radiation_in_Biology_and_Medicine%3A_Positron_Emission_Tomography)  
Phelps ME, Hoffman EJ, Mullani NA, Ter-Pogossian MM (March 1975). "Application of an annihilation coincidence detection to transaxial reconstruction tomography". *Journal of Nuclear Medicine*.  
Ter-Pogossian MM, Phelps ME, Hoffman EJ, Mullani NA (January 1975). "A positron-emission transaxial tomograph for nuclear imaging (PETT)". *Radiology*.

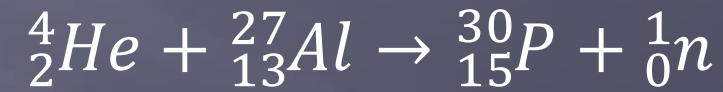
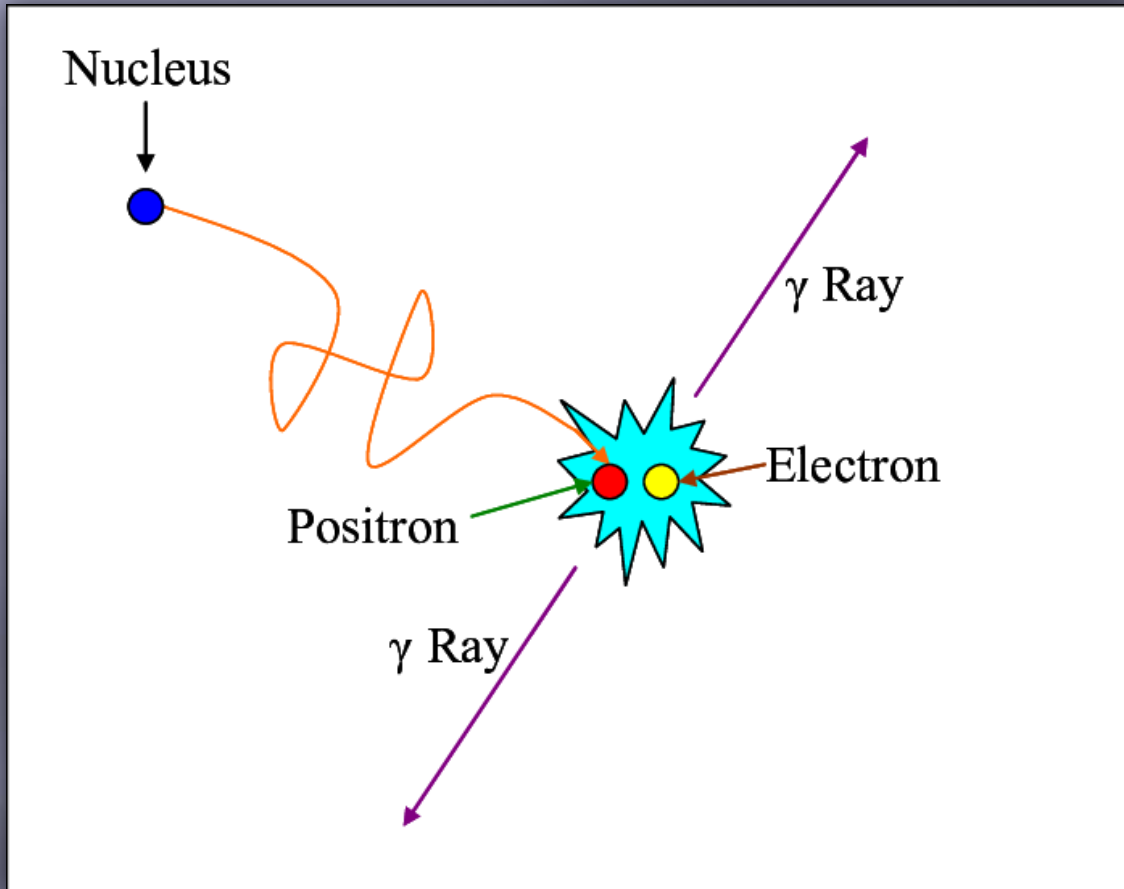
# (PET)



# (PET)

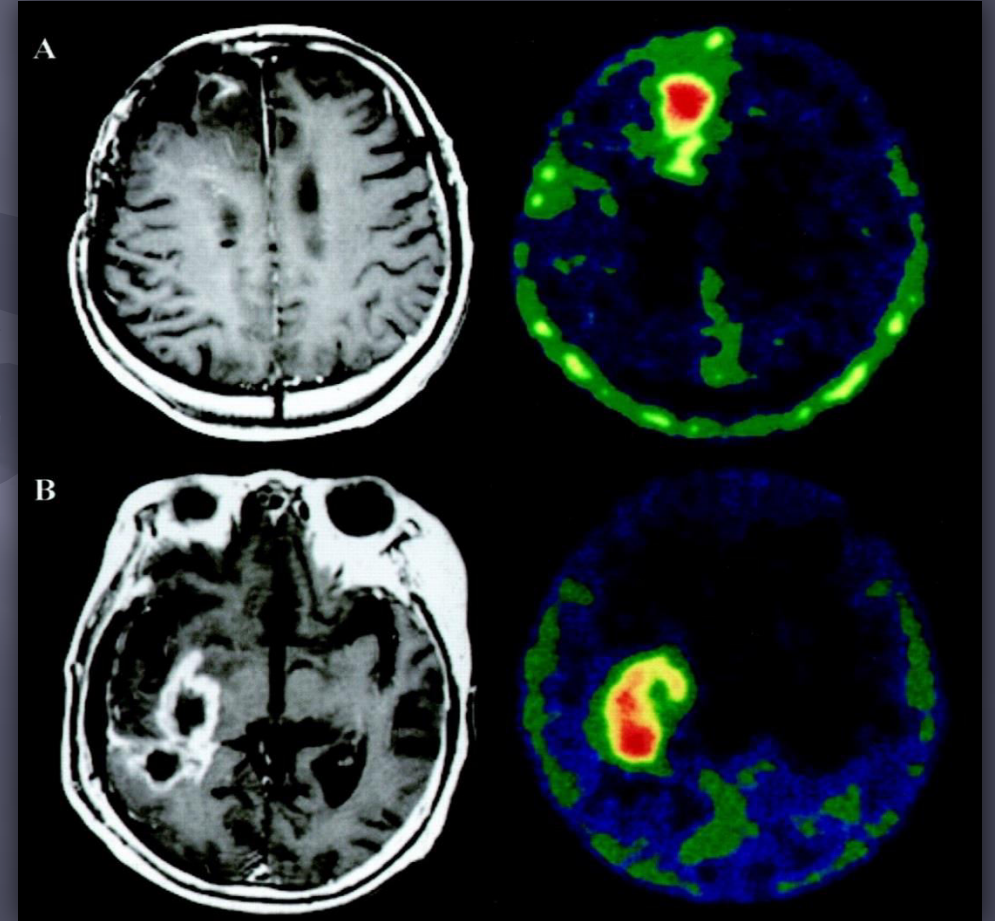
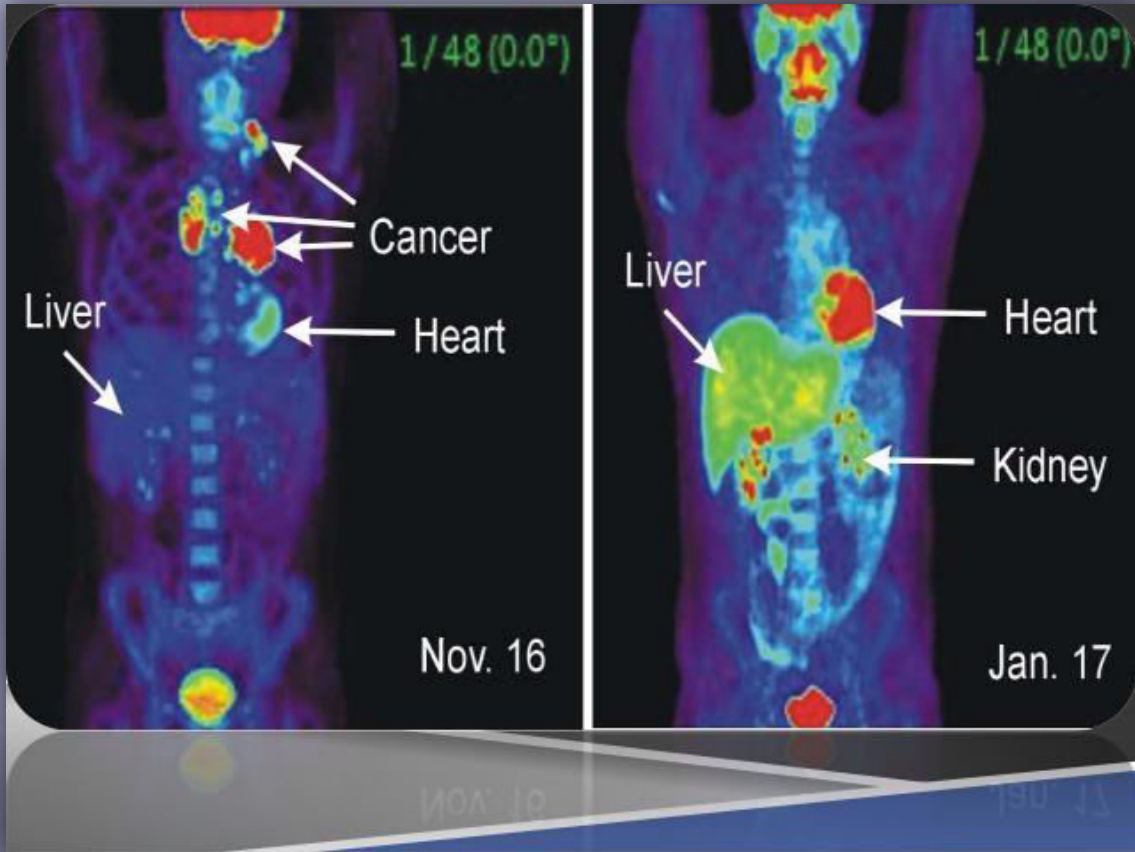


# Emission



"Nuclear Chemistry". The University of North Carolina at Chapel Hill  
Joliot MF, Curie I (1934). "Un nouveau type de radioactivité"

# Oncology



Aldin A, Umlauff L, Estcourt LJ, Collins G, Moons KG, Engert A, et al. (Cochrane Haematology Group) (January 2020). "[Interim PET-results for prognosis in adults with Hodgkin lymphoma: a systematic review and meta-analysis of prognostic factor studies](#)"

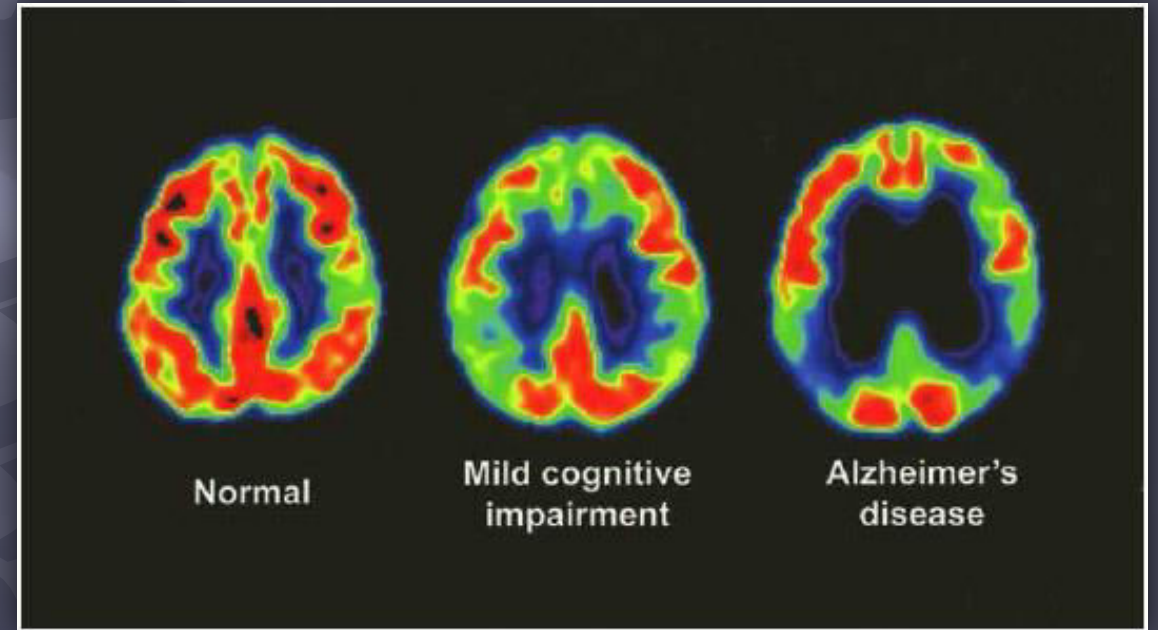
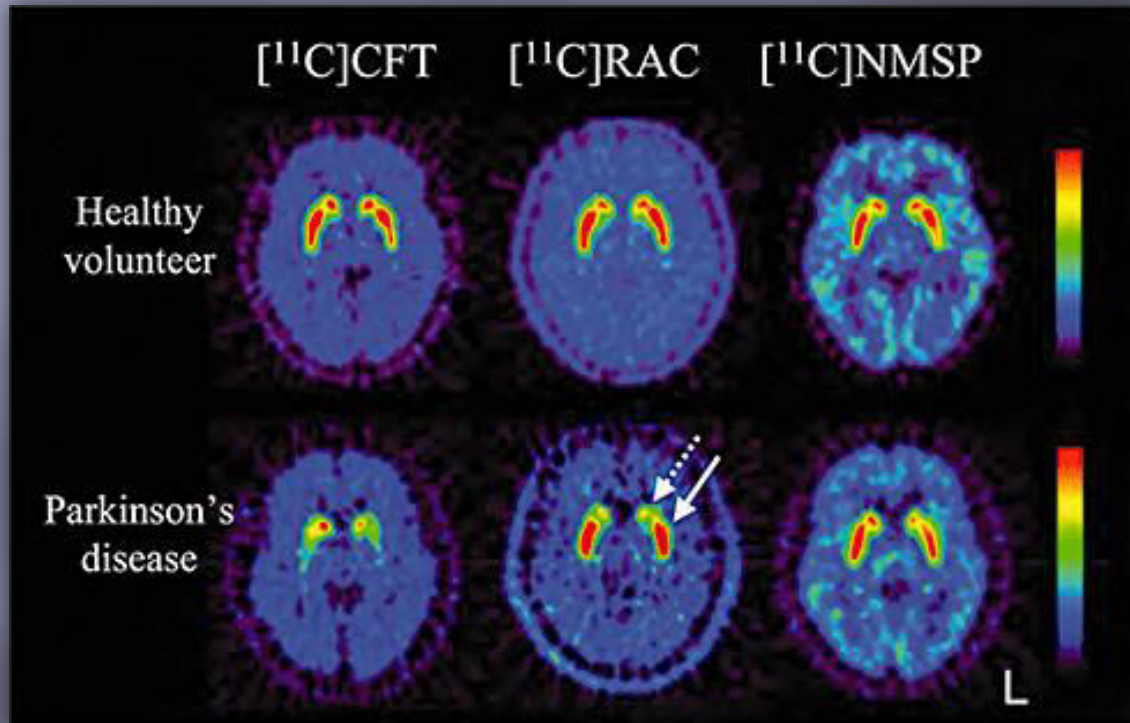
ARSAC - Notes for Guidance on the Clinical Administration of Radiopharmaceuticals and use of Sealed Sources

Zauchka JM, Chauvie S, Zaucha R, Biggii A, Gallamini A (July 2019). "The role of PET/CT in the modern treatment of Hodgkin lymphoma". *Cancer*

McCarten KM, Nadel HR, Shulkin BL, Cho SY (October 2019). "Imaging for diagnosis, staging and response assessment of Hodgkin lymphoma and non-Hodgkin lymphoma". *Pediatric Radiology*

Chao F, Zhang H (2012). "PET/CT in the staging of the non-small-cell lung cancer". *Journal of Biomedicine & Biotechnology*.

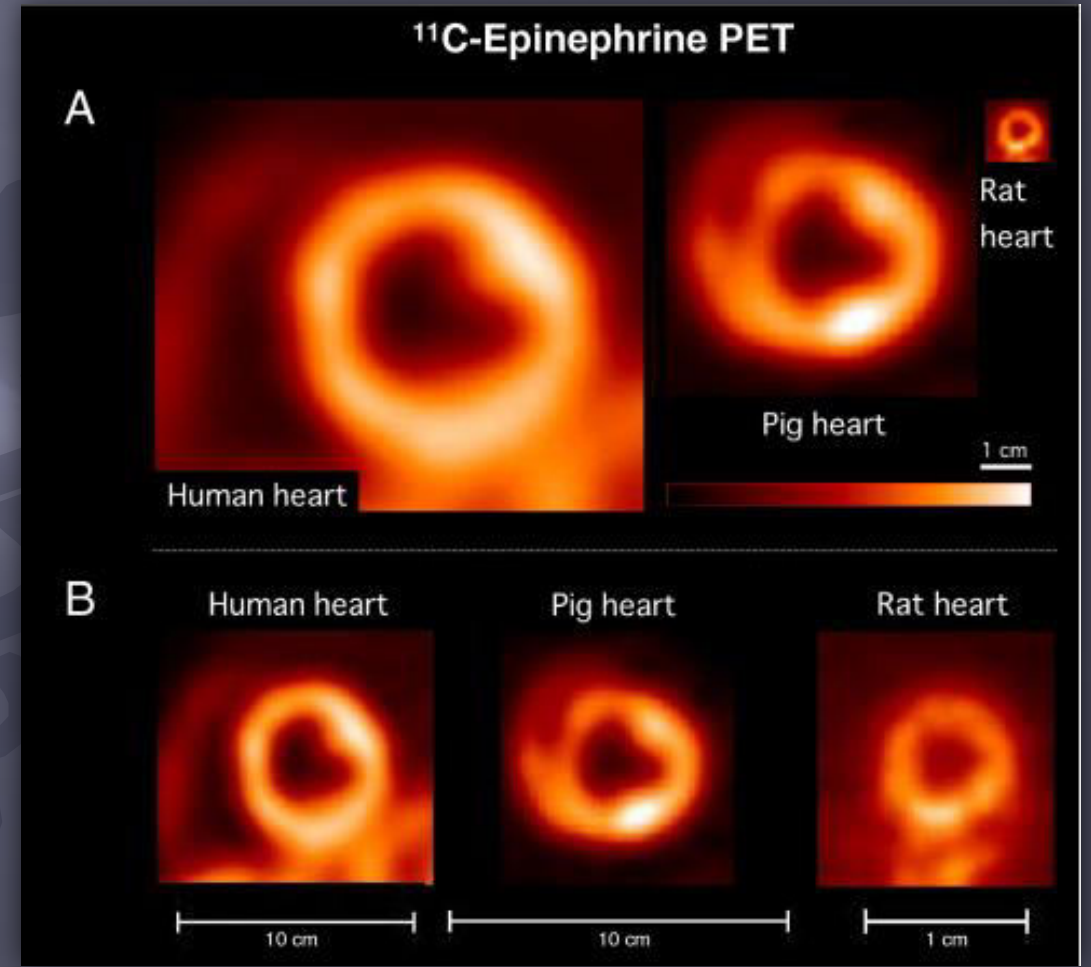
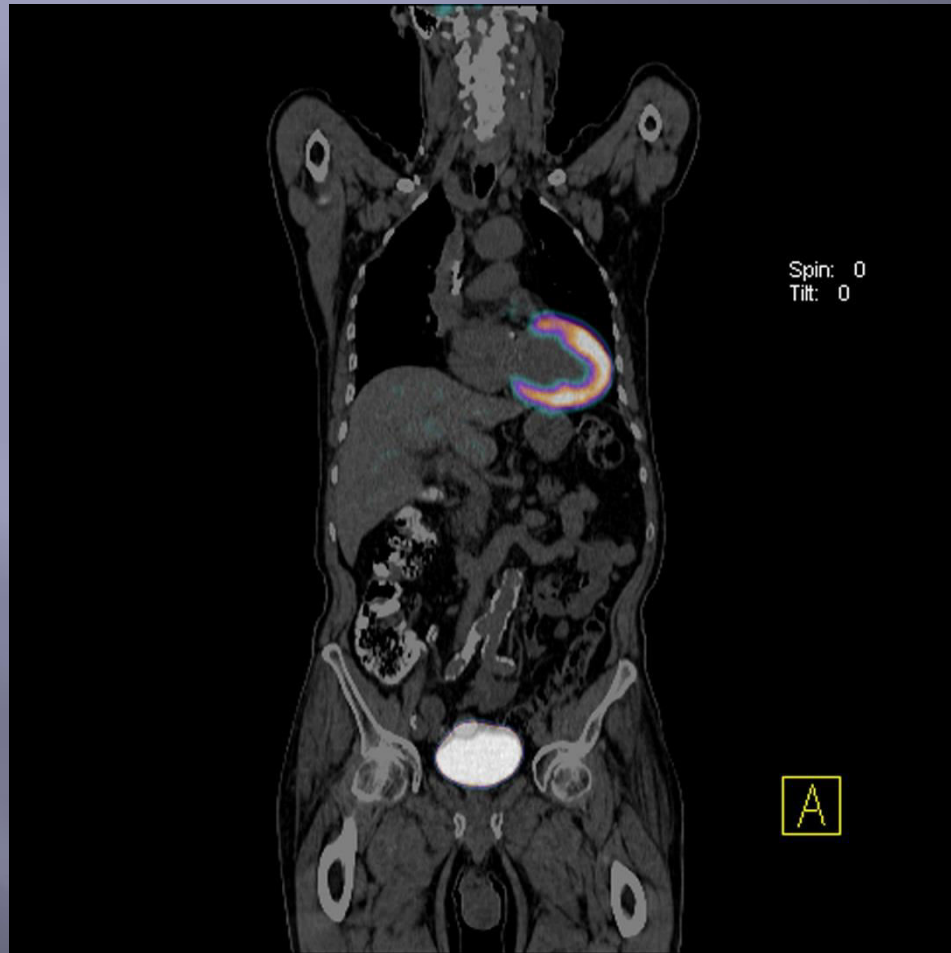
# Neurology



Kuhl DE, Koeppe RA, Minoshima S, Snyder SE, Fieco EP, Foster NL, et al. (March 1999). "In vivo mapping of cerebral acetylcholinesterase activity in aging and Alzheimer's disease". *Neurology*.  
Kolata, Gina. "Promise Seen for Detection of Alzheimer's", *The New York Times*



# Cardiology



Rudd JH, Warburton EA, Fryer TD, Jones HA, Clark JC, Antoun N, et al. (June 2002). "[Imaging atherosclerotic plaque inflammation with \[18F\]-fluorodeoxyglucose positron emission tomography](#)"



**THANK YOU FOR YOUR ATTENTION**