The History of **Nuclear Medicine**

1896 – Henri Becquerel discovered mysterious “rays” from uranium.

1897 – Marie Curie named the mysterious rays “radioactivity.”

1913 – The first study on the intravenous injection of radium for therapy of various diseases was published.

1924 – Georg de Hevesy performed the first radiotracer studies in animals.

1936 – The first clinical therapeutic application of an artificial radionuclide, phosphorus-32, was used to treat leukemia.

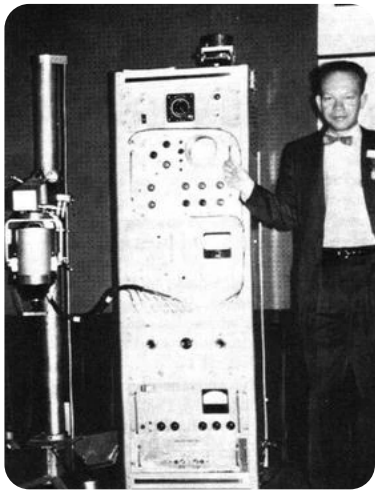
1939 – Carbon-14, a radioactive tracer widely used in medical and drug research, was discovered.

1951 – The U.S. Food and Drug Administration (FDA) approved sodium iodide 1-131 for use with thyroid patients. It was the first FDA-approved radiopharmaceutical.

1952 – Hal Anger and his BER colleagues introduced a revolutionary new technique for radionuclide imaging. The gamma camera will become the “workhorse” of nuclear medicine for the next 50 years.

1962 – David Kuhl introduced emission reconstruction tomography. This method later became known as SPECT and PET. It was extended in radiology to transmission X-ray scanning, known as CT.

1971 – The American Medical Association officially recognized nuclear medicine as a medical specialty.



Hal Anger and his first scintillation camera, which he displayed at the Fifth Annual Meeting of The Society of Nuclear Medicine in June 1958, in Los Angeles. (Credit: https://pubmed.ncbi.nlm.nih.gov/395287/)

2000 – Time Magazine recognized Siemens Biograph as the invention of the year.

2000s – The integration of nuclear medicine techniques with other imaging modalities like MRI and CT has led to the development of hybrid imaging technologies and has greatly improved diagnostic accuracy and treatment planning

2004 – The Society of Nuclear Medicine celebrated its 50th anniversary.

2008 – The first hybrid PET/MRI system for humans, from Siemens Healthineers, was installed.

2024 – Siemens Healthineers received FDA clearance for the Biograph Trinion, a high-performance, energy-efficient PET/CT scanner with a wide range of clinical capabilities and a low lifetime operational cost.

2025 – Lutetium 177-based therapies use radioactive isotope of lutetium attached to a molecule that that binds to specific receptors on cancer cells. Leading to advancements in Theranostic treatments across the globe.

About Nuclear Medicine Exams

Nuclear medicine imaging uses small amounts of radioactive materials called radiotracers that are typically injected into the bloodstream, inhaled or swallowed. The radiotracer travels through the area being examined and gives off energy in the form of gamma rays which are detected by a special camera and a computer to create images of the inside of a patient’s body.

Nuclear medicine plays an essential role in many medical specialties, including cardiology, oncology and neurology, and allows physicians to cost-effectively obtain medical information that would otherwise be unavailable or would require more invasive procedures, such as surgery or biopsy.

Can you guess these nuclear medicine–specific words?

1. riodauclphramaceut
2. tcinemeuth
3. gmaaam rcaema
4. etp nasc
5. tresnahcsto

Cassling

Sources:
The Society of Nuclear Medicine and Molecular Imaging: http://www.snmmi.org/AboutSNMMI/Content.aspx?ItemNumber=4175
Bureau of Labor Statistics: https://www.bls.gov/ooh/healthcare/nuclear-medicine-technologists.htm
National Center for Biotechnology Information: https://www.ncbi.nlm.nih.gov/books/NBK11471/
Radiologyinfo.org: https://www.radiologyinfo.org/en/info.cfm?pg=gennuclear
https://openmedscience.com/history-of-nuclear-medicine-a-century-of-innovation-and-impact/
https://www.bwxtmedical.com/products/lutetium-177/

Answer Key:
1. Radiopharmaceutical
2. Technetium
3. Gamma Camera
4. PET Scan
5. Theranostics

13810 FNB Pkwy | Suite 200 | Omaha, NE 68154 | 800.228.5462 | 402.334.5000 | www.Cassling.com