

1973: First CT scanner in North America

A widely used diagnostic procedure – which Mayo Clinic introduced to North America – has an intriguing association with the Beatles.

Just as the Fab Four rocked the music world with their song “Revolution,” a medical imaging revolution emerged about the same time from the same British corporation that had signed the Beatles early in their career: Electric and Music Industries (EMI).

In the 1960s and ‘70s, EMI was an industrial research company transitioning into music production. EMI also provided support to British scientist Godfrey Hounsfield, who received the Nobel Prize for developing computerized tomography, (CT), a transformative advance in medical imaging.

CT scanning enables doctors to visualize the body in 3 dimensions with stunning detail. Based on x-ray technology, CT scanning overcomes the limits of x-rays, which are 2-dimensional, by programming computers to integrate many different x-rays shot from multiple angles to produce full, 3-dimensional and in-depth images of internal organs.

Mayo Clinic doctors and researchers were among the first to understand how CT scanning could benefit patients by improving diagnosis and treatment. Dr. Hillier Baker, a Mayo Clinic radiologist, was sent to England to learn more about CT technology.

A purchase made “on the spot”

Dr. Baker’s travel plans included an unusual directive. As he described, the Mayo Clinic Board of Governors granted authority “which would allow me to place an order for a scanner ‘on the spot’ if, indeed, the instrument looked to be as valuable to our practice as it appeared in our early ... introduction.” The board took this step knowing it would cost about \$350,000 (nearly \$2 million today) – comparable to outfitting several hospital rooms with standard x-ray equipment.

Upon arrival in London, Dr. Baker met Godfrey Hounsfield and other specialists. CT technology was so new that in about three hours, “I reviewed virtually all of the material then available for this remarkable machine. As I saw the images, it was obvious that ... the system was capable of displaying with remarkable clarity many pathologic processes involving the brain ... the time was ripe for Mayo to acquire this technology.”

True to his mandate, Dr. Baker placed the order for Mayo Clinic “on the spot,” although his proper British host “was somewhat taken aback by this announcement.”

Within a few months, the first CT scanner in North America was installed at Mayo Clinic, with its inventor, Godfrey Hounsfield, in attendance. Since Mayo's first CT scan on June 19, 1973, Dr. Baker explained, "This remarkable instrument not only changed the face of neuroradiology but stimulated others to devise improvements resulting in faster, more precise and higher-resolution scans."

SOURCES

1. Baker, H. 1993. "Historical Vignette: Introduction of Computed Tomography in North America." *American Journal of Neuroradiology*; Vol. 14, pp. 283-287.
2. Freiharr, G. 2014. "The Eclectic History of Medical Imaging." *Imaging Technology News*. <https://www.itnonline.com/article/eclectic-history-medical-imaging>
3. Rubin, G.D. 2014. "Revolutionizing the Practice of Medicine for 40 Years." *Radiology*; Vol. 273: No. 2 (Supplement). pp. S45-S74.
4. Impactscan.org. "A Brief History of CT." 2013. <http://www.impactscan.org/CThistory.htm>