Road Map: The History of Ultrasound

1794

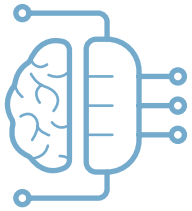
Physiologist Lazzaro Spallanzani was the first to study echolocation among bats, which forms the basis for ultrasound physics.

1877

Brothers Pierre and Jacques Currie discover piezoelectricity. Ultrasound transducers (probes) emit and receive sound waves by way of the piezoelectric effect.

1915

Inspired by the sinking of the Titanic, Physicist Paul Langevin was commissioned to invent a device that detected objects at the bottom of the sea. Laugevin invented a hydrophone – what the *World Congress Ultrasound in Medical Education* refers to as the "first transducer".

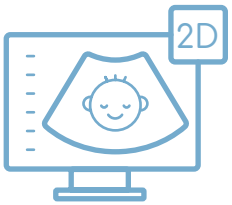


1942

Neurologist Karl Dussik is credited with being the first to use sonography for medical diagnoses. He transmitted an ultrasound beam through the human skull in attempts of detecting brain tumors.

1953

Physician Inge Edler and Engineer C. Hellmuth Hertz performed the first successful echocardiogram by employing an echo test control device from a Siemens shipyard.

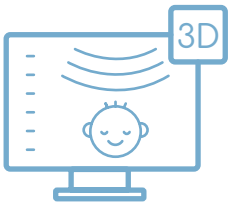


1950s

Douglas Howry and Joseph Holmes were some of the leading pioneers of B-mode ultrasound equipment, including the 2D B-mode linear compound scanner. John Reid and John Wild invented a handheld B-mode device to detect breast tumors.

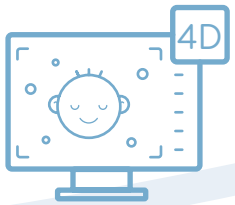
1970s

The 1970s saw many developments including the continuous wave Doppler, spectral wave Doppler and color Doppler ultrasound instruments.



1980s

Kazunori Baba of the University of Tokyo developed 3D ultrasound technology and captured three-dimensional images of a fetus in 1986.



1990s

3D imaging improvements continued into the 1990s with the adoption of 4D (real time) capabilities. Ultrasound guided biopsies (endoscopic ultrasounds) also began in the 1990s.

2000s

A variety of compact, handheld devices have come onto the market in recent years. The iPhone now has a telesonography app and NASA has developed a virtual guidance program for non-sonographers to perform ultrasounds in space.