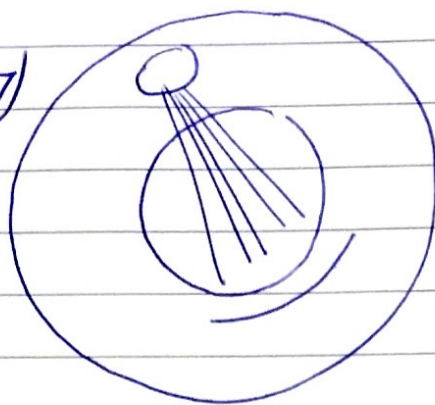


Collimated x-ray source

CT

(Hounsfield 1957)



Fan shaped beam

Collimated detector

Images built as the gantry rotates.

Patent table translates

CT slice visualised to compose numerous 3D boxes = Voxel

New technology

spiral

Helical CT pt table continuously moving $\therefore$ helical path of beam

Multi-detector = Multiple rows of detectors

$\downarrow$ time & motion artifact $\uparrow$ radiation

Hounsfield unit = Much wider range of attenuation coefficients than shades of gray that the eye can differentiate

(Black)

Air - 1000 water 0

Cortical bone 1000 (white)

ULTRASOUND

Sound of a frequency above the human audible range

Transducer

Piezoelectric crystal, contracts & expands when a voltage is applied creating sound waves

Sound wave

Transmitter = pokes through tissue
Reflection (echo)

Piezoelectric crystal converts returning signal into electrical signal

Monitor

Reflection = bright hyperechoic

Not reflecting = dark hypoechoic

frequency of sound waves
as a result of motion of source
or receiver