

The Body

3D Capture

Company: Creaform

Healthcare Portable Scanners

- Non invasive
- Quick and accurate
- Orthotics/Prosthetics
- Cranial Scanning
- Plastic/Aesthetic Surgery
- Podiatrics
- Mastectomy
- Mobility Assistance
- 3d Archiving - Won't have to create molds for casts; can be simply stored in medical record databases.



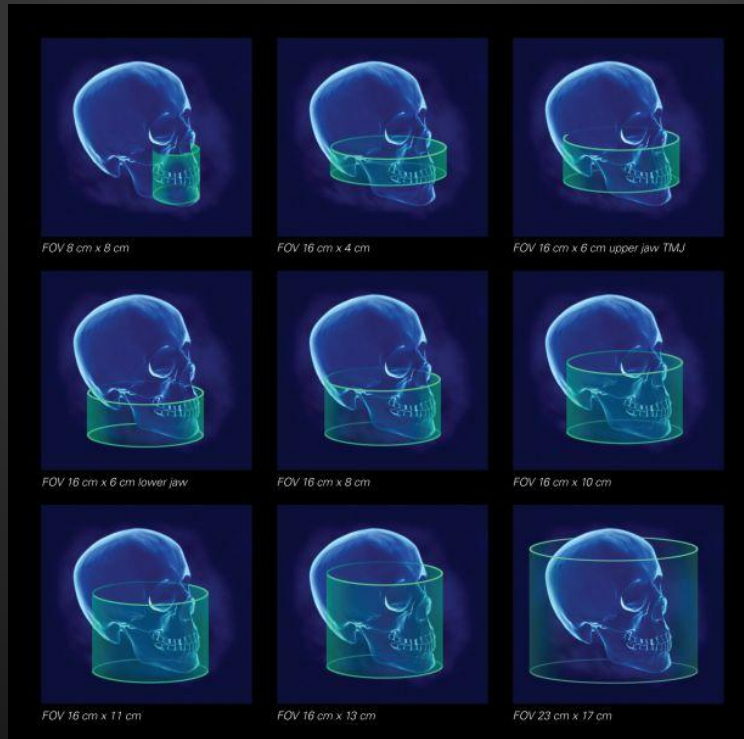
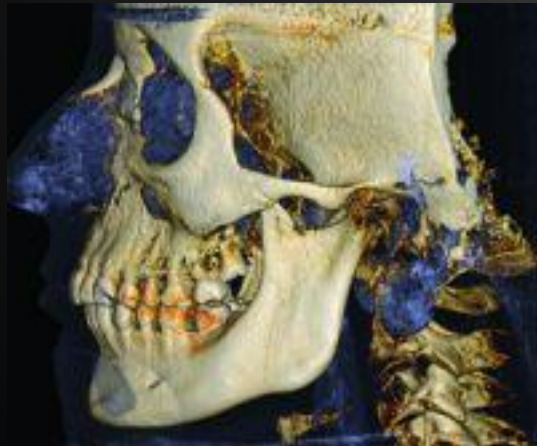
Orthotic CAT Scan (Computer Axial Tomography)

I-CAT-- Cone Beam 3D Dental imaging

Imaging Science International

i-CAT produces **high definition** 3D diagnostic images for ultimate treatment efficiency. Its push-button ease delivers maximum **control** to accurately capture each patient's unique anatomy and treatment progress.

From diagnosis, through planning and treatment, to successful case completion, i-CAT's **flexibility** allows you to select specifically desired scans to manage radiation dose control for the greatest benefit to your plan and to your patient.



Photoacoustic imaging

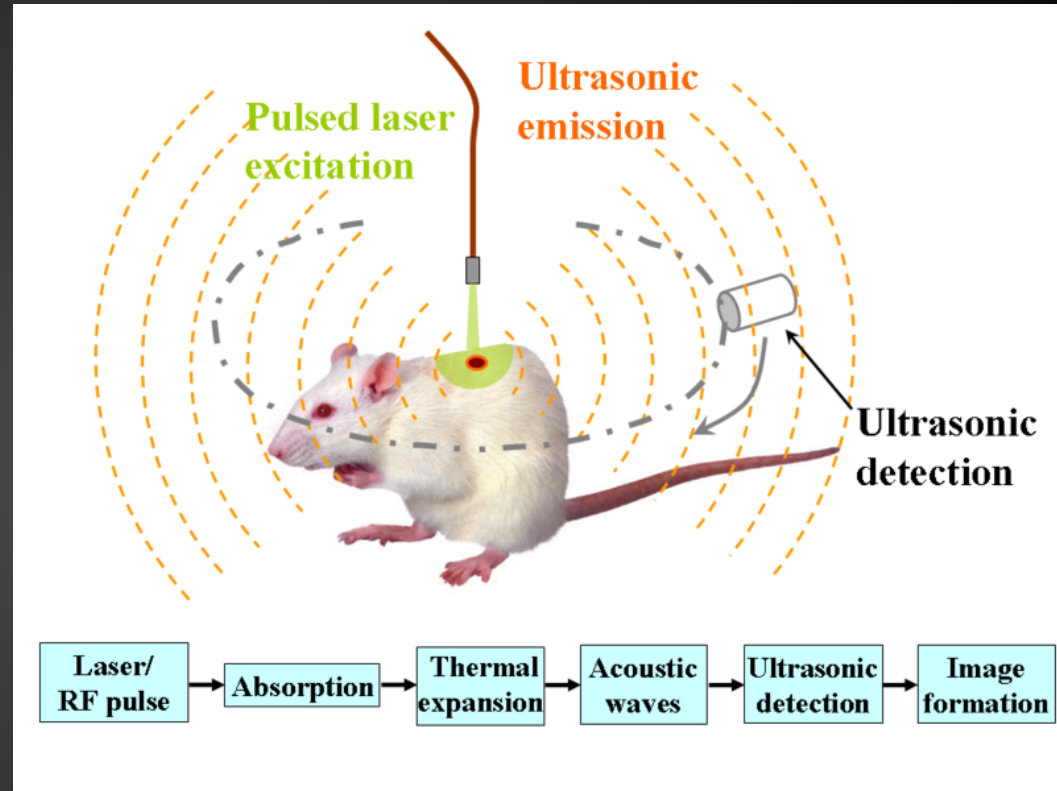
Based on the photoacoustic effect.

In photoacoustic imaging, non-ionizing laser pulses are delivered into biological tissues

Some of the delivered energy will be absorbed and converted into heat, leading to transient thermoelastic expansion and thus wideband (e.g. MHz) ultrasonic emission.

The generated ultrasonic waves are then detected by ultrasonic transducers to form images.

Is useful for for tumor angiogenesis monitoring, blood oxygenation mapping, functional brain imaging, and skin melanoma detection



MRI

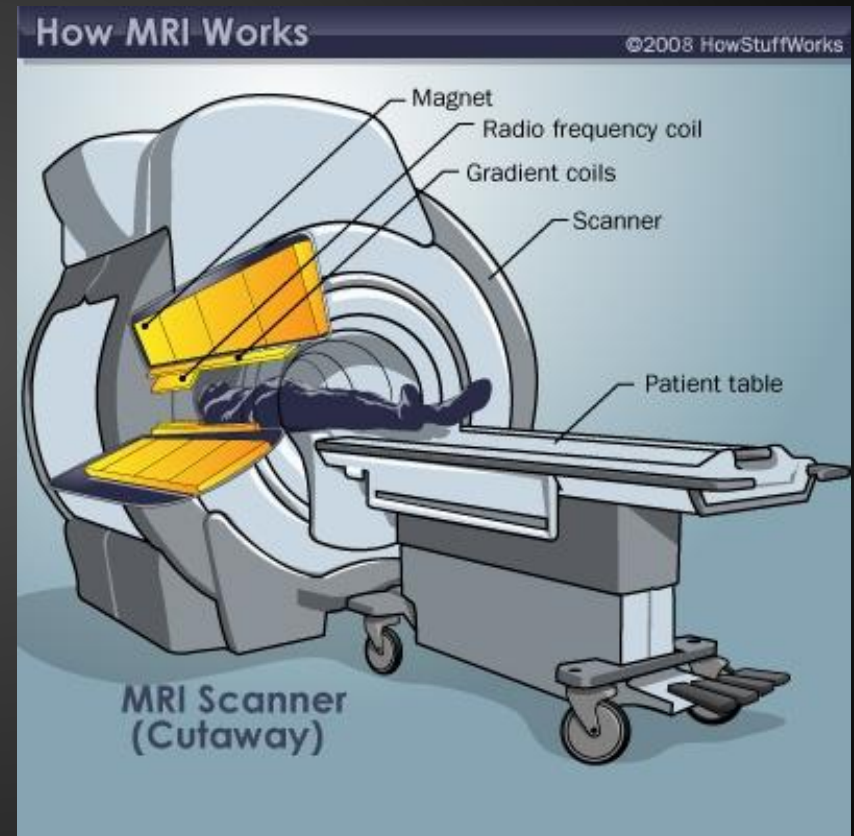
Magnetic Resonance Imaging (MRI)

Molecules with charges align with the magnetic field.

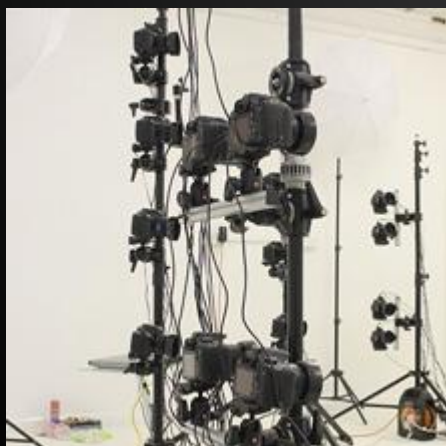
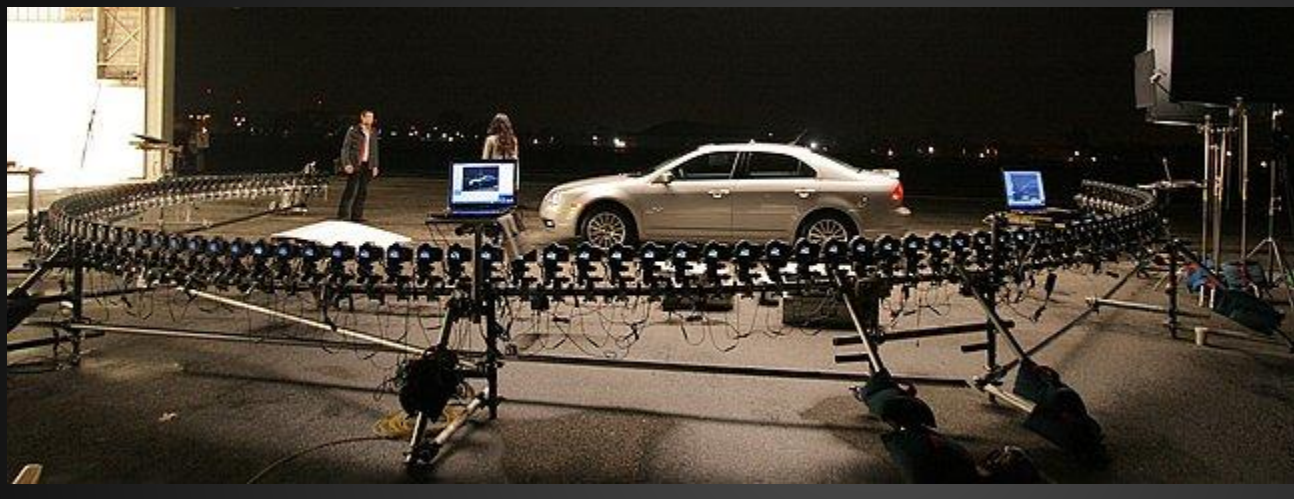
The radio signal perturbs the alignment of the charges.

The differences in rate at which the charges realign to the magnet is how the picture is formed.

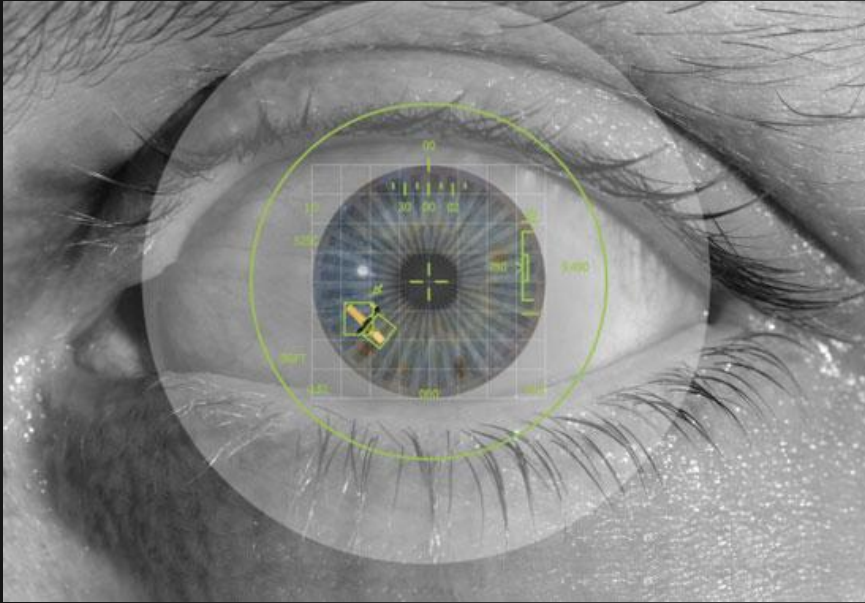
MRIs are used to distinguish between pathologic tissue from normal tissue.



Artistic Body Imaging



Retinal Scanning



Human Eye:

- Complex capillaries make each eye unique

Retinal Scanner:

- Uses infrared light
- Blood vessels absorb light
- Computer converts to code
- Data is saved