

## Applications of Medical Imaging

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The bones and inner organs of our body are covered by skin and other tissues and hence, we cannot see them with the naked eye. The phrase 'medical imaging' refers to procedures which allow us to look within the body. Medical imaging is the technological method used to examine the human body in order to diagnose, monitor and cure medical diseases. The information about the region of the body under consideration, relating to suspected diseases, injuries or efficacy of therapy is provided in each kind of technology. The most important medical imaging techniques include X-rays, Computed Tomography (CT), Magnetic Resonance Imaging (MRI), Mammograms, Ultrasound, Fluoroscopy, and Positron Emission Tomography (PET) scans.

Medical diagnostic imaging involves the use of invisible waves like sound waves, magnetic fields, or electromagnetic radiation. The waves normally come from a source positioned on the one side of the body, pass through the body and reach a sensor on the opposite side of the body. Different bodily tissue absorbs waves in variable degrees. The detector therefore creates an image consisting of shadows of different corporal tissues. Previous medical imaging technologies, such as x-rays, utilised a photodetector plate that needed film processing before being visualised. Advanced medical imaging nowadays enables images to be recorded immediately via a detection camera and images to be displayed on the monitor digitally. Although most medical imaging is carried out primarily for diagnostic purposes, it also has various additional applications. Some of the most popular applications are: Spot diagnosis, Treatment planning, Monitoring disease, Evaluation of the treatment efficiency, and age related medical issues.

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