

Biomedical engineering project:Magnetic Resonance imaging

Sauhardya Goswami

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1 Introduction

1.1 What is an MRI?

An MRI (MAGNETIC RESONANCE IMAGING) is a MEDICAL imaging Technique used in radiology to form pictures of the anatomy and physiological processes of the body .MRI Scanners use strong magnetic fields ,magnetic field gradients,and radio waves to generate images of the organs of the body .

1.2 What are the advantages of MRI?

The advantages of an MRI are as follows:- n :An MRI does not involve radiation which the biggest merit as the exposure to high energy radiation can cause damage of our somatic cells and germ cells and this chance gets curtailed in case of an MRI scan. :An MRI contrasting agent is very less likely to produce an allergic reaction unlike in case of X-RAY and CT scan examinations which involve usage of iodine based substances. :It gives extremely clear and detailed images of soft tissue structures that other imaging techniques cannot be achieve.

1.3 What are the disadvantages of an MRI?

The disadvantages of an MRI are as follows:- :The main drawback of an MRI is it takes a longer time duration for scanning the body organs or tissues . :It is cost ineffective :It is not easily portable and is less likely to be available.

1.4 Conclusion

So we see that MRI'S have a large advantage over CT SCAN and X-RAY technique and other scanning techniques so it creates a high demand of MRI machines in all hospitals but just due to it's high time consumption ,cost ineffectiveness and non -portability it makes it almost impossible to do so .Hence We should innovate and upgrade these demerits to achieve the merits and if that is possible than it would serve out to be a boon for the patients .