MAGNETIC RESONANCE IMAGING

BASIC PRINCIPLES & MAXILLOFACIAL APPLICATIONS

LIBRARY DISSERTATION

Submitted to the Department of Oral Medicine, Diagnosis & Radiology in partial fulfillment of the requirements for the degree of

MASTER OF DENTAL SURGERY

In the speciality of

ORAL MEDICINE, DIAGNOSIS & RADIOLOGY

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DR. RAM KUMAR K.

Department Of Oral Medicine. Diagnosis & Radiology
S.D.M. College Of Dental Sciences And Hospital.
Dharwad

"Magnetic Resonance Imaging" - is a modern imaging modality capable of producing cross-sectional images of human body in any plane without exposing the patient to ionizing radiation.[1] Magnetic Resonance images are produced by the interaction of the body's hydrogen nuclei, high energy magnetic fields, and radio frequency pulses.

Magnetic : Having powers of attraction : very attractive : Alluring.
- Operating by means of magnetism.

Resonance : The reinforcement or prolongation of sound by reflection, as from the walls of a hollow space, or by the synchronous vibration of a neighbouring object.

Imaging : The clinical application of an external source of energy to produce the image of internal morphology of the patients.

Magnetic Resonance imaging (MRI) is a non invasive method of mapping the internal structure of the body which completely avoids the use of ionizing radiation and appears to be without any hazards. It employs radio frequency (RF) pulses in the presence of carefully controlled magnetic fields in order to produce high quality cross-sectional images of the body in any given plane. It portrays the distribution of hydrogen nuclei in different tissues and their motion in water and lipids. M.R.I. has the advantage that the contrast between