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**NEW TECHNOLOGIES IN MEDICINE AND THEIR**

**ETHICAL ASPECTS**

Days gone by, mortality rates were very high in a number of countries, especially in the developing world, due to a number of reasons varying from lack of resources and technological advancements to the cost containment which was unattainable, both for research and development and for clinical use, particularly for new technologies such as personalised medicine.

Magnetic imagine resonance scan (MRI) is a radiological technique that uses magnetism, radio waves, and computer to produce images of body structure. MRI is indicated for brain e.g. tumours, temporal lobe epilepsy, etc. for Spinal cord, e.g. radiculopathy, myelopathy etc. for musculoskeletal diseases e.g. joints for derangement, post trauma etc. for abdomen and pelvis e.g. inflammation, prostate and cervical carcinomas. Cardiac, e.g. ischemia, congenital malformation. Pregnancy e.g. determining the location of the placenta, and foetal anomalies. It is contraindicated for patients with an artificial pacemaker, defibrillator, metallic foreign body, cerebral aneurysm clip etc.

Positron emission tomography (PET) scan is a imaging test. It uses a radioactive substance called a tracer, to look for diseases in the body. It shows how organs and tissues are working. It is indicated for cancer, heart problems, brain disorders and diseases of central nervous system, etc. it is contraindicated in recent chemotherapy or radiotherapy can make interpretations difficult. Very obese patients may not fit in the opening of the PET scanner.

Computerised tomography (CT) scan makes use of computer processed combinations of many X-ray images, taken from different angels, to produce cross sectional images of specific area of a scanned object. CT scan is contraindicated in pregnancy, young age, claustrophobia, contrast allergy. It is indicated for multiple sclerosis, epilepsy, tumours, head injuries, etc.

Fine needle aspiration is a type of biopsy procedure. A thin needle is inserted into an area of abnormal appearing of tissue. It is helpful in making diagnosis to rule out conditions such as cancer. It is contraindicated in testicular malignancies, bleeding disorders, etc.

Ventilation perfusion (VQ) scan is a nuclear medicine that uses radioactive material to examine airflow and perfusion in lungs. The aim is to look for any evidence of blood clot in lungs. It is indicated in suspected pulmonary embolus, assessment of regional lung function. VQ scan has no absolute contraindications.

Sound ethical conduct, apart from taking into consideration the indications and contraindications for various medical diagnostic procedures. A patient should be well informed about the intended diagnostic procedure and the positive and negative risks involved, even if the risk is much lower. A patient should sign a concert form, according the protocol of WHO or the protocol for that particular country, indicating that he/she agrees and therefore gives concert for that particular procedure to be performed on him/her. Finally, the signed informed concert form and proper recording of everything do on the patient is very important in the sense that it is the most considered thing that can save a doctor from the ruthless of law. It is worth remembering that what is not written is not done, according to any credible court of law.