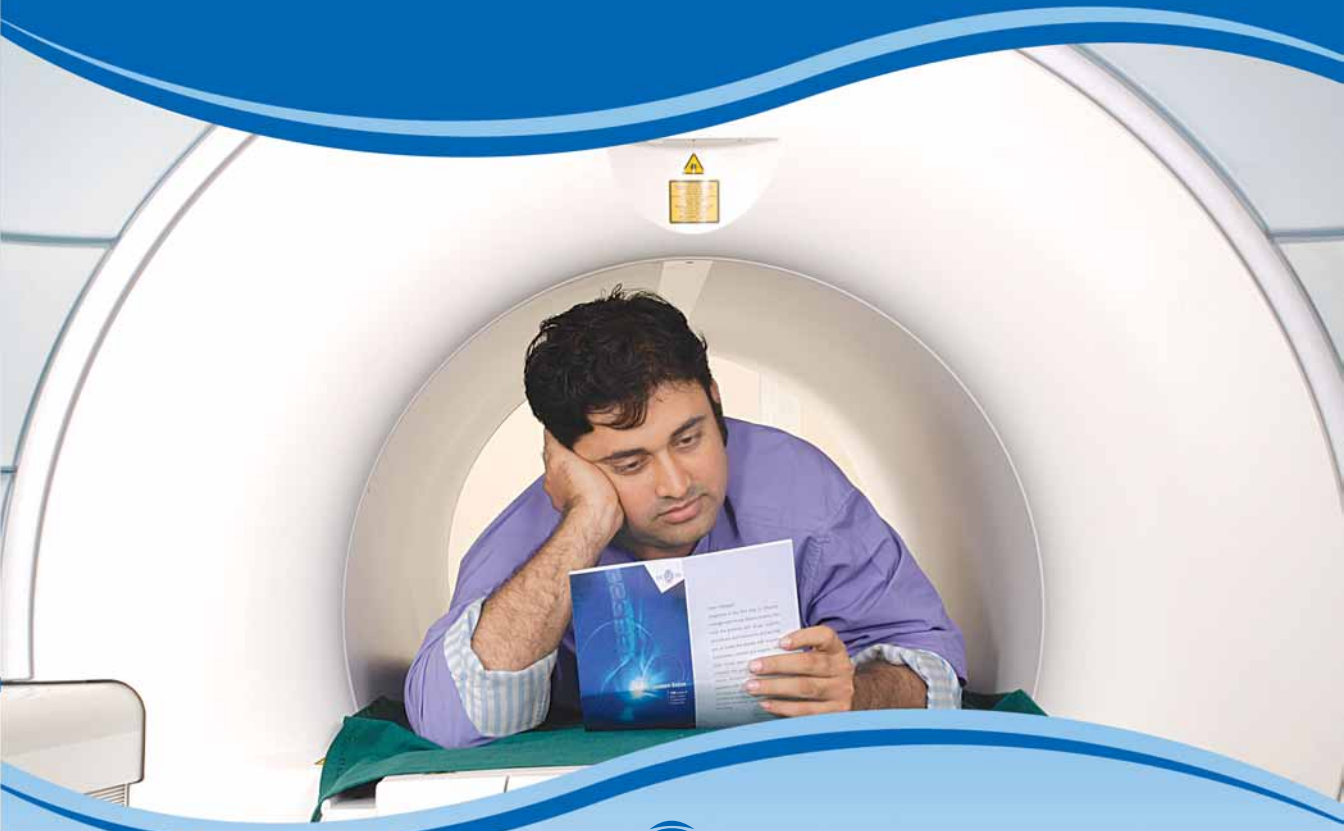
MRI Redefined



Ethics Knowledge Organisation

Trend-setting Facility

EKO has always put its best effort forward to bring accuracy and comfort, personalized service and greater access, to both physician and patient.

With the introduction of the first-of-its kind **3 Tesla MRI System** we strive to exceed your expectations by providing a comfort-enhanced environment that brings together the technology, imaging, skills, expertise, responsiveness, and excellent care physicians require and patients deserve.

State-of-the-art MR Imaging

3T Imaging of EKO X-Ray & Imaging Institute is the first imaging center in India to offer the new Siemens 3Tesla Magnetom Verio.

This cutting edge technology had previously been confined to research facilities. The 3T Magnetom Verio is setting a new standard in medical imaging. And both patient and physicians have a new reason to be excited.

The Magnetom Verio offers:
Excellent and high-accuracy image quality
Superb diagnostic capabilities
Maximum patient comfort
Shorter scan time

The new standard in MRI

TIM - Total Imaging Matrix, is a revolutionary technology from Siemens with an innovative matrix coil concept which allows seamless whole-body imaging. Which means your patient is covered with matrix coils over all body parts for scanning. This eliminates the need for patient repositioning and rescanning.

The 70 cm bore opening – Patient comfort

- Put your patients at ease with more space, limit claustrophobic rejections, sedate fewer patients & capture sharper images, thanks to less anxiety related movement.
- Accommodate special needs and conditions like kyphosis, respiratory problems, pain & mobility issues.
- Image a wider range of patients - obese population, pediatric & elderly patients, ICU patients, or those dependent upon MR compartible medical equipment.
- Broaden clinical possibilities - Easy access in interventional MRI & opportunities to perform more kinematic studies with 3 Tesla.

Magnet Power

Tesla (T) is the unit of measurement quantifying the strength of a magnetic field. Prior to the 3 Tesla Machine, the standard high-field in clinical imaging was 1.5 Tesla. The EKO Siemens 3Tesla Magnetom Verio scanner *generates a magnetic field that is twice the strength of 1.5 Tesla machines* and 10 to 15 times the strength of low field or open MRI scanners. The magnetic field produced by this 3T Magnetom Verio MRI System therefore yields exceptional anatomic detail. The increased image clarity revealed by 3T is particularly beneficial for pathological conditions involving the brain, spine, and musculoskeletal system.

MR imaging with 3T magnet gives higher resolution images than lower field strength magnets.

Enables better detection and characterization of lesions leading to higher diagnostic confidence and more accurate diagnosis.

Why 3T?

Advantages of 3T MRI over 1.5T

- Higher signal to noise ratio – Better image quality
- Higher resolution images in shorter scan times
- Higher contrast to noise ratio
- Thinner slices possible, hence less skipped areas
- Better fat saturation
- Better Angiography – Both intracranial and contrast enhanced MRA of the body and peripheral vessels
- Superior Spectroscopy, functional MR & DTI
- High resolution Prostate imaging without endorectal coil

When to ask for 3T?

1. Neuro Imaging – Evaluation of Epilepsy, Congenital Brain Anomalies, Brain Tumors, MR Spectroscopy, Functional MRI & DTI
2. MR Angiography
3. Musculoskeletal Imaging
4. Cardiac MRI
5. Abdominal & Pelvic Imaging
6. Whole Body Metastases Screening

MRI Services

High Field MRI – 3T

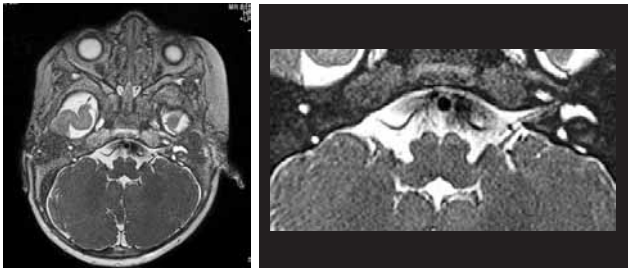
- Brain
- Cranial nerves
- Orbits
- Pituitary
- Cervical spine
- Thoracic spine
- Lumbar spine
- Brachial plexus
- Neck soft tissue
- Chest/cardiac
- Abdomen/pelvis
- 3D MRCP - free breathing
- MR Urography
- MR Spectroscopy of brain & prostate
- Diffusion & perfusion MRI of brain
- Functional MRI
- Whole body MRI
- Diffusion MRI of body
- High resolution MRI of joints
- Shoulder/elbow/wrist/hip/osseous pelvis/ankle/foot

Magnetic Resonance Angiography (MRA)

- Intracranial MRA
- Carotid/neck MRA
- Thoracic aorta MRA
- Abdominal aorta/renal MRA
- Peripheral runoff MRA

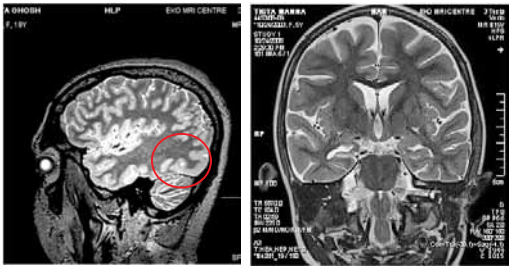
Neuro Imaging

MRI allows superior visualization of anatomy of central nervous system with its unmatched soft tissue contrast & high spatial resolution. Other features such as spectroscopy & perfusion imaging provide valuable information on metabolism & functions of brain tissues.



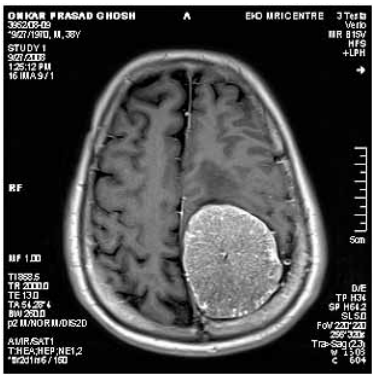
5 months infant with congenital
facial palsy with absence of Rt. Facial nerve

EVALUATION OF EPILEPSY

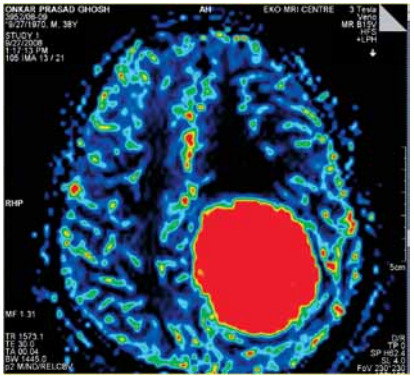


Pachygyria occipital cortex

Rt. Mesial temporal sclerosis



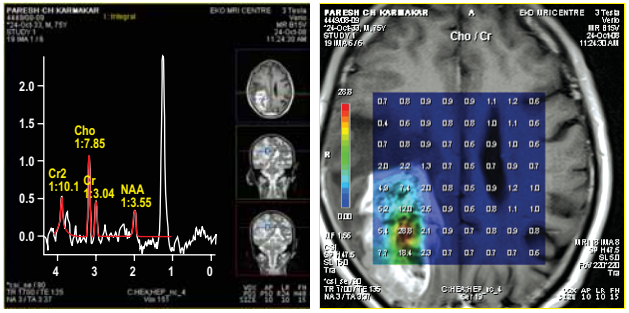
Meningioma



Perfusion MRI rCBV

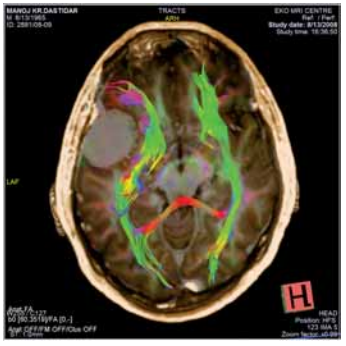
Diffusion Imaging
Ischemic Stroke (Infarct)

Neuro Imaging

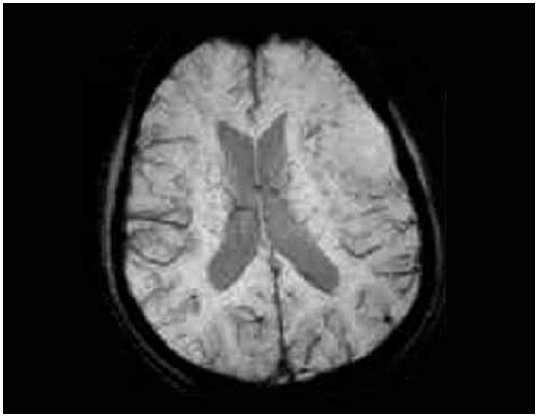


MR Spectroscopy – Brain Neoplasm

3D MRI



Diffusion tensor imaging



SWI

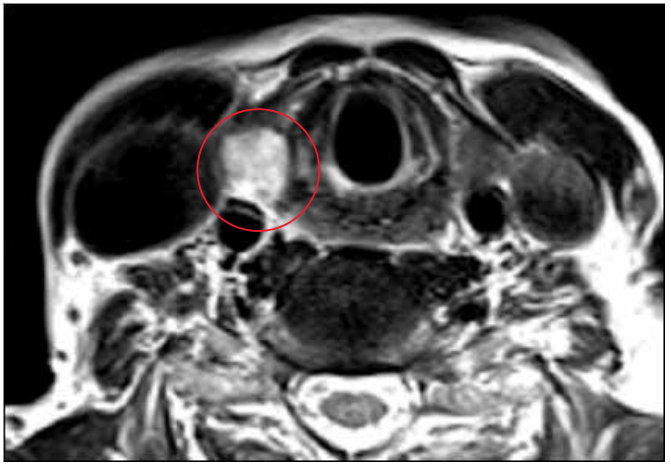
Syngo SWI (Susceptibility Weighted Imaging)

Visualization of local changes of the magnetic field due to tissue properties in general and due to the presence of deoxygenated blood or blood decomposition products

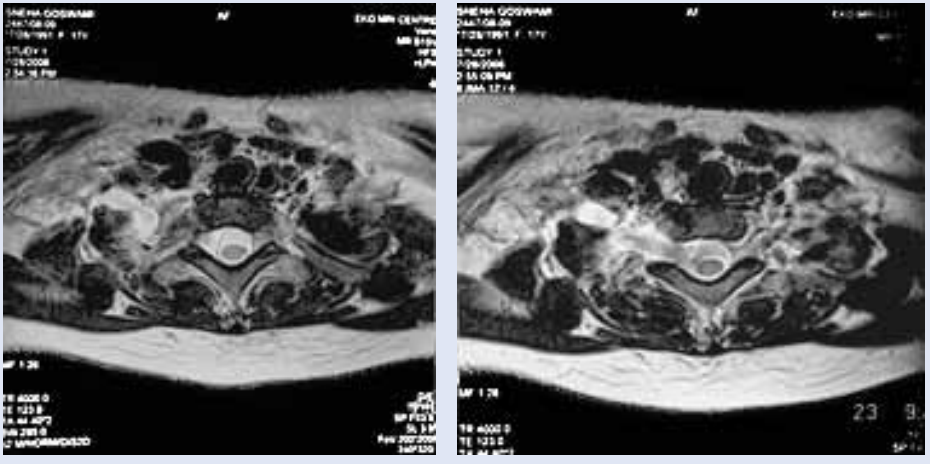
- Increases sensitivity to intracerebral hemorrhage
- Susceptibility weighted imaging with 0.5 mm inplane resolution and 1.2 mm slice thickness
- Visualize intracranial bleeding and venous structures. Improve visualization of contusions, shearing injuries and minute intracranial vascular malformations.

Head & Neck Imaging

Maxillary CA



Parathyroid Adenoma



Root avulsion Rt. Brachial Plexus

Cardiac and Vascular Imaging

MRI has proved to be useful in evaluation of cardiac problems like congenital heart disease, IHD, ARVD, Cardiomyopathy, cardiac tumors and pericarditis. It gives an overall view of cardiac morphology and function.

Short axis view

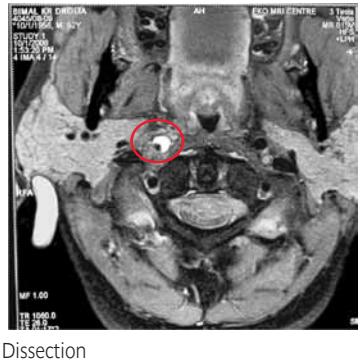
4-Chamber view

Non-Contrast MRA of intracranial arteries

Contrast Enhanced MRA of extracranial carotid & vertebral arteries

Plaque imaging

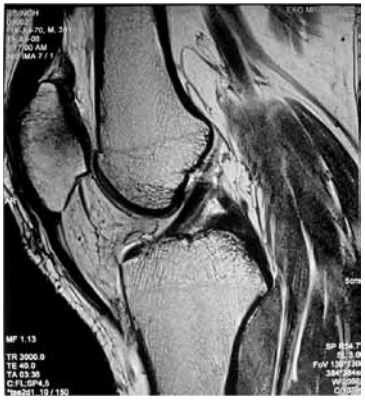
Right internal carotid artery dissection with eccentric mural thrombus in proton density weighted axial images for carotid plaque imaging.



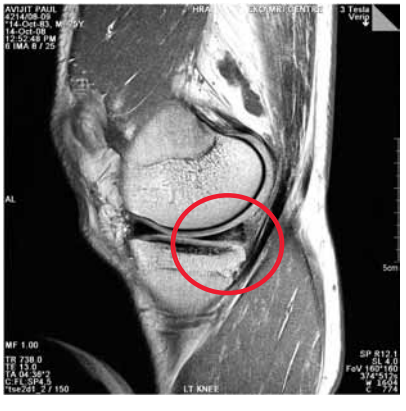
Right ICA Dissection

Musculoskeletal Imaging

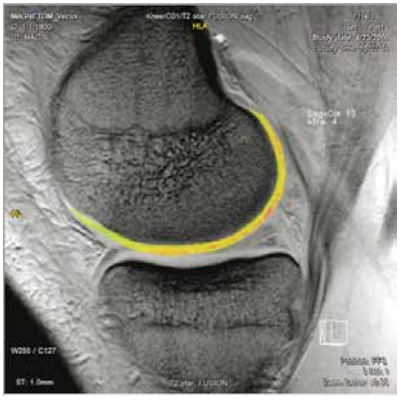
MRI is a primary tool used for investigating musculoskeletal disorders. The examination range extends from intra and peri-articular abnormalities to bone marrow, muscle & other soft tissues. Cartilage, nearly invisible with X-ray based modalities is visualized in great detail allowing direct, assessment of cartilaginous lesions in osteo-arthritis & trauma. MR imaging shows the highest sensitivity for otherwise occult bone injuries. High signal to noise ratio of 3Tesla MRI ensures greater clarity of menisci, ligaments and bone marrow.



Chondromalacia patella



Degenerative change posterior limb of medical meniscus



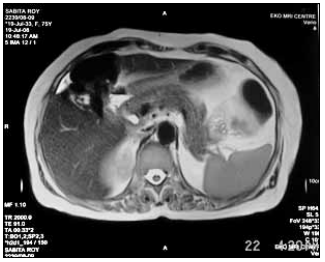
MAPIT to evaluate cartilage degeneration

Avulsion injury base of Rt. 3rd Proximal Proximal

Soft tissue masses of extremities

Abdominal Imaging

MRI facilitates large anatomical coverage of abdomen & pelvis with great speed, ensuring high spatial resolution. Its intrinsic benefits of noninvasiveness, lack of radiation & excellent soft tissue contrast make MRI the preferred diagnostic tool for majority of body applications like lesions of abdominal and pelvic organs, 2D and 3D imaging of abdomen, MRCP, MR Colonography & MR Fistulogram.



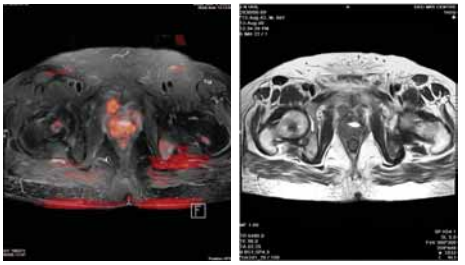
MRI of Pancreas Axial view

Free breathing 3D MRCP

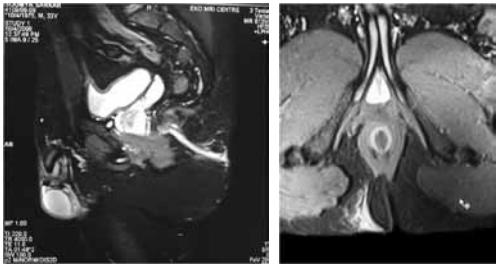
Ampullary Neoplasm

MR Urogram

Prostate



Ca Prostate Diffusion MRI



MR Fistulogram

Villous adenoma of rectum

Whole Body Imaging

MAGNETOM Verio features a unique telescopic patient table which enables a full Field of View of 196CM, without increasing total system length. No additional table extension is required. The large FoV helps in imaging metastases with sequences such as TIRM (Turbo Inversion Recovery). Whole – Body MR Angiography is possible on the entire volume with iPAT. Smax. Scan range of 196 cm S Protocols and programs for Whole-Body MRI.

Contrast Enhanced MR Angiography

Diabetic patient with multiple stenotic segments in peripheral arteries of lower limbs

Superior Mesenteric Artery Aneurysm in a patient of pancreatitis

Whole body MRA

Whole Body Metastasis Screening

Special mention has to be made of whole body metastasis screening by MRI which has proved to be of high sensitivity in detecting secondary deposits in the bones as well as soft tissue structures.

Conscious Action

EKO has always believed in the power of positive thinking and translating that into positive action. All its efforts and success stories and breakthrough achievements bear testimony to that. Sensitivity is at the core of EKO's philosophy of service – for physicians, for patients, for a greener environment and for society at large. Conscious action is EKO's chosen path.

3T + 70 cm + Tim

- A unique combination of 3T and 70 cm Open Bore
- The shortest 3T system on the market today

EKO

Ethics Knowledge Organisation

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