

# MRI - Siemens Magnetom Avanto 1.5T System

We are pleased to announce the installation of our Siemens Magnetom Avanto 1.5T System – a revolutionary new MRI (Magnetic Resonance Imaging) scanner that enables our radiologists to obtain the highest resolution full-body images faster, helping physicians to diagnose and treat patients more effectively.

Our MRI system delivers unsurpassed diagnostic detail, allowing us to provide you comprehensive MR exams from head to toe, and better diagnosis for all forms of disease.



## Systemic Diseases Up To Whole Body

- Metastases evaluation
- Whole-body Angiography

## Brain, Neck and Spine Studies

- Whole CNS from brain to sacrum
- High resolution tissue and vascular imaging
- Diffusion and perfusion imaging, functional MRI

## Body Imaging

- Ultrafast high-resolution 2D and 3D imaging for abdomen, pelvis, MR Colonography, pancreas and other organ studies using rapid techniques to deal with motion artifacts
- Complete range of MR Angiographic examinations of body vasculature

## Improvements Over Previous System

- Utilization of the world's first TIM (Total Imaging Matrix) system providing up to 100% increase in image quality with a decrease in scan times for improved patient throughput. TIM technology allows higher resolution and the ability to perform multi-region exams without patient repositioning.
- Improved overall patient comfort.
  1. Patient comfort is greatly enhanced due to feet-first exams for virtually all applications.
  2. Accelerated scan times.
  3. Larger bore entrance. Shorter bore length.
  4. Whole body coverage. No repositioning of the patient.
  5. Up to 97% noise reduction.

**The Imaging Centers at Grace & Valdese Hospitals**

X-ray | Ultrasound | Nuclear | CT | MRI | PET | Mammogram | Interventional

## Improvements in Scanning Applications Over Previous System:

- **Neuro Suite** - The Neuro Suite is part of the Tim Application Suite. Comprehensive head and spine examinations can be performed with dedicated programs that are optimized for clinical examinations. High resolution protocols and fast protocols for uncooperative patients are provided, as well as protocols optimized for pediatric applications. Neuro Suite also includes protocols for diffusion imaging, perfusion imaging and Functional MRI (fMRI).
- **Angio Suite** - Excellent MR Angiography can be performed to visualize arteries and veins with or without a contrast agent.
- **Body Suite** - The Body Suite is dedicated for clinical body applications. Ultrafast high-resolution protocols are provided for abdomen, pelvis, MR Colonography, MRCP, dynamic kidney, and MR Urography applications. By employing technology is to allow much faster breath hold scans as well as free-breathing techniques during the procedure, common motion artifacts are reduced/removed.
- **Pediatric Suite** - The parameters for pediatric imaging vary significantly in comparison to the parameters for adults. The reasons for the difference in parameters are: developing tissues, body size, faster heart rates, and compliance with breath-hold commands. The Pediatric Suite provides dedicated protocols for pediatric imaging by age groups, e.g. available for tumors, malformations, and epilepsy in the brain as well as functional imaging and contrast enhanced MR Angiography.
- **Ortho Suite** - The Ortho Suite is a comprehensive collection of protocols for joint imaging including the spine. Avascular necrosis and internal derangements may benefit from MR. Also in the case for tumors and infections, a large amount of additional information can be acquired using the protocols provided as standard material in this suite.
- **Oncology Suite** - MR imaging has the biggest advantage of excellent soft-tissue contrast, multi-planar capabilities and the possibility of selectively suppressing specific tissue e.g. fat or water. The helps in the detection of pathologies, particularly metastases. The Onco features a collection of sequences as well as protocols and evaluation tools that guide through a detailed screening of clinical questions.

## Improvements in Scanning Applications Not Currently Offered But Coming Soon:

- **Cardiac Suite** - The Cardiac Suite covers the complete application range from morphology, ventricular and valvular functions to dynamic signal, late enhancement, coronary imaging and angiography.
- **Oncology Suite** - Future improvements include protocols and breast evaluation post-processing programs for comprehensive breast imaging.

**MRI services are available at Grace and Valdese Hospitals. For more information on these services please contact either Grace Hospital MRI at 580-6963 or Valdese Hospital MRI at 879-7504.**