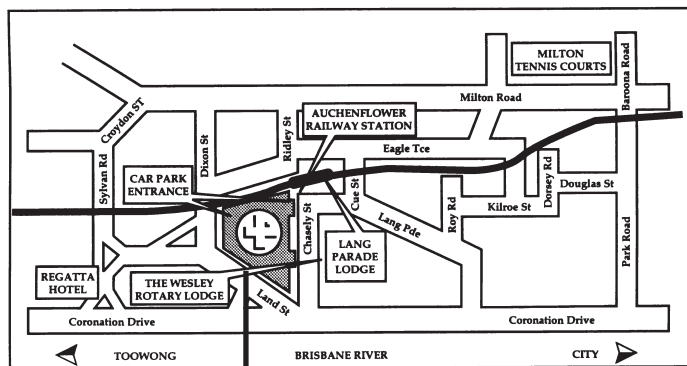


# Southernex

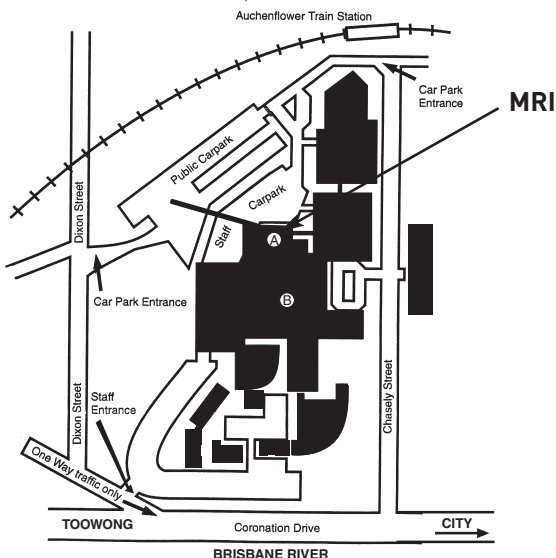
Imaging Group Ltd

June 2004



## HOSPITAL LAYOUT IN MORE DETAIL

- A Day Centre, Wesley Hospital XRay Dept. Level 2 – MRI
- B Main Hospital, including The Wesley Emergency Centre



INCORPORATING SOUTHERN X-RAY CLINICS • CLARKE & ROBERTSON RADIOLOGY • THE WESLEY PET CENTRE

## MRI

### Patient Information

#### MRI - WHAT IS IT?

MRI was first used clinically in the 70s, but was introduced in Queensland in 1987. The MRI unit at the Wesley has been established since 1995, with the facility at Southern X-Ray Clinics completely updated in 2003. In addition to a Siemens Symphony 1.5 Tesla magnet, there is a dedicated 1.5 T cardiac magnet, jointly operated by the Wesley and the University of Queensland, as well as a 4 Tesla research magnet owned by the University.

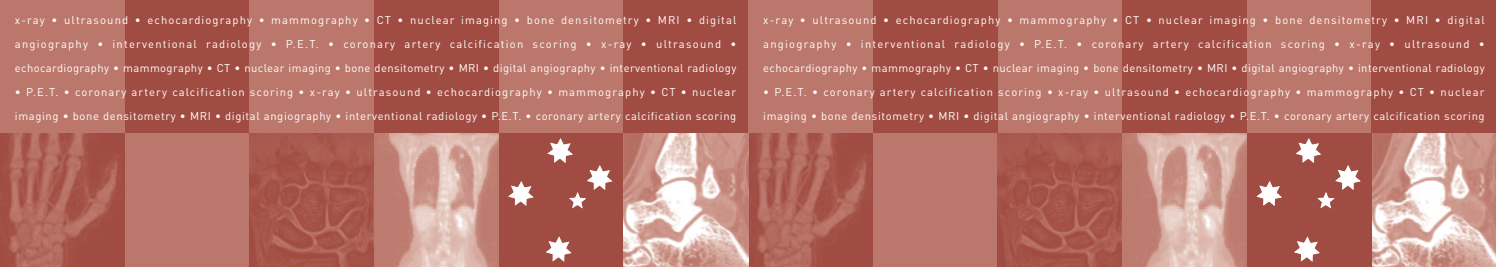
MRI uses a strong magnetic field and low energy radio waves to cause a temporary excitation of the body's protons within water molecules. The strength and manner in which this energy is re-emitted is characteristic for a particular body tissue, and is used to create a three dimensional image in shades of grey. The anatomical detail is superior to most other imaging modalities and the sensitivity to many types of pathology is unique to this test.

#### SAFETY

To the best of our knowledge, both the magnetic and radio energy is not harmful to normal tissue, despite extensive in vivo and in vitro research. However, the strong magnetic field means that any iron containing or potentially magnetised metals can be drawn with extreme force into the magnet centre. Patients are asked to remove all jewellery, coins, watches, credit cards and street wear and change into a hospital gown for reasons of safety and comfort.

Patients who have pacemakers or any electromagnetic implants are prohibited from entering the magnet or its surrounds under any circumstances. Some surgical implants may not be safe, and all patients must complete a questionnaire before the examination to ensure there are no risks to them having the scan.

Pregnant patients are advised not to have the scan unless it is absolutely medically essential. Theoretically, MRI should



be safer than a CT scan, where the use of ionising X-rays is known to be potentially harmful to the unshielded foetus.

With cardiac scans, the patient is monitored with ECG leads to check the heart rhythm. There have rarely been reported cases of electrical burns as a result of incorrect lead placement or patient positioning. Great care is taken with this and it is important to follow the radiographer's directions at all times, and report any concerns. All patients are constantly monitored visually and via two way audio communication. All patients also have a rubber ball to squeeze, setting off an alarm so that the scan can be instantly aborted if necessary.

Some procedures will require an injection of a contrast agent (gadolinium) into a vein in the arm. This has a much lower incidence of allergy than other radiologic (iodine containing) contrast agents.

Occasionally scans performed are quite noisy, but appropriate ear protection will be supplied in this instance to avoid any ill effects.

### **CLAUSTROPHOBIA**

Where possible, it is most helpful if patients can indicate to booking staff that there might be a problem with being confined in enclosed spaces (claustrophobia) in advance. In this instance their booking will be scheduled during routine working hours so that there will be adequate nursing staff to assist with any sedation required. Usually patients can manage to complete the study with a light dose of midazolam, which is a short acting valium like agent. Following this injection, you cannot drive for at least 6 hours, operate heavy machinery or make any legally significant decisions for 24 hours after sedation.

Some patients require general anesthesia, but this is rare. The current magnet is only 1.2 meters long and has the largest aperture available of 60 cm, so claustrophobia is less of a problem than in older systems.

### **WHAT TO EXPECT**

The scan will take 20 to 60 minutes. Each set of pictures may only take two or three minutes, but it is important to lie very still during the acquisition of the images. The magnet will make a loud knocking sound, somewhat like an electric guitar or drill. You may bring music to listen to during the scan.

A plastic device known as the coil usually covers the part of your body to be scanned, and this contains a device for receiving the radio wave signals which make the pictures.

### **DELAYS**

Where possible, appointment times are closely adhered to, but each patient has an individualised study to some extent, depending on the nature of their problem. Some problems are more complex than others, and unexpected long scan times may be required. As this is a hospital based practice, there is also the potential for emergency cases. While bookings are set aside for these cases, it is not always possible to predict the volume of such work, and we appreciate the patience and understanding of our patients in accommodating others in this situation.

### **RESULTS**

Your results may not be available for 24 hours or more, particularly if the films are being couriered, but any serious findings are telephoned through to the doctor. It is imperative that you bring any old films and notify our staff if the results are required urgently.

### **MEDICARE ELIGIBILITY**

Medicare will only provide a rebate for scans referred by a medical specialist and if the reason for the scan falls into one of their many strict criteria. Most scans of the brain, spine, joints and limbs are Medicare eligible.

MRI imaging of the heart for causes other than congenital heart disease or tumors, imaging of the bile ducts, liver, pancreas, pelvis, or breasts or scans performed on different limbs for the same type of problem within a twelve month period are not usually eligible for a Medicare rebate. For full details of medical eligibility and Southern X-Ray Clinics gap fees, please speak to our booking staff on **(07) 33719588**.

**For further enquiries about this procedure, contact our rooms at:**

The Wesley Hospital (07) 3371 9588

[www.southernxray.com.au](http://www.southernxray.com.au)