

## **THE MRI SCAN**

### **What is an MRI scan?**

- MRI stands for Magnetic Resonance Imaging
- It produces high quality pictures of various parts of the body without using x-rays
- The scan was introduced in the early 80s

### **How does it work?**

- The scanner uses a strong magnetic field and radiowaves to measure the magnetic properties of body tissues
- Using a computer, this information is converted into a black and white picture
- The picture helps the doctor detect and define the differences between normal and abnormal tissue
- This is a painless procedure

### **What happens before the scan?**

- Watches, jewellery, coins and credit cards should be removed because they may be affected by the magnetic field
- The radiographer will ask you about any metal in or on your body, perhaps from a previous operation or accident
- You should tell the radiographer if you cannot lie flat comfortably or suffer from claustrophobia
- You should also tell the radiographer if you are or might be pregnant

### **What happens during the scan?**

- The scan takes between 15 minutes and an hour
- At the start of the scan you are moved on the couch into the scanner
- You will not be totally enclosed and will be able to talk with the radiographer throughout via an intercom
- Whilst the pictures are being taken you will hear a loud knocking noise
- There will be a short pause between each set of pictures when the scanner will remain quiet
- A friend or relative may accompany you into the scanning room and stay with you throughout (having first removed metal objects)

### **Will you need to have an injection?**

- If needed a contrast agent will be given by injection into a vein in your arm
- Using a contrast agent or dye helps to show more detail on the scan
- The radiographer may take several scans before the dye is injected and then more after the injection

### **What happens after the scan?**

- There are no after effects
- The radiologist will produce a report that will be sent to your doctor
- The radiographer will not be able to give you the result

### **What about children having MRI scans?**

- The procedure is the same for children as for adults
- Children may be given a sedative or short anaesthetic to help them stay still during the scan

**NB — PATIENTS who have Neurofibromatosis type 2 and who are Auditory Brainstem Implant (ABI) users should discuss using MRI scans with their specialists.**

## **THE CT SCAN**

### **What is a CT scan?**

- CT stands for Computerised Tomography
- It was developed in the early 70s
- The scan produces cross sectional pictures of the body on a computer screen

### **How does it work?**

- A rotating beam of x-rays is used to produce a picture
- The scan is painless

### **What happens before the scan?**

- All metal objects e.g. jewellery, coins, glasses, dental braces should be removed
- You should tell the radiographer if you cannot lie flat comfortably, if you suffer from claustrophobia and if you are or might be pregnant

### **What happens during the scan?**

- The scan takes between 15 to 45 minutes
- The couch will move slightly to different positions in order to take pictures from different angles
- The radiographer will be able to see you throughout and you will be able to speak to each other via an intercom
- As the CT scan involves the use of x-rays, friends or relatives may not be present in the scan room

### **Will you need to have an injection?**

- As in the MRI scan the contrast agent helps to give more detailed pictures

### **What happens after the scan?**

- There are no after effects
- The radiologist will produce a report that will be sent to your doctor
- The radiographer will not be able to give you the result

### **What about children having CT scans?**

- The procedure is the same for children as for adults
- Children may be given a sedative or short anaesthetic to help them stay still during the scan.

## **THE PET SCAN**

### **What is a PET Scan?**

- PET stands for Positron Emission Tomography
- PET scans are occasionally used in neurofibromatosis, and might be used more frequently in the future, to establish how fast a lump is growing

### **What happens during the scan?**

- The dye is first attached to a glucose molecule and given about 1 hour before the scan
- The PET scanner can then tell how much glucose a lump is taking from the bloodstream. If the lump is growing fast it will take up a lot of glucose. If not, it will only use as much as the rest of the body
- The PET scanner is more like a CT scanner which means you are not as enclosed as with an MRI scanner
- You have to be able to remain still for long periods.
- You may be required to return after 3 hours for another scan

### **Will you need to have an injection?**

- As with other scans you are given a dye by an injection into your arm

### **What happens after the scan?**

- A report will be produced and sent to your doctor

### **Staff in the radiology department**

**Radiologists** are doctors who are specially trained to interpret scans. They will write a report on your examination which will be sent back to the specialist that referred you for a scan.

**Radiographers** are the people who carry out the scan. The radiographers have had special training to enable them to work in all areas of the department and to use the scanning equipment.

**Radiology nurses and neuro-radiology nurses** work with the radiologists during the more specialised procedures.

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