

PET/MRI scanning

Including FDG, Methionine, Acetate, PIB, PSMA, Fluoride, Metomidate

In a PET/MRI study, positron emission tomography (PET) and magnetic resonance imaging (MRI) are performed at the same visit. PET scanning examines metabolism, while MRI scanning provides a detailed image of body structures.

The scanning visit takes about 3 hours in all.

Possible obstacles to the study

Please **notify the PET Centre in advance** if any of the following apply to you:

- You have a cardiac pacemaker, an ear prosthesis, a metal prosthesis, surgical clips, fragments, metal chips, a drug pump, or a nerve stimulator
- You wear dental braces or a retainer
- You are pregnant or think you might be pregnant
- You are breast-feeding an infant
- You weigh more than 120 kg. The scanner opening is 60 cm in diameter.

If you have a medication patch or a glucose meter, they will be removed in our department. Do not replace them before the study. Dental fillings, sterilisation clips, and intrauterine devices are permissible for the study.

How to prepare

It is important for you to have **a blood glucose level below 10 mmol/L** when you arrive for the study. Therefore, please follow these instructions:

- **Do not eat for at least 6 hours** before your appointment.
- While you are fasting you may drink as much water as you like, but nothing else.
- Chewing gum and pastilles are also excluded on the day of the study.

Please also keep the following in mind:

- Avoid physical exertion (bicycling, running or going to the gym) for 24 hours before the study.
- Do not drink alcohol for 24 hours before the study.
- Do not smoke for at least 2 hours before the study.

- You may not bring any metal objects, watches, jewellery, hearing aids, electronic devices, or bank and credit cards into the scanning room. All jewellery (also piercing jewellery) should be left at home.

NOTE: The PET scan will be cancelled if you have eaten (you must fast for 6 hours).

Pregnant women do not normally have this procedure.

Small children may not accompany you to the study visit.

Medications

You can take your prescribed medications as usual on the day of the study.

Diabetics

If your diabetes is insulin-treated, you may have your usual morning meal and insulin medication. **However, you must fast and take no more insulin for at least 4 hours before your scanning appointment!**

If your diabetes is diet-controlled or treated with oral medication, follow the standard preparation instructions.

What to expect at your appointment

- An intravenous cannula (drip) will be inserted to administer the tracer for the scan. Except for the small prick to your arm, the study will be painless and is not associated with side effects.
- You will lie down on your back for the PET/MRI scanning. You will need to keep still for the study to be successful.
- Scanning is performed with an illuminated and air-conditioned MRI camera open at both ends. During the examination, you will have a signalling connection to the technologist and the technologist will have a voice, vision and hearing connection. The scanner makes loud noises, so you will be wearing headphones and earmuffs during the study. Hearing protectors have the option of listening to the radio.
- For MRI scanning, an MRI contrast agent may need to be administered during the study. The MRI contrast agent does not contain iodine.
- PET/MRI scanning takes about 45min to 1,5 hours depending on the size of the imaging area.

After the study

The PET tracer is not associated with side effects. It does remain slightly radioactive for a few hours, but protective measures against the radioactivity are not necessary. We recommend drinking more water than usual after the scan because the tracer will leave your body through urine.

On the day of the study avoid close contact with pregnant women and try to avoid holding or sitting next to children. The nursing staff will guide you after the examination.

Nursing mothers must not breast-feed for 10 hours after the study. Any breast milk pumped during this time should be poured down the drain.

The study results will be provided by a doctor at the ward or outpatient clinic that referred you.