

HOSPITAL DISTRICT OF SOUTHWEST FINLAND

CARDIAC FDG PET/MRI SCANNING

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 or you have tattoos in the imaging area.
- You use a medication patch (bring a replacement patch with you to the study).
- You are pregnant or think you might be pregnant.
- You are breast-feeding an infant.
- You weigh more than 100 kg. The scanner opening is 60 cm in diameter. You can make a scanner trial/fitting appointment with the PET Centre.

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 10 to 12 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 forbidden on the day of the study.
- Follow the dietary guidelines below **on the day before the study** and keep a log of the foods you have eaten.
 - **Permitted foods**
 - Chicken, turkey, fish, meat, sausages containing only meat, bacon, eggs
 - Beef broth
 - Vegetables: tomatoes, cucumbers, lettuce, carrots, bell peppers, herbs
 - Water
 - Coffee and tea (without milk or sugar)
 - Sugar-free beverages and fizzy drinks
 - Artificial sweeteners (e.g. Hermesetas)

- **Prohibited foods**

- Foods containing carbohydrates or sugar
- Milk, juice drinks, fruit juice, fizzy drinks
- Bread, biscuits, crackers, baked goods
- Dairy products (cheese, yoghurt, quark, cottage cheese)
- Porridge, cereals, muesli, crisps, sweets
- Rice, pasta, potatoes, corn, beans, peas, nuts
- Fruits and berries
- Chewing gum, pastilles
- Alcohol

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.

Pregnant women do not normally have this procedure.

Small children may not accompany you to the study visit.

For MRI scanning, a contrast agent typically needs to be administered during the study. The contrast agent does not contain iodine, but it can cause allergic reactions. **The study requires a PET tracer to be used, but can be completed without the contrast agent if necessary.**

Medications

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

Diabetics

If your diabetes is insulin-treated, contact the doctor who ordered the study to ask how your insulin dose should be adjusted considering the study's fasting and dietary requirements. A hospital stay may have to be arranged for your preparations.

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. The study will be painless except for the small prick to your arm.
- After the PET tracer is administered, it will be allowed to accumulate in the area of interest for about 50 minutes. The MRI scanning is usually started during this waiting period.
- You will lie down on your back for the PET/MRI scanning. You will need to keep still for the study to be successful.

- PET/MRI scanning takes about 1 to 1.5 hours.
- You will have a way to communicate with the technologist throughout the study. The scanner makes loud noises, so you will be given headphones to protect your ears and allow you to listen to the radio during the study.

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.

Avoid close contact with pregnant women and try to avoid holding or sitting next to children for about 8 hours after the study.

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.

Instructions for completing the food log

Record everything you eat and drink in the log for 24 hours before your appointment. Enter the information on the form right after you eat something so that you can remember it correctly. In the time column, enter the time of day when you ate or drank something. In the food and drinks column, indicate each item you consumed on its own row.

(Food log example)

Time	Food and drinks
17:30	2 chicken fillets
	An egg
	A glass of water

