

Cardiac metabolism PET-CT

Purpose of the study

The study investigates the metabolism of the body using PET imaging and provides detailed images of the body's structure through CT imaging. PET-CT study involves both positron emission tomography (PET) and computed tomography (CT) performed during the same session.

Preparations

When coming for the study, it is important that your blood sugar level is below 10 mmol/l. Please follow the following instructions:

- Fast for at least 12 hours before the study.
- You can drink water during the fasting period, but no other beverages.
- Chewing gum and lozenges are not allowed on the day of the study.

Follow the dietary guidelines two days before the study and keep a food diary of what you eat.

Allowed foods:

- Chicken, turkey, fish, meats, whole meat sausages, bacon, eggs
- Broth
- Vegetables: tomato, cucumber, salads, carrot, bell pepper, herbs
- Water, coffee, and tea (without milk or sugar)
- Sugar-free drinks, juices, and lemonades
- Artificial sweeteners (e.g., Hermesetas)

Forbidden foods:

- Foods containing carbohydrates or sugar
- Milk, juices, fresh juices, lemonades
- Bread, cookies, pastries
- Dairy products (cheese, yogurt, curd, cottage cheese)
- Porridge, cereals, muesli, chips, candies
- Rice, pasta, potato, corn, beans, peas, nuts
- Fruits and berries
- Chewing gum, lozenges
- Alcohol

Please also consider the following:

- Avoid physical exertion (gym, cycling, or jogging) for 24 hours before the study.
- Do not consume alcohol for 24 hours before the study.
- Do not smoke for at least 2 hours before the study.

Your treating physician will provide instructions regarding any necessary changes to your medication for the imaging. If you have insulin-treated diabetes, contact your attending physician regarding the fasting and dietary guidelines and how to adjust your insulin dose accordingly. If you have diabetes managed by diet or tablets, follow the regular preparation instructions.

If you are allergic to iodine, suspect pregnancy, or are breastfeeding, inform the attending nurse. In such cases, certain precautions need to be taken.

Food diary

Record everything you eat and drink in the form for the 48 hours before coming for the study. Write down the information immediately after each meal or drink, as it will be easier to remember.

Example of filling out the food diary:

Time	Food and drink
11:30	Fish
	2 tomatoes
	2 slices of cucumber
	glass of water

Study protocol

You will be given an interview form to fill out. The nurse will go over the details of the study with you.

A venous catheter (drip) will be inserted into your forearm vein for administering the radiopharmaceutical. You will be directed to a resting room for bed rest. The waiting time before the administration of the radiopharmaceutical is $\frac{1}{2}$ - 2 hours. The study, except for the venous puncture, is painless and does not have any side effects.

The radiopharmaceutical used is a radioactive tracer that measures tissue metabolism.

After the administration of the radiopharmaceutical, there will be a waiting period of 40 - 60 minutes for the accumulation of the tracer in the imaging area.

The imaging is performed in a supine position on the PET-CT examination bed, which moves through the opening of the camera. You can wear your own clothes for the study, provided they do not contain metal. The success of the study requires staying still.

The imaging takes about 30 minutes.

The PET-CT camera opening is spacious (diameter 70 cm), so individuals with claustrophobia can generally undergo the scan.

The total duration of the visit, including the waiting time, is approximately 3 - 4 hours.

After the study

A physician will provide a statement on the study, which will be directed to the clinic or department that made the referral. The referring unit will take care of any further actions.

Notice

PET radiopharmaceutical does not have any side effects but emits mild radiation for a few hours. Generally, no radiation protection measures are needed.

After the study, it is advisable to drink more water than usual as the radiopharmaceutical is eliminated from the body through urine.

On the day of the study, try to avoid close contact with pregnant individuals and holding children in your lap or close proximity for approximately 8 hours, if possible. Breastfeeding mothers should have a 12-hour break from breastfeeding after the study. Any milk expressed during the break should be discarded into the drain.

Please do not wear any perfume when coming to the department as it may cause severe symptoms to patients with asthma or allergy!

Contact information

Department of nuclear medicine and PET
Satasairaala, Building A, floor 0
Phone number 02 627 7361
from Monday to Friday between 7.00–14.30

Pre-study questionnaire for PET imaging

Please fill out the form the day before the examination and bring it with you when you come for the study.

Name: _____ **Weight:** _____

Personal identity code: _____ **Height:** _____

Have you experienced any hypersensitivity reactions to contrast agents during previous imaging procedures?

- No Yes

Have you undergone any surgeries, endoscopies, or biopsies within the past six months?

- No Yes Which, when? _____

Have you received the following medications within the past 2 weeks?

- Cortisone
 blood cell growth factor
 cytostatic agent

Have you received radiation therapy within the past 3 months?

When? _____

to which area? _____

Do you have or have you had...

- Diabetes. Current diabetes medication in use: _____
 Myocardial infarction
 Renal disease
 Tuberculosis
 Gastroenteritis
 Other inflammatory disease, which? _____
 Other chronic disease, which? _____
 Trauma (fracture, injury), which? _____

Have you received any vaccine in the last two months??

- No Yes, when? _____
 Left arm
 Right arm

Question for women: Is it possible that you could be pregnant?

- No Yes

Start date of your previous menstrual period? _____