

Preparing for your PET-CT scan

A guide to getting ready, what happens at the appointment and receiving your results.

A PET-CT combines positron emission tomography (PET), which shows activity in tissues, with computed tomography (CT), which shows the body's structures. Most people go home afterwards. The tracer is a small amount of radioactive medicine. You cannot feel its radiation, and staff can help if injections, lying still or the scanner make you anxious.

Before your scan

Check the **full scan name** and your appointment instructions. For a standard cancer scan using fluorodeoxyglucose (FDG), a tracer similar to glucose, fasting is commonly around 4-6 hours. The centre will tell you the exact time to stop eating. Longer fasting is not better.

Plain water is usually allowed, within any fluid restriction you already have. Drinks with milk or sugar, juice and coconut water are not substitutes for plain water during an FDG fast. Confirm instructions for feeds, medicines that need food, and any planned sedation, which helps you relax or makes you drowsy.

If you have diabetes, arrange your plan before the appointment. Ask the scan team when to eat, take each medicine or insulin dose, and check glucose. Do not add insulin or stop essential insulin on your own. Treat low blood sugar according to your usual plan and contact the team, even if this interrupts the fast.

Your diabetes and glucose plan

The team usually checks blood glucose before the FDG injection. A high reading may mean changing the timing or arranging another appointment so that the scan is reliable. Call ahead if readings have been unusually high or you are unwell.

Recent insulin can move more tracer into muscles. This is why its timing needs care. People with type 1 diabetes also need to avoid an unsafe interruption of background insulin. The scan team can coordinate with your diabetes clinician.

Ask for written instructions for meals, each medicine or insulin dose, your pump or sensor if used, and glucose checks. Bring your monitoring equipment and a snack for afterwards. Confirm when to resume food and medicines, and check that it is safe to leave or drive if you have needed treatment for a low reading.

Preparation for FDG, PSMA, DOTA, DOPA and FAPI scans

Preparation differs between tracers. Confirm the instructions for your exact scan with your team.

Your scan	Preparation point to confirm
FDG PET	Fasting, plain-water instructions, glucose checks and a personalised diabetes medicine plan.
PSMA PET: targets prostate-specific membrane antigen, a protein on many prostate cancer cells	Often no fasting for the tracer itself; confirm drinking and bladder-emptying advice and any separate CT or sedation instructions.
DOTA / somatostatin-receptor PET: DOTA stands for dodecanetetraacetic acid, which holds the radioactive label. The targeting part of the tracer attaches to particular docking sites on cells.	Confirm food instructions and timing of medicines such as asoctreotide or lanreotide. Do not stop these yourself.
DOPA / FDOPA PET: DOPA stands for dihydroxyphenylalanine, an amino acid involved in making chemical messengers in the body. The scan uses its fluorine-18 labelled form, fluorodihydroxyphenylalanine (FDOPA), also called fluorodopa.	Fasting is often requested. Preparation and any additional medicine depend on the reason for the scan.
FAPI PET: uses a fibroblast activation protein inhibitor to look for activated support cells in tissues	Fasting or changing diabetes medicines is generally not required for this tracer itself. Other parts of the appointment may have separate requirements.

The appointment letter and the centre's advice remain the deciding instructions.

Why food and insulin affect an FDG scan

Food raises blood glucose and usually insulin. Insulin encourages muscles and other normal tissues to take up glucose and FDG, while high blood glucose can compete with the tracer. This can make the scan harder to interpret.

Fasting helps produce reliable images. It does not treat cancer or mean that you should restrict your nutrition during cancer care.

Other preparation and what to bring

For FDG imaging, avoid strenuous exercise during the period advised by the centre, often the preceding day. Exercise makes muscles use more glucose. During the waiting period after injection, resting quietly and keeping comfortably warm help reduce unwanted uptake in active muscles and some normal tissues. Tell staff if pain or anxiety makes resting difficult; they can help.

Tell the team about:

- **Pregnancy, possible pregnancy or breastfeeding.** Advice depends on the exact tracer; arrange a feeding plan in advance if needed.

- **Recent infection, vaccination, surgery or cancer treatment**, including medicines that stimulate white blood cells. These can affect scan appearances and timing.
- **Steroids, diabetes medicines, tube feeds or glucose-containing drips**. Do not stop prescribed treatment yourself.
- **Kidney problems, heart failure or a fluid restriction**. “Drink plenty” must be adjusted for you.
- **Previous reactions to CT contrast**, a dye used to make some scan details clearer, and whether you have had trouble with injections.
- **Pain, breathlessness when lying down, anxiety in enclosed spaces or mobility problems**. Ask for a practical plan.
- **A stoma** (an opening made surgically for urine or stool to leave the body), a urinary catheter (a tube that drains urine), or urinary leakage. Staff can plan help with personal care.

Bring your referral, recent reports, previous imaging if requested, medicines list and the centre's required blood-test results. Wear comfortable clothing and ask about metal fastenings or jewellery.

At the appointment

1. Checking the plan

Staff confirm your identity, scan, medical history and preparation. They may check glucose and kidney blood results where relevant. Tell them if you ate, took an unexpected medicine or feel unwell; this information helps them make a safe decision.

2. The tracer injection and waiting period

After the injection, you wait while the tracer distributes. For FDG this is often around an hour; other tracers have different timings. You may be asked to rest without talking much, reading or using your phone. Staff will tell you when to empty your bladder. Ask for help if walking or toileting is difficult.

3. The scan

You lie on a bed that moves through the scanner. Staff can see and hear you and explain how to contact them. The scan itself often takes around 20-40 minutes, but protocols vary. A whole visit commonly takes a few hours, so allow time for registration, preparation and possible additional images.

CT contrast, if required, is a separate medicine from the radioactive tracer. It can cause a brief warm feeling or unusual taste. Tell staff immediately if you feel unwell.

Going home

Unless told otherwise, you can usually eat after the scan and resume normal medicines according to the agreed plan. Drink fluids within your usual medical limits and empty your bladder normally. Wash your hands well after using the toilet.

Ask for the **exact end time** of any restrictions on close contact with pregnant people or young children. These are usually much shorter than after radioactive treatment, but vary with tracer and protocol. Follow the instructions for your own scan.

If sedation was used, you will need the centre's escort, driving and supervision instructions. Tell the team about planned travel: radiation detectors can sometimes pick up small amounts of tracer, and a letter may help explain this.

Understanding your results

A specialist interprets the images alongside the reason for the scan, previous scans and other findings. The technologist performing the scan usually cannot give a final result.

Ask when the report should be ready, who will discuss it with you and how you will be contacted. Turnaround varies between centres and with the complexity of the comparison. A request for extra images or another test does not by itself mean bad news.

Questions you may have

What if I accidentally eat or drink something other than water?

Let the centre know what you had and when. They can advise whether the appointment needs adjusting. Avoid extending the fast yourself.

Should I stop diabetes medicines such as metformin before PET-CT?

Do not stop it on your own. Instructions can depend on the tracer, the clinical question, kidney function and whether CT contrast is planned. Get a medicine-by-medicine plan from the centre.

Does a high standardised uptake value (SUV) mean the cancer is more advanced?

This is a measurement of tracer uptake. It is influenced by several factors and is not a cancer stage on its own. The specialist interprets it with the pattern of uptake, scan preparation and other findings.

Sources and further reading

- [Cancer Research UK - PET scans](#)
- [Macmillan Cancer Support - PET or PET-CT scan](#)
- [ACR/RSNA RadiologyInfo - PET/CT](#)
- [EANM - \[18F\]FDG PET/CT: procedure guidelines for tumour imaging, version 3.0 \(2025\)](#)
- [Fendler et al. - PSMA PET/CT: joint EANM/SNMMI guideline, version 2.0 \(2023\)](#)
- [Hope et al. - SNMMI/EANM guideline for somatostatin-receptor PET \(2023\)](#)
- [Hope et al. - SNMMI/EANM guideline for fibroblast activation protein PET \(2025; online 2024\)](#)
- [Park et al. - 18F-FDOPA PET/CT in oncology: Korean Society of Nuclear Medicine guideline \(2025\)](#)
- [IAEA - Radiation Protection and Safety in Medical Uses of Ionizing Radiation: release after radionuclide therapy](#)
- [SNMMI - Nuclear medicine and radiation safety](#)
- [Australian Diabetes Society / ANZSNM - FDG PET-CT imaging in people with type 1 and type 2 diabetes \(2024\)](#)