



PET/CT Exam Preparation Requirements

F18-FDG, a glucose analogue, is simply a radioactive sugar. In order to maximise the uptake of F18-FDG and obtain an optimal PET/CT scan you are required to follow a sugar free and low carbohydrate diet the day before your scan.

This radiopharmaceutical is not registered in the Republic of South Africa yet, even though it is produced here; therefore the Medicines Control Council requires the patient to sign consent allowing us to inject the tracer and also giving us permission to divulge the patient's contact details and medical history to the Council for the purposes of registration of this tracer. Patients Must Bring Old X-Rays and scans for all procedures.

Do not eat the following foods:

- Bread, rice, pasta, potatoes, pies, cakes, cereals, biscuits, chips, roti, sweets and chocolates.
- Do not have any sugar and cold drinks, yogurt or fruit juices with added sugar.

Foods that you can eat include:

- Meat, fish, chicken, eggs, cheese, beans, lentils, soya products, fruit and vegetables.
- Yogurt, tea, coffee and milk with artificial sweetener is allowed.
- Drink plenty of water.

Other Requirements

- Do not perform any strenuous exercises for 48 hours prior to your scan.
- If you are diabetic, please note that Glucophage, Metformin and Insulin can be taken the morning of the study, 4 hours prior to the appointment time. A light protein meal can be eaten before taking medication.

NB: Please inform us if you are pregnant or breastfeeding before the scan!!

- Do not eat or drink anything on the morning of the scan except for unflavoured water. Please bring all your previous CT, MRI, PET/CT and X-rays with you.
- The FDG costs close to R5000.00 and is specifically ordered for each patient. It is therefore imperative that you keep your appointment



- If you fail to do so, you will still be charged for the isotope as it decays rapidly and cannot be used for another patient.

Procedure

- On the morning of the scan, we will ask you some questions regarding your medical history, do a finger prick glucose test, weigh you, and administer a sedative if you are not driving.
- If your blood glucose is below 10 mmols/l we will begin the scan.
- You will be required to drink 4 glasses of contrast at 20 minute intervals for the CT scan.
- If you cannot tolerate the contrast, you can drink water instead.
- After the 1st glass you will lie down in a cubicle. An intravenous canula is inserted into a vein in the arm and the radioactive tracer is then administered.
- Vein viewer on site for venous cannulation
- The cells in your body use glucose to function.
- From the time of injection you are required to keep your eyes closed, not talk and not move any part of your body for 20 minutes.
- This is critically important to prevent uptake of FDG by the normal cells in your body so that the abnormal areas can be more easily identified.
- The light will be switched off immediately after the injection unless you specifically request that it stays on.
- Twenty minutes later you will drink your second glass and after the 4th glass (one hour after injection) you will go to the toilet to empty your bladder and we will then begin the scan.

The Scan

- The scan takes 25 minutes except in the case of melanoma patients when it will be 40 minutes.
- You can breathe normally during the scan and open and close your eyes.
- It is however very important that you do not move once the scan has begun in order to acquire precise fusion of the CT and PET scan.



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- A complimentary MRI of the brain will be done on all patients with melanoma either before or after the PET scan.
- Once the scan is complete we will ask you to wait about 10 minutes before you leave.
- The radiologist will look at your scan before you leave.
- Your results will be ready within 24 hours and will be sent to your doctor together with your old scans and X-rays.
- A CD and images of your scan on photo paper will be included with the report.
- Drink lots of water to flush the FDG out of your system and avoid prolonged physical contact with babies and pregnant women for the rest of the day.

Interpretation

- There is increased glycosis (more glucose accumulates at these sites) in tumour cells, areas of inflammation and infection and also in areas of recent injury.
- The FDG will therefore accumulate in these areas.
- In order to differentiate between tumour, inflammation and infection and trauma, a region of interest is drawn around the abnormal area of FDG uptake and a SUV (standard uptake value) is calculated.
- This value, together with the CT scan and previous history, helps to determine the nature of the abnormal uptake.