

18F-FET PET-CT Scan

An 18F-FET PET scan is an imaging method used to assess brain tumours. Fluorine 18-Fluoroethyltyrosine targets the transport of amino acids and protein synthesis in certain brain tumours. It can be useful in assessing treatment and response following radiation therapy in patients with gliomas.

What happens during a 18F-FET PET-CT Scan?

Preparation:

- Please be well hydrated. Drink at least 1L of water prior to your appointment.
- Only consume a light meal prior to your appointment.

What to bring:

- your referral
- relevant clinical history
- relevant recent imaging (MRI, CT or Previous PET scans)
- a book or paper to read, iPad, Phone or other electronic devices to keep you occupied
- notify nuclear medicine technologist performing the procedure if you may be pregnant or breast feeding
- notify nuclear medicine technologist if you are allergic to CT contrast (iodine) dye or are claustrophobic.
- notify nuclear medicine technologist if you are cytotoxic (chemotherapy)

What to wear:

Wear loose comfortable clothing (i.e. tracksuit), free from metal zips or buttons. A gown will be available for you to change into if required. Avoid wearing jewellery.

Medications:

Take all medications as normal.

Appointment duration:

The 18F-FET PET-CT scan will take from 2-5 hours. Upon arrival you will be asked to fill in some paperwork. A nuclear medicine technologist will escort you to a room where an intravenous cannula (a small tube) will be put into your arm.

You will fill out paperwork and be brought into a room where you will be asked to remove metal objects on clothes and jewellery. The Nuclear Medicine Technologist will then place a small plastic tubing called a cannula into a vein in your arm. Through this cannula they will administer the radio-pharmaceutical (Fluorine 18- Fluoroethyltyrosine) This tracer will circulate around your body for a minimum of 45-60minutes. You will then empty your bladder and be brought through to the camera room for imaging on a Hybrid PET-CT machine. Imaging can take up to 30minutes depending on the clinical indication of the scan. Once the PET scan is performed, a diagnostic CT will be performed. This scan may require an iodine CT contrast dye to be administered via the cannula in your arm. The CT scan takes an additional 5 minutes. Once you are finished you are required to wait 15 minutes for your images to be checked. Your IV cannula will be removed and you will be free to leave the department.

What happens after my 18F-FET PET-CT Scan?

How do I get my results?

A Nuclear Medicine Radiologist will review your images, along with your medical history and any previous imaging. Your referring doctor will receive a report within 48 hours of the examination. If your results are urgent, or you have a same day appointment with your doctor we will arrange for your results to be available immediately following the scan. Please arrange a follow up appointment with your referring doctor to discuss the results.

Post procedure

Following your 18F-FET PET-CT scan you can return to all normal daily activities. You are advised to minimise contact with pregnant women and children (<12 y.o.) for 2 hours after your appointment. You are able to drive following this examination unless you have had sedation, in which case you will require someone to drive you home.

Risks and side effects

A PET-CT scan is a safe and routine procedure. The radioactive tracer required for this scan has been used across the world for many years and has no side effects. The amount of radioactivity administered is small and will be flushed out of your system by the end of the day.