

PET/CT Scan



Radiology Department

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What is a PET/CT?

A PET/CT is a type of Nuclear Medicine Scan. It is done at the BC Cancer Clinic, in the Functional Imaging Department.

PET stands for Positron Emission Tomography.

CT stands for Computerized Tomography.

A PET scan shows increases in cell metabolism (a cell's activity). This can happen with certain diseases.

A CT scan uses x-rays to show structures in the body. It helps find collections of abnormal cells.

The PET and the CT are built into one scanner, so both tests are done at the same time.

Why is this test done?

This test can be very helpful in the staging of some types of cancer. It can also help find the disease if it has come back. This helps the doctors plan treatment for their patients.

How does it work?

Active cells, like cancer cells, use sugar for energy. Scar tissue, and other cells that aren't cancer, don't.

In a PET scan, a special type of sugar is linked with a safe radioactive tracer. This tracer will collect in damaged cells differently than in healthy cells. A PET scanner is sensitive to the rays coming from the tracer. It will show where the tracer has collected in the body.

What happens before the test?

Once you arrive at the Functional Imaging Department, your child will be taken to relax in a private room. You will be able to stay with your child. A technologist will put an intravenous (IV) into your child's hand or arm. This feels like a pinprick that lasts a few seconds. Numbing cream can be put on before the IV is started. The technologist will give the dose of radioactive tracer through the IV. Your child must stay still and calm for an hour following the injection. During this hour, his/her body picks up the tracer. This is called the "uptake period".

What happens during the test?

After the uptake period, your child will be taken into the scanning room. S/he will be asked to lie on a comfortable scanning table. The table will move slowly through the scanner during the scans. The CT scan will be done first. More medicine, called contrast, will be injected into the IV that is already in place. Your child might feel a warm sensation when the contrast is injected. After the CT is finished the PET scan will begin.

It will take about 45 – 60 minutes to collect all the pictures. The entire appointment will last about 2.5 hours.

How to prepare for the test:

- Your child must not have anything to eat for 6 hours before the test. Water is okay.
- Your child must not chew gum on the day of the appointment.
- Your child must not exercise the day before the appointment.
- Be prepared to stay with your child to help him/her lie still.
- If your child has a special toy or blanket, please bring it.
- If your child has a favourite movie you might like to bring it as well. DVD movies are also available.

Is this test safe?

There is a small amount of radiation exposure from the PET/CT scan. The level of radiation is small and isn't considered harmful. The dose of radioactive tracer used for the PET/CT scan is based on your child's weight. The radioactive tracer scan has a very short half life. This means that it disappears quickly. After 12 hours the tracer will have left your child's body.

What are the side effects?

Don't be concerned by the small amount of radioactive material given to your child. To be careful, we suggest that for 12 hours after the test you (or anyone else caring for your child) take the following steps:

- Wear disposable, waterproof gloves when handling your child's urine.
- Change any clothing or sheets that are soaked with your child's urine. They can go into the regular laundry.
- Flush the toilet immediately after your child uses it.
- If you are pregnant, ask someone else to do most of the child care for the next 12 hours.
- At home, place your child's diapers in the outside garbage. In the hospital, your nurse will provide a special pail to put diapers in.