



Positron Emission Tomography (PET) Scan

A PET scan measures the metabolic (life-sustaining) activity of different cells in the body. More metabolically active cells use more sugar (glucose) for energy. By injecting a small dose of radiolabeled glucose (such as fluorodeoxyglucose, or FDG) into the blood, a PET scanner can detect parts of the body that use more glucose and are therefore more metabolically active. Since most cancer cells are highly metabolically active, they will show up bright on a PET scan.

When a PET Scan is Used

Doctors recommend waiting a few weeks after surgery and a few months after radiation to achieve the most accurate PET results. PET scans are highly sensitive and pick up on areas of high metabolic activity that are not always cancer cells, including areas of infection and inflammation. If a PET scan is performed too quickly after surgery or radiation therapy, it may report a false positive due to the inflammation caused by the treatment itself.

Preparing for a PET Scan

The night before a scan, you should follow all instructions given to you by your medical team (e.g. exercise, meal, and medication requirements). You should not eat anything (including chewing gum) for at least six hours before the scan.

What to Expect

- A nurse will check your blood glucose level.
- The nurse will insert an intravenous (IV) line to allow for the administration of FDG.
- Before the scan, you should remove anything that contains metal, including hearing aids, eyeglasses, or dentures.
- During the scan, you should try not to speak or move.
- The scan can take 30 to 90 minutes.
- A CT or MRI scan may also be performed in the same machine or in a separate machine.



Please note that this information is intended for educational purposes. It does not replace consultation with your doctor, and it should not be interpreted as medical advice. We encourage you to speak to your health care provider if you have further questions or concerns regarding your medical care.

For more information scan this code or visit:

<https://thancguide.org/cancer-basics/diagnosis/imaging/pet-scan/>

After the Scan

A nuclear medicine doctor or radiologist will analyze the results of the scan and create a report. The report will identify areas of increased energy use in the body, which indicate possible tumor sites or areas of inflammation. It is important to follow up with your doctors about the results and interpretation of your imaging.

Advantages

- There is very little radiation exposure to you from the scan itself.
- It can be combined with a CT or MRI scan to obtain more precise information.
- In some cases, it is better able to distinguish cancer from abnormalities related to the effects of radiation treatment than CT or MRI scans.

Disadvantages

- Image results are less precise than anatomic studies such as CT and MRI scans.
- It can be time-consuming, and you must lie completely still.
- It will not always detect small cancers, or all types.
- It will light up all areas of high metabolic activity, including those that are noncancerous, such as inflammation, infection, trauma, or recent surgery.



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