

PET scan ^[1]

Dear Alice,

Can you tell me what a PET scan is?

Answer

Dear Reader,

Positron emission tomography (PET) is an imaging technique used by radiologists to observe disease in the human body. PET scans can be used to help health care providers diagnose a variety of ailments including heart and brain problems, using the test to look at activity happening in the body's cells, rather than focusing on the anatomy. In order for providers to get a better picture of what's happening, PET scans are often combined with computed tomography (CT) scans which show the three dimensional (3D) structure of the inside of the body. Together, this combined scan is called a CT-PET scan. Providers will then review the images to try to determine if there are any ailments that require treatment.

PET scans work by detecting the emission of positrons (positively charged electrons) inside a person's body. In order for the scanner to do this, the person is given a radioactive substance called a tracer. In order to allow time for it to be absorbed throughout the body, the tracer is administered via injection, inhalation, or oral means, based on the tissues they hope to view. The tracer will help highlight increased chemical activity, which often corresponds to areas of disease. When scheduled to get a PET scan, an individual may be asked not to eat or drink anything, except water, for a period of time prior to the scan. This is to make sure that the tracer is actually absorbed throughout the body. After the tracer is administered, the person will be asked to lie on a metal table that slowly moves into a large machine that's able to scan the body. During the scan, the person is asked to lie as still as possible so that the images will come out clearly. For those who are claustrophobic or are concerned about being in small spaces, it can be helpful to let health care providers know ahead of time so they can work to find a solution.

PET scans pose little health risk and the radiation leaves the body about two to ten hours after the procedure. There's essentially no recovery time, unless the person is given medication to relax. Additionally, it's recommended that people who are pregnant or breastfeeding let their health care provider know since infants and unborn babies are more vulnerable to the effects of

radiation. It's also good to note that some people are allergic to the radioactive tracer and might have redness, swelling, or pain at the injection site. Lastly, those with diabetes scheduled to undergo a PET scan may be advised not to take their medicine prior to the scan so that it won't interfere with the results.

Overall, the PET scan is a low-risk and powerful diagnostic tool to identify illnesses that may only be visible below the surface.

Alice!

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Published date:

Mar 01, 1996

Last reviewed on:

Jul 05, 2019

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