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 biological processes in the human body. PET scans can be used to help health care providers diagnose a variety of ailments including heart and brain problems or even to determine the location and size of cancerous lesions. In order for providers to get a better picture of what is going on inside the body, 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 PET/CT scan.

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. When scheduled to get a PET scan, s/he will be asked not to eat or drink anything except water for four to six hours before the scan. This is to make sure that the tracer is actually absorbed throughout the body. About one hour before the scan begins a small amount of tracer is given intravenously. During that hour, the tracer will travel in the blood throughout the body so it can be absorbed. Next, the person will be asked to lie on a metal table that slowly moves into a large machine that is 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.

PET scans are considered low-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. This may be administered if a person is claustrophobic (has a fear of small spaces) or is unable to lie still for the entire time scanning process. In that case, it's best if s/he lets the health care provider know prior to getting started.
Additionally, it’s recommended that women 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 safe and powerful diagnostic tool. Thanks for a great question!

Alice!
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