

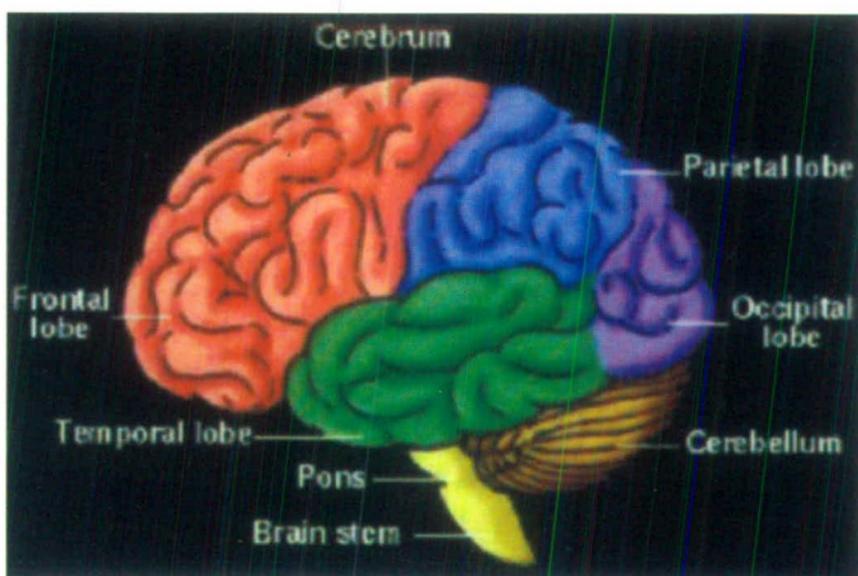


SAIFEE HOSPITAL

under the auspices of Saifee Hospital Trust Reg. No. E-5448 (Bom)

DEPARTMENT OF NUCLEAR MEDICINE

Brain SPECT Imaging Patient Information



Using nuclear medicine to look for Brain abnormalities

The portion of the vertebrate central nervous system that is enclosed within the cranium, continuous with the spinal cord, and composed of gray matter and white matter. It is the primary center for the regulation and control of bodily activities, receiving and interpreting sensory impulses, and transmitting information to the muscles and body organs. It is also the seat of consciousness, thought, memory, and emotion.

What is a Brain SPECT scan?

Brain SPECT is a way for your physician to see how blood is flowing through different areas of your brain. A SPECT (single-photon emission computed tomography) brain scan is a diagnostic nuclear medicine imaging procedure that permits physicians to visualize brain function by obtaining three-dimensional images of the brain.

Who is it for?

To fully evaluate a patient's symptoms, information on both the brain's structure (anatomy) and its blood supply is often necessary. CT and MRI provide detailed information on the structure of the brain. However, in many patients the symptoms cannot be completely explained by anatomic changes, or these scans may appear normal. Brain SPECT can often give your physician important information on blood flow that would not be available through these other diagnostic techniques. The best diagnosis for some patients is made only after evaluating the blood flow to various areas of the brain and comparing these to normal patterns. The changes that may be detected on brain SPECT studies are diagnostic of some diseases. When doctors combine information on your brain's anatomy and function, they have a more complete understanding of what may be causing your symptoms. Brain SPECT can also be used to evaluate the success of various treatments.

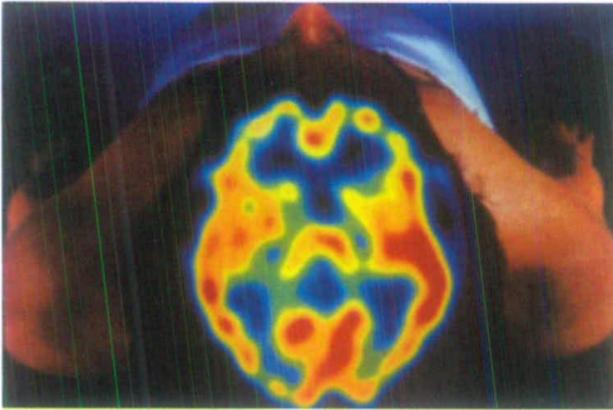
How do you prepare?

Brain SPECT doesn't require fasting, special diets, or medication. If you're not in the hospital, you can continue your regular work schedule and lifestyle. Many people drive to the hospital or clinic, park, and walk in for the brain SPECT scan.

How is it done?

On the day of the exam you will check in at the Nuclear Medicine Department. First, a doctor or nuclear medicine technologist will ask you some important questions, such as: Are you pregnant? Is there any chance that you may be pregnant? Do you have a history of head injury, seizures, or stroke? Next, the technologist will have you lie on your back in a quiet, darkened room, which may or may not be the examination room. An intravenous catheter or needle will be placed in a vein in your arm or hand, and a radiopharmaceutical will be injected soon afterward. You will then be asked to continue lying quietly for another 10 to 20 minutes. When it is time for the examination, you will lie down on the padded examination table. The SPECT camera, capable of imaging the areas of your brain where the radiopharmaceutical has accumulated, will be moved near your head. The closer the camera is to your head, the better the images of the blood flowing in your brain will be.

NORMAL BRAIN SPECT PERFUSION SCAN

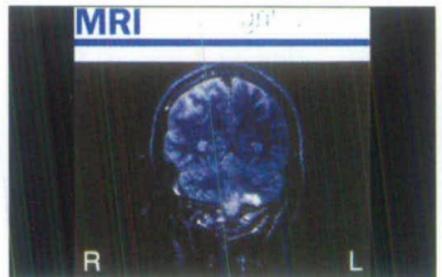


After the test

If you are an inpatient, you will be returned to your hospital room. If you are an outpatient, you may go home and continue your regular activities. The total body radiation exposure from a SPECT brain scan is small - in the range of 1 to 3 times your annual exposure to natural background radiation.



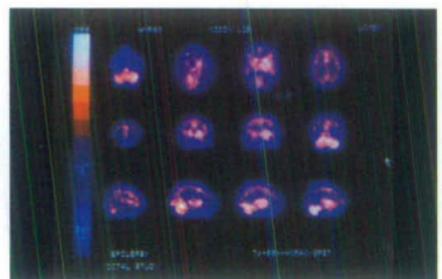
Normal C.T. Study



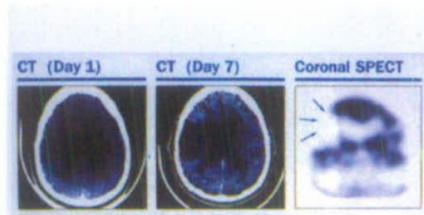
M.R.I. Scan shows increased signal involving the left inferior cerebellar peduncle.



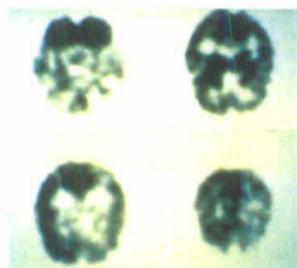
Brain Spect HMPAO Study reveals left cerebellar stroke.



A patient of temporal lobe epilepsy showing hot area involving left temporal lobe in the immediate post ictal stage.



A patient suffering from ischemic stroke on day one C.T. Scan is negative, Brain Spect Study reveals a well defined area of decreased blood flow to the right fronto parietal area. On the 7th day, C.T. Scan was repeated which came out to be positive.



Decreased blood flow to the left frontoparietal areas in a patient of TIA.