



# GHADIALI

## General Surgery

### P R E S E N T S

Dr. Mufa T. Ghadiali is skilled in all aspects of General Surgery.  
His General Surgery Services include:

- General Surgery
- Advanced Laparoscopic Surgery
- Surgical Oncology
- Gastrointestinal Surgery
- Hernia Surgery
- Endoscopy

## PET SCAN

Multimedia Health Education

### *Disclaimer*

This film is an educational resource only and should not be used to make a decision on **PET scan**. All such decisions must be made in consultation with a physician or licensed healthcare provider.

Mufa T. Ghadiali, M.D., F.A.C.S

Diplomate of American Board of Surgery

6405 North Federal Hwy., Suite 402  
Fort Lauderdale, FL 33308

Tel: 954-771-8888

Fax: 954- 491-9485

[www.ghadialisurgery.com](http://www.ghadialisurgery.com)

GHADIALI

## MULTIMEDIA HEALTH EDUCATION MANUAL

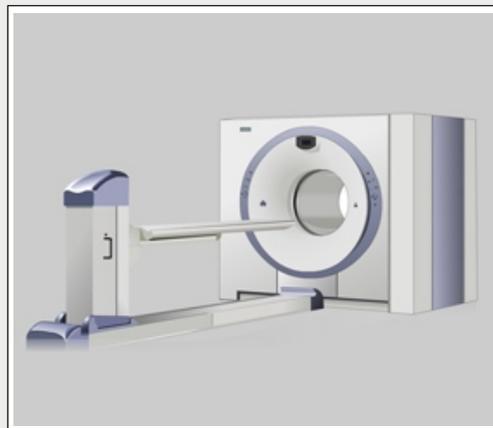
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### What is a PET Scan?

A PET scan is a type of nuclear medical imaging. Positron emission tomography scan, also called a PET scan or PET imaging, is a highly specialized imaging technique using small amounts of radioactive substances to produce powerful images of the body's biological function. A PET scan is noninvasive and usually painless.

(Refer fig. 1 )



(Fig.1)

### How does a PET Scan Work?

Positron emission tomography is a test that uses a special type of camera and a radioactive chemical tracer to look at organs in the body. The radionuclides used in PET scans are chemical substances such as glucose, carbon, or oxygen used naturally by the particular organ or tissue during its metabolic process.

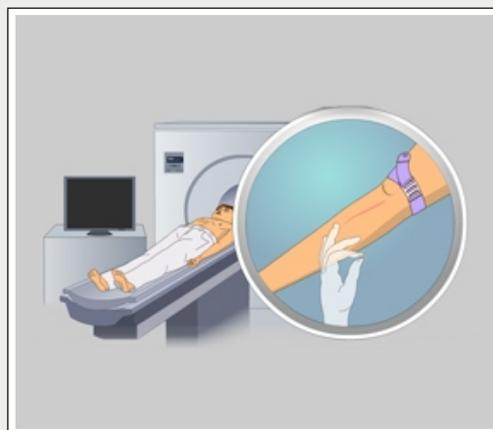
During the test, the tracer liquid is put into a vein (intravenous, or IV) in your arm. The tracer may also be swallowed or inhaled depending on what is being imaged. The tracer moves through your body, where much of it collects in a specific organ or tissue. The tracer gives off tiny positively charged particles called positrons.

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The tracer moves through your body, where much of it collects in a specific organ or tissue. The tracer gives off tiny positively charged particles called positrons.

The camera records the positrons and turns the recording into pictures on a computer.

(Refer fig. 2 )



(Fig.2)

### Unit 2:

### Purpose of PET Scan

#### Why is PET Performed?

PET scans may be used to evaluate organs or tissues for the presence of disease or other conditions.

PET scans may also be used to evaluate the function of organs such as the heart or brain. The most common use of PET imaging is in the detection of cancer and the evaluation of cancer treatment.

PET scans may be performed to:

- Detect Cancer
- Determine if cancer has spread to other parts of the body
- Assess the effectiveness of cancer treatments
- Determine the location of a surgical site prior to surgical procedures of the brain
- Evaluate the brain after trauma to detect blood clot, bleeding, and/or perfusion of the brain tissue
- Assess blood flow to the heart, which may indicate coronary artery disease
- Assess for damage to the heart muscle after a heart attack

(Refer fig. 3)

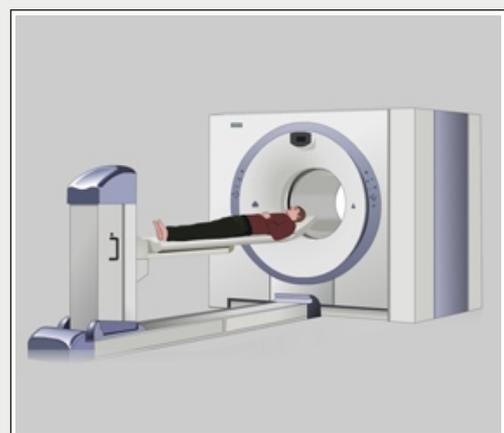
#### How does PET differ from other Examinations?

PET differs from other nuclear medicine examinations in that PET imaging detects metabolism within body tissues. Other types of nuclear medicine tests detect the amount of radioactive substance collected in body tissue in a certain location to examine the tissue's function.

(Refer fig. 4)



(Fig.3)



(Fig.4)

### Unit 2:

### Purpose of PET Scan

#### Benefits of PET Scanning

##### PET Imaging:

- Helps to identify cancer that has spread, even when other tests such as CT, MRI, and ultrasound have not
- May clarify and confirm the results of other tests
- Can lead to more appropriate care and image-guided therapy
- Helps the patient to avoid unnecessary surgery

(Refer fig. 5)



(Fig.5)

## Preparing a Patient for a PET Scan

### Before the Procedure:

- Notify the radiologist or technician of any medications you are taking and if you are allergic to or sensitive to anything, especially contrast dye, iodine, or seafood.
- Fasting for a certain period of time prior to the procedure is required, usually for at least four hours. Your physician will give you special instructions ahead of time as to the number of hours you are to withhold food and drink.
- Your physician will also inform you as to the use of medications prior to the PET scan.
- Notify your physician if you are pregnant or suspect you may be pregnant or are breastfeeding.
- You should not consume any caffeine or alcohol, or use tobacco, for at least 24 hours prior to the
- If you are a diabetic who uses insulin, you may be instructed to take your pre-procedure insulin dose with a meal three to four hours prior to the procedure. Your physician will give you specific instructions based on your individual situation.

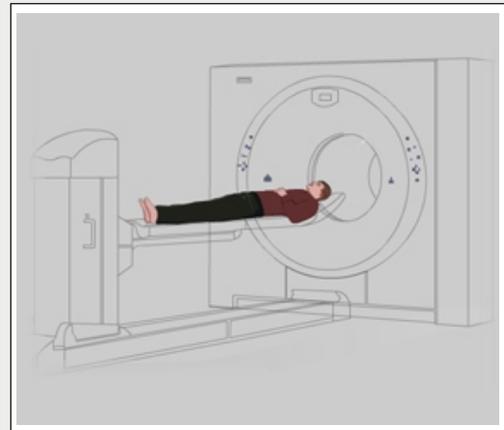
(Refer fig. 6)

### During the Procedure:

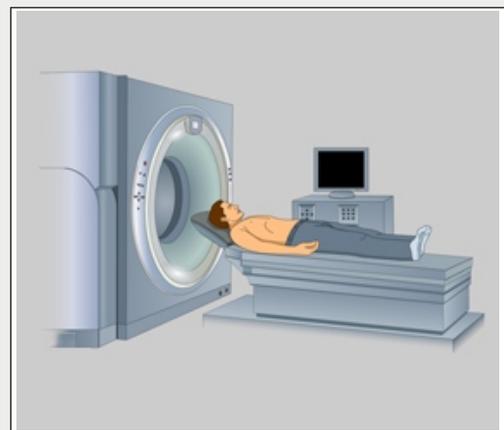
- You will be positioned on an examination table. An IV line will be inserted into your arm if needed. The radiotracer will then be injected into your vein, swallowed or inhaled depending on the imaging needed.
- You may have to drink a contrast liquid that helps the radiologist interpret the imaging results. The radiotracer takes about 30 to 60 minutes to concentrate in the organs. During this time, you will be asked to lie still and not talk.

After 30-60 minutes, you will be moved into the scanner for imaging.

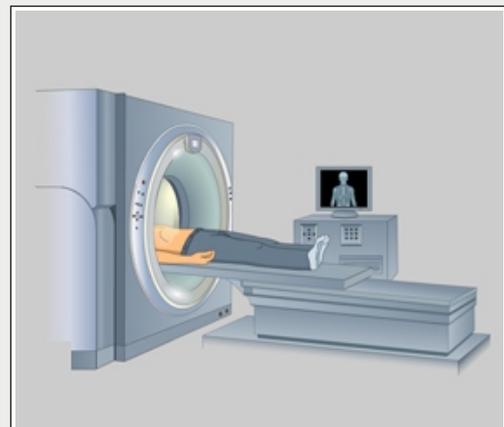
(Refer fig. 7 & 8)



(Fig.6)



(Fig.7)



(Fig.8)

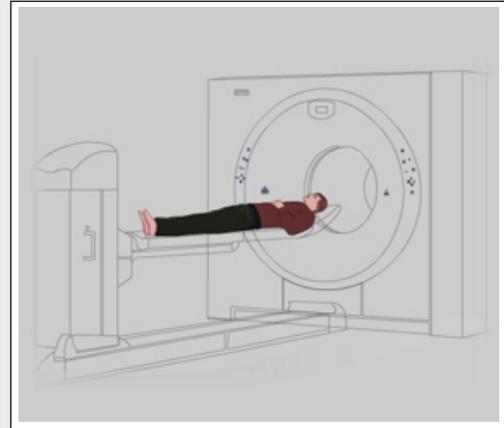
## Unit 3:

## Procedure

**After the Procedure:**

- You will be instructed to drink plenty of fluids and empty your bladder frequently for 24 to 48 hours after the test to help flush the remaining radionuclide from your body.
- If an IV site was used to inject the radionuclide it will be checked for any signs of redness or swelling. If you notice any pain, redness, and/or swelling at the IV site after you return home following your procedure, you should notify your physician as this may indicate an infection or other type of reaction.

(Refer fig. 9)

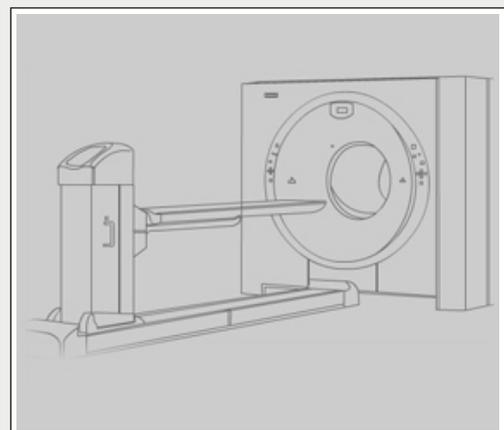


(Fig.9)

**What are the Risks of a PET Scan?**

- The amount of the radionuclide used for the procedure is small enough that there is no need for precautions against radioactive exposure.
- The injection of the radionuclide may cause some slight discomfort. Allergic reactions to the radionuclide are rare, but may occur.
- Patients who are allergic to or sensitive to medications, contrast dyes, iodine, shellfish, or latex should notify their physician prior to the procedure.
- If you are pregnant or suspect that you may be pregnant, you should notify your physician due to the risk of injury to the fetus from a PET scan.

(Refer fig. 10)



(Fig.10)

Although every effort is made to educate you on **PET SCAN** and take control, there will be specific information that will not be discussed. Talk to your doctor or health care provider about any concerns you have about **PET SCAN**.

**YOUR SURGERY DATE**

**READ YOUR BOOK AND MATERIAL**

**VIEW YOUR VIDEO /CD / DVD / WEBSITE**

**PRE - HABILITATION**

**ARRANGE FOR BLOOD**

**MEDICAL CHECK UP**

**ADVANCE MEDICAL DIRECTIVE**

**PRE - ADMISSION TESTING**

**FAMILY SUPPORT REVIEW**

**Physician's Name :** \_\_\_\_\_

**Patient's Name :** \_\_\_\_\_

**Physician's Signature:** \_\_\_\_\_

**Patient's Signature:** \_\_\_\_\_

**Date :** \_\_\_\_\_

**Date :** \_\_\_\_\_