

## Dr. Hamid Naseer

Consultant Nuclear Medicine & PET



M.B; B.S, M.Sc. (Nuclear Medicine)  
FCPS (Nuclear Medicine)  
Diploma in Biomedical Ethics  
Fellowship in Nuclear Medicine

Worked as Consultant at Institute of Nuclear Medicine and Oncology Lahore (INMOL), Pakistan, Chief Project Coordinator in various IAEA Projects, Visiting Nuclear Medicine Consultant Social Security Hospital and Faculty Member of Allied Health Sciences in The University of Lahore.

## Important instructions

- PET-CT scan cannot be done in pregnant and lactating female patients.
- Patient should take low carbohydrate diet one day before scan.
- Do not take any total parenteral nutrition (TPN) such as IV dextrose medicines for 12 hours before your scan.
- Patient should not eat or drink anything except plain water for 6 hours before scan.
- Drink plenty of water and empty bladder frequently before the scan.
- You may take your prescribed medicines (except insulin, cough syrup or chewable tablets) on the day of your exam.
- Do not chew gums, mints, eat candy, or take vitamins.
- Patient should not exercise or do jogging for 24 hours before scan.
- Blood glucose level should be less than 130 mg/dL (7.2 mmol/l) before scan.
- Diabetic patients must consult their referring physician for proper blood glucose control prior to PET-CT scan.
- Patients on Metformin (Glucophage) should ask their physician to change to other oral hypoglycemic agent at least 3 to 5 days before PET-CT scan.
- If the blood glucose level is more than 180 mg/dL (10 mmol/l), scan has to be rescheduled.
- Patient's Serum Creatinine level must be checked 1 week before PET-CT scan.
- The radiotracer is prepared for each scan. If scan has to be cancelled or rescheduled, please inform us at least 24 hours in advance.

## Department of Nuclear Medicine

### Opening Hours

Mon to Thu	8am - 5pm
Friday	8am - 12pm 2pm - 5pm

### Services

- PET-CT Scan
- SPECT-CT Scan
- Radioactive Iodine Therapy

For appointments, please contact:

### Pantai Jerudong Specialist Centre

Jerudong, BG3122, Brunei Darussalam

T +673 261 3333 (ext. 1040)

F +673 261 0111

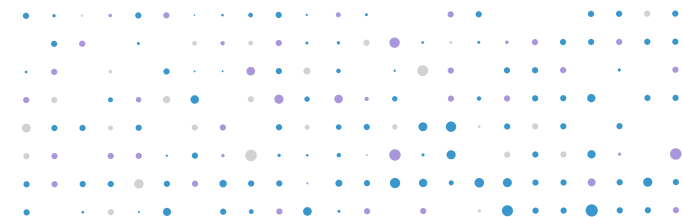
[www.pjscbrunei.com](http://www.pjscbrunei.com)



PANTAI JERUDONG  
SPECIALIST CENTRE



## PET-CT Scan Information leaflet



# PET-CT: Positron Emission Tomography with Computed Tomography

## What is Nuclear Medicine?

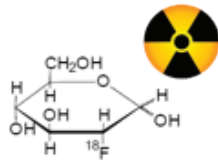
It is the branch of medicine in which radiotracer (radioisotopes or radiopharmaceutical) are administered to patients for diagnosis and treatment of cancer and non-cancerous diseases.

## What is PET-CT Scan?

PET scan is a nuclear medicine imaging test in which small amount of liquid radioactive substance (called radiotracer) is injected into the body and is used to diagnose various diseases, mostly cancers and some other conditions.

The commonly used radiotracer in PET imaging is a radioactive glucose known as Fluoro-deoxyglucose (F-18 FDG). It is injected intravenously and goes to body cells, as well as the cancer cells. It emits rays, which are detected by PET scanner. Functional images of body organs are generated using PET-CT scanner.

CT imaging uses X-ray equipment to create structural images of body. Then, these images are fused with PET functional images to get complete information of your body.



F-18 FDG

## Who does the PET-CT Scan?

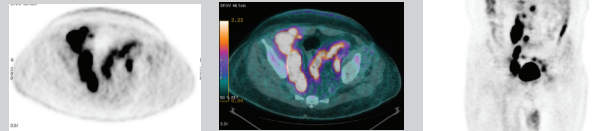
Nuclear Medicine Technologists perform the scan and Nuclear Medicine Physician specialised in hybrid imaging interprets the PET-CT results. Result will be sent to your medical record or referring doctor within a week.

## General indications for PET-CT Scan

- Differentiating benign from malignant lesions
- Unknown primary tumor
- Staging known malignancies
- Monitoring response to treatment
- Residual disease post treatment
- Tumor recurrence
- Guidance for biopsy
- Guide to radiotherapy planning

## Non-Hodgkin's (NHL) & Hodgkin's (HD) Lymphoma

- FDG-avidity
- Staging (nodal & extra nodal)
- Response evaluation
  - Early assessment/interim (iPET)
  - Post-treatment
- Restaging
- Suspected recurrence
- Radiation therapy planning



## Thyroid Carcinoma

- Papillary, Follicular & Hurthle Cell Carcinoma: If Tg > 2-5 ng/mL and I-131 imaging is negative.
- Staging and restaging Anaplastic Carcinoma.

## Head and Neck Cancers

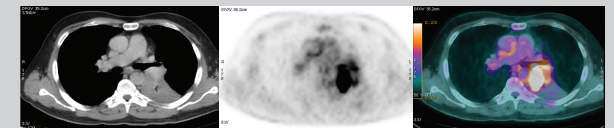
- Initial staging of cancer of the oral cavity, oropharynx, hypopharynx, larynx, especially for stage III-IV disease.
- Initial staging of cancer of the nasopharynx especially N2-3 disease .
- Post-treatment evaluation or restaging of cancers of the head and neck (minimum after 12 weeks).
- Occult primary when metastatic cervical lymph nodes are present.

## Non-Small Cell Lung Cancer

- Evaluation of solitary pulmonary nodule > 8mm.
- Staging before surgery and/or therapy.
- Monitoring Treatment Response.
- Radiation therapy planning.
- PET is not indicated for routine surveillance.
- Low FDG avidity tumor (eg. adenocarcinoma in situ/bronchoalveolar carcinoma and carcinoid tumor) may show false negative results.

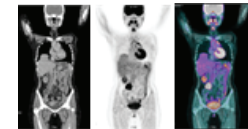
## Small Cell Lung Cancer

- Staging of SCLC and high grade/large cell neuroendocrine carcinoma.
- Radiation treatment planning.
- Not recommended for follow-up after initial therapy.



## Colorectal Cancer

- Initial staging of suspected or proven metastatic or synchronous adenocarcinoma from large bowel (any T, any N, M1).
- Suspected recurrence: Rising serial CEA.
- Not recommended for surveillance and to monitor. response to therapy.



## Breast cancer

- Invasive breast cancer: FDG PET-CT optional above Stage IIIA (T3, N1, M0) or IIIB.
- Most helpful: When standard staging studies are equivocal or suspicious and in identifying unsuspected regional nodal disease and/or distant metastasis in locally advanced breast cancer.
- Optional FDG PET-CT can be done for systemic staging after lumpectomy or mastectomy and surgical axillary staging

