**PET Ordering Guide**

**NEURO**

**Brain FDG PET Imaging, Tumor, Metabolic Evaluation**

- **CPT Code 78608**
- **Prop:** A minimum fasting interval of 4 hours is recommended before the study. Consult nuclear medicine physician if patient is diabetic.
- **Time in Department:** 2 hours
  - **•** Tumor, Metabolic Evaluation Brain-FDG PET imaging is primarily used for evaluation of patients with suspected or proven brain tumors, to assess tumor grade, detect residual or recurrent brain tumor, and differentiate tumor from post-therapeutic changes; differentiating malignant from infectious central nervous system mass lesions (such as differentiation between lymphoma and toxoplasmosis) in patients with human immunodeficiency virus (HIV) infection.

**Brain FDG PET Imaging, NON-Tumor, Metabolic Evaluation**

- **CPT Code 78608**
- **Prop:** A minimum fasting interval of 4 hours is recommended before the study. Consult nuclear medicine physician if patient is diabetic.
- **Time in Department:** 2 hours
  - **•** Non-Tumor, Metabolic Evaluation Brain-FDG PET imaging is primarily used for evaluation of patients with: epilepsy, for detection of epileptogenic foci; symptoms (e.g., memory loss) consistent with an early stage of a progressive dementia, for purposes of distinguishing Alzheimer’s disease from other diseases causing dementia. It is less commonly used to evaluate for functional changes in brain metabolism in patients with suspected focal or diffuse organic brain disease but normal results of CT or MRI.

**FDG PET / CT Limited, Brain Amyloid or IDEAS Study**

- **CPT Code 78714**
- **Prop:** No prep required for this study.
- **Time in Department:** 2 hours
  - **•** Brain amyloid PET imaging is indicated for the assessment of amyloid neuritic plaque density in adults with cognitive impairment undergoing evaluation for the cause of their cognitive decline. Elevated levels of amyloid in the brain are a hallmark of Alzheimer’s disease (AD), and [F-18]florbetapir is an FDA-approved radiopharmaceutical for assessing amyloid plaques in the brain. A positive florbetapir-PET study indicates the presence of moderate or frequent neuritic plaques in the brain which occurs with AD but can be seen in other neurological disorders and in cognitively normal older individuals. A negative florbetapir-PET study indicates no or sparse neuritic plaques and reduces the likelihood that the patient’s cognitive impairment is due to AD.

**CARDIAC**

**Myocardial FDG PET Imaging, Metabolic Evaluation**

- **CPT Code 78459**
- **Prop:** Since these exams are specific to patient disease, prep information for these exams will need to be provided by the PET department case-by-case.
- **Time in Department:** 2-4 hours
  - **•** Myocardial FDG PET/CT (Scar/(diss)ease) is indicated for the detection of active cardiac involvement in patients with suspected or confirmed sarcoidosis.
  - **•** Myocardial FDG PET/CT (Viability) is indicated for the detection of viable myocardium in patients with coronary artery disease.

**TUMOR**

**FDG PET / CT Skull to Thigh**

- **CPT Code 78815**
- **Prop:** A minimum fasting interval of 4 hours is recommended before the study. Consult nuclear medicine physician if patient is diabetic. The patient’s last meal prior to the PET study (which is typically the day before the study) should have a high protein and low carbohydrate content. Limit exercise the day before the PET Scan appointment.
- **Time in Department:** 2-3 hours
  - **•** Body FDG-PET/CT imaging is indicated for evaluation of a variety of proven or suspected malignant neoplasms for addressing the following clinical problems: (1) differentiation of benign from malignant lesions, especially in lung; (2) initial staging of malignancies; (3) monitoring and assessment of response to therapy; (4) detection of residual or recurrent tumor following therapy; and (5) for detection of infection or inflammation.

**PET Radiopharmaceuticals**

- **FDG** ([F-18]fluor-2-deoxy-D-glucose (FDG) is an analog of glucose and localizes in high concentration in some normal tissues (heart, brain, and liver) and most malignant tumors. Use of this imaging technique in oncology is based on the observation that malignant tissues have a higher uptake of FDG than do the surrounding normal tissues.

**PET/CT Imaging with NaF** ([NaF-18F]fluoride) is a positron-emitting bone-seeking agent that localizes in high concentration in the skeleton. Its uptake mechanism resembles that of Tc-99m MDP. After intravenous administration, [F-18F]fluoride ion diffuses through the capillaries into the bone extracellular fluid.

- **[F-18F]florbetapir** ([F-18F]florbetapir (AV-45, Amyvid®) is a small molecule stilbene derivative that binds selectively to human –amyloid neuritic plaques with nanomolar affinity. The brain uptake of florbetapir reflects the regional density of neuritic plaques measured at autopsy.

For questions regarding how to order any PET study or how to reach the appropriate sub-specialty radiologist, please call 314-362-4738.

To schedule a PET study please call Radiology Scheduling at 314-362-7111 or 877-992-7111, 7:00 a.m. – 5:00 p.m. Monday – Friday. Outpatient PET studies are available 7 a.m. – 3:30 p.m. Monday – Friday.