

# PETIMAGING

## INTEGRATED PET/CT SCANNING CASE STUDY N<sup>o</sup> 55

### Directing the Course of Treatment in Cervical Cancer

A 31 year old female with a history of cervical cancer previously treated with surgery presents with lymphedema in the left leg. A CT scan reveals a mass in the head of the pancreas which is suspicious for malignancy. PET/CT is ordered to assess the extent of disease and reveals a mass of hypermetabolic nodal tissue in the left iliac region with  $SUV_{max}$  of 11.9. No hypermetabolic activity is noted in the pancreas to support suspicion of malignancy.



PET/CT is ordered following radiation therapy and chemotherapy to assess the response to treatment. The scan reveals interval resolution of the hypermetabolic activity in the left pelvis. Bone marrow uptake is noted secondary to recent Neupogen injection.



Two months later, the patient presents with rising tumor markers and complains of lower abdominal and back pain. PET/CT, ordered to detect recurrence, identifies hypermetabolic left periaortic adenopathy with  $SUV_{max}$  of 6.1. Subsequent removal of periaortic lymph nodes confirms cancer recurrence. Patient begins chemotherapy.



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PET/CT is ordered during chemotherapy to assess the response. A new, subtle hypermetabolic focus is identified near the left iliac vessels at the level of the sacroiliac joint; however the patient continues on the same chemotherapy regimen.



Three months later, one week after the completion of chemotherapy, PET/CT is ordered to restage the cancer. When compared to the previous exam, intensified hypermetabolic activity is noted near the left iliac vessels with an increase in SUV from 3.2 to 4.9 and an increase in size from 1.0cm x 1.0cm to 1.9cm x 1.4cm. Two adjacent nodes are also identified with SUVs of 5.4 and 3.5. Patient is scheduled for surgical resection and brachytherapy.

