

# PET Bytes

News from *The Positron Imaging Facility* at UT Southwestern Medical Center at Dallas

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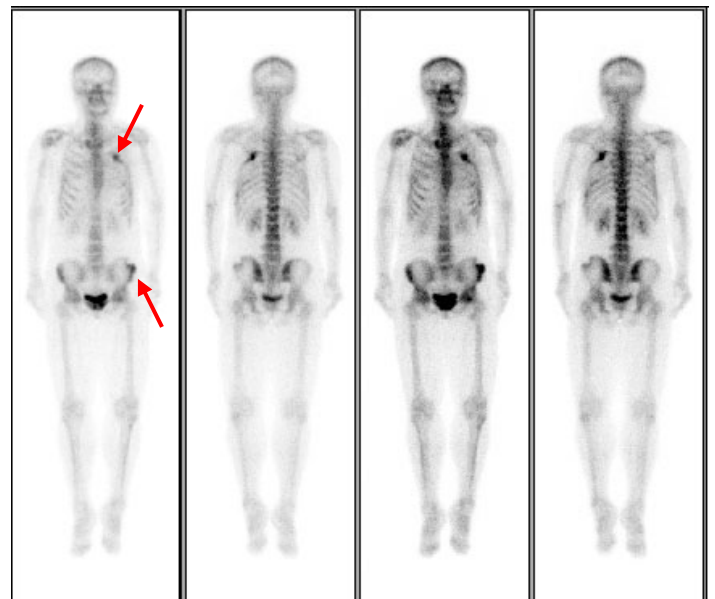
## Imaging of Bone Metastases in Breast Cancer: Bone scan vs. PET scan

Bone is the most common site of metastases in breast cancer. These metastases can show either osteolytic, osteoblastic, or mixed characteristics. Skeletal scintigraphy (SS), “bone scan”, is the most common method in detecting and following metastatic bone lesions. It detects osteoblastic and mixed lesions, is readily available and relatively inexpensive. It has a high sensitivity, but a somewhat lower specificity because bone lesions from other causes, such as trauma, degenerative change, infection, etc, can also result in abnormal tracer uptake. False negatives can result from osteolytic lesions where destruction is outpacing repair. On the other hand, PET and particularly PET/CT readily demonstrates these types of lesions as well as lesions confined to the marrow.

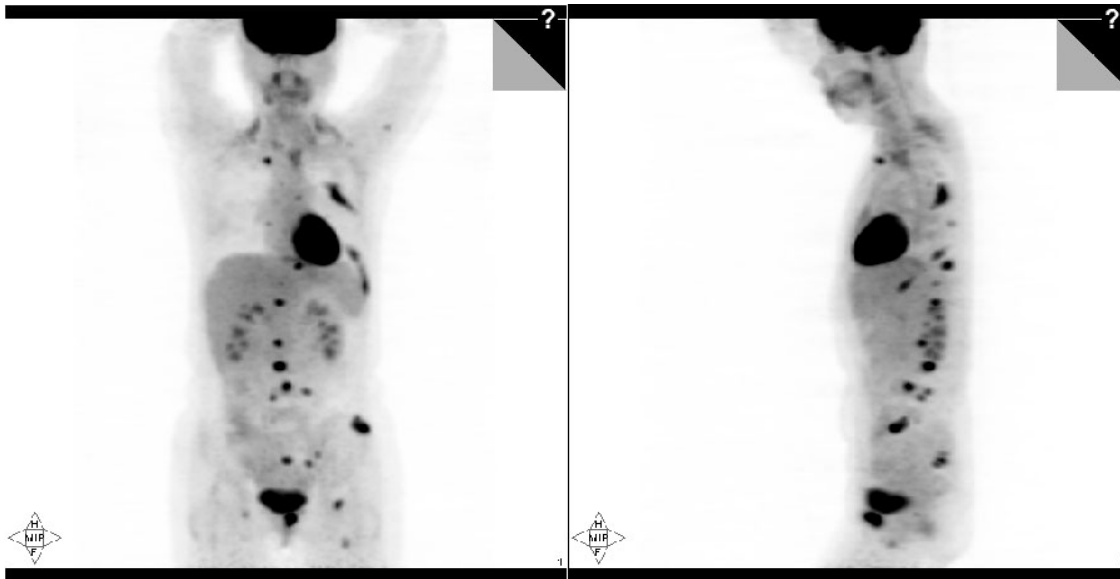
Currently FDG PET and F18 bone PET are relatively expensive and not always readily available. FDG PET also has a relatively low sensitivity for osteoblastic lesions but these can often be readily apparent on the CT portion of the scan.

Both SS and FDG PET may play useful roles in following response to therapy in metastatic lesions. As lesions heal, and sclerosis develops, lesions will be readily apparent on radiographs and CT but the degree of response may be better assessed with SS or FDG PET as healing should be associated with reduced tracer uptake.

References: Hamaoka, T, Madewell JE, Podoloff D, et al. Bone imaging in metastatic breast cancer. *J of Clinical Oncology* 22:2942-2953, 2004.



**Figure 1.** Skeletal Scintigraphy on a patient with advanced stage breast cancer. Bone lesions are seen in the posterior left ribs and the left iliac wing.



**Fig. 2** FDG PET scan on the same patient demonstrating much more extensive bone disease, including lesions in the spine that were not seen on scintigraphy. The CT portion of the exam showed many of these to represent lytic lesions.

and breast cancer treatment, Medicare is limiting scans to once per 6 months. Entering the patient in the NOPR will allow for more frequent scans.

## National Oncologic PET Registry (NOPR)

The NOPR at UTSWMC is going well. To date approximately 77 patients have been entered and most physicians and clinics have been very good about entering the patient data needed. To date, only one physician has failed to get data in on time, resulting in non payment to the PET Facility.

### Top Ten NOPR Cancer Sites (Nationally)

- Prostate
- Ovary & Uterine Adenexa
- Pancreas
- Kidney / Other Urinary Tract
- Bladder
- Small-Cell Lung
- Stomach
- Non-small Cell Lung
- Uterus, body
- Liver / Intrahepatic Bile Ducts

A reminder: this registry is open to Medicare patients with oncology diagnoses which are either not presently covered by Medicare or the frequency of scanning is not approved. With the exception of lymphoma

## Private Insurance Coverage of PET

The coverage of PET scanning is quite variable, depending upon the company involved and to some extent, the individual plans within the same company. The PET staff is very knowledgeable about the coverage and can direct you or your office staff to published information about coverage. Beginning in October 2005, Blue Cross and Blue Shield of Texas designated many of the indications covered by Medicare to be “investigational” and therefore not covered. Writing a letter of medical necessity can sometimes be helpful in obtaining the scan.

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