

What are the optimal imaging methods to determine extent of bone disease in newly diagnosed multiple myeloma?

Ruben Niesvizky, MD

Professor of Medicine

Weill Cornell Medical College

Director

Multiple Myeloma Center and Oncology Operations

New York Presbyterian Hospital/Weill Cornell Medicine

New York, New York

1. MM patients traditionally staged with multi scans or x-ray
 - a. Skeletal survey: plain films through the whole skeleton focusing on the axial skeleton, long bones, and skull to define the extent of bone lesions
 - b. Skeletal surveys with punched-out lesions or fractures cannot always differentiate between MM and premature osteoporosis in certain populations
2. Newer techniques have the ability to detect bone disease in MM earlier and with more accuracy
 - a. These include:
 - i. MRI
 - ii. PET scan
 - iii. PET/MRIs
 - iv. Whole-body low-dose CT
 1. Will identify lesions through the whole body
 2. Eliminates need to use PET scanning
 3. Increased accuracy compared with skeletal survey
 - b. Combined modalities
 - i. PET technology with CAT scan or MRI
 1. Combines power of MRI to detect bone marrow abnormalities and lesions with ability to detect FDG uptake in tumors
3. Controlled trials of combined modalities have yet to be performed, but combined use of MRI and PET-CT is the future in imaging for multiple myeloma