BMD Patient History and Radiation Protection

MRT Program

Patient History

- Each department should develop a BMD questionnaire customized for types of patient referred and the needs of the referring physician and reporting physicians
- Scanning criteria: Pregnancy status? Possible to lay on their back for several minutes? Any nuclear med scans or contrast x-ray exams in the last week? Previous surgeries or fractures in hip, spine, abdomen or forearm areas? Any other medical conditions affecting bones?
- BMD Questionnaire (1).pdf Here is an example of a checklist used by one of our partners

Patient History (cont)

- Patient Information: double ID, referring physician, current standing weight and height and medical history including medications
- Reporting information: the type and scope of report determines how much information is necessary regarding patient's risk factors for, and history of, low bone mass, fragility fractures and bone diseases.

Radiation Protection

- Practice proper radiation protection and achieving ALARA is reasonable with DXA scans
- Repeat scans should be performed if scan is questionable , negligible dose to patient
- The effective radiation dose in Sieverts (Sv) comparable to background radiation
- DXA scans are 1-5 Sv depending on scan site
- Time- manufacturer sets time based on array or scan mode appropriate for scan site thickness

Radiation Protection (cont)

- The manufacturer sets a fixed distance from x-ray tube to the patient
- The technologists console should be 3 feet away from the x-ray source for pencil beam scanners and up to 9 feet away for array beam (produces higher dose than pencil)
- If not possible then a portable x-ray shield is required
- Shielding is built into the scanner via collimation.
- Additional shielding should not be used

Radiation Protection (cont)

- The technologist should wear a personal dosimeter
- Another monitor can be placed just outside the room
- Radiation warning sign should be posted and visible
- Technologist remains in the room to monitor the scan. Can abort the scan and reposition if necessary
- Follow the ten day rule to ensure no chance of pregnancy

Radiation Protection (cont)

- Experienced technologists receive additional certification from the International Society for Clinical Densitometry and/or the American Registry of Radiologic Technologists
- Technologists must obtain continuing education to remain current in their status

Reporting and Record Keeping

- After dismissing the patient with appropriate post exam counsel, complete records must be kept for each patient
- If a patient returns for follow up scans the positioning, acquisition parameters and placement of ROI must be reproduced as closely as possible to the original scans
- Any adaptations to exams due to patient condition must be recorded by the technologist

Reporting and Keeping Scan Records

- Patient questionnaire, log sheet and complete scan printouts must be kept electronically
- The general consensus is that DXA scan results be kept electronically indefinitely because all serial studies are compared to the baseline scan.