DXA Scan Screening, Reporting (FRAX Score) and Follow-Up

DXA Scan Reporting
HealthPartners has now incorporated the FRAX score as part of the DXA scan report. The FRAX tool has been developed by the World Health Organization (WHO) to evaluate fracture risk in patients. Patients are asked a series of validated questions by the DXA technologists, including:

- Personal non-traumatic fracture history
- Parent history of hip fracture
- Secondary causes of osteoporosis (personal history of type 1 diabetes, osteogenesis imperfecta, untreated long-standing hyperthyroidism, hypogonadism, premature menopause <45 years, chronic malnutrition, malabsorption, or chronic liver disease)
- Smoking and tobacco use
- Alcohol use of 3 or more drinks each day
- Glucocorticoid use (equivalent of 5 mg of prednisone or more daily for >3 months)
- Rheumatoid arthritis history

Patient’s age, body mass index, and femoral neck bone mineral density are also entered, and the FRAX score determines a 10 year probability of fracture. Fracture risk is reported both for having a hip fracture in the next 10 years, as well as having any major osteoporotic fracture in the next 10 years.

The FRAX score will appear in the following manner:

<table>
<thead>
<tr>
<th>FRAX Score:</th>
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<tr>
<td>10 YR Risk Hip Fracture %</td>
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Typical threshold to start therapy in patients is a 10-year risk of hip fracture ≥3%. Clinician’s judgment and/or patient preferences may indicate treatment for people with 10-year fracture probabilities above or below these levels.

| 10 YR Risk Major Osteoporotic Fracture % | 16% |

Typical threshold to start therapy in patients is a 10-year risk of any osteoporotic fracture ≥20%. Clinicians’ judgment and/or patient preferences may indicate treatment for people with 10-year fracture probabilities above or below these levels.

Although very informative, the FRAX score is still only a tool, and providers must use this tool with their clinical judgment to decide on the best management of their patients. FRAX scores will not be reported in the following patient:

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• Patients with normal bone density: recommendations are not to treat these patients.
• Patients with osteoporosis on DXA scan: recommendations are to consider treating these patients with pharmacologic therapy.
• Patients with osteopenia only in the forearm and normal bone density elsewhere.

Important risk factors for fracture including spine, total hip, and forearm bone density, as well as fall risk, are not taken into consideration in the FRAX score, which is why clinical judgment is still needed.

**DXA Scan Screening**

Providers will also notice that starting in the winter 2014, bone density screening will be included in the Health Maintenance Modifier for women 65 years and older. This is based on recommendations by the United States Preventative Service Task Force (USPSTF), Institution for Clinical Systems Improvement (ICSI), American Academy of Family Physicians, American Association of Clinical Endocrinologists, National Osteoporosis Foundation, International Society for Clinical Densitometry, and the Canadian Osteoporosis Society. Screening postmenopausal women younger than age 65 may be indicated with any of the following risk factors:

• Personal history of fragility fracture
• Height loss (>1.5 inches)
• Body mass index <20 kg/m²
• Family history of osteoporosis
• Active smoker
• Excessive alcohol consumption
• Glucocorticoid use (equivalent of 5 mg of prednisone or more daily for >3 months)

There is not strong data on when to screen men for osteoporosis, and no consensus recommendation. However several groups advocate screening men >70 years of age, and possibly those younger with risk factors.

**DXA Scan Follow-Up**

When do you repeat a DXA scan? This depends on a number of factors, including baseline DXA scan results and risk factors for accelerated bone loss. Timing of follow up scan should be individualized. However, based on data and expert opinion, we feel we can include general recommendations on repeat DXA scan timing. Please note, these are just recommendations, and if a patient has significant risk factors for accelerated bone loss that are not noted on the DXA report, more aggressive follow up should be pursued.

Below is what will appear on the bottom of every DXA report to help guide the primary provider.

*In women and men with low bone mass (T-score -2.00 to -2.49) at any site or who have risk factors for ongoing bone loss (E.g., glucocorticoid use, hyperparathyroidism, aromatase inhibitors, etc.), consider a follow-up DXA approximately every one to two years as long as the risk factor persists

*In women 65 years of age and older at baseline screening, with low bone mass (T-score -1.50 to -1.99) at any site, and with no risk factors for accelerated bone loss, consider a follow-up DXA in three to five years. For women under 65 years old and men, there is no consensus recommendation due to the paucity of data.

*In women 65 years of age and older with normal or slightly low bone mass (T-
score -1.01 to -1.49) at baseline measurement and no risk factors for accelerated bone loss, consider a follow-up DXA in 10 to 15 years. For women under 65 years old and men, there is no consensus recommendation due to the paucity of data.

*In patients with osteoporosis or who’s FRAX score suggests treatment should be initiated, consider a follow-up DXA in one to two years.

*In patients who are currently on treatment for low bone mass, consider repeating DXA scan 1-2 years after initiating treatment and possibly less frequently thereafter.

We will not make any recommendations for follow up DXA scan timing if a patient has normal bone density, in men <50 years old, and in premenopausal women.

References

Questions: Please reply to this e-mail, and your questions(s) will be directed to the author of this Pearl, Chris Kodl, MD and Elie Gertner MD.

Pearls of Knowledge Archive
All Pearl recommendations are consistent with professional society guidelines, and reviewed by HealthPartners Physician Leadership.