

Country: US(Caucasian) Name / ID : About the risk factors ⓘ

Questionnaire:

1. Age (between 40-90 years) or Date of birth
 Age: Y: M: D:

2. Sex Male Female

3. Weight (kg)

4. Height (cm)

5. Previous fracture No Yes

6. Parent fractured hip No Yes

7. Current smoking No Yes

8. Glucocorticoids No Yes

9. Rheumatoid arthritis No Yes

10. Secondary osteoporosis No Yes

11. Alcohol 3 more units per day No Yes

12. Femoral neck BMD
 T-score

BMI 22.6
 The ten year probability of fracture (%)
with BMD

Major osteoporotic	13
Hip fracture	1.7

FIGURE 425-7 FRAX calculation tool. When the answers to the indicated questions are filled in, the calculator can be used to assess the 10-year probability of fracture. The calculator (available online at <http://www.shef.ac.uk/FRAX/tool.jsp?locationValue=9>) also can risk adjust for various ethnic groups.

any assessment of fall risk and secondary causes are excluded when BMD is entered. Moreover, it does not include any term for multiple fractures or recent versus remote fracture. Nonetheless, it is useful as an educational tool for patients.

After risk assessment, patients should be thoroughly educated to reduce the impact of modifiable risk factors associated with bone loss and falling. All medications that increase risk of falls, bone loss, or fractures should be reviewed to ensure that they are necessary and being used at the lowest required dose. For those on thyroid hormone replacement, TSH testing should be performed to confirm that an excessive dose is not being used, because biochemical and symptomatic thyrotoxicosis can be associated with increased bone loss. In patients who smoke, efforts should be made to facilitate smoking cessation. Reducing risk factors for falling also include alcohol abuse treatment and a review of the medical regimen for any drugs that might be associated with orthostatic hypotension and/or sedation, including hypnotics and anxiolytics. If nocturia occurs, the frequency should be reduced, if possible (e.g., by decreasing or modifying diuretic use), because arising in the middle of sleep is a common precipitant of a fall. Patients should be instructed about environmental safety with regard to eliminating exposed wires, curtain strings, slippery rugs, and mobile tables. Avoiding stocking feet on wood floors, checking carpet condition (particularly on stairs), and providing good light in paths to bathrooms and outside the home are important preventive measures. Treatment for impaired vision is recommended, particularly a problem with depth perception, which is specifically associated with increased

falling risk. Elderly patients with neurologic impairment (e.g., stroke, Parkinson's disease, Alzheimer's disease) are particularly at risk of falling and require specialized supervision and care.

Nutritional Recommendations • CALCIUM A large body of data indicates that optimal calcium intake reduces bone loss and suppresses bone turnover. Recommended intakes from an Institute of Medicine report are shown in [Table 425-5](#).

The National Health and Nutrition Examination Surveys (NHANES) have consistently documented that average calcium intakes fall considerably short of these recommendations. Food sources of calcium are dairy products (milk, yogurt, and cheese) and fortified

TABLE 425-5 ADEQUATE CALCIUM INTAKE

Life Stage Group	Estimated Adequate Daily Calcium Intake, mg/d
Young children (1–3 years)	500
Older children (4–8 years)	800
Adolescents and young adults (9–18 years)	1300
Men and women (19–50 years)	1000
Men and women (51 and older)	1200

Note: Pregnancy and lactation needs are the same as for nonpregnant women (e.g., 1300 mg/d for adolescents/young adults and 1000 mg/d for ≥19 years).

Source: Adapted from the Standing Committee on the Scientific Evaluation of Dietary Reference Intakes. Food and Nutrition Board. Institute of Medicine. Washington, DC, 1997. National Academy Press.