

# FRAX® 10-Year Fracture Risk Assessment

## If You Could See Your Patient's Future Fracture Risk, Would You Change It?

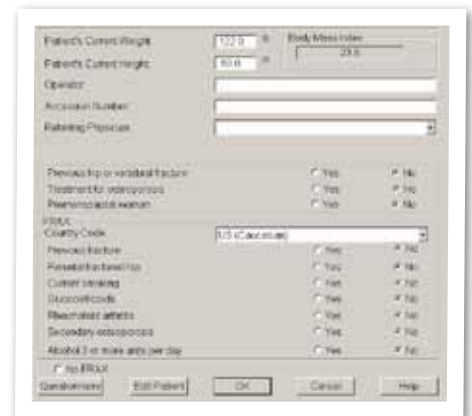


### The importance of FRAX®: Identifying People at High Risk of Fracture

Osteoporosis is a growing healthcare crisis affecting millions of women and men worldwide. The fractures associated with osteoporosis are staggering, for the year 2000, there were an estimated 9 million new osteoporotic fractures worldwide, of which 1.6 million were at the hip, 1.7 million were at the forearm and 1.4 million were clinical vertebral fractures<sup>1</sup>. What would you do if you could change these facts?

#### What is FRAX?

FRAX is a 10-year fracture risk assessment developed by the World Health Organization (WHO) that calculates a 10-year fracture probability in women and men. FRAX has been developed as a tool to help healthcare providers identify and proactively treat patients with a high risk of debilitating bone fractures due to low bone mass and other significant risk factors.



FRAX Configuration Screen

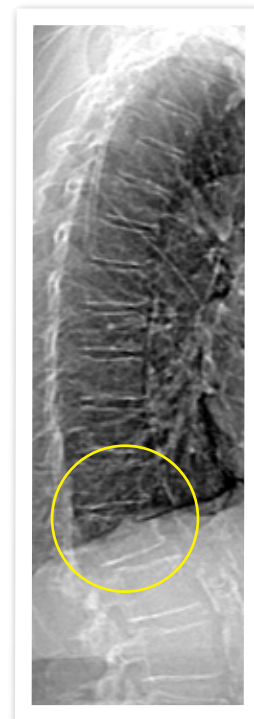
#### Risk factors

The following risk factors, used by FRAX, are significant contributors to osteoporotic fracture risk, beyond those provided by BMD and age alone<sup>2</sup>: sex, ethnicity, body mass index (BMI), prior fracture, parental history of hip fracture, current smoking, glucocorticoids, rheumatoid arthritis, and daily alcohol consumption.

By combining these well established and validated risk factors with femoral neck BMD and High Definition Instant Vertebral Assessment (IVA™-HD), a must have imaging feature since the presence of vertebral fracture will strongly influence the FRAX score, providers will be able to identify more patients needing early intervention and therapy than by using BMD alone.

#### Why Use 10-year Risk Assessment?

While T-score remains the standard for diagnosing osteoporosis, BMD misses other risk factors which are necessary to properly evaluate the fracture risk of patients. With FRAX, healthcare providers can identify patients who are at high risk of fracture but would not be candidates for preventative therapy using traditional T-score assessment.



High Definition Instant Vertebral Assessment (IVA™-HD) improves the detection of vertebral fractures

<sup>1</sup> Johnell O. and Kanis J.A. (2006) Osteoporosis International 17:1726

<sup>2</sup> Kanis J.A., Borgström F., De Laet C., et al.(2005) Osteoporosis International 16:581

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### How was FRAX developed?

The FRAX model has been developed from studying population-based cohorts in Europe, North America, Asia and Australia. The FRAX algorithms give the 10-year probability of hip fracture and the 10-year probability of a major osteoporotic fracture (clinical spine, forearm, hip or shoulder fracture).

### Integration of FRAX into Hologic DXA bone densitometers

The prompt integration of the FRAX calculator into the APEX™ software (APEX 3.0 and higher), the heart of the Discovery™ bone densitometry systems, exemplifies Hologic's ongoing commitment to provide the most up-to-date technology and reporting to combat osteoporosis, a critical health issue in women and men.

By incorporating FRAX, healthcare providers can dramatically alter the way patients are evaluated for potential bone fractures as well as those who would most likely benefit from treatment.

### FRAX integrated report

All the patient information and results are downloaded into an integrated report that can be electronically viewed or printed to aid clinicians in identifying patients who otherwise would go untreated until they experience a possibly debilitating fracture.

### For additional information on FRAX:

International Osteoporosis Foundation: [www.iofbonehealth.org](http://www.iofbonehealth.org)

National Osteoporosis Foundation: [www.nof.org](http://www.nof.org)

WHO Collaborating Centre for Metabolic Bone Diseases (University of Sheffield Medical School, UK): [www.shef.ac.uk/FRAX](http://www.shef.ac.uk/FRAX)

**Bedford Imaging Center**  
35 Crosby Drive  
Bedford, MA 01730

Telephone: 1-800-343-9729      E-Mail: [sales@hologic.com](mailto:sales@hologic.com)      Fax: 1-781-280-0667

Name: A060, FRAX Report	Sex: Female	Height: 65.0 in
Patient ID:	Ethnicity: White	Weight: 149.0 lb
DOB: May 14, 1943	Menopause Age: 42	Age: 57

Referring Physician:


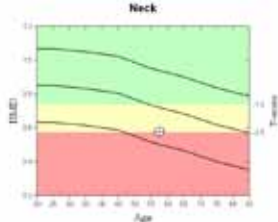


Image not for diagnostic use  
k = 1.134, d0 = 51.5  
104 x 104  
NECK: 49 x 15

**Scan Information:**

Scan Date: November 22, 2000      ID: A11220008  
Scan Type: f Left Hip  
Analysis: November 22, 2000 13:51 Version 11.0:7  
Left Hip  
Operator: smn  
Model: Delphi W (S/N 70025)  
Comment:



T-score vs. White Female; Z-score vs. White Female. Source: BMDCS/NHANES

**DXA Results Summary:**

Region	Area (cm <sup>2</sup> )	BMC (g)	BMD (g/cm <sup>3</sup> )	T - score	Z - score
Neck	5.28	3.06	0.579	-2.4	-1.3
Total	38.08	24.79	0.651	-2.4	-1.6

Total BMD CV 1.0%, ACF = 1.034, BCF = 1.006, TH = 5.722  
WHO Classification: Osteopenia

**10-year Fracture Risk<sup>1</sup>**

Major Osteoporotic Fracture	22%
Hip Fracture	2.5%

Reported Risk Factors:  
US (Caucasian), Neck BMD=0.579, BMI=24.8, parental fracture, alcohol use

<sup>1</sup>FRAX® Version 3.01. Fracture probability calculated for an untreated patient. Fracture probability may be lower if the patient has received treatment.

**HOLOGIC**

### FRAX Integrated Hip Report