2014 FRAX Based Lebanese Osteoporosis Guidelines

Developed by National Task Force for Osteoporosis and Metabolic Bone Disorders*

Endorsed by: Lebanese Society for Osteoporosis and Metabolic Bone Disorders, Lebanese Society of Endocrinology, Lebanese Society of Obstetrics and Gynecology, Lebanese Association of Orthopedic Surgeons, Lebanese Society of Radiology, Lebanese Society of Rheumatology, Lebanese Society of Family Medicine, Lebanese Society of Internal Medicine, Lebanese Society of General Practitioners.

A. Who to TEST (by BMD) to decide Who to TREAT

Patient fulfills any of the following:
- *Age > 65 years
- *Presence of vertebral deformity or fragility fracture
- *Radiologic evidence of demineralization
- *Chronic corticosteroid therapy (> 3-6 months)
- *Aromatase inhibitors or androgen deprivation therapy

Yes

Do BMD
Derive MOF 10-year risk using FRAX to decide on treatment [4]

No

Calculate 10-year MOF risk using FRAX

- FRAX 6-14% [1] → Do BMD
- FRAX<6% → Reassure and monitor [2]
- FRAX>14% → FRAX above age-specific threshold ?
  - Yes → TREAT[3]
  - No → Do BMD

B. Who to TREAT

Patient fulfills any of the following:
Postmenopausal women and men (≥ 50 years) with history of fragility fracture:
1- Spine
2- Hip
3- Two or more (≥ 2) other fragility fractures.

No → Calculate 10-year MOF risk using FRAX

Yes → TREAT[3]

MOF: Major Osteoporotic fractures.
[1] Within 2-4% above or below 10% threshold.
[2] Periodically re-evaluate in 2-5 years, depending on the clinical context.
[3] BMD may be indicated as baseline to monitor therapy but not for decision making regarding start of therapy. Refer to executive summary for treatment strategies. http://www.aub.edu.lb/fm/cmop/downloads/executive-summary.pdf
[4] Treat if MOF 10-year risk is above age-specific threshold.

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WHO TO TEST

Definite indications in both men and women:

- >65 years: age as a risk factor
- Presence of vertebral deformity or fragility fracture
- Radiological evidence of low bone density
- Chronic corticosteroid therapy (>3-6 months)
- Aromatase inhibitors or androgen deprivation therapy

All other indications in postmenopausal women and older men:

Use FRAX Risk Factors to decide on BMD. If FRAX risk estimate based on risk factors is close to 10% (6-14%), measure BMD to further refine risk assessment.

WHO TO TREAT

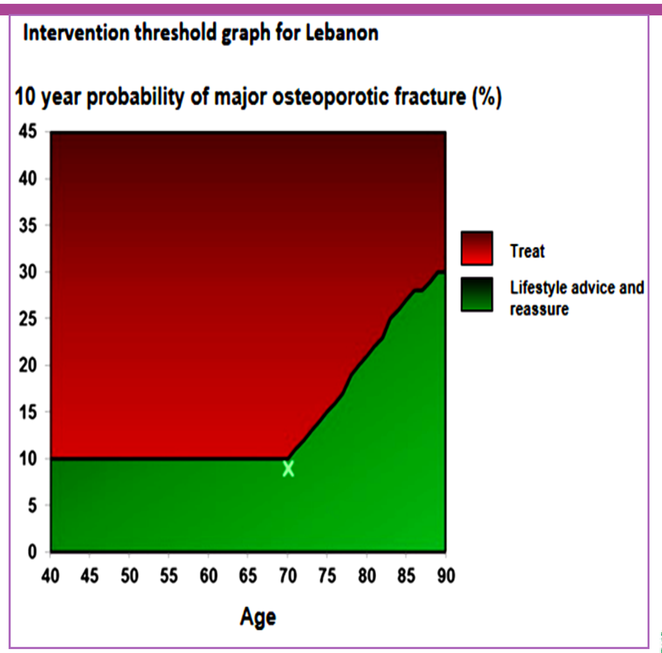
Patients with Fracture:

Postmenopausal women and men ≥ 50 years with history of fragility fracture: Spine or Hip or ≥ 2 other fragility fractures.

OR

Patients at High Risk for Fracture:

Individuals defined by the Lebanese guidelines based on age specific FRAX threshold (graph/table).



LEBANESE FRAX INTERVENTION THRESHOLDS

Age (years)	Intervention threshold	Age (years)	Intervention threshold	Age (years)	Intervention threshold	Age (years)	Intervention threshold
≤ 70	10						
71	11	76	16	81	22	86	28
72	12	77	17	82	23	87	28
73	13	78	19	83	25	88	29
74	14	79	20	84	26	89	30
75	15	80	21	85	27	90	30

PREVENTION: http://www.aub.edu.lb/FM/CMOP/Pages/LebaneseGuidelines.aspx

- Regular weight-bearing exercise.
- Fall prevention.
- Avoid tobacco use and excess alcohol intake.
- Elemental calcium (including dietary intake) at 1200 mg/day.
- Vitamin D supplementation:
  - Desirable range 30-60 ng/ml.
  - The recommended vitamin D intake, as a maintenance regimen, is:
    - Children-adolescents: 15–25 µg (600–1000 IU) daily.
    - Adults under 50 years of age: 15–25 µg (600–1000 IU) daily.
    - High-risk* and older adults: 20–50 µg (1000–2000 IU) daily.

*High risk individuals are those with osteoporosis on pharmacologic therapy, with fractures, or conditions known to affect vitamin D metabolism or action: steroids, anticonvulsants, malabsorption, bypass surgery, cirrhosis and patients with secondary hyperparathyroidism.

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POSTMENOPAUSAL OSTEOPOROSIS (PMO)

- Alendronate, risedronate, zoledronic acid and denosumab can be considered as first-line therapy.
- For women 65 years or older with severe osteoporosis, defined as a low BMD (T-score ≤–2.5) and a prevalent vertebral fracture, teriparatide can be considered as a first-line therapy.
- Other potential candidates for teriparatide include:
  - Postmenopausal women with very low BMD (T-score ≤ –3.5).
  - Postmenopausal women who sustain > 2 fragility fractures despite an adequate trial of bisphosphonates (1-year period).
- For postmenopausal women < 60 years with vasomotor symptoms, hormone therapy can be considered as a first-line therapy.

OSTEOPOROSIS IN MEN

- Alendronate, risedronate, zoledronic acid and denosumab can be considered as first-line therapy.
- Teriparatide should be considered as a second-line therapy for men 65 years or older who have severe osteoporosis and prevalent fragility fractures.
- Testosterone is only indicated in men with a definite diagnosis of hypogonadism and under close expert medical supervision due to various complications.

AROMATASE INHIBITORS AND ANDROGEN DEPRIVATION THERAPY PATIENTS

Women on aromatase inhibitors and men on androgen deprivation therapy, bisphosphonates (alendronate, risedronate, ibandronate, zoledronic acid) or Denosumab should be considered.

GLUCOCORTICIOD INDUCED OSTEOPOROSIS

http://www.aub.edu.lb/fm/cmop/downloads/e-summary.pdf

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EFFICACY OF OSTEOPOROSIS APPROVED MEDICATIONS IN NORTH AMERICA AND EUROPE BY APPROVAL INDICATION AND BY SKELETAL SITE

	PMO		MO	GIOP	Fracture Risk Reduction		
	Prevention[1]	Treatment[2]			Vertebral Fracture	Hip Fracture	Non Vertebral Fracture
ANTI-REMODELING AGENTS							
Alendronate	✓	✓	✓	✓	**PMO**	**PMO**	**PMO**
Ibandronate	✓	✓	-	-	**PMO**	-	**PMO**
Risedronate	✓	✓	✓	✓	**PMO**	**PMO**	**PMO**
Zoledronic acid	✓	✓	✓	✓	**PMO and MO**	**PMO and MO**	**PMO and MO**
Bazedoxifene	✓	✓	-	-	**PMO**	-	**PMO**
Lasofoxifene	✓	✓	-	-	**PMO**	-	**PMO**
Raloxifene	✓	✓	-	-	**PMO**	-	-
Denosumab	-	✓	✓	-	**PMO and MO**	**PMO**	**PMO**
Estrogen	✓	-	-	-	**PMO**	**PMO**	**PMO**
Conjugated estrogen/ Bazedoxifene	✓	-	-	-	-	-	-
Calcitonin	-	✓	-	-	**PMO**	-	-
Tibolone	✓	-	-	-	**PMO**	-	**PMO**
ANABOLIC AGENTS							
Teriparatide	-	✓	✓	✓	**PMO and MO**	-	**PMO**
OTHERS							
Strontium ranelate	✓	✓	✓	-	**PMO**	**PMO (post-hoc)**	**PMO**

GIOP: Glucocorticoid-Induced Osteoporosis; MO: Men Osteoporosis; PMO: Postmenopausal Osteoporosis; [1] For PMO at high risk of fracture; [2] For PMO with previous fragility fracture.

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