Kuwait Osteoporosis Guidelines 2018

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FRAX Based Kuwait Osteoporosis Guidelines - 2018

Postmenopausal women and men aged ≥ 50 years

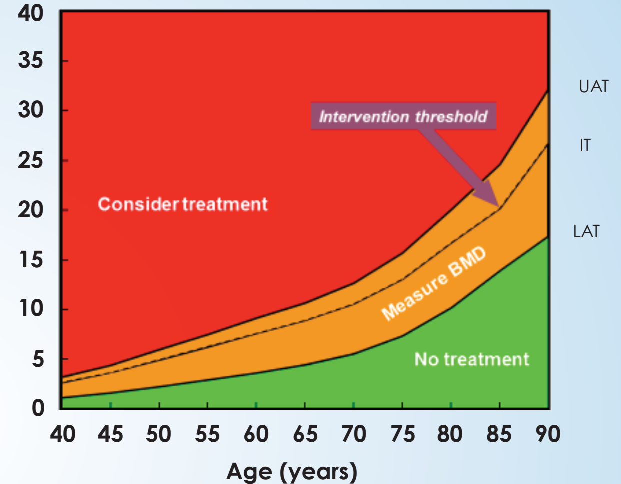
No history of fragility fracture

Apply FRAX
(see fracture probability table)

- **Below lower assessment threshold** → **Reassure and repeat FRAX after 5 years or when clinical condition changes**
- **Between assessment thresholds** → **DXA** → **Reassess probability**
  - **Below intervention threshold** → **Reassure and repeat FRAX & DXA after 3 years**
  - **Above intervention threshold** → **Treat**
- **Above upper assessment threshold** → **Treat ± DXA**

History of fragility fracture
(Spine, hip or ≥ 2 other fractures)

→ **Treat ± DXA**



Ten year probability (%)

Age (years)	Intervention threshold (IT)	Lower assessment threshold (LAT)	BMD	Upper assessment threshold (UAT)
40	2.3	1.0		2.8
43	2.8	1.3		3.4
45	3.2	1.4		3.8
47	3.6	1.7		4.3
50	4.3	2.0		5.1
53	5.0	2.3		6.0
55	5.4	2.5		6.5
57	5.8	2.8		7.0
60	6.5	3.1		7.8
63	7.2	3.5		8.6
65	7.6	3.8		9.1
67	8.2	4.1		9.8
70	9.0	4.7		11
73	10	5.5		12
75	11	6.2		13
77	12	7.0		14
80	14	8.5		17
83	17	10		20
85	19	12		23
87	20	13		24
90	23	14		27

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Fracture risk elevated based on FRAX assessment ± DXA scan

History of fragility fracture (Spine, hip or ≥ 2 other fractures)

NON PHARMACOLOGICAL:

1) Discontinue/limit smoking, alcohol, excess caffeine.
2) Weight-bearing exercises 30 minutes/day (walking, jogging, dancing, strength/resistance training).
3) Measures to reduce the risk of falling.
4) Use hip protectors in individuals with high risk of falling.

PHARMACOLOGICAL:

1) Treat vitamin D deficiency if present & maintain on 50,000 IU/month or equivalent dose to achieve Serum 25-OH vitamin D level between 75-150 nmol/L.
2) Maintain on calcium 1200 mg/day (preferably through diet, if not then through supplements).
3) One-Alfa should only be used in cases of chronic renal impairment and hypoparathyroidism.

Evidence for Fracture Risk Reduction by Randomized Trails

First choice (alphabetical order)	Vertebral	Nonvertebral	Hip	Men
- **Alendronate** (Fosamax)	↓	↓	↓	✔
- **Denosumab** (Prolia)[1]	↓	↓	↓	✔
- **Zoledronic Acid** (Aclasta)[2]	↓	↓	↓	✔
Second choice (alphabetical order)				
- **Ibandronate** (Bonviva)	↓	↓[3]	NAE	NAE
- **Raloxifene** (Evista)[4]	↓	NAE	NAE	NAE

After 5 yrs of Alendronate and Ibandronate use or 3 yrs of Zoledronic acid use:

- Patients with low fracture risk: consider drug holiday, monitor for BMD decline and reassess risk every 1-2 years, consider retreatment if indicated.
- Patients with high fracture risk: continue for up to 10 years if on alendronate or ibandronate and up to 6 years if on zolendronic acid, reassess risk and if still high then shift to other drug class.

NAE: Not Adequately Evaluated
(1) Preferred drug in renal insufficiency (Clcr < 35 ml/min)
(2) Preferred drug after hip fracture
(3) Post-hoc analysis
(4) Preferred drug in women with strong family history of breast malignancy

Combination therapy is not advised

Teriparatide (Forteo)

20 mcg s/c daily for 18 - 24 months (once in a lifetime)

Evidence for Fracture Risk Reduction

Vertebral	Nonvertebral	Hip	Men
↓	↓	NAE	✔

NEA: Not Adequately Evaluated

Contraindication to PTH:

- Hypercalcemia
- Hyperparathyroidism
- Skeletal malignancy
- Paget`s disease
- Radiation therapy

Treatment should be followed by an antiresorptive agent

TREATMENT MONITORING

- Repeat DXA every 2 years on same machine & if possible with same technologist.
- Monitor changes at lumbar spine, total hip BMD. Compare BMDs and not T-scores.

TREATMENT ASSESSMENT

TREATMENT FAILURE

1) Declining BMD
2) Occurrence of >1 fragility fracture

Rule out:

- Non adherence
- Secondary causes including medications

TREATMENT SUCCESS

1) Stable or increasing BMD
2) Absence of fragility fractures

Management of Glucocorticoids Induced Osteoporosis

INITIAL EVALUATION

- History and physical examination.
- Height and weight measurements.
- Laboratory tests: CBC + ESR, RFT, LFT, mineral profile, ALP, PTH-I, TFT, 25OH Vitamin D ± Gonadal hormones

GENERAL MEASURES

- Reduce dose and/or change route of glucocorticoids when possible and consider glucocorticoid sparing therapy.
- Measures to reduce the risk of falls.
- Smoking and alcohol cessation and limitation of caffeine to < 3 cups/day.
- Weight-bearing exercises 30 minutes/day (walking, jogging, dancing, strength/resistance training).
- Treat vitamin D deficiency if present and maintain on an equivalent dose of 1000 IU/day to achieve serum 25-OH vitamin D level between 75-150 nmol/L.
- Maintain a calcium intake of 1000-1200 mg/day, preferably through diet, if not then through supplements.

Postmenopausal

Postmenopausal women and men ≥ 50 years exposed to systemic glucocorticoids

Treatment ≥ 3 months

Any of below risk factors available?
- History of fragility fracture (spine, hip or ≥ 2 other fractures)
- FRAX above upper assessment threshold (GC-adjusted)

- **No** → **FRAX above intervention threshold (GC-adjusted)**
  - **No** → • No active treatment • refer to general guidelines
  - **Yes** → Alendronate, Zoledronic acid, Denosumab[1]
- **Yes** → Alendronate, Zoledronic acid, Denosumab[1], Teriparatide[2]

Treatment < 3 months

History of fragility fracture (spine, hip or ≥ 2 other fractures)

- **Yes** → Alendronate, Zoledronic acid, Denosumab[1], Teriparatide[2]
- **No** → Refer to general guidelines

Premenopausal

Adult (age ≥18 years) premenopausal women and men younger than 50 years using systemic steroids treatment ≥ 3 month

Age < 40 years

Any of below risk factors available?
- History of fragility fracture
- Z-score < -3 at hip or spine
- > 10%/year BMD loss at hip or spine
- Very high dose glucocorticoid (Prednisone > 30 mg/day and a cumulative dose of > 5 gm in the past year)

- **No** → Monitor with DXA scan every 2-3 years depending on risk factors
- **Yes** → Women with childbearing potential (not planning pregnancy in treatment period) →
  - Perform DXA scan if not done
  - Treatment recommended:
    - Alendronate
    - Denosumab[1]
    - Teriparatide[2]

Age > 40 years

Any of below risk factors available?
- History of fragility fracture
- FRAX (GC & DXA scan-adjusted) 10-year risk for major osteoporotic fracture > intervention threshold
- Very high dose glucocorticoid (Prednisone > 30 mg/day and a cumulative dose of > 5 gm in the past year)

- **Yes** → Women with no childbearing potential and men →
  - Perform DXA scan if not done
  - Treatment recommended:
    - Alendronate
    - Zolendronic acid
    - Denosumab[1]
    - Teriparatide[2]
- **No** → Monitor with FRAX & DXA scan every 1-3 years depending on risk factors

FOLLOW UP MEASURES

- Height measurement every 6-12 months with prospective height loss ≥ of 2 cm, consider vertebral fracture assessment (VFA) or plain x-rays.
- Vitamin D measurements every 6-12 months.
- If glucocorticoids continued, repeat DXA scan after every 1-3 years.
- Assessment of new fractures (ribs and vertebrae).
- Active pharmacological treatment should be continued until no further exposure to glucocorticoid.
- For adults > 40 years , DXA scan should be done every 2-3 years after glucocorticoids and osteoporosis treatment has been discontinued.

[1]Preferred drug in renal insufficiency (Clcr < 35 ml/min) and in women with childbearing potential

[2]Preferred drug in cases with fragility fracture

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INDICATIONS FOR VERTEBRAL IMAGING

Consider vertebral imaging tests, by **Vertebral Fracture Assessment (VFA)** or lateral thoracic and lumbar spine x-ray, in the following individuals:

- In all women age 70 and older and all men age 80 and older.
- In women and men age >50 with specific risk factors:
  - Low trauma fracture
  - Historical height loss of 4 cm or more
  - Prospective height loss of 2 cm or more
  - Recent or ongoing long term glucocorticoid treatment

Adopted from the National Osteoporosis Federation 2013