دائـــــرة الـصـــحـــة
DEPARTMENT OF HEALTH

DOH GUIDELINE ON THE SCREENING FOR OSTEOPEROSIS

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1. INTRODUCTION

Osteoporosis, a condition that causes thinning and weakening of normal bones, can be prevented through lifestyle modifications. People at risk of osteoporosis are post-menopausal women, elderly, and calcium deficient cases over many years. In addition, extreme lack of vitamin D results in osteomalacia (softening of bones) in adults. Osteoporosis is a Public Health burden, both in terms of direct cost to society and the government, or indirectly, that result when patients lose their independence and require nursing care either at home or in institutions[i].

Public Health Impact of Osteoporosis:

If not prevented or left untreated, osteoporosis affects the Quality Adjusted Life years (QALYs) as it can progress to broken bones, also known as fractures. Any bone can be affected, but of special concern are fractures of the hip and spine. A hip fracture requires hospitalization and major surgery. It can impair a person's ability to walk unassisted and may cause prolonged or permanent disability. Spinal or vertebral fractures can also have serious consequences, including loss of height, severe back pain and deformity. The changes in Quality of Life Years (QALYs) and disability suffered by people with complications from osteoporosis, impacts their contributions to an effective and healthy society.

2. ABOUT THIS GUIDELINE

This Guideline is based on a review of several international guidelines on screening for Osteoporosis[ii] [iii]. In addition, technical/expert taskforce members appointed to advise and assist DOH with the development of this guideline in the context of best practice screening for osteoporosis. The high-level strategic advice will assist in improving quality and inform the effective implementation of screening programs for osteoporosis.

3. PURPOSE

This Guideline is designed to serve as a basic reference on the screening of osteoporosis in the Emirate of Abu Dhabi. It provides guidance on the assessment of fracture risks utilizing the level of risk at which treatment would be considered cost-effective. This information combined with clinical judgment and patient preference should lead to more appropriate testing and treatment of those at risk of fractures attributable to osteoporosis[iv].

4. SCOPE

4.1 This guideline can be used by all primary healthcare providers who are engaged in the screening of bone health & osteoporosis in the Emirate of Abu Dhabi.

4.2 It applies to:

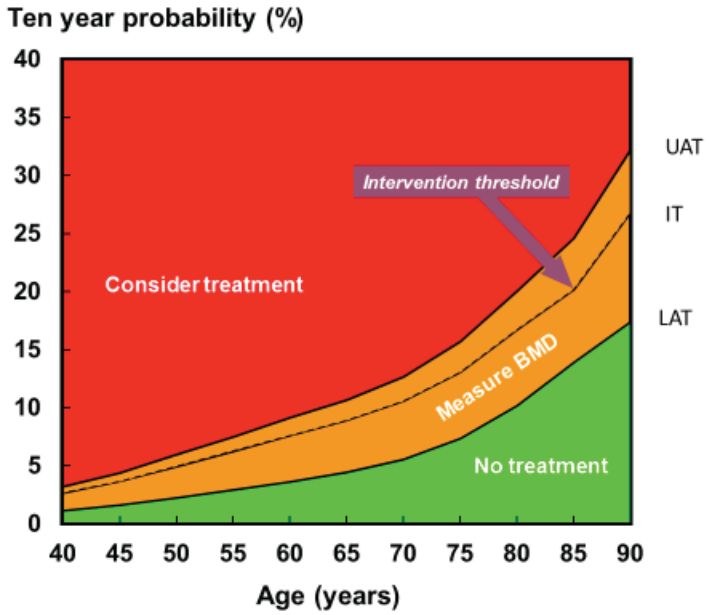
4.2.1 All adults above the age of 50.

4.2.2 All Thiqa Insurance cardholders ages 65 for females and males and above attending the comprehensive screening program as they should be screened for osteoporosis by using the central Dual Energy X-ray Absorptiometry (DEXA Scan).

5. ABBREVIATIONS

Category	Definition
AACE	American Association of Clinical Endocrinologists
BMD	Bone Mineral Density
DOH	Department Of Health
DEXA	Dual-Energy X-ray Absorptiometry
FRAX®	Fracture Risk Assessment Tool
IOF	International Osteoporosis Foundation
QALYs	Quality Adjusted Life Years
WHO	World Health Organization

6. ASSESSMENT OF FRACTURE RISK[v]



6.1 All postmenopausal women aged ≥50 years should be assessed for osteoporosis risk.

6.2 A detailed history, physical exam, and clinical fracture risk assessment with the Fracture Risk Assessment Tool (FRAX®) should be included in the initial evaluation for osteoporosis.

6.3 Bone mineral density (BMD) testing should be considered based on clinical fracture risk profile and a disease or condition associated with low bone density. BMD is indicated for example in[vi]:

- 6.3.1 Females age 65 and older.
- 6.3.2 Males age 65 and older.
- 6.3.3 Adults with a fragility fracture"*a fracture caused by injury that would be insufficient to fracture a normal bone* ".[vii]
- 6.3.4 Adults taking medication associated with low bone density.
- 6.3.5 Anyone being treated for low bone density to monitor treatment effects.
- 6.3.6 Anyone not receiving therapy, in whom evidence of bone loss would lead to treatment.
- 6.3.7 Women discontinuing estrogen treatment should be considered for bone density testing.

7. RISK FACTORS:[viii]

When assessing fracture risk it is important to consider the below-listed well-validated risk factors with or without BMD, this will likely improve fracture prediction and the selection of individuals at high risk for treatment. [ix]

Modifiable

- Hormones (low estrogen or testosterone)
- Low calcium and vitamin D
- Sedentary lifestyle
- Low body weight (less than 58 Kg)
- Alcohol & Smoking
- Impaired eyesight despite adequate correction
- Recurrent Falls
- Steroids >7.5mg daily for more than 3 months
- Medications (such as: Lithium, Barbiturates, Antiepileptic's, Antacids containing aluminum)

Non-modifiable

- Advanced age
- Female sex
- Ethnicity (Asian, Caucasian, African American)
- Family history
- Personal history of fracture as an adult
- Dementia
- Poor health / fragility

Secondary Osteoporosis causes (primary condition should be treated by the appropriate specialty)

Medical conditions resulting in secondary osteoporosis:

- Serious kidney failure
- Cushing's disease
- Liver impairment
- Multiple sclerosis
- Malabsorption syndromes such as celiac disease and scurvy cases
- Anorexia nervosa and bulimia
- Chronic obstructive pulmonary disease
- Rheumatoid Arthritis and other Inflammatory Arthritis or Connective-Tissue Disease (CTD)
- Hyperparathyroidism
- Hyperthyroidism
- Diabetes
- Hypercortisolism
- Thalassemia
- Multiple myeloma
- Leukemia
- Metastatic bone diseases

8. DIAGNOSIS of OSTEOPOROSIS[x]

8.1 When BMD is measured, certified trained technicians should perform DEXA measurement (spine and hip).

8.2 Osteoporosis should be diagnosed based on presence of fragility fractures in the absence of other metabolic bone disorders or a T-score of −2.5 or lower in the lumbar spine (anteroposterior), femoral neck, total hip, and/or 33% (one-third) radius even in the absence of a prevalent fracture.

8.3 A diagnosis of osteoporosis in younger men, premenopausal women and children should not be based on a bone density test result alone.

8.4 Fracture risk should not be routinely assessed in patients <50yr unless they have major risk factors as listed above.

8.5 For young population such as children, teens, women still having periods and younger men Z-scores rather than T-scores should be used as the Z-scores compares bone density to what is normal in someone with similar age and body size. A Z-score above -2.0 is normal according to the International Society for Clinical Densitometry (ISCD).[xi]

8.6 Osteoporosis may also be diagnosed in patients with osteopenia and increased fracture risk using FRAX® country-specific thresholds.

9. INITIATING TREATMENT

Treatment of secondary osteoporosis is more complex than treatment of primary osteoporosis, and depends on the underlying disease. In secondary osteoporosis, treatment may include treating the underlying cause of the disease. Some of the methods used to treat osteoporosis are also the methods used to help prevent it from ever developing.[xii]

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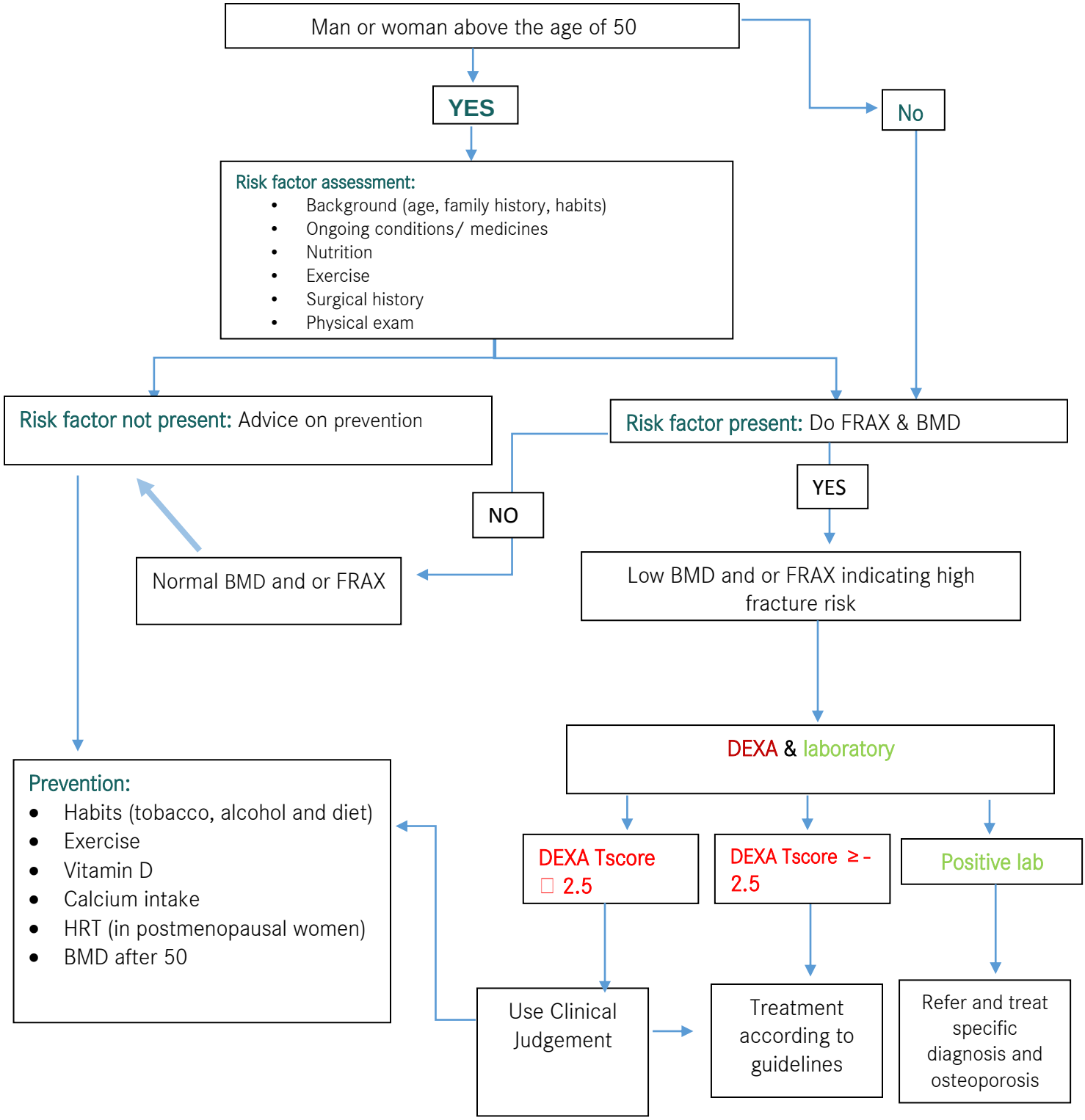
11. APPENDICES

Clinical Pathway: Recommended Approach to Evaluating Osteoporosis



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