



# MEN AND OSTEOPOROSIS – for GPs



## Facts

- Osteoporosis in men continues to be underdiagnosed and undertreated.
- 1 in 3 men over 60 in Australia will suffer an osteoporotic fracture.

## TREATMENT PLAN FOR MEN WITH OSTEOPOROSIS

### No Fracture

### Fracture Present

#### Presence of major risk factors

- age: over 60 years
- low BMD ( $\leq -2.5$ SD)
- history of minimal trauma fracture
- corticosteroid use ( $> 3$  months)
- excessive alcohol use<sup>†</sup>
- hypogonadism
- smoking
- family history
- body-mass index  $< 20$
- hypercalciuria
- hyperparathyroidism / hyperthyroidism
- inflammation (rheumatoid arthritis or ankylosing spondylitis)
- malabsorption (eg. coeliac disease)
- chronic kidney or liver disease

#### Patients $\geq 70$ years

- refer for BMD test, eligible for rebate

Possible vertebral fracture

- back pain
- height loss
- kyphosis

Any fracture following minimal trauma

Spine x-ray to confirm wedge/crush fracture

BMD test (recommended but not essential)

BMD test

T-score between -1.0 and -2.5

T-score  $-2.5$  or lower

Rule out or treat secondary causes

- Ensure adequate calcium intake (1000 mg/day) and replete vitamin D status ( $>60$  nmol/L)
- Encourage weight-bearing exercise and implement falls prevention strategies

#### Initiate specific anti-osteoporosis therapy

- bisphosphonates: oral or IV (alendronate, risedronate, zoledronic acid)
- testosterone therapy in presence of hypogonadal symptoms
- teriparatide

Repeat BMD test in 1-2 years

<sup>†</sup> Excessive alcohol use is defined as daily intake of more than 2 standard drinks per day.

Osteoporosis in men often has secondary causes (see Table 1). The most frequent secondary causes are corticosteroid use, excessive alcohol use and hypogonadism.

**Table 1. Secondary Causes of Osteoporosis in Men**

**Common**

- Cushing's syndrome or corticosteroid therapy (eg. >7.5mg/day for >3 months)
- Excessive alcohol use<sup>†</sup>
- Primary or secondary hypogonadism (eg. associated with medications, such as corticosteroids, opioids, and androgen-deprivation therapy for prostate cancer)
- Low calcium intake and vitamin D deficiency or insufficiency (serum 25-hydroxyvitamin D <60nmol/L)
- Smoking
- Family history of minimal-trauma fracture

\* BMI denotes body-mass index, defined as the weight in kilograms divided by the square of the height in meters, and HIV human immunodeficiency virus.

**Less Common**

- Low BMI (<20) and eating disorders associated with decreased BMI\*
- Lack of exercise or excessive exercise
- Antiepileptic drugs (phenytoin, phenobarbitone, primidone, carbamazepine)
- Thyrotoxicosis or thyroxine overreplacement
- Primary hyperparathyroidism
- Chronic liver or kidney disease
- Malabsorption, including coeliac disease
- Hypercalciuria
- Rheumatoid arthritis or ankylosing spondylitis
- Type 1 or type 2 diabetes mellitus
- Multiple myeloma or other monoclonal gammopathies
- HIV or its treatment with protease inhibitors
- Mastocytosis
- Organ transplantation or immunosuppressive agents (cyclosporine and tacrolimus)
- Osteogenesis imperfecta

**Table 2. General Preventive and Lifestyle Measures\***

- 30 minutes of weight-bearing exercise, including resistance training to improve muscle mass, strength and balance, performed at least 3 times per week
- Adequate calcium intake (minimum 1000mg/day) through diet, supplements, or both
- Adequate vitamin D intake (800-2000IU of vitamin D per day, especially for men >65 years of age; target serum level of 25-hydroxyvitamin D ≥60nmol/L)
- Smoking cessation
- Avoidance of excessive alcohol use<sup>†</sup>
- Use of fall-prevention programs, including home-based interventions, visual assessment, balance exercises (eg. Tai Chi) and muscle strengthening

\* Appropriate intake of calcium and vitamin D should be encouraged from childhood.

<sup>†</sup> Excessive alcohol use is defined as daily intake of more than 2 standard drinks per day (pertains to Tables 1 and 2).

**Medicare Benefits Schedule rebates are available for BMD testing using DXA for:**

- one or more pre-existing minimal trauma fracture(s)
- age ≥ 70 years
- monitoring of low BMD proven by bone mineral density at least 12 months previously
- for men in certain high risk categories: prolonged glucocorticoid therapy; excessive thyroid hormone replacement; conditions associated with excess glucocorticoid secretion; male hypogonadism; primary hyperparathyroidism; hyperthyroidism; chronic liver disease; chronic renal disease; proven malabsorption (including coeliac disease); or rheumatoid arthritis.
- for monitoring BMD changes after 12 months, following a significant change in therapy, glucocorticoid excess, male hypogonadism; or 2 years for minimal trauma fractures, low BMD or other medical conditions listed above.

Where MBS rebates do not apply, the test is still available privately at most hospitals, many private radiology clinics and at nuclear medicine practices. Some specialists offer this service.