THINK OSTEOPOROSIS !

osteoporosis australia

This flowchart applies to women and men over 50 years. Refer to RACGP Guidelines for more information.

NO FRACTURE

PATIENTS WITH MAJOR RISK FACTORS

PATIENTS ≥ 70 YEARS

- Refer for BMD test, eligible for rebate
- Treatment on PBS for prevention*

BMD test

T-score between -1.0 and -2.5 SD

≤ -2.5 SD (Osteoporosis)

FRACTURE PRESENT

POSSIBLE SPINAL FRACTURE

- Back pain
- Height loss
- Kyphosis

Spine x-ray to confirm wedge/ crush fracture

ANY FRACTURE FOLLOWING MINIMAL TRAUMA

BMD test (recommended but not essential)

Consider excluding/treating secondary causes

- **Ensure adequate daily calcium intake (1000mg/d) and replete vitamin D status (>60nmol/L)**
- **Encourage exercise and implement falls prevention strategies**

Initiate specific anti-osteoporosis therapy

- **Oral or IV bisphosphonates (alendronate, risedronate, zoledronic acid)**
- **Strontium ranelate (women only)**
- **SERM (raloxifene) (women only)**
- **Hormone therapy in presence of hypogonadal symptoms**
- **Teriparatide**

Repeat BMD test in 1-2 years

* People ≥70 years with a BMD T-score ≤-3.0 can receive treatment on the PBS, without having sustained a fracture (ie for primary prevention).

- Patients of any age with osteoporosis who have sustained a minimal-trauma fracture can also receive treatment on the PBS.
- Patients on prolonged (at least 3 months), high dose (≥7.5 mg per day prednisolone or equivalent) corticosteroid treatment with a BMD T-score ≤-1.5 can receive treatment on the PBS.

Medicare Item Numbers – BMD testing for diagnosis and monitoring of osteoporosis

Item 12323 Males or females aged 70 years or over

Item 12306 One or more fractures after minimal trauma
Monitoring of low BMD
(proven by previous bone densitometry)

Item 12321 Monitor BMD after change in osteoporosis treatment
(change in class of drugs rather than dosage)

Item 12312
Prolonged glucocorticoid therapy
Female hypogonadism (lasting > 6 months before age 45)
Male hypogonadism
Cushing's syndrome

Item 12315
Primary hyperparathyroidism
Hyperthyroidism
Chronic liver disease
Rheumatoid arthritis
Chronic renal disease
Proven malabsorption with vitamin D deficency or proven coeliac disease
Conditions associated with thyroxine excess

Note: Where item numbers do not apply, the test is available at most large hospitals, many private radiology clinics and at nuclear medicine practices. Some specialists also offer this service.

RISK FACTORS

MAJOR FACTORS

- Presence of any spinal or minimal trauma fracture
- Low BMD (≤-2.5 SD)
- Age – over 60 years

MEDICAL CONDITIONS & MEDICATIONS

- Prolonged corticosteroid use (longer than 3 months) or Cushing's syndrome
- Malabsorption disorders (eg: coeliac disease)
- Inflammatory conditions (RA)
- Hypogonadism
- Hyperparathyroidism/hyperthyroidism
- Chronic liver or kidney disease
- Multiple myeloma
- Premature menopause
- Organ or bone marrow transplant
- Certain anti-epileptic drugs
- Aromatase inhibitors

LIFESTYLE & FAMILY HISTORY

- Family history of minimal trauma fractures
- Smoking / excessive alcohol consumption
- Diet lacking in calcium
- Vitamin D deficiency
- Sedentary lifestyle over many years
- Low body weight
- Recurrent falls

CALCIUM

More than half of Australian adults do not get their recommended intake of calcium.
Recommended daily calcium intake: 1000mg calcium per day for adults. 1300mg per day for women 50 years +, men 70 years + and for patients with osteoporosis.

Calcium & Diet

- To ensure sufficient daily calcium: 3 serves per day of high-calcium foods (eg: milk, cheese, yoghurt, tinned sardines, tinned red salmon). Many calcium-enriched products are now available for those who cannot tolerate dairy products.

Calcium Supplements

Recommended for:

- people with insufficient dietary calcium
- people on corticosteroids for more than 3 months
- treatment of postmenopausal osteoporosis

Note:

- Supplements containing calcium carbonate require gastric acidity for optimal absorption and should therefore be taken with meals.
- Supplements containing calcium in other forms, such as citrate, do not require gastric acidity.
- There is data suggesting calcium supplements may be more effective if taken at night eg. with evening meal.

VITAMIN D

Vitamin D Deficiency

Vitamin D deficiency is associated with a lower bone density as well as a higher risk of falling.

- Groups most at risk:
  - the elderly
  - naturally dark-skinned people
  - those who cover their skin for cultural or religious reasons
  - people housebound or in residential care

Vitamin D Supplementation

- A supplement of at least 800IU (20 micrograms) per day is recommended for people who do not get adequate sun exposure for a variety of reasons.
- Vitamin D replacement is safe, generally not causing hypercalcaemia or hypercalciuria, even in higher doses.

EXERCISE

Exercise for Bone Health

30-40 minutes of weight-bearing and resistance exercise 4-6 times per week can help maintain better bone density.

- Weight bearing:
  - aerobic exercise (eg: brisk walking, tennis, dancing) at moderate to high intensity
  - high impact (eg: jogging, skipping, netball, basketball)
- Resistance exercise (eg: lifting weights with hands or legs, using gym equipment) at high intensity

Bones like:

- short high intensity bursts of exercise rather than long, slower low impact exercise
- exercise that gets progressively harder
- variety in exercise routines to vary the forces placed upon bone

Note: Non weight bearing exercise (eg: swimming, cycling) does not enhance bone density

FALLS PREVENTION

A range of interventions has demonstrated a reduction in risk of falls.

Exercise Programs

- Balance Training (eg: group and home based physio or Tai Chi)
- Muscle strengthening

Home & Personal Changes

- Home modifications: remove mats, improve lighting, install hand rails, remove electrical cords
- Correct footwear: flat shoes, firm fitting
- Correct eyewear: to improve vision
- Walking aids as needed

Medical Review

- Management of conditions associated with falls eg: vitamin D deficiency, arthritis, use of psychotropic medications, gait and balance deficits, depression, cognitive impairment.

The Australian Government has provided funding to support this project. Based on RACGP guidelines.