Algorithm for medical management of men and women over 45 years of age who have or are at risk of Osteoporosis

Horsham & Chanctonbury Primary Care Group NHS

Women < 45 years with multiple risk factors should be treated as women > 45 years. For men aged less than 65 years, specialist referral should be considered

Major Risk Factors
(other than previous fragility fracture)

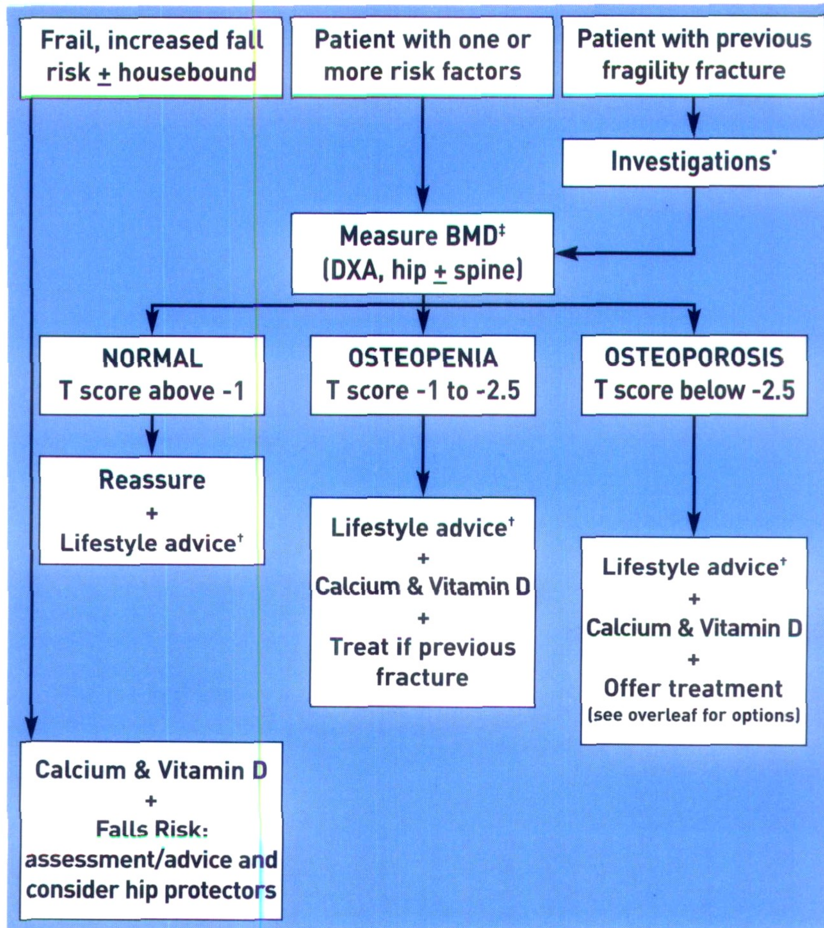
- Untreated hypogonadism
  (premature menopause, 2° amenorrhoea, 1° hypogonadism in women, 1° or 2° hypogonadism in men)
- Glucocorticoids (oral)
  (7.5mg/day prednisolone for ≥ 3 months per year)
- Disease associated with increased prevalence of osteoporosis
  (E.g. GI disease, chronic liver disease, hyperparathyroidism, hyperthyroidism)
- Radiological osteopenia

Other Risk Factors in National and International guidelines include:

- Family History (especially maternal hip#)
- Low body weight
- Cigarette smoking
- Height loss
- Low bone mass as assessed by other techniques

‡BMD measurements

- DXA not necessary in women willing to take HRT or in frail/elderly patients, unless there are exceptional risk factors
- In patients with baseline BMD, repeat measurement every 1-3 years



Based on Royal College of Physicians & Bone and Tooth Society of Great Britain guidelines, July 2000
Modified by N. Dummer, Prescribing Adviser, in conjunction with the Prescribing Sub-group, Horsham & Chanctonbury PCG, January 2001

Previous Fragility Fracture

Defined as a fracture from standing height or less & includes prevalent vertebral deformity. A previous fragility fracture is a strong independent risk for further fracture and may be regarded as an indication for treatment without the need for BMD measurement when the clinical history is unequivocal.

*Investigations

- FBC, ESR
- Bone & Liver function tests (Ca, P, Alk Phos, Albumin, AST, GGT)
- Serum Creatinine
- Serum TSH

and if indicated

- Lateral thoracic & lumbar spine x-rays
- Serum paraproteins & urine Bence Jones protein
- Isotope bone scan
- Serum FSH if hormonal status unclear (Women)
- Serum testosterone, LH & SHBG (men)

†Lifestyle advice

- Adequate nutrition especially with Calcium & Vitamin D
- Regular weight bearing exercise
- Avoidance of tobacco use & alcohol abuse

OPTIONS FOR PREVENTION & TREATMENT OF OSTEOPOROSIS

Treatment should be chosen according to likelihood of patient compliance, acceptability of side-effect profile and ease of medication regime. There is currently insufficient evidence to evaluate comparative efficacy between different treatments.

Calcium & Vitamin D

Dose: 1000-1500mg Calcium + 400iu Vitamin D daily[1,2]

Comments: Prescribe as dietary supplement for all patients with osteopenia or osteoporosis[2]
AdCal D3 is currently the most cost-effective supplement available (January 2001)

Hormone Replacement Therapy

Licensed for: Prevention of post-menopausal Osteoporosis

Dose: See BNF or Data Sheets for various HRT products

Comments: Consider in osteopenic women aged 50-60 years[2]
HRT should be advised in early menopause[3]
Needs to continue for 5-10 years to be beneficial

Bisphosphonates

Cyclic Etidronate

Licensed for: Prevention & treatment of Glucocorticoid-induced osteoporosis
Prevention & treatment of post-menopausal Osteoporosis

Dose: 400mg Etidronate daily for 14 days followed by 500mg Calcium daily for 76 days

Comments: Consider for patients with vertebral fractures[1]
Consider for patients unable or unwilling to take HRT[4]

Alendronate

Licensed for: Prevention & treatment of Glucocorticoid-induced osteoporosis
Prevention & treatment of post-menopausal Osteoporosis

Dose: 5 - 10mg daily - see BNF or Data Sheet for dose regime

Comments: Consider for patients with vertebral fractures[1]
Reserve for more severe cases

Risedronate

Licensed for: Prevention & treatment of Glucocorticoid-induced osteoporosis in post-menopausal women
Prevention & treatment of post-menopausal Osteoporosis

Dose: 5mg daily

Comments: Await further evidence

Calcitriol

Licensed for: Treatment of post-menopausal Osteoporosis

Dose: 0.25 micrograms twice daily

Comments: Consider for patients unable to tolerate Bisphosphonates or where there is a safety concern[4]
Requires regular monitoring of serum calcium and creatinine (every 3 months)[4]
Do not give any other vitamin D products during therapy

Raloxifene

Licensed for: Prevention & treatment of post-menopausal Osteoporosis

Dose: 60mg daily

Comments: Consider for prevention or treatment of patients with vertebral fracture[5] or if patient unable to tolerate HRT or Bisphosphonates

Tibolone

Licensed for: Prevention of post-menopausal Osteoporosis

Dose: 2.5mg daily

Comments: Only suitable for women more than 1 year post-menopause

Calcitonin

Licensed for: Treatment of post-menopausal Osteoporosis

Dose: Parenteral Salcatonin 100 IU daily with concurrent daily calcium & Vitamin D

Comments: Consider for patients unable or unwilling to take HRT or Bisphosphonates[4]
Fracture reductions benefits lower than those observed in trials of Bisphosphonates[5]
Cost benefit is poor, but may be used for pain relief for up to 3 months after vertebral fracture if other analgesics ineffective

References

[1] Menopause & Osteoporosis Therapy - National Osteoporosis Society, 1999
[2] Primary Care guide on the prevention and treatment of osteoporosis, Department of Health & The Royal College of Physicians, June 1998
[3] Osteoporosis: Minimum Standard Guidelines - Primary Care Rheumatology Society, February 1999
[4] The prevention and management of corticosteroid induced osteoporosis - National Osteoporosis Society, June 2000
[5] Osteoporosis: Clinical Guidelines for prevention & treatment - Royal College of Physicians / Bone and Tooth Society of Great Britain, July 2000

Horsham & Chanctonbury
Primary Care Group

Unreferenced comments represent the recommendations of the Prescribing Sub-Group, January 2001