

e.g.

- Alendronate 70mg **
1 tablet WEEKLY on same day
- Strontium 1 sachet each night

Indication: Prophylaxis & treatment of Osteoporosis (OP); corticosteroid- induced OP; bone cancer; Paget's disease. Other conditions predisposing: e.g. Coeliac disease, Ulcerative colitis, Crohns, RA.

Medicine Issues/ Tips:

- **Bisphosphonates** (reduce bone resorption) **NICE / cost effective choice –see BNF for other regimens.
- Take 30mins -1 hour before food, drinks (other than water) and other medication - because of poor bioavailability and high Ca++ binding. Daily or Weekly regimens.
- Stay upright for 30mins. Wash down with TAP water (not mineral).

Side-effects: GI symptoms - check whether taking a [*PPI], H2A or Gaviscon – could be added where appropriate to reduce symptoms; headache. 24% of people can experience side-effects during the first year, but this reduces to 3.5% thereafter. *PPI implicated with osteoporosis/ google for more info.

- **Strontium (Protelos)** - (reduces bone resorption and rebuilds bone)
- Daily dose at night. Allow 2 hours away from food and medication.
- The sachet contents mixed into TAP water.
- Ensure patient can open the sachet - arthritic hands find tearing open sachet very difficult.

Side-effects: GI symptoms - diarrhoea should pass. Report to GP if get pains in the legs – be aware of DVT risk; headache.

Lifestyle/ Bone Health Tips:

- Weight bearing exercise – e.g. walking 20mins every day would be optimum (30mins three times a week) - maintains bone density.
- Sun exposure – expose forearms for 20 - 30mins during sunny days, three times a week would be optimum – natural manufacture of Vit D which helps in absorption of the calcium, and has a positive effect on balance.
- Calcium rich diet – roughly equivalent to 1 pint's worth of milk plus 1 yogurt (1g Ca++) daily. This can be achieved through dairy products or dark green leafy vegetables e.g. curly kale, and dried fruits/nuts e.g. figs/ almonds. Bony oily fish mashed and eaten complete e.g. sardines or pilchards are useful as a source of both calcium and Vit D. If BMI <19 then encourage build up diet.
- Calcium and Vit D - usual dose 2 daily (1g Ca++ and 20mcg Vit D) e.g. Calcichew D3 Forte; Adcal D3; Calceos; Calfovite – once daily sachet. Chewable tabs may stick to false teeth & are chalky – although some disperse slowly in water which may help. Suggest to GP if not already prescribed.
- Reduce alcohol intake to safe limits – i.e. 1-2 units per day (3-4 units per day has a negative effect on bone). Encourage a 48 hour period without alcohol in the system.
- If a smoker – encourage or offer a plan to quit (negative effect on bone).
- Adequate water - helps with balance, concentration, and reduces drowsiness.

Consider:

- Reinforce benefits of taking – cite *Independence and reduced fracture risk** – compliance poor after 1 year.
- Calcium separation – allow 4 hours for levothyroxine, OP medication, iron, etc, or omit on bisphosph day.
- Taking a thiazide - increases calcium levels – check being monitored regularly.
- Good dental hygiene – reduces risk of *osteonecrosis of the jaw* – refer if symptomatic.

Falls prevention – *reduce risk of fragility fractures:

- How many falls this year? Alcohol related? Feed back to GP.
- Are other drugs causing drowsiness?
- BP drug therapy not changed for years? Check BP - is the systolic less than 100mmHg? Giddy on standing? Feed back to GP.
- Discuss sensible footwear; eye check; avoid clutter/ loose rugs; good lighting levels on stairs etc.

Further reading, CPD & Signposting:

NICE www.nice.org.uk – TA160 Osteoporosis – Primary prevention; TA161 Osteoporosis – Secondary prevention and Strontium

National Osteoporosis Society (NOS) www.nos.org.uk/; PJ articles: 22 Jul 2010; 14 Aug 2010.

BNF Chapter 6.6; Education Tool : <http://courses.washington.edu/bonephys/opbmd.html>

BISPHOSPHONATES & STRONTIUM KEY REVIEW QUESTIONS

<p>WHY ARE YOU TAKING THEM: Primary/ secondary prevention & treatment of Osteoporosis (OP). OP means your bones have lost some of the inner strength – and rather than being solid now resemble a honey comb structure which makes them more likely to break if you fall. Also you may notice that you lose height and develop a hump/ back pain. These medicines stop the calcium, which makes the bones strong, from being lost – and for Strontium also tries to rebuild the bone.</p> <p>Q: Have you had any falls in the last 12 months? See overleaf Q: Are you taking calcium? See below</p> <p>As with all preventative medicines compliance can be low – studies show that 50% of patients stop their OP med after 1 year - need to ensure compliance with this medicine. Diagnosis/ improvement seen via DEXA Scan – treatment is necessary with a T-score of less than - 2.5.</p>	<input type="checkbox"/>
<p><i>Additional notes:</i> 1 in 2 women and 1 in 5 men over the age of 50 develop OP; 1 in 3 women over 50 will suffer vertebral fracture and 1 in 6 a hip fracture – this leads to loss of independence and confidence. Around one third of patients who suffer a hip fracture will die within a year – particularly in the older age group (ref NOS).</p>	
<p>HOW DO YOU TAKE THEM:</p> <p>Bisphos: What day of the week to do you take it? Take 30mins -1 hour before food, drinks (other than water) and <u>other</u> medication - because of poor bioavailability and high Ca++ binding. Stay upright for 30mins. Wash down with TAP water (not mineral). Negotiate the best time to take the OP medicine if not first thing in the morning (middle of 4 hour fast).</p> <p>Strontium: Daily dose at night. Allow 2 hours away from food and medication. The sachet contents mixed into TAP water. Check whether patient can open the sachet - arthritic hands find tearing open sachet very difficult.</p>	<input type="checkbox"/>
<p><i>Additional notes:</i></p>	
<p>SIDE EFFECTS:</p> <p>Bisphos: GI symptoms - check whether taking a [PPI], H2A or Gaviscon – could be added where appropriate to reduce symptoms; headache. 24% of people can experience side-effects during the first year, but this reduces to 3.5% thereafter.</p> <p>Strontium: GI symptoms - diarrhoea should pass. Report to GP if get pains in the legs – be aware of DVT risk; headache.</p>	<input type="checkbox"/>
<p><i>Additional notes:</i></p>	
<p>OTHER DRUGS:</p> <ul style="list-style-type: none"> ▫ Should also be taking Calcium & VitD3 – (NICE) recommended dose 2 daily (1g Ca++ and 20mcg Vit D). Chewable tabs may stick to false teeth – some disperse slowly in water which may help. Sachets & dispersible preps available. Suggest to GP if not already prescribed. Advise GP if incorrect dose or not cost effective product. Helps strengthen bones and improve balance (see over). Discuss waste management & synchronisation. ▫ Levothyroxine: allow 4 hours from Calcium. ▫ Calcium: allow 4 hours separation from OP med, iron, etc, or omit on bisphosph day. ▫ Taking a thiazide: increases calcium levels – check being monitored regularly. See overleaf. 	<input type="checkbox"/>
<p><i>Additional notes: Ensure adequate separation from other meds if supplied in medicine compliance aid.</i></p>	
<p>HEALTH TIPS: Follow healthy diet to increase calcium intake. Increase weight if low BMI. Reduce alcohol to safe limits. Offer stop smoking advice/ service/ referral. Increase exercise & safe sun exposure. Ensure plenty of water (match tea/ coffee with glasses of water) helps with balance, concentration, and reduces drowsiness- (see overleaf). Pass recorded BP/ weight/ BMI/ life style monitoring info to GP.</p>	<input type="checkbox"/>

USEFUL PATIENT INFORMATION: Any leaflets?

NHS Choices: <http://www.nhs.uk/Pages/HomePage.aspx>; **Eat Well:** www.eatwell.gov.uk/;

National OP Society (NOS) www.nos.org.uk/; **Stop Smoking:** <http://www.stopsmokingsupportglos.org.uk/>