**Bisphosphonates**

**Length of treatment in osteoporosis in primary care**

**Treatment holiday**

*This guidance incorporate National Osteoporosis Guideline Group (NOGG) guidance March 2017 – Clinical guideline for the prevention and treatment of osteoporosis*

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**Introduction**

- NOGG 2017 provides a framework to provide advice for healthcare professional on the management and prevention of osteoporosis
- The recommendations should be used as a guide to aid management decisions but do not replace the need for clinical judgement of individual patients.
- The World Health Organisation (WHO) describes osteoporosis as “a progressive systemic skeletal disease characterised by low bone mass and microarchitectural deterioration of bone tissue, with a consequent increase in bone fragility and susceptibility to fracture.”
- In the UK there are approximately 536,000 fragility fractures each year. Along with severe pain and disability to the individual suffers, it also carries an annual cost to the NHS of over £4.4 billion (estimated 2010)
- Fracture rates vary by geographic location, socioeconomic status and ethnicity. Changes in age and sex fracture rates have been observed and have shown increases in hip fractures in men and vertebral fracture in women. The aging population will give rise to the doubling of osteoporotic fractures over the next 50 years
- Fall-related risk factors significantly add to the risk of fracture. Therefore falls risk should overlap osteoporosis risk to ensure an integrated approach.
## Management of Osteoporosis

### Lifestyle and dietary measures

- Measures to improve bone health include increasing physical activity, stopping smoking, reducing alcohol intake to ≤2 units/day, reducing risk of falls and ensuring adequate dietary intake of dietary calcium and vitamin D
- A daily calcium intake of between 700 and 1200mg should be advised. Where possible this should be achieved through dietary intake.
- The use of Calcium supplements generally accepted. They have been shown to result in small increases in BMD but the evidence to support the use of calcium alone to reduces fracture risk is lacking [Shea et al 2002, Bolland et al 2015]
- The reference nutrient intake recommends 400 units of vitamin D daily for all adults of all ages.
- However Postmenopausal women and older men (>50yrs) at increased risk of fractures should be advised to take 800 units of colecalciferol daily.
- Vitamin D alone is ineffective in reducing fractures. However when used in combination with Calcium it results in a small reduction in hip and non-vertebral fractures, and possibly vertebral fractures [Tang et al 2007, Avenell et al 2014]
- The protective level of vitamin D has been argued to be daily doses of 800 units. This dose may also reduce the risk of falls
- Intermittent administration of large doses of vitamin D e.g. >10,000 units is not advised, based on recent reports of an associated increased risk of fractures and falls [Sanders et al 2010, Bischoff-Ferrari et al 2016]
- Calcium and vitamin D supplements are advocated as an adjunct to other treatments. Postmenopausal women and older men receiving bone protection therapy should use calcium supplements if their daily dietary intake is less than 700mg, and colecalciferol of 800 units/day should be considered in those at risk of/with evidence of vitamin D insufficiency.
- Weight bearing exercise has beneficial effects on BMD. These should be recommended and tailored to individual needs
- Majority of fractures are preceded by a fall. Falls risks should be taken into consideration when assessing an individual.
- Sufficient protein intake is necessary to maintain MSK function and decreases complications that occur after a hip fracture

### Pharmacological treatment

- Alendronate and risedronate are first line options in the majority of cases
- Women who are intolerant of bisphosphonates or in whom they are contraindicated may be suitable for IV bisphosphonates or denosumab, with raloxifene or hormone replacement as additional option
- Bisphosphonates/ calcium combination products are not cost effective and should not be prescribed – [DoLCV should not prescribe list]
- Monographs for the treatment options can be found in appendix 1
### Duration and monitoring of Bisphosphonate therapy

- Concerns over rare long term adverse effects, particularly osteonecrosis of the jaw and atypical femoral fractures has raised questions about the optimal duration of therapy
- Bisphosphonates are retained in the bone for varying periods of time, and beneficial effects may persist for some time following the cessation of treatment.
- This has led to the suggestion that some patients may benefit from an off period from treatment. Treatment can be stopped after taking for some years and the need for continued therapy needs assessing. NICE 2016 advised that treatment review is important. The treatment holiday recommendations are based on postmenopausal women. There is no evidence on which to base recommendations in men.
- Withdrawal of treatment is associated with decrease in BMD and increased bone turnover after:
  - 2-3 years for alendronate
  - 1-2 years for ibandronate and risedronate
  - 3 years for zoledronic acid after 3 years of treatment
  - Treatment should be reviewed after 5 years of treatment with alendronate, risedronate and ibandronate, 3 years with zoledronic acid.
    - Reassess fracture risk using FRAX scoring with femoral neck BMD. If T-score <2.5 treatment should be resumed regardless of FRAX-derived fracture probability
    - If biochemical markers of bone turnover indicate relapse and BMD has decreased following withdrawal- restarting treatment should be considered
    - There is no evidence to support sue of treatment over 10yrs – management of these patient should be done on an individual basis and need
- Continuation of bisphosphonates beyond 3-5 years (3 years for zolendronic acid and 5 years for alendronate, ibandronate and risedronate) can generally be recommended in the following situations
  - Age ≥75
  - History of hip or vertebral fracture
  - 1+ low trauma fracture during treatment – after exclusion of poor adherence and causes of secondary osteoporosis have been excluded
  - Current treatment with oral glucocorticoids >7.5mg prednisolone/ day or equivalent
- If treatment is discontinued fracture risk should be reassessed
  - After new fracture – regardless of when this occurs
  - If no new fracture after 18 months to 3 years

*Information on FRAX scoring can be found in appendix 2*
Algorithm for long term treatment monitoring

Treatment with bisphosphonates for 5 years or more (3 years zoledronic acid)

Check adherence
Check ability to follow administration guidance especially ability to swallow whole and sit upright.

No fracture on treatment

Is the patient considered high risk?
- Post treatment T-score < 2.5 with history of fragility fractures
- History of hip/vertebral or multiple fragility fractures
- Continuing glucocorticoid therapy ≥ 7.5 mg daily prednisolone or equivalent
- Frailty/age ≥ 75/ frequent falls

Assessed as Low risk

FRAX and BMD

Consider bisphosphonates holiday:
Ensure adequate calcium and vitamin D intake
2-3 year holiday – alendronate
1 year holiday – risedronate
3 years holiday – zoledronic acid

Assessed as high risk

- Recurrent fracture
- Prevalent vertebral fracture
- Fragility fracture during treatment

Exclude secondary causes
Re-evaluate treatment choice
Continue treatment for a further 5 years.
Regularly review adherence and safety

Reassess:
- After new fracture regardless of when it occurs
- If no new fracture after 2 years
- Repeat FRAX and BMD
<table>
<thead>
<tr>
<th>Drug</th>
<th>Alendronate (Alendronic Acid)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Licensed indications:</strong></td>
<td>1) Treatment of postmenopausal osteoporosis</td>
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<tr>
<td></td>
<td>2) Treatment of osteoporosis in men</td>
</tr>
<tr>
<td></td>
<td>3) Prevention and treatment of corticosteroid induced osteoporosis in postmenopausal women not</td>
</tr>
<tr>
<td></td>
<td>receiving HRT</td>
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<tr>
<td><strong>Dosing</strong></td>
<td>Treatment of postmenopausal osteoporosis:</td>
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<td></td>
<td>70mg weekly (most common dosing) or 10mg daily</td>
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<td></td>
<td>Treatment of osteoporosis in men:</td>
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<tr>
<td></td>
<td>10mg daily</td>
</tr>
<tr>
<td></td>
<td>Prevention and treatment of corticosteroid induced osteoporosis in postmenopausal women not</td>
</tr>
<tr>
<td></td>
<td>receiving HRT 70mg weekly:</td>
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<tr>
<td></td>
<td>10mg daily</td>
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<tr>
<td><strong>Formulary Status</strong></td>
<td>GREEN – first line</td>
</tr>
<tr>
<td><strong>Common side effects</strong></td>
<td>Abdominal distension; abdominal pain; upper GI symptoms; diarrhoea and constipation; headache;</td>
</tr>
<tr>
<td></td>
<td>oesophageal reactions.</td>
</tr>
<tr>
<td><strong>Counselling</strong></td>
<td>Taken first thing in the morning on an empty stomach</td>
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<td></td>
<td>Take at least 30 mins before all food/drink and other medicines</td>
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<tr>
<td></td>
<td>Swallow whole with a full glass of plain water (200ml)</td>
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<td></td>
<td>Take whilst sitting or standing upright. Remain upright for 30 mins after taking</td>
</tr>
<tr>
<td><strong>Safety issues associated with</strong></td>
<td><strong>Osteonecrosis of the jaw and external auditory canal.</strong></td>
</tr>
<tr>
<td>bisphosphonates and denosumab</td>
<td>Estimated incidence = 1-90/100,000 years of patient exposure. Risk is higher with higher doses</td>
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<tr>
<td></td>
<td>used to treat skeletal metastases.</td>
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<tr>
<td></td>
<td><strong>Atypical Femoral Fractures</strong></td>
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<tr>
<td></td>
<td>Low risk of incidence</td>
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<tr>
<td></td>
<td>Mainly the subtrochanteric and diaphyseal regions of the femoral shaft.</td>
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<tr>
<td></td>
<td>Often bilateral and associated with prodromal pain and tend to heal poorly. Patients should</td>
</tr>
<tr>
<td></td>
<td>be encouraged to report any unexplain hip, groin or thigh pain.</td>
</tr>
<tr>
<td></td>
<td>Discontinuation of bisphosphonates should be considered</td>
</tr>
<tr>
<td><strong>Other cautions:</strong></td>
<td>o Avoid in patients with eGFR &lt;35ml/min/1.73m²</td>
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<tr>
<td></td>
<td>o Avoid in pregnancy</td>
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<tr>
<td></td>
<td>o Monitor hypocalcaemia/ vitamin D deficiency and correct as appropriate</td>
</tr>
<tr>
<td>Drug</td>
<td>Risedronate</td>
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</tbody>
</table>
| **Licensed indications:** | 1) Paget’s Disease of the bone  
2) Treatment of postmenopausal osteoporosis to reduce risk of vertebral or hip fractures  
3) Treatment of osteoporosis in men at high risk of fractures  
4) Prevention of osteoporosis (inc. corticosteroid induced) in postmenopausal women |
| **Dosing** Paget’s Disease of the bone | 30mg daily for 2 months – course may be repeated if necessary after at least 2 months |
| | Treatment of postmenopausal osteoporosis to reduce risk of vertebral or hip fractures  
35mg weekly (most common) or 5mg daily |
| | Treatment of osteoporosis in men at high risk of fractures  
35mg weekly |
| | Prevention of osteoporosis (inc. corticosteroid induced) in postmenopausal women  
5mg daily |
| **Formulary Status** | GREEN – Alternative option to alendronate |
| **Common side effects** | Abdominal pain; upper GI symptoms; diarrhoea and constipation; headache; oesophageal reactions, MSK pain. |
| **Counselling** | Taken first thing in the morning on an empty stomach  
Take at least 30 mins before all food/drink and other medicines  
Swallow whole with a full glass of plain water (200ml)  
Take whilst sitting or standing upright. Remain upright for 30 mins after taking |
| **Safety issues associated with bisphosphonates and denosumab** | Use in patients who are unable to maintain an upright position after taking have high risk of GI symptoms including oesophageal inflammation, bleeds, erosion, ulceration and strictures. Any patient reporting GI symptoms should have treatment stopped and the problem investigated.  
Rare side effects inc. **Osteonecrosis of the jaw and external auditory canal.**  
Estimated incidence = 1-90/100,000 years of patient exposure. Risk is higher with higher doses used to treat skeletal metastases.  
**Atypical Femoral Fractures**  
Low risk of incidence.  
Mainly the subtrochanteric and diaphyseal regions of the femoral shaft.  
Often bilateral and associated with prodromal pain and tend to heal poorly. Patients should be encouraged to report any unexplain hip, groin or thigh pain.  
Discontinuation of bisphosphonates should be considered |
| **Other cautions:** | o Avoid in patients with eGFR <30ml/min/1.73m²  
o Avoid in pregnancy  
o Monitor hypocalcaemia/vitamin D deficiency and correct as appropriate |
<table>
<thead>
<tr>
<th>Drug</th>
<th>Ibandronate (Ibandronic acid)</th>
</tr>
</thead>
</table>
| **Licensed indications:** | 1) Reduction of bone damage in bone metastases in breast cancer  
2) Hypercalcaemia of malignancy  
3) Treatment of postmenopausal osteoporosis |
| **Dosing**          | Reduction of bone damage in bone metastases in breast cancer  
50mg daily (Alternative – IVinf – 6mg every 3-4 weeks)  
Hypercalcaemia of malignancy  
IVinf – 2-4mg as single infusion adjusted according to serum calcium  
Treatment of postmenopausal osteoporosis  
150mg once a month (alternative – IVb – 3mg every 3 months over 15-30secs) |
| **Formulary Status** | YELLOW |
| **Common side effects** | Abdominal pain; asthenia; bone pain; chills; diarrhoea; dyspepsia; fever; gastritis; headache; hypocalcaemia; hypophosphataemia; flu like symptoms; muscle pain; nausea; rash; pharyngitis; vomiting |
| **Counselling**     | Taken first thing in the morning on an empty stomach  
Take at least 30 mins (50mg tabs)/ 1 hour (150mg tabs) before all food/drink and other medicines  
Swallow whole with a full glass of plain water (200ml)  
Take whilst sitting or standing upright. Remain upright for 60 mins after taking |
| **Safety issues associated with bisphosphonates and denosumab** | Use in patients who are unable to maintain an upright position after taking have high risk of GI symptoms including oesophageal inflammation, bleeds, erosion, ulceration and strictures. Any patient reporting GI symptoms should have treatment stopped and the problem investigated.  
Rare side effects inc. **Osteonecrosis of the jaw and external auditory canal.** Estimated incidence = 1-90/100,000 years of patient exposure. Risk is higher with higher doses used to treat skeletal metastases. **Atypical Femoral Fractures** Low risk of incidence. Mainly the subtrochanteric and diaphyseal regions of the femoral shaft. Often bilateral and associated with prodromal pain and tend to heal poorly. Patients should be encouraged to report any unexplained hip, groin or thigh pain. Discontinuation of bisphosphonates should be considered |
| **Other cautions:** | o Renal consideration with IV infusion.  
o Monitor renal function, Serum calcium, phosphate and magnesium  
o Avoid in pregnancy |
<table>
<thead>
<tr>
<th>Drug</th>
<th>Zoledronic Acid – (Aclasta)</th>
</tr>
</thead>
</table>
| **Licensed indications:** | • Treatment of Paget’s disease of the bone  
• Treatment of postmenopausal osteoporosis and osteoporosis in men (including corticosteroid induced osteoporosis) |
| **Dosing** | Treatment of Paget’s disease of the bone  
IV inf – 5mg STAT over 15mins – followed by at least 500mg elemental calcium with vitamin D twice daily for 10 days post infusion  
Treatment of postmenopausal osteoporosis and osteoporosis in men (including corticosteroid induced osteoporosis)  
IV inf - 5mg once YEARLY as a single dose over 15mins.  
I patients with recent low trauma hip fracture- infusion should be given 2 or more weeks following hip fracture repair; before first infusion give 50,000 – 125,000 units of vitamin D |
| **Formulary Status** | YELLOW |
| **Common side effects** | Anaemia; arthralgia; atrial fibrillation; bone pain; conjunctivitis; dizziness; fever; GI disturbances; headache; hypophosphataemia; flu like symptoms; myalgia; renal impairment; rigors |
| **Counselling** | Provide patient with reminder card re: osteonecrosis of the jaw |
| **Safety issues associated with bisphosphonates and denosumab** | Rare side effects inc.  
**Osteonecrosis of the jaw and external auditory canal.**  
Estimated incidence = 1-90/100,000 years of patient exposure. Risk is higher with higher doses used to treat skeletal metastases.  
**Atypical Femoral Fractures**  
Low risk of incidence.  
Mainly the subtrochanteric and diaphyseal regions of the femoral shaft.  
Often bilateral and associated with prodromal pain and tend to heal poorly. Patients should be encouraged to report any unexplain hip, groin or thigh pain.  
Discontinuation of bisphosphonates should be considered |
| **Other cautions:** | • Avoid in pregnancy  
• Avoid in patients with eGFR <35ml/min/1.73m²  
• Monitor calcium metabolism before starting  
• Monitor electrolyte, phosphate, calcium and magnesium |

**Monoclonal antibodies: Decreases bone resorption and increase bone mass**

<table>
<thead>
<tr>
<th>Drug</th>
<th>Denosumab (PROLIA)</th>
</tr>
</thead>
</table>
| **Licensed indications:** | • Treatment of osteoporosis in postmenopausal women and men at increased risk of fractures  
• Treatment of bone loss associated with hormone ablation in men with prostate cancer at increased risk of fractures. |
| **Dosing** | S/C inj. – 60mg every 6 months. Supplement with calcium and vitamin D |
| **Formulary Status** | RED |
| **Common side effects** | Abdominal discomfort; cataracts; constipation; diarrhoea; dyspnoea; eczema; hypocalcaemia (fatal cases reported); hypophosphataemia; musculoskeletal pain; pain in extremities; rash; sciatica; sweating; upper respiratory tract infections; urinary tract infections.  
**Hypocalcaemia:**  
Denosumab is associated with a risk of hypocalcaemia. This risk increase with the degree |
of renal impairment. It usually occurs in the first weeks of denosumab treatment but it can also occur later in treatment.

Counselling

Provide patient with reminder card re: osteonecrosis of the jaw

<table>
<thead>
<tr>
<th>Safety issues associated with bisphosphonates and denosumab</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rare side effects inc.</td>
</tr>
<tr>
<td><strong>Osteonecrosis of the jaw and external auditory canal.</strong></td>
</tr>
<tr>
<td>Estimated incidence = 1-90/100,000 years of patient exposure. Risk is higher with higher doses used to treat skeletal metastases.</td>
</tr>
<tr>
<td><strong>Atypical Femoral Fractures</strong></td>
</tr>
<tr>
<td>Low risk of incidence.</td>
</tr>
<tr>
<td>Mainly the subtrochanteric and diaphyseal regions of the femoral shaft. Often bilateral and associated with prodromal pain and tend to heal poorly. Patients should be encouraged to report any unexplain hip, groin or thigh pain. Discontinuation of bisphosphonates should be considered</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Other cautions</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Increased risk of hypocalcaemia in patients with eGFR &lt;30ml/min/1.73m2</td>
</tr>
<tr>
<td>• Monitor plasma calcium during therapy. Correct deficiency before starting.</td>
</tr>
<tr>
<td>• Avoid in pregnancy</td>
</tr>
</tbody>
</table>

**Other Drugs:**

<table>
<thead>
<tr>
<th>Drug</th>
<th>Raloxifene</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Licensed indications:</strong></td>
<td>• Treatment and prevention of postmenopausal osteoporosis</td>
</tr>
<tr>
<td><strong>Dosing</strong></td>
<td>S/C inj. – 60mg every 6 months. Supplement with calcium and vitamin D</td>
</tr>
<tr>
<td><strong>Formulary Status</strong></td>
<td>Not on formulary</td>
</tr>
<tr>
<td><strong>Common side effects</strong></td>
<td>Hot flushes; Flu like symptoms; leg cramps; peripheral oedema</td>
</tr>
<tr>
<td><strong>Counselling</strong></td>
<td>Provide patient with reminder card re: osteonecrosis of the jaw</td>
</tr>
<tr>
<td><strong>Treatment choice</strong></td>
<td>Recommended as an alternative treatment option for women: In whom alendronate/ risedronate is contraindicated Who comply with particular combinations of BMD, age and independent risk factors as indicated in full NICE guidance – TA161.</td>
</tr>
</tbody>
</table>

**Other drugs recognised for use in osteoporosis include:**

- Teriparatide
- Calcitriol
- Hormone replacement therapy: HRT
Appendix 2
Frax Scoring

Bone mineral density scoring has been the main approach to assessing fracture risk for some time. Although this is a proven technique there are several problems with the use of BMD tests alone. The principle difficulty is that BMD has low sensitivity, so the majority of osteoporotic fractures will occur in people with BMD values above the osteoporosis threshold, typically in the range of less than -1 and greater than -2.5.

Combining these results with other factors that have to potential to contribute to fracture risk enhances the information provided by the BMD. FRAX looks at BMD of femoral neck.

These factors include:

- Age
- Sex
- History of fracture or family history
- Lifestyle i.e. physical activity, smoking, BMI, alcohol ≥3 units/day
- History of long term steroid use
- Rheumatoid Arthritis
- Other secondary causes of osteoporosis

The results give a calculation of 10 year probability of a major fracture (clinical spine, wrist, proximal humerus and hip) or hip alone. It will also calculate this with or without BMD measurement.

FRAX scores of ≥ 3% for hip and/or ≥ 20% for major fractures warrant consideration for treatment.

Source: International Osteoporosis Foundation 2009
**Links & References:**

Bisphosphonates for treating osteoporosis:

https://www.nice.org.uk/guidance/ta464

Denosumab for the prevention of osteoporotic fractures in postmenopausal women:

https://www.nice.org.uk/guidance/ta204

NOGG 2017: Clinical guideline for the prevention and treatment of osteoporosis:

https://www.sheffield.ac.uk/NOGG/NOGG%20Guideline%202017.pdf
Dear <Recipient Name>,

**IMPORTANT INFORMATION REGARDING CHANGES TO YOU REPEAT MEDICATION**

Our records show you have been receiving a prescription for [**Alendronate/Risedronate**]. As you may be aware this medication is most commonly used for the treatment and prevention of osteoporosis.

The National Osteoporosis Guideline Group issued guidance in March 2017 around the need for the long term use of these drugs and patients who would benefit from a ‘treatment holiday’. It has been decided that people taking this drug should be offered the ‘treatment holiday’ for [**2-3 years (alendronate) or 1-2 years (risedronate)**]. Evidence shows that the drug continues offering bone protection over this time and most people are not adversely affected by having a break in treatment.

Having looked at your medical history and taking into account a number of risk factors - we have selected you for a treatment holiday. Therefore we would like you to stop taking your [**Alendronate/Risedronate**].

If you have no problems during this period we will review you in [**2 years/1 year**]. You will be required to continue you calcium and vitamin D supplementation as this is shown to provide benefits during the holiday. If you were not on one before we recommend you start taking one and this will be added to your repeat items.

To help we have included a leaflet on Bisphosphonate treatment holidays. If you have any queries in the meantime please contact medicines optimisation on 01983 534271 (or email as above) for further advice.

Yours sincerely,

(On behalf of the practice)

Medicines Optimisation Team, Isle of Wight Clinical Commissioning Group
Bisphosphonates: ‘Drug holidays’ after long-term treatment

Introduction

- Bisphosphonates are medicines that are used to reduce the risk of fractures in people who have osteoporosis.
- There are a number of bisphosphonates available in the UK; they include alendronic acid, risedronate and ibandronic acid.
- If you have been taking a bisphosphonate for a number of years, your healthcare professional (doctor, pharmacist or nurse) may decide to review this treatment and recommend that you stop treatment and have a ‘drug holiday’.

This leaflet explains why you need to have your treatment reviewed, what a drug holiday is and why some patients may need one.

How do bisphosphonates work?

- Bones are constantly being worn away and rebuilt by bone cells.
- Bisphosphonates slow down the rate that bones are worn away and allow the bone building cells to work more effectively.
- This increases the density of the bones and reduces the risk of having a fracture.

Why am I taking an oral bisphosphonate?

- These medications are commonly used for people who are at higher risk of having a fracture.

What is a ‘drug holiday’ and why is it necessary?

- A ‘drug holiday’ means you will stop treatment for a period of time, usually up to two years.
- After this period the need for further treatment is reviewed. Drug holidays are offered to reduce the risk of unusual or ‘atypical’ fractures of the thigh bone (very rare).
- Unusual or ‘atypical’ fractures of the thigh bone are thought to be more likely to happen in people who have been taking a bisphosphonate for a long period of time. Although bisphosphonates build up bone density (by reducing the amount of bone loss), sustaining this effect for too long could mean that the bone may become more brittle and therefore fracture more easily.
- There is good evidence from clinical research to suggest that treatment with bisphosphonates for five years is beneficial and, by increasing the density of bones, they reduce fracture risk.
- There is not much data from clinical research that go beyond ten years of treatment. As bisphosphonates may be associated with this very rare side-effect with longer-term treatment, a drug holiday is recommended as a precautionary measure to reduce this risk.
Do I need a drug holiday?
• The decision to stop a bisphosphonate is made on an individual basis.
• Your healthcare professional will take into account the available evidence and your personal risk factors. For some people treatment may continue for a further year or two. For others treatment may be stopped or changed.
• The treatment of osteoporosis has changed over the years as more evidence and research has become available.
• If the decision is made to stop treatment, your healthcare professional will discuss the reasons for this with you, including the potential risks and benefits of remaining on treatment.

What happens after the drug holiday period is over?
• In general, when the drug holiday is over you will be reviewed to assess the need for treatment.
• The decision to start more treatment is based on the assessment made by your healthcare professional.
• The drug holiday period will generally be about two years. You should make sure you meet with your doctor after two years to discuss whether you need a review.

If I stop treatment will my fracture risk increase?
• If you have taken a bisphosphonate for a number of years, the beneficial effects of treatment are usually maintained for up to three years after your medication is stopped.
• You will be reviewed during this period of time and the need for any further treatment will be discussed with you.
• In some cases a blood test may be taken a few months after stopping treatment to check that the bone is not wearing away too quickly. This is only needed if your risk of fracture is very high before stopping treatment and many people will not need this test. If the blood test shows that bone is wearing away faster than expected, your healthcare professional may decide that you should restart treatment, or change to a different treatment.

Is this anything to do with NHS cuts?
• No. The advice to stop treatment or to take a drug holiday is a clinical decision, which takes into account the potential risks and benefits.
• Your healthcare professional will base this decision on what is best for you.

Where can I find further information?
• If you would like any further information about osteoporosis treatment or you have any concerns about your treatment, you should discuss this with your healthcare professional when you come for your appointment. If you have any queries between appointment times you can contact:

  The National Osteoporosis Society  
  Helpline: 0176 147 2721  
  General enquiries: 0176 147 1771  
  Web: www.nos.org.uk

(PIL provided courtesy of Newcastle-upon-Tyne Hospitals NHS & All Wales Medicines Strategy Group)