NHS
Greater Glasgow and Clyde

CLINICAL GUIDELINE

Oral Bisphosphonates, Longer Term Treatment for Osteoporosis

A guideline is intended to assist healthcare professionals in the choice of disease-specific treatments.

Clinical judgement should be exercised on the applicability of any guideline, influenced by individual patient characteristics. Clinicians should be mindful of the potential for harmful polypharmacy and increased susceptibility to adverse drug reactions in patients with multiple morbidities or frailty.

If, after discussion with the patient or carer, there are good reasons for not following a guideline, it is good practice to record these and communicate them to others involved in the care of the patient.

Version Number:	4
Does this version include changes to clinical advice:	Yes
Date Approved:	14th November 2024
Date of Next Review:	30th November 2027
Lead Author:	Maria Talla
Approval Group:	Medicines Utilisation Subcommittee of ADTC

Important Note:

The Intranet version of this document is the only version that is maintained.
Any printed copies should therefore be viewed as 'Uncontrolled' and as such, may not necessarily contain the latest updates and amendments.

BISPHOSPHONATE TREATMENT: GUIDANCE FOR REVIEW OF PATIENTS TREATED WITH LONGER-TERM ORAL BISPHOSPHONATES FOR OSTEOPOROSIS

Background

Oral bisphosphonates are the commonest therapy for patients with osteoporosis. Although these drugs have a short half-life in the blood, they are retained in bone for many years. As bone re-models, bisphosphonate can be released back into the blood and become active again. Thus, even when bisphosphonate therapy is stopped, this drug can remain in bone for many years. Once bisphosphonate therapy is stopped the concentration of the drug at sites of bone remodelling is however low and little further anti-resorptive effect is seen.

Most clinical trials of bisphosphonates have lasted for 3 years as this is the requirement for drug registration purposes. Some of these trials have been extended but, in these extensions, randomisation is often lost and numbers of patients treated falls. Long-term safety/benefit issues are therefore difficult to assess in these trial extensions.

In recent years, adverse effects have been described *in association with* the use of long-term bisphosphonate therapies. These adverse effects are extremely rare and include osteonecrosis of the jaw and atypical (usually femoral shaft) fractures. As noted above these adverse effects have been *associated*; a causal link has **not been proven**. Nevertheless, for each patient, this potential for harm must be considered. As with all therapies, the benefit of treatment must be balanced against the possibility of harm. In this situation the proven benefit of treatment is decrease in fracture risk. This benefit needs to be balanced against the risk of potential harms which are generally rare.

The purpose of this guidance is to give some direction regarding the continuation of oral bisphosphonate therapy in the longer term.

Using the Guidance

This guidance is intended to support practitioners in prescribing long term bisphosphonate therapy (>5 years) in the context of osteoporosis. This guideline does not apply to patients age 75 or above with a hip fracture. There is separate guidance for secondary fracture prevention after hip fracture for women 75 years or over available on NHSGGC Clinical Guideline Platform (here).

To use this guidance the user must make an assessment of fracture risk. The greater the fracture risk, the greater will be the benefit of bisphosphonate treatment. Other than at initial referral by primary care practitioner, fracture risk assessment is the responsibility of the Direct Access DXA Service (DADS).

This assessment will largely be based upon clinical judgement. Factors to take into account should include patient age, gender, renal function, fracture history and bone mineral density (BMD). Longitudinal trends in BMD change might also be important. Conventional risk calculators (such as WHO-FRAX or QFracture) should be used with caution to assess fracture risk in patients who have been on longer-term bisphosphonate therapy as these tools have not be designed for this situation. Biological age may be more relevant than the chronological to making these decisions.

Bisphosphonate therapy has been shown in clinical trials to reduce fracture risk over a three year period. When a bisphosphonate is stopped after at least two years of treatment it is probable that some residual effects remains on BMD and also fracture risk.

Where a patient is thought to have limited life expectancy, consideration should be given as to whether continuing bisphosphonate therapy is of significant clinical benefit.

This guidance is written in such a way that it should be applicable to patients who are of differing ages and have had differing durations of bisphosphonate treatment. In order to determine next steps; first look for the “grey box” with the patient characteristics that most appropriately match the patient for whom you are looking for guidance.

Where boxes are coloured “red”; this indicates a primary care responsibility to refer (generally to the Direct Access DXA Service – DADS). Where boxes are coloured “green” this indicates a responsibility of the DADS team to make an appropriate recommendation. A referral to DADS is made by making a referral to the appropriate Mineral Metabolism clinic via SCI Gateway.

GP to refer to DADS if due to renal impairment (based on creatinine clearance) the patient is not/no longer suitable for oral bisphosphonates. The patient is not/no longer suitable if their creatinine clearance is <35ml/min. The DADS team will recommend an appropriate alternative or off label use of bisphosphonate under secondary care supervision. The CrCl calculator is available via the GGC Medicines App or on NHSGGC Clinical Info site here (Medicine Calculators).

Please be aware that there are very limited data regarding efficacy for bisphosphonate patients in the very elderly. Depending on where patients start on treatment; assuming a maximum of 10 years therapy is taken the patient will be over 85 years of age. Generally bisphosphonate treatment should not be continued further in this group. The exception to this may be patients who start on therapy for the first time over the age of 80 where treatment could be potentially continued out to age 90 – assuming this is appropriate in the context of other potential co-morbidities.

Date of publication:	15th January 2025
Review date:	30th November 2027
Written by:	The NHSGGC Osteoporosis Strategy Group
Approved by:	Medicines Utilisation Subcommittee of ADTC

Bisphosphonate Treatment – Guidance for review of patients treated with longer term oral bisphosphonate for osteoporosis