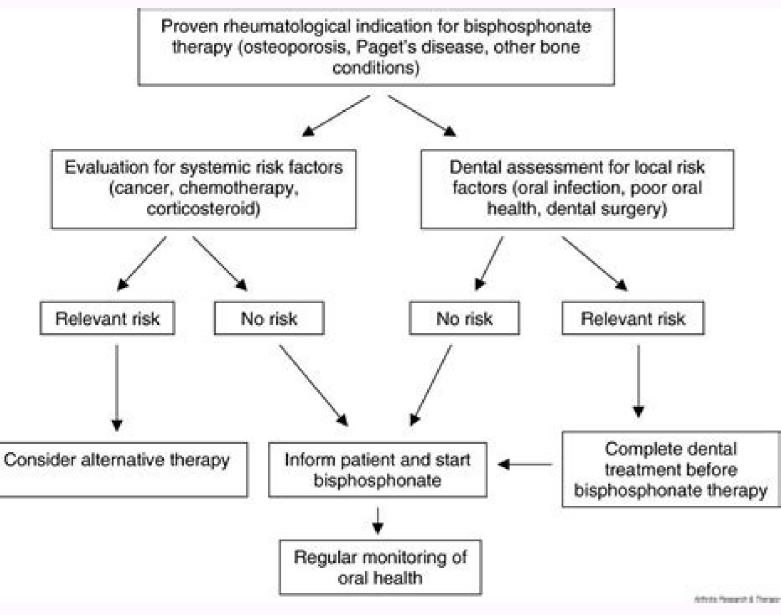
Bisphosphonate treatment nice guidelines

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## NICE National Institute for Health and Care Excellence



Drug (Brand)	Dosing	Route	Adverse Effects
100		Bisphosphonati	es es
Alendronate (Fosamax)	Treatment: 10 mg once daily or 70 mg once weekly Prevention: 5 mg once daily or 35 mg once weekly	Oral	Dyspepsia, abdominal pain, musculoskeletal pain
(Boniva)	Oral: 2.5 mg once daily or 150 mg once a month IV: 3 mg every 3 months	Oral, IV	Dyspepsia, back pain, musculoskeletal pain, headache, abdominal pain
Risedronate (Actonel, Atelvia)	IR: 5 mg once daily or 35 mg once weekly or 150 mg once a month DR: 35 mg once weekly	Oral	Rash, abdominal pain, dyspepsia, diarrhea, arthralgia
Zoledronic acid (Reclast)	5 mg once a year	N	Acute reaction (flutike symptoms, fever, myalgia) may occur within 3 days of infusion; hypotension, fatigue, eye inflammation, nausea, vomiting, abdominal pain
		Calcitonin	
Calcitonin (Fortical)	200 IU in 1 nostril daily alternating each day	Intranasal	Rhinitis, nasal irritation, dizziness, nasal dryness
Calcitonin (Miacalcin)	100 IU every other day 200 IU in 1 nostril daily alternating each day	SC, IM Intranasal	Injection site reactions, nausea, vomiting, abdominal cramping, flushing
	Selective E	strogen Recept	or Modulator
Raloxifene (Evista)	60 mg once daily	Oral	VTE, arthralgia, leg cramps, flu syndrome, peripheral edema, hot flashes
	Parathy	rold Hormone	Analogue
Teriparatide (Forteo)	20 mcg once daily	SC	Transient hypercalcemia, nausea, rhinitis, arthralgia, pain
	M	onocional Antib	ody
Denosumab (Prolia)	60 mg every 6 months	SC	Dermatitis, rash, mild bone/muscle pain, UTIs

Fracture risk	Assessment	Recommendation/comment
High (> 20% 10-year risk of fracture), Previous fragility fracture and FN still T-score ≤ −2.5	NA	Drug holiday not justified, Continue bisphosphonate therapy or switch to another proven drug such as teriparatide or denosumab
Moderate (1% - 20% 10-year risk of fracture). FN now (T-score > -2.5), and no previous history of fragility fracture	Assess clinical risk factors for fracture     Assess FN BMD     Request lateral spine X-ray scan to investigate for any subclinical vertebral fractures	May be candidate for drug holiday     If vertebral fractures are found, stratify patient as high risk and continue bisphosphonate therapy     If there is no previous history of fragility fracture, a drug holiday can be considered if FN BMD T-score is > -2.5 and there are no other important clinical risk factors.  Restart when indications for therapy are met
Low (<10% 10-year risk of fracture), Did not meet current treatment criteria at the time of treatment initiation	No important clinical risk factors for fracture	At low future fracture risk, should be withdrawn from therapy  • Monitor at extended intervals (3 - 5 years)

BMD-bone mineral density; FN-femoral neck; NA-not applicable

15 Nov The following information is taken from the NOS. Leading osteoporosis experts have warned GPs and healthcare professionals to exercise caution over recently issued guidance about the use of bisphosphonates. The new guidance, published by NICE during the summer, incorporates both fracture risk assessment tools and the availability of low-cost generic forms of bisphosphonates and concludes these drugs are cost-effective at very low fracture (eg, hip, spine, wrist, or humerus) that exceeds 1% over 10 years and treatment with intravenous bisphosphonates for those with a probability of more than 10%. At the time, NICE's Professor Carole Longson MBE said the quidance would "provide clarity for health professionals about when to start treatment with bisphosphonates and provide people who have osteoporosis with access to the most cost-effective treatments to prevent them getting a fracture." But, in a letter published in leading health journal the Lancet, clinicians including Nicholas Harvey, Juliet Compston, John Kanis and Eugene McCloskey warned that "the strict application of cost-effectiveness thresholds for inexpensive drugs might lead to counterintuitive and potentially harmful guidance." "Unthinking assimilation of the NICE multiple technology appraisal risks a generation of older individuals taking a bisphosphonate regardless of the individual benefit-to-risk ratio and an increased burden of several chronic noncommunicable diseases, this would be an unexpected and unwelcome consequence of national Osteoporosis Society's Clinical Director Fizz Thompson said the letter concludes. The National Osteoporosis Society works hard to ensure people affected by osteoporosis have access to a range of safe and effective treatments and that the benefits of those treatments outweigh the risks. It will be important that prescribing clinicians understand the concerns expressed in this letter and use existing expert guidance to help guide decision making so that these drugs are used appropriately. The National Osteoporosis Guideline Group (NOGG), established in 2007, is a multidisciplinary group that includes patient representation and professionals involved in the care of people with osteoporosis, the therapeutic interventions available and the approaches for the prevention of fragility fractures, in postmenopausal women, and in men aged 50 years or older. In October 2021 NICE reaccredited the process used by the National Osteoporosis Guideline for the prevention and treatment of osteoporosis. The NOGG guideline is intended for all healthcare professionals involved in the prevention and treatment of osteoporosis and fragility fractures. This includes primary care practitioners, allied health professionals and relevant specialists in secondary care including rheumatologists, gynaecologists, gynaecologists, endocrinologists, gynaecologists, endocrinologists, gynaecologists, endocrinologists, gynaecologists, gynaec guideline is supported by a series of Frequently Asked Questions (FAQs) Access FAQs 1.1 Oral bisphosphonates (ibandronic acid, ibandronic acid, ibandronic acid, ibandronic acid, and risedronate sodium) and intravenous bisphosphonates (ibandronic acid, ibandronic acid, ibandroni are eligible for risk assessment as defined in NICE's guideline on osteoporosis (recommendations 1.1 and 1.2) and NICE's guideline on osteoporosis (recommendations 1.3 to 1.12) and NICE's quality standard on osteoporosis and when bisphosphonate treatment is appropriate, taking into account their risk of fracture, their risk of fracture, their risk of adverse effects from bisphosphonates, and their clinical circumstances and preferences. 1.2 The choice of treatment should be made on an individual basis after discussion between the responsible clinician and the patient, or their carers, about the advantages and disadvantages of the treatment with the least expensive formulation, taking into account administration costs, the dose needed and the cost per dose. 1.3 These recommendations are not intended to affect treatment with alendronic acid, ibandronic acid, risedronate sodium and zoledronic acid that was started in the NHS before this guidance was published, until they and their NHS clinician consider it appropriate to stop. Why the committee made these recommendations Alendronic acid, risedronate sodium and zoledronic acid are bisphosphonates, licensed for treating osteoporosis. Currently clinicians offer bisphosphonates to people with osteoporosis who are eligible for risk assessment and who have a high fracture risk. To simplify the criteria for treatment and bring the guidance into line with NICE's guideline on osteoporosis, the evidence on bisphosphonates are more effective at reducing the risk of fracture than placebo. Risk assessment tools are used in clinical practice (FRAX and QFracture), in line with NICE's guideline on osteoporosis. These tools measure risk differently and can give differently encountered because new analyses show they are cost effective for people who have been assessed as being at higher risk of osteoporotic fragility fracture using the methods recommended in NICE's guideline on osteoporosis and NICE's guideline on osteoporosis. The recent National Institute for Health and Care Excellence (NICE) updated multiple technology appraisal on bisphosphonate use in osteoporosis1National Institute for Health and Care Excellence Bisphosphonates for treating osteoporosis. demonstrates how, for a common disorder, the strict application of cost-effectiveness thresholds for inexpensive drugs might lead to counterintuitive and potentially harmful quidance. The multiple technology appraisal incorporates the development of fracture risk calculators based on individualised clinical risk factors, such as FRAX and QFracture (recommended by NICE for the assessment of fracture risk in some sections of the population2National Institute for Health and Care ExcellenceOsteoporosis: fragility fracture risk. Short clinical guideline—evidence and recommendation.), and the availability of low-cost generic forms of oral and intravenous bisphosphonates. In the NICE analysis, the development of these bisphosphonates has led to cost-effectiveness at very low-risk thresholds. For individuals who qualify for osteoporosis: fragility fracture risk. Short clinical guideline—evidence and recommendation. the appraisal recommends treatment with oral bisphosphonates for people with a probability of major osteoporotic fracture (eg, hip, spine, wrist, or humerus) that exceeds 1% over 10 years and treatment with intravenous bisphosphonates for those with a probability of more than 10%. These health-economic-derived thresholds create a real danger of excessive bisphosphonate prescription in the general population, with treatment of substantial numbers of people who are at very low risk of fracture; for example, every person eligible for assessment under CG146, including women aged 75 years or older, would be recommended treatment if the multiple technology appraisal recommendations were interpreted as intervention thresholds. 3Kanis JA McCloskey EV Johansson H Strom O Borgstrom F Oden A Case finding for the management of osteoporosis with FRAX—assessment and intervention thresholds for the UK. Crossref PubMed Scopus (472) Google Scholar Additionally, very rare, but serious, side-effects of bisphosphonate treatment (eg, atypical femur fracture and osteonecrosis of the jaw) could be observed far more commonly than at present. 4Adler RA El-Hajj Fuleihan G Bauer DC et al. Managing osteoperosis in patients on long-term bisphosphonate treatment: report of a Task Force of the American Society for Bone and Mineral Research. Crossref PubMed Scopus (378) Google Scholar Furthermore, the benefit-to-risk ratio for individuals at low risk would be adversely affected in contrast to the positive benefit-to-risk ratio associated with intervention at more clinically appropriate treatment thresholds. 4Adler RA El-Hajj Fuleihan G Bauer DC et al. Managing osteoporosis in patients on long-term bisphosphonate treatment: report of a Task Force of the American Society for Bone and Mineral Research. Crossref PubMed Scopus (378) Google Scholar, Although the NICE document1National Institute for Health and Care ExcellenceBisphosphonates for treating osteoporosis. makes reference to the approach to assessment and intervention thresholds established by the UK National Osteoporosis Guideline Group (NOGG; recently NICE-accredited), this appears beyond the recommendations and incorrectly states that the NOGG are higher at all ages than those deemed cost-effective in the current multiple technology appraisal.1National Institute for Health and Care ExcellenceBisphosphonates for treating osteoporosis., Although the derivation of treatment thresholds is necessarily arbitrary, NOGG developed its guideline on the basis of clinical appropriateness, setting the thresholds is necessarily arbitrary, NOGG developed its guideline on the basis of clinical appropriateness, setting the thresholds is necessarily arbitrary, NOGG developed its guideline on the basis of clinical appropriateness, setting the thresholds is necessarily arbitrary. to an individual having already sustained a fracture. Thus, economic thresholds were not used to set intervention thresholds but, more appropriately, to validate the use of clinically driven intervention thresholds but, more appropriately, to validate the use of clinically driven intervention thresholds but, more appropriately, to validate the use of clinically driven intervention thresholds. This approach, which avoids inappropriately, to validate the use of clinically driven intervention thresholds. to be cost-effective3Kanis JA McCloskey EV Johansson H Strom O Borgstrom F Oden A Case finding for the management of osteoporosis with FRAX—assessment and intervention thresholds for the UK.Crossref PubMed Scopus (472) Google Scholar and has been adopted in many countries.6Kanis JA Harvey NC Cooper C Johansson H Oden A McCloskey EV A systematic review of intervention thresholds based on FRAX: a report prepared for the National Osteoporosis Foundation. Crossref PubMed Scopus (233) Google ScholarUnthinking assimilation of the NICE multiple technology appraisal risks a generation of older individuals taking a bisphosphonate regardless of the individual benefit-to-risk ratio and an increased burden of rare long-term side-effects across the population. Given recent debates about the role of pharmaceutical interventions in the prevention of several chronic non-communicable diseases, this would be an unexpected and unwelcome consequence of national guidance.NCH has received consultancy fees, lecture fees, honoraria, and grant funding from Alliance for Better Bone Health, Amgen, MSD, Eli Lilly, Servier, Shire, Consilient Healthcare, and Internis Pharma, and is a member of the (NOGG) Expert Advisory Group. EM has received consultancy fees, lecture fees, grant funding, and honoraria from ActiveSignal, Amgen, Consilient Healthcare, Gilead, GlaxoSmithKline, Internis, Lilly, Merck, Radius Pharmaceuticals, Roche, Synexus, UCB, and I3 Innovus, and is a member of the NOGG expert Advisory Group. JAK reports grants from Amgen, Lilly, and Radius Healthcare, Gilead, GlaxoSmithKline, Internis, Lilly, Merck, Radius Pharmaceuticals, Roche, Synexus, UCB, and I3 Innovus, and is a member of NOGG and the architect of FRAX but has no financial interest. JC has received advisory and speaking fees from Amgen, and is Chairman of NOGG. CC has received consultancy fees, honoraria, and grant funding from Amgen, and Roche, and is a member of the NOGG Expert Advisory Group. Published: 18 November 2017DOI: 17)32850-7© 2017 Elsevier Ltd. All rights reserved. Access this article on Science Direct

Bisphosphonate treatment can stop some types of cancer from spreading into the bone for some people. Studies have also shown that bisphosphonates can help some people with breast cancer and myeloma to live longer. ... (NICE), July 2017. ... ESMO Clinical Practice Guidelines. R Coleman and others, 2014. Annals of Oncology, 2014. Volume 25 ... Aug 31, 2016 · The following is the treatment protocol I use (based on the Bennell study) for clients with compression fractures. Once your muscles have started adapting to the change in height caused by the spinal compression fracture has had time to heal (usually 8 to 12 weeks after the episode of increased pain) you should ... Bisphosphonate treatment should be reviewed after 5 years of treatment with alendronic acid, and after 3 years of treatment with alendronic acid, and after 3 years of treatment with alendronic acid, and after 3 years of treatment with alendronic acid, are dafter 3 years of treatment with alendronic acid, are dafter 3 years of treatment with alendronic acid, and after 3 years of treatment with alendronic acid, are dafter 3 years of treatment with alendronic acid, and after 3 years of treatment with alendronic acid, and after 3 years of treatment with alendronic acid, and after 3 years of treatment with alendronic acid, and after 3 years of treatment with alendronic acid, and after 3 years of treatment with alendronic acid, and after 3 years of treatment with alendronic acid, and after 3 years of treatment with alendronic acid, and after 3 years of treatment with alendronic acid, and after 3 years of treatment with alendronic acid, and after 3 years of treatment with alendronic acid, and after 3 years of treatment with alendronic acid, and after 3 years of treatment with alendronic acid, and after 3 years of treatment with alendronic acid, and after 3 years of treatment with alendronic acid, and after 3 years of treatment with alendronic acid, and after 3 years of treatment with alendronic acid, and after 3 years of treatment with alendronic acid, an



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