

No Benefit To Taking Bisphosphonates More Than Five Years – Current FDA Report Supports Previous Lbio Findings

Recently, concern has been expressed regarding potential adverse effects due to long-term bisphosphonate use.

Last year, ASBMR (the premier scientific society dealing with bone) convened a meeting of worldwide experts to tackle this issue. Prof. Klaushofer (Head of the Ludwig Boltzmann Institute of Osteology) was one of four Europeans and the only Austrian invited to the panel. This resulted in a positive paper:

Shane E, Burr D, Ebeling P, Abrahamsen B, Adler R, Brown TD, Cheung A, Cosman F, Curtis J, Dell R, Dempster D, Einhorn T, Genant HK, Geusens P, Klaushofer K, Koval K, McKiernan F, Lane J, McKinney R, Ng A, Nieves J, Odvina C, O'Keefe R, Papapoulos S, Tet Sen H, van der Meulen MCH, Weinstein R, Whyte M 2010 Atypical subtrochanteric and diaphyseal femoral fractures: Report of a task force of the American Society for Bone and Mineral Research. *J Bone Miner Res* 25:2267-94

Armed with this paper, Dr. Elizabeth Shane - Past-President of the ASBMR - provided testimony to the Food and Drug Administration's Drug Safety and Risk Management Committee and Advisory Committee for Reproductive Health Drugs on long-term use of common osteoporosis drug treatment. The report released on 7th September found that "most women" who take bisphosphonates "can safely stop taking them after five years," yet "women who stop taking the drugs after five years have similar levels of increased bone density and reduced fracture risk as those who continue taking them."

These conclusions are in perfect agreement with earlier findings of the Lbio. Analyses of bone material after bisphosphonate use has shown that important material properties get normalized due to 3-5 years of treatment and that continuing treatment over a longer time period has no further benefit effect on these properties.

- Roschger P, Paschalis EP, Fratzl P, Klaushofer K. Bone mineralization density distribution in health and disease. *Bone*. 2008 Mar;42(3):456-66.
- Roschger P, Rinnerthaler S, Yates J, Rodan GA, Fratzl P, Klaushofer K. Alendronate increases degree and uniformity of mineralization in cancellous bone and decreases the porosity in cortical bone of osteoporotic women. *Bone*. 2001 Aug;29(2):185-91.
- Ruffoni D, Fratzl P, Roschger P, Phipps R, Klaushofer K, Weinkamer R. Effect of temporal changes in bone turnover on the bone mineralization density distribution: a computer simulation study. *J Bone Miner Res*. 2008 Dec;23(12):1905-14.
- Roschger P, Lombardi A, Misof BM, Maier G, Fratzl-Zelman N, Fratzl P, Klaushofer K. Mineralization density distribution of postmenopausal osteoporotic bone is restored to normal after long-term alendronate treatment: qBEI and sSAXS data from the fracture intervention trial long-term extension (FLEX). *J Bone Miner Res*. 2010 Jan;25(1):48-55.
- Zoehrer R, Roschger P, Paschalis EP, Hofstaetter JG, Durchschlag E, Fratzl P, Phipps R, Klaushofer K. Effects of 3- and 5-year treatment with risedronate on bone mineralization density distribution in triple biopsies of the iliac crest in postmenopausal women. *J Bone Miner Res*. 2006 Jul;21(7):1106-12. Erratum in: *J Bone Miner Res*. 2006 Dec;21(12):1968.
- Durchschlag E, Paschalis EP, Zoehrer R, Roschger P, Fratzl P, Recker R, Phipps R, Klaushofer K. Bone material properties in trabecular bone from human iliac crest biopsies after 3- and 5-year treatment with risedronate. *J Bone Miner Res*. 2006 Oct;21(10):1581-90.