



Completed Projects and Multinational Initiatives 1996-2006

Nutrition Related to Bone Health in Children

Within the framework of this project, an informational report was published with great success in 2001. Translated into some 20 languages, the report provided a succinct review of how diet, lifestyles and genetics affect bone development in young people.

Project co-ordinator: JP Bonjour

EFFO Guidelines for Diagnosis and Management of Osteoporosis

The panel which edited this 1997 publication, Professors J.A. Kanis, P.D. Delmas, P. Burckhardt, C.Cooper and D.J. Torgerson, believed that the guidelines were necessary to make it easier for primary care physicians to treat osteoporosis. The case finding strategy outlined in this document has formed the basis for practice guidelines adopted by the European Community as well as many countries around the world. The preamble to the publication notes: "Despite an increasing professional and public awareness of osteoporosis, the management of osteoporosis has been confined mainly to specialists. With the large number of affected individuals and the wider availability of diagnostic tools and proven therapies, there is a need for osteoporosis to be managed predominantly by the primary care physician."

- Kanis JA, Delmas P, Burckhardt P, Cooper C, Torgerson D, on behalf of the EFFO (1997) Guidelines for diagnosis and management of osteoporosis. *Osteoporos Int* 7:390-406.
- Kanis JA, Gluer CC for the Committee of Scientific Advisors, International Osteoporosis Foundation (2000) An update on the diagnosis and assessment of osteoporosis with densitometry. *Osteoporos Int* 11:192-202.

EFFO, and later IOF, also provided standards for diagnosis and management in other documents:

- Kanis JA, Devogelaer JP, Gennari, C (1996) Practical guide for the use of bone mineral measurements in the assessment and treatment of osteoporosis. A position paper of the European Foundation for osteoporosis and bone disease. *Osteoporos Int* 6:256-261.
- Kanis, JA, Devogelaer, JB, Gennari, C (1996) Guia practica para el empleo de las medidas de contenido mineral oseo en la evaluacion del tratamiento de la

osteoporosis: un informe de la European Foundation for Osteoporosis and Bone Disease. *Revista Espanola de Enfermedades Metabolicas Oseas* 5:178-181.

Guidelines for Clinical Trials in Osteoporosis

Published in 1991, these were the first guidelines published in this area in Europe and provided a forerunner for guidelines produced by government agencies and non-governmental organizations:

- Kanis J, Geusens P, Christiansen C, on behalf of the Working Party of the Foundation (1991) Guidelines for clinical trials in osteoporosis. A position paper of the European Foundation For Osteoporosis and Bone Disease. *Osteoporos Int* 1:182-188.

The WHO guidelines were initiated following a consultation between the EFFO and WHO:

- World Health Organisation (1998) Guidelines for preclinical evaluation and clinical trials in osteoporosis. WHO, Geneve.
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The Mediterranean Osteoporosis Study (MEDOS)

The first scientific activity of EFFO was the three-part MEDOS project, which was initiated in 1986 shortly before EFFO's bylaws were registered. Gathering existing data on hip fractures, a prospective study of hip fracture projected incidence in participating centres, and a case control study to identify risk factors in men and women, MEDOS has resulted in 20-30 scientific publications. Six countries participated: France, Greece, Italy, Portugal, Spain and Turkey.

Resource Document/Position Paper on Biochemical Bone Markers

Biochemical markers of bone turnover have been developed over the past 20 years which are more specific for bone tissue than conventional markers. However, the clinical use of these newer bone markers in the management of the individual patient has not yet been clearly defined and is still subject to debate. For this reason an expert group of IOF's Committee of Scientific Advisors was commissioned to summarise the available data and make practical recommendations, The use of biochemical markers of bone turnover in the management of postmenopausal osteoporosis, which were published in *Osteoporos Int* (2000) 11(Suppl 6):S2-17.

Systematic Review of Health State Utility Values for Osteoporosis and its Treatment

This project involves a systematic review of studies on the cost-effectiveness of healthcare interventions for osteoporosis. There is a need to review data because

studies in the past two decades have shown a wide range of variations in health state values thus leading to a considerable amount of uncertainty regarding which set of values to use in an economic model. The main goal is to come up with a standard set of values to show cost effectiveness and treatment thresholds.

Project co-ordinator: J.A. Kanis

Publications:

- Brazier J, Green C, Kanis JA, on behalf of the IOF Committee of Scientific Advisors (2002)
A systematic review of health state utility values for osteoporosis related conditions, *Osteoporos Int* 13:768-776.
- Zethraeus N, Sendrine B, Caulin F, Corcaud S, Gathon HJ, Johnell O, Haim M, Jonsson B, Kanis JA, Tsouderos Y, Reginster JY (2002) Models for assessing the cost-effectiveness of the treatment and prevention of osteoporosis. *Osteoporos Int* 13:841-857.
- Kanis JA, Jonsson B (2002) Economic evaluation of interventions for osteoporosis. *Osteoporos Int* 13:765-767.

Multinational Partnership Initiatives

Bone and Joint Decade 2000-2010 (BJD) Collaboration

IOF is working in partnership with BJD and other organizations on various projects. These include an assessment of the Global Economic and Healthcare Burden of Musculoskeletal Diseases, European Bone and Joint Health Strategies, developing a unified Musculoskeletal Undergraduate Educational Core Curriculum, and an Orthopaedic Surgeon's Osteoporosis Survey to determine how orthopaedic surgeons currently diagnose and manage fractures caused by osteoporosis. IOF has provided osteoporosis expertise for BJD projects and financial support and project assistance for the Orthopaedic Surgeon's Osteoporosis Survey.

European Bone and Joint Health Strategies

On February 5, 2001 the European Commission signed a two-year project to develop a European-wide strategy to reduce the burden of bone and joint disorders. To support this project the Commission made funding of €360,000 available. This project is being undertaken together with the Bone and Joint Decade (BJD), European League Against Rheumatism (EULAR), European Federation of National Associations of Orthopaedics and Traumatology (EFORT) and the International Osteoporosis Foundation (IOF). It will cover all aspects of musculoskeletal conditions, from prevention to rehabilitation, and will draw on expert knowledge and experience from all European Union member states. The project will lead to the implementation of health strategies, at national, regional, district and local levels that aim to reduce the

impact of musculoskeletal conditions, including fractures caused by osteoporosis across the European Union. There are two key stages to the project. The first is to produce a background resource document to contain information on the incidence and prevalence of musculoskeletal conditions, identify priority areas, describe the range of intervention options at all stages that are currently available and give targets for prevention. See publication: European Action Towards Better Musculoskeletal Health: A Public Health Strategy to Reduce the Burden of Musculoskeletal Conditions.

The second strategic stage is to develop practical and appropriate policy recommendations from the information gained from the first stage. It is important that any strategies identified to tackle priority areas can be implemented at national, regional, district and local level across the European Union. Recommendations should allow for a variety of local interpretations and be appropriate to the needs of the local population. In developing the policy recommendations, patients' views and resource implications will also be assessed.

Global Economic and Healthcare Burden of Musculoskeletal Diseases

IOF provides expert input via numerous members of the Committee of Scientific Advisors including Cyrus Cooper, Olof Johnell, John Kanis, Paul Lips, Jean-Yves Reginster and René Rizzoli.

This global health needs assessment study aims to develop priorities and strategies to improve the health-related quality of life for those individuals with musculoskeletal conditions relevant to their geographic and socio-economic settings.

IOF Consultation on WHO Technical Reports

This joint consultation with World Health Organization (WHO), EFFE and the (US) National Institute of Arthritis, Musculoskeletal and Skin Diseases marked the beginning of a productive collaboration which has led to numerous WHO Technical Reports. EFFE encouraged WHO to devote more attention to osteoporosis (a policy reinforced by IFSSD and IOF) which resulted in the creation of three WHO osteoporosis collaborating centres based in Geneva, Switzerland, Liege, Belgium and Sheffield, United Kingdom.

- WHO Technical Report Series 921: Prevention and Management of Osteoporosis, Geneva 2003
- Report of the Joint World Health Organisation, European Foundation for Osteoporosis and Bone Disease and National Institute of Arthritis and Musculoskeletal and skin diseases Consultation on Osteoporosis (1989) World Health Organisation, Geneva NCD/OND/OSTEO/88.1.
- World Health Organisation (1994) Assessment of fracture risk and its application to screening for postmenopausal osteoporosis. Technical Report Series, No 843, WHO, Geneva.

- Kanis JA, Melton LJ, Christiansen C, Johnston C, Khaltaev N (1994) The diagnosis of osteoporosis. *J Bone Miner Res* 9:1137-1141.
- Grupo de Estudio de la OMS (1996) Evaluacion del riesgo de fractura y su aplicacion en la deteccion de la osteoporosis postmenopausica. OMS Serie de Informes Tecnicos 843, Ginebra [Spanish].
- Kanis, JA, Devogelaer, JP, Gennari, C (1996) Guia practica para el empleo de las medidas de contenido mineral oseo en la evaluacion del tratamiento de la osteoporosis. *Revista Espanola de Enfermedades Metabolicas Oseas* 5:178-181.
- 1998: Guidelines for Pre-clinical Evaluation and Clinical Trials in Osteoporosis.
- 1999: Recommendations for Health Economics; Evaluations of Interventions in Osteoporosis.

Orthopaedic Surgeon Osteoporosis Survey

In cooperation with the Bone & Joint Decade an orthopaedic surgeon osteoporosis survey was conducted in France, Germany, Italy, New Zealand, Spain and the UK with the assistance of the national orthopaedic associations during the second half of 2002. The survey, based on a US prototype, is designed to determine how orthopaedic surgeons currently manage patients with osteoporotic fractures. The survey results support the need to improve fragility fracture services and provides a helpful tool for the implementation of the World Orthopaedic Osteoporosis Organization (WOOO) recommendations for care to reduce the risk of future fractures. The survey findings are triggering many actions by orthopaedic associations at a national level to improve care of fragility fracture patients.

At a European level the survey and recommendations for care were presented at a symposium during the EFORT (European Orthopaedic Association) 2003 in Helsinki. International Osteoporosis Survey Aggregated Findings were presented by Dr Karsten Dreinhöfer, Bone & Joint Decade 2000-2010 and specific national results and recommendations for France, Germany, Italy, Spain and the UK.

Thematic Network on Male Osteoporosis

The need for additional research on male osteoporosis led to the development of the Thematic Network on Male Osteoporosis in 1999. Partial funding was approved by the European Commission in 2001 and project started in 2002. This project, led by Dr. Jean-Marc Kaufman, aims to create an algorithm for assessing the 10-year absolute fracture risk in men, based on a combination of risk factors. The algorithm will be used, in a simplified form, for risk assessment in clinical practice. Participating countries currently include: Belgium, the Czech Republic, France, Germany, Italy, The Netherlands, Spain, Sweden, Switzerland and the United Kingdom.