



SECOND JOINT MEETING OF THE

European Calcified Tissue Society AND THE International Bone and Mineral Society

EMBARGOED FOR RELEASE UNTIL 14.30 (CEST) ON 27 JUNE

Contact: Kara Dress: +1-202-367-2434, kara@ibmsonline.org

25-29 June: ECTS-IBMS Media Room, Secretariat 1
Palexpo Congress Centre, Geneva, Switzerland

VITAMIN D AIDS BONE MINERAL GAIN IN ADOLESCENT GIRLS

Geneva, Switzerland (27 June 2005)—Vitamin D intake should be emphasized among adolescent girls, particularly those who live in northern climes above 50 degrees north latitude, to aid bone mineral accumulation, according to a new study presented at the [Second Joint Meeting of the European Calcified Tissue Society and the International Bone and Mineral Society](#) by Heli Viljakainen, M.Sc. Since the sun is the largest source of vitamin D for most people, individuals who live in areas where winter days are shortest synthesize little or no vitamin D on the skin during those months and have to rely on dietary sources of vitamin D.

Building up bone growth during puberty may be important in preventing osteoporosis and fractures later in life. It is well documented that vitamin D decreases the incidence of fractures in the elderly, but this is one of the first studies to investigate vitamin D's performance in bone accumulation during adolescence.

As a principal researcher, Viljakainen and her colleagues studied 225 11- and 12-year old girls for one year after they were assigned to three study groups receiving daily doses of 5 micrograms or 10 micrograms of vitamin D3 as a single tablet vs. placebo. The background data on the subjects about pubertal development, height and weight, physical activity and dietary intake of vitamin D and calcium, as well as bone and urine samples were collected. The bone mineral density of the lumbar spine and left femur were measured at the beginning and end of the study with dual x-ray absorptiometry (DXA).

For study participants who received 10 micrograms/day, no wintertime decrease in vitamin D status was found and parathyroid hormone concentration, which increases during winter due to low vitamin D status and can negatively affect bone, remained stable throughout the year. Bone mineral accumulation in

(continued)

Vitamin D Aids Bone Mineral Gain in Adolescent Girls, Page 2

the femur increased in study participants receiving 5 micrograms/day by 14.3 percent, and by 17.2 percent in the 10 microgram/day group, as compared to the placebo group. Corresponding results were seen in the lumbar spine. Furthermore, the mechanism through which vitamin D affects bone mineral gain is by decreasing resorption, which supports the previous results.

The Food and Nutrition Board at the Institute of Medicine currently recommends 5 micrograms/day as adequate intake for vitamin D. In Finland and other Nordic countries, the current recommended rate is higher at 7.5 micrograms/day. However, these recommendations do not fluctuate throughout the year. "To maintain optimal vitamin D status gained during the summer," says Dr. Viljakainen, "supplementation should begin in autumn to maintain sufficient vitamin D in winter months." She adds, "We believe the current recommendation for adequate vitamin D intake for this age group currently is too low and adolescent girls must receive 10-15 micrograms/day, at least in the northern latitudes."

For more information about Dr. Viljakainen's study, please visit www.ects-ibms-2005.org.

###

[The European Calcified Tissue Society \(ECTS\)](#) is the major organization in Europe for researchers and clinicians working in the field of calcified tissues. [The International Bone and Mineral Society \(IBMS\)](#) is the international society working to promote the generation and dissemination of knowledge about bone and mineral metabolism.

The [ECTS-IBMS Second Joint Meeting](#), held in Geneva, Switzerland, 25-29 June 2005, brings together some 3,000 researchers, clinicians, physicians and other allied health professionals, will offer participants the opportunity to enhance their knowledge of bone biology, bone diseases and their correlation to mineral metabolism.

State-of-the-art research on bone and mineralized tissue, along with diagnostic and therapeutic aspects of metabolic bone diseases will be presented through symposia, workshops, training courses, lectures, posters and Meet the Professor sessions. Topics covered at the meeting include: osteoporosis assessment, treatment, genetics and physiology; clinical disorders other than osteoporosis; stem cells and bone cells; nutrition and bone; metabolic bone disease; bone imaging and assessment; and bone development.

###