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» **Journal Abstract**

Bone mineralisation (BMC) and density (BMD) in eumenorrhoeic ex-athletes.
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The aim of the study was to assess bone mineral content (BMC;g) and bone mineral density (BMD; g/cm²) of healthy, regularly menstruating women aged 18–40 years, who discontinued their sport career and to compare them with age–matched controls. The group included ex-swimmers (n=11), ex-rowers (n=8) and ex-judoists (n=7). They were compared with control women, never engaged in sports (n=23), matched by age. Questionnaires were used to collect data regarding sport activities in the past and physical activities at present, ovarian function as well as past and present nutrient intake. BMC and BMD were determined in the lumbar spine (L2–L4) by DXA. Bone stiffness was determined for the calcaneal bone by ultrasonography. All measurements were conducted twice, 12 months apart. Present physical activity was reportedly highest in ex-rowers, 4 of whom rated it as high, while none of the ex-swimmers declared that rating. Irregular menstrual cycles during the sport career were reported by 4 ex-swimmers, 2 ex-judoists and one ex-rower, the latter complained of secondary amenorrhoea lasting 9 months. Calcium intake in ex-swimmers, ex-judoists and ex-rowers amounted to 548±166, 735±286 and 823±269 mg/day i.e. 50, 92 and 103% of the RDA for Poland, respectively. Significance of high BMC without higher BMD was noted for ex-rowers, who differed significantly from both other ex-athletic groups and from the control subjects. Neither BMD nor bone stiffness differed significantly between any groups. All those observations were confirmed on second examination. It was concluded that a long-lasting sport career, and the associated high training loads, did not affect the present BMD in ex-athletes, in the absence of other osteoporosis risk factors (hormonal and/or dietary disorders) in the past.

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