

using Pearson correlation test. Results of this study showed an indirect but non-significant correlation between BMD and bone-related injuries ($r=0.306$, $p>0.05$). A significant negative association between BMC and bone-related injuries was observed ($r=0.359$, $p<0.05$). There were no significant correlations between BMD or BMC and ligamentous, muscular and tendinous injuries ($r=0.123$, $p>0.05$; $r=0.264$, $p>0.05$), respectively. It can be concluded that long time jumping results in high BMC and decreased risk of bone-related injuries in elite jumpers.

14 ASSOCIATION BETWEEN BONE MASS AND INJURIES IN PROFESSIONAL JUMPERS

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The health benefits of exercise are well established. Research has shown that exercise has a positive effect on bone health. Sport injuries are associated with several physical and physiological changes that lead to increased disability. Examples of these changes are deteriorations in bone and muscle tissues, referred, respectively, as osteopenia and sarcopenia. High peak bone mass in early adulthood is an important protective factor against osteoporotic fractures in later life, but relation between bone mass and sports injuries has been less documented. The main aim of this study was to determine the association between femoral neck, trochanter and lumbar spines bone mineral density (BMD) and bone mineral content (BMC) and injuries in professional jumpers. Thirty professional men jumpers (10 long, 10 high and 10 triple jumpers) with no history of bone disease participated in this study (mean \pm SD, aged 21.27 \pm 3.52 years, height 182 \pm 6 cm, weight 69.93 \pm 6.01 kg). BMD and BMC of femoral neck, trochanter for right and left sides and also lumbar spines were measured by dual-energy x-ray absorptiometry. Injury data of these professional jumpers over a 1-year time period (2008–2009) were collected using a standard questionnaire retrospectively. Data were analysed