

BONE HEALTH IN CHILDHOOD CANCER

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Background: During the past decades, new approaches in the treatment of pediatric and adolescent cancer reduced recurrence rates and increased long-term survival. Several studies focused on the evaluation of the late side-effects of pediatric cancer-related treatments, such as chemotherapy, radiation and surgery, on bone.

Materials and methods: The International Osteoporosis Foundation convened a working group to review the bone complications of pediatric cancer survivors, outlining recommendations for the management of bone health, in order to prevent and treat these complications.

Results: Treatment of childhood cancer can impair the attainment of peak bone mass, predisposing to premature onset of low bone mineral density, or causing other bone side effects, such as bone quality impairment or avascular necrosis of bone. Lower bone mineral density and microarchitectural deterioration can persist during adulthood, thereby increasing fracture risk. Overall, long-term follow-up of childhood cancer survivors is essential to define specific groups at higher risk of long-term bone complications, identify unrecognized long-term adverse effects, and improve patient care.

Conclusion and recommendation: Children and adolescents with cancer history should be carefully monitored, and patients should be informed of possible late complications of their previous medical treatment.

KEYWORDS: Bone; cancer; peak bone mass.