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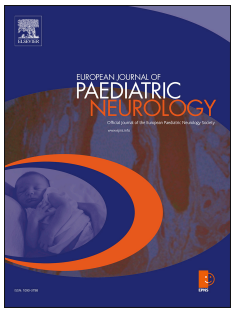

Basics of Bone Metabolism and Osteoporosis in Common Pediatric Neuromuscular Disabilities

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Abstract

Bone modeling is a process that starts with fetal life and continues during adolescence. Complex factors such as hormones, nutritional and environmental factors affect this process. In addition to these factors, physical conditioning and medications that have toxic effects on bony tissue should be carefully considered in patient follow-up. Osteoporosis is a significant problem in pediatric population because of ongoing growth and development of skeletal system. Two types of osteoporosis are primary and secondary types and children with neuromuscular disabilities constitute a major group with secondary osteoporosis. Low bone mass in patients with cerebral palsy, spina bifida, and Duchenne muscular dystrophy cause increased bone fragility in even slight traumas. Maximizing peak bone mass and prevention of bone loss are very important to reduce the fracture risk in neuromuscular diseases. This article aims to review the determinants of bone physiology and bone loss in children with cerebral palsy, spina bifida, and Duchenne muscular dystrophy.

Keywords

Osteoporosis, pediatric disability, rehabilitation, bone density, neuromuscular