Parental Guide for Juvenile Osteoporosis

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Caring for Juvenile Osteoporosis: A Quick Guide for Parents

As we grow and develop, bone is formed and broken down through specialized cells called osteoblasts and osteoclasts. This is a natural and normal process impacted by hormones, genetics, physical activity and nutrition. At a young age, the development process is more rapid than degeneration as bone density builds to reach peak bone mass. Peak bone density is achieved between 18 years to 25 years old. The level of density reached is a large factor in determining your future of osteoporosis.

There are a multitude of factors that can interfere with bone development and lead to deterioration of bone. Those contributing factors that can accelerate the risk of osteoporosis in the earlier years include lack of activity, hormones, medications, certain health conditions and poor nutrition.

In children, two types of osteoporosis can occur: secondary and idiopathic. Idiopathic juvenile osteoporosis (IJO) occurs in children and adolescents with no known cause. Data suggests after two to fours years one could expect full recovery reversing this condition. Appropriate treatment is essential to preserve posture and avoid fractures. Idiopathic osteoporosis often has no symptoms, though in some cases, signs may include pain in the major joints: hips, knees and ankles, and pain in the lower back and feet. Additional signs of leg, ankle or foot fractures and difficulty walking may indicate juvenile osteoporosis.

A secondary diagnosis of juvenile osteoporosis can be associated with juvenile rheumatoid arthritis, diabetes, hyperthyroidism, Cushing’s syndrome, malabsorption syndromes and kidney disease. A few potential medications, such as anticonvulsants for epilepsy or corticosteroids for arthritis can be contributing factors. Prolonged periods of immobility, poor intake of calcium and vitamin D, smoking, or alcohol abuse are also linked to juvenile osteoporosis. Other risk factors for juvenile osteoporosis include premature birth, having abnormal menstrual periods, delayed puberty, or anorexia nervosa.

With either form of adolescent osteoporosis, there are approaches to help care for your child’s bone health. These conditions should be taken very seriously as a majority of bone development is interfered with during these early years. Having these conditions puts a child at serious risk for long-term complications, with the biggest being fractures.

Specific to a secondary diagnosis the best approach is to continue to treat the underlying disease. This can be very challenging if the medication that is treating the disease is the culprit. Talk to your doctor to ensure you know all the options including possible medication or dosing changes.

The following guidelines are recommended when living with either condition.

1. Adequate balanced nutrition to include calcium and vitamin D-rich foods:
    - Dairy products, such as milk, yogurt and cheese.
    - Dark green leafy veggies; such as kale, broccoli, spinach, etc.
    - Foods "fortified" with calcium: tofu, breakfast cereals,and milk alternatives.

    - Vitamin D from the sunlight, however, there are a few foods that offer the vitamin: fatty fish, fish liver oils, beef liver, cheese, egg yolk, some mushrooms and other fortified items.
2. Calcium and vitamin D supplements.
3. Medications to manage symptoms.
4. Protect the spine and other bones from fracture until remission occurs (IJO).
5. Avoid aggressive activities with increased risk of fracture; replace with other activities to promote alternative forms of activity vs inactivity.
6. Physical therapy.
7. Monitor bone density every other year into adulthood.
8. Help your child maintain appropriate body weight.
9. Minimize caffeine.

The outlook for children with IJO is usually promising, with most children entering remission. Although during the time of impaired bone tissue growth, in some cases, permanent disability may develop, such as curvature of the upper spine or collapsed rib cage.