



**#hERHealth a social awareness initiative of NOGS & team 23-24**

## **BONE HEALTH IN ADOLESCENCE**



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Adolescence: It is a transitional stage of physical and psychological development that generally occurs during the period from puberty to adulthood that is between 10yrs to 19yrs. Adolescence is the most critical period across the life span for bone health. During normal childhood and adolescence, the skeleton undergoes tremendous change with the processes of modelling and remodelling. Approximately 40% to 60% of adult bone mass is acquired during adolescence. It

is the stage in which bones grow more in both size and strength. During puberty, the speed of bone builds up in the spine and hip increases by approximately 5 times.

Why bone health is important:

When parents think about their children's health, they don't think about their bones. At this stage there is a solid foundation for future bone health. Bone health in adulthood depends on bone density acquired during adolescence. Considering bone health during adolescence, the development of osteoporosis and fractures in adulthood are serious consequences.

Factors required for bone growth:

Normal bone growth requires vitamins D, C and A, minerals such as calcium, phosphorus, magnesium, and zinc. Hormones such as parathyroid hormone, growth hormone and calcitonin are also required for proper bone growth and maintenance.

Risk factor for Adolescent bone health:

**Nutritional deficiency**

- Lack of appetite
- Cystic fibrosis
- Inflammatory bowel disease
- Cerebral palsy

**Chronic inflammatory diseases**

- Juvenile arthritis
- Inflammatory bowel disease

**History of >3 fractures or axial skeletal fractures**

**Medications**

- Oral glucocorticoid therapy
- Depot medroxyprogesterone acetate
- Anticonvulsant therapy
- Proton pump inhibitors

➤ Some psychiatric medications

Important things for bone health:

- Include plenty of calcium in your diet. The daily requirement of calcium is 1000mg per day. Dietary sources of calcium are milk and milk products, eggs, and some vegetables like cabbage broccoli, and some grain as ragi. Non – vegetarian sources such as egg, chicken, liver
- Vitamin D: Sun exposure is the best source of vitamin D.
- Include physical activity in your daily routine.
- Avoid substance abusesuch as smoking and alcohol consumption since they are harmful for the bones.
- Choose weight bearing exercises as walking, jogging, hiking, climbing stairs, tennis, and dancing. Teenagers need at least 60mins of moderate exercise.
- Teach them about the importance of wearing a seatbelt and using protective equipment for sports such as a helmet and knee pads to protect bones.

