

## Could there be a Correlation Between Childhood Obesity and Increased Bone Weight in Adulthood?

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The organ that gives structure to the human body is the skeleton, which is considered is a complex multifunctional organ system made up of 206 bones [1]. Lifetime body weight gain can influence a greater load applied on this organ and can physiological functions influence that include bone mass increase due tension levels in the bone by weight gain [2]. This tensions can positively result in an increase in bone mass by tension level applied to the body, such as an example a simples walk that can imposes on the body a load of approximately  $1.5 \times$  body weight [3] and have a ratio of the greater the weight the higher the level of tension in the bone [4]. In parallel, the load absorbed during an impact exercise, like a jump for example, also has been shown to be effective in increasing bone mass in children by increasing bone size [7]. This way, obesity may lead to an increase in bone density because it is associated with higher mechanical loads, which can protect bone against abrupt weight gain with an higher bone forming, i.e. adults with obesity can had significantly higher bone mineral density than healthy-weight adults [5]. Thus, how individuals with obesity presented higher bone mineral density, better hip geometry and greater strength compared with normal-weight controls [8], it is interesting to carry out clinical studies that can prove this hypothesis in practice, evaluating anthropometric data from obese patients compared to non-obese patients, mainly including obese patients since childhood, to find out if there is a correlation between lifetime body weight gain and increased bone weight.

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