Is fatty acid composition of human bone marrow significant to bone health?

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© 2017 Elsevier Inc. The bone marrow adipose tissue (BMAT) is a conserved component of the marrow microenvironment, providing storage and release of energy and stabilizing the marrow extent. Also, it is recognized both the amount and quality of BMAT are relevant to preserve the functional relationships between BMAT, bone, and blood cell production. In this article we ponder the information supporting the tenet that the quality of BMAT is relevant to bone health. In the human adult the distribution of BMAT is heterogeneous over the entire skeleton, and both BMAT accumulation and bone loss come about with aging in healthy populations. But some pathological conditions which increase BMAT formation lead to bone impairment and fragility. Analysis in vivo of the relative content of saturated and unsaturated fatty acids (FA) in BMAT indicates site-related bone marrow fat composition and an association between increased unsaturation index (UI) and bone health. With aging some impairment ensues