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Impact of Physical Exercises on Bone Activities

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Message from the Guest Editors

Bone tissue is a dynamic tissue that is modeled and reshaped according to the constraints applied to it. In particular, the development of bone mass in the absence of exercise is estimated at only 30 to 50% of its potential. As with muscle, exercise and mechanical strains are therefore necessary for bone strengthening. Physical exercise causes mechanical stresses. Exercise is also recognized to have a positive effect on the human skeleton and to contribute to the prevention and treatment of Bone. Nowadays, it is generally accepted that without considering the specific effects of the bone cells, whatever the theoretical model, the prediction of bone remodeling remains at best phenomenologically driven. Although at the continuous level (scale of the bone) the continuum mechanics is “manageable”, the integration of continuum biology is highly risky since, for the time being, there are no experimental measurements available in the literature able to link the local cells phenomena to the bone continuum. The full understanding of the bone mechanobiology is still unknown.



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