

## Evaluation of the Laser and Partial Vibration Stimulation on Osteoporosis

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**Abstract :** The aim of this study is to evaluate the effects of the laser and partial vibration stimulation on the mice tibia with morphological characteristics. Twenty female C57BL/6 mice (12 weeks old) were used for the experiment. The study was carried out on four groups of animals each consisting of five mice. Four groups of mice were ovariectomized. Animals were scanned at 0 and 2 weeks after ovariectomy by using micro-computed tomography to estimate morphological characteristics of tibial trabecular bone. Morphological analysis showed that structural parameters of multi-stimuli group appear significantly better phase in BV/TV, BS/BV, Tb.Th, Tb.N, Tb.Sp, and Tb.pf than single stimulation groups. However, single stimulation groups didn't show significant effect on tibia with Sham group. This study suggests that multi-stimuli may restrain the change as the degenerate phase on osteoporosis in the mice tibia.

**Keywords :** laser, partial vibration, osteoporosis, in-vivo micro-CT, mice

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