Laser's effect on bone and cartilage change induced by joint immobilization: an experiment with animal model.

Laser doux
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The influence of low-level (810 nm) laser on bone and cartilage during joint immobilization was examined. The hind limbs of 42 young Wistar rats were immobilized at the knee joint. They were sorted into three groups 1 wk after operation; irradiance 3.9 W/cm², 5.8 W/cm², and sham treatment. After 6 treatments for another 2 weeks both hind legs were prepared for 1) indentation of the articular surface of the knee (stiffness and loss tangent), and for 2) dual energy X-ray absorptiometry (bone mineral density) of the focused regions. The indentation test revealed preservation of articular cartilage stiffness with 3.9 and 5.8 W/cm² therapy. Low level laser treatment may possibly prevent biomechanical changes by immobilization.