

Penetration of Laser Light at 808 and 980nm in Bovine Tissue Samples

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Abstract

Objective: The purpose of this study was to compare the penetration of 808 and 980nm laser light through bovine tissue samples 18–95mm thick. **Background data:** Low-level laser therapy (LLLT) is frequently used to treat musculoskeletal pathologies. Some of the therapeutic targets are several centimeters deep. **Methods:** Laser light at 808 and 980nm (1 W/cm²) was projected through bovine tissue samples ranging in thickness from 18 to 95 mm. Power density measurements were taken for each wavelength at the various depths.

Results: For 808 nm, 1 mW/cm² was achieved at 3.4 cm, but for 980 nm, 1 mW/cm² was achieved at only 2.2 cm depth of tissue.

Conclusions: It was determined that 808nm of light penetrates as much as 54% deeper than 980nm light in bovine tissue.