

Laser-Patterned Microcoagulation (LPM) Technology: Clinical study of gingiva regeneration in implantation zone

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Fractional laser treatment is a new concept of laser treatment of tissue. The concept of fractional treatment or Laser Patterned Microcoagulation or Microablation (LPM) can be explained as formation in the tissue of islets of damaged tissue surrounded by viable tissue. Tissue regeneration occurs through natural tissue healing response which includes a cascade of processes, such as removal of “old” tissue in the damaged islets and replacement with new extracellular matrix and “young” somatic cells, and stem cell recruiting and activation. Multifractional treatment can initiate complete regeneration of treated tissue. Theoretical and experimental data of patterned islets of tissue damage in skin, gingiva, and bone with different lasers will be presented. The tissue regeneration process can be regulated and optimized by proper selection of laser parameters, such as wavelength, pulse width, size of microbeams, and their density.

Objective: