

Triple P (pulling, pushing and polishing) actions of Erbium:YAG laser

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SUMMARY

Proposed mechanisms of action of laser resurfacing include tissue ablation, immediate collagen shrinkage, and collagen remodeling. Based on these modes of action, variable square pulse Erbium:Yttrium-Aluminum-Garnet (Er:YAG) laser has been applied to treat a wide range of skin conditions. Uses of VSP Er:YAG laser for 3 actions including pulling, pushing and polishing will be shared and discussed.

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Fractional laser-assisted drug delivery: Fact or Fancy?

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SUMMARY

Full-surface laser resurfacing has been shown to efficiently disrupt stratum corneum and facilitate transcutaneous drug delivery, but it is frequently associated with skin damage that hampers its clinic use. A fractional laser resurfacing technique based on the principle of fractional photothermolysis (FP) has recently been developed to address the drawbacks of full-surface laser resurfacing. The use of fractionated laser delivery to create microscopic thermal wounds and specifically spare the tissue surrounding each wound significantly improves the downtime and prevents the side effects associated with the traditional resurfacing procedures. Continuing effort in optimizing the efficacy of fractional resurfacing devices in common conditions such as photodamage and acne scars has led to more comfort for expanding the application of these devices.

It will be interesting to observe the continued expansion of the application of FP and its likely inevitable growth outside of aesthetic medicine. An implication for improved drug-delivery with minimal tissue damage is an exciting second step for this groundbreaking innovation. Recent studies have demonstrated that FP facilitates penetration and distribution of several topically applied drugs, thereby possibly acting as channels for drug uptake. Possible applications of FP as a minimally invasive transcutaneous drug delivery will be discussed.

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