

# Tattoo Removal using Combined Laser Therapy

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## SUMMARY

Q-S 1064 nm Nd:YAG lasers are described as the gold standard for tattoo removal, since the laser energy is perfectly absorbed in the most common tattoo colors [1]. The procedure is effective and patient-friendly with virtually no side effects, but several treatments are typically necessary to completely remove a tattoo.

In recent studies, a new approach using a combination of ablative fractional treatment of the skin together with Q-switched Nd:YAG laser tattoo removal has been presented [2].

To confirm the efficacy as well as safety of combined treatment, we treated different tattoos with this combined technique. Further, we also improved the technique with the application of different sugar alcohols such as mannitol and glycerol on the treated area (Fig 1).

be repeated every 3 to 4 weeks. The number of side effects such as bulla formation, hyper-pigmentation and prolonged inflammatory response are also reduced.

The results of this combined laser treatment will influence other laser applications, i.e. in the treatment of laser vascular ectasias, pigment dyschromias and rejuvenation procedures.

## REFERENCES

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2. Leonardo Marini, Jasmina Kozarev, Ladislav Grad, Matija Jezeršek BC (2012) Fractional Er:YAG Skin Conditioning for Enhanced Efficacy of Nd:YAG Q-Switched Laser Tattoo Removal. 2012. LA&HA - Journal of the Laser and Health Academy 1: 35–40.

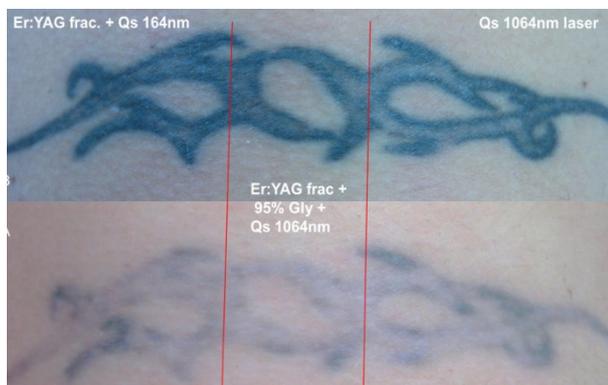


Figure 1: Example of three-way split tattoo on which three techniques were compared: standard Q-S treatment on the right, combination of fractional ablative Er:YAG followed by Q-s on the left, and the combined laser technique with the application of 95% glycerol in the middle.

Our results confirmed that combined techniques are more effective than single Q-S laser treatment, thus reducing the number of sessions. The introduction of glycerol reduces the scattering of laser light inside the tissue, thus less energy is applied on the tattoo during removal sessions. Ablative fractional drilling of the skin prior to Q-s irradiation reduces injury and healing time, so the treatment sessions may

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