

## [Q-switched ruby laser in dermatologic therapy. Use and indications]

[Article in German]

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### **Abstract**

The Q-switched ruby laser (QSRL) with its wavelength of 694 nm and a pulse duration of around 40 nsec is an effective modality for the removal of tattoos and cutaneous pigmented lesions.

Based on the principle of selective photothermolysis, selective damage to cutaneous pigment or pigmented cells is possible, allowing the scar-free elimination of endogenous or exogenous pigment in the skin.

Main indications for the treatment with the QSRL are tattoos (amateur, professional, accidental, or cosmetic) and lentigines but the QSRL can also be used for lightening or even removing other pigmented lesions such as nevus spilus or café au lait macules.

Furthermore, pigmented lesions of mucous membranes can be removed easily. Since treatment results in postinflammatory hyperpigmentation, myoplasma, and Becker' nevus have proven to be inconsistent, the QSRL cannot be routinely recommended for these lesions.

Melanocytic lesions are generally not treated, with the exception of nevus of Ota and nevus of Ito where there exists a lack of therapeutic alternatives. Non-pigmented cells, which exist in nearly all melanocytic lesions, do not absorb the light of the QSRL and, therefore, do not react to this particular treatment. No information is available on the risk of partially damaged cells to become malignant after QSRL treatment.

The QSRL is an excellent therapy for the removal of endogenous and exogenous pigment because of both the excellent treatment results and the lack of side effects, which are limited to transient hypo- and hyperpigmentation. The QSRL has occurred a wide range of applications within the field of dermatology.

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