



Laser Suture Removal - a New Application

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Introduction:

On 24/2/2021 I treated a patient using laser suture removal at a 1-week post-implant surgery review visit. Since that time, I have treated several patients using a range of laser settings for suture removal and I have done an in vitro study on 4/7/2021 to work out the best laser settings to several different suture types (silk, Vicryl, gut). The settings that I currently use, as a result of the study, are listed below. A brief literature search revealed laser suture lysis has been used in ophthalmic surgery. These findings show suitability for intraoral applications plus a much broader range of applications in dentistry and medicine.

Suture materials come in different colors, so different laser wavelengths may be more suitable for cutting different suture types. The use of different paints or dyes applied to the suture material could also enhance ablation and lessen the needed energies for ablation.

Laser	LightWalker ATS
	Step 1
Wavelength	2940 nm
Handpiece	H02
Fluence	100 J
Power/Power density	1.00 W
Frequency	10 Hz
Water	0
Air	0
Passes/Repeats	1-2 times at a 1-second duration



Dr. Terry Rose received his Bachelor of Science in 1981 and Bachelor of Dentistry degree from the University of Otago, New Zealand in 1984. He is a member of the International Academy of Oral Medicine & Toxicology (IAOMT). He completed the LA&HA Master's Program in Laser Dentistry (2017-2019). Dr. Rose is the Principal Dentist-Owner of the Smile in Style dental practice, established in 1989 in Moonee Ponds and Sunbury in Victoria, Australia. He has been active as a Lecturer for Progressive Orthodontic Seminars (POS) from 2008-2018. He has been using Dental Lasers in his dental practice since 2008.

CLINICAL CASE:

Zirconia implant suture removal: Leica Microscope clinical photos of patient PE tooth 24. The patient felt no pain during the procedure and there was no significant trauma to the soft tissues. A follow-up review is usually not necessary until the next stage of implant torque testing and prosthetic restoration. In this case, some other restorative work on the surrounding teeth was necessary before restoration.



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