

Dr. Simunovic is a graduate of the Faculty of Dentistry at the University of Zurich, Switzerland. He received his Doctorate Degree from Zurich University's Faculty of Dentistry in 1991. In 1997 he established his own dental office focusing mainly on laser-assisted dentistry, periodontology and oral dental surgery. Dr. Simunovic is President of the European Medical Laser Association (EMLA). He is the author of numerous published papers and teaches laser-assisted dentistry in both theory and practice, and has been a speaker at numerous international events.



Clinical Bulletin

J. LAHA, Vol. 2013, No. 1; p. CB06.

Treatment of Oral Pressure Sores with Er:YAG Laser in QSP Mode

Simunovic, Kresimir, DMD, MSc

Parameters:

Laser source:	Er:YAG, 2940 nm
Pulse duration:	QSP
Energy:	150 mJ
Frequency:	15 Hz
Handpiece:	H14 C, with cylinder 1.3 mm sapphire fiber tip

Treatment procedure:

A denture-related pressure sore is a localized and painful injury to the mucosal tissue as a final result of denture overpressure to local areas of the oral soft tissue, often arising from a simple denture-related stomatitis. Patients usually appear at the office as a pain emergency and have serious functional difficulty – in some cases they cannot even wear the denture.

The affected mucosa is well defined under the areas of a poorly fitting denture.

The treatment starts with the removal of necrotic tissue, which is an ideal area for bacterial growth that supports infections and compromises wound healing.

In this case, the pressure sore was caused by a partial removable prosthesis. Since the lesion had a wide contact with the oral soft tissue and the cause and nature of the lesion were evident, the procedure called for a layer-by-layer ablation until the mucosal infection was removed and the healthy tissue no longer interfered with the removable prosthesis. A possible underlying disease should always be considered.

The treatment method of choice was ablation of the lesion with the LightWalker AT from Fotona using its exclusive high quality Er:YAG QSP mode. Several short pulses that follow each other at an optimally fast rate enable QSP to achieve a fast and precise cut with a simultaneous and efficient hemostatic effect on wide soft-tissue areas. The H14 contact handpiece with a sapphire cylinder 1.3 tip was used to ablate the lesion. There was no water spray used during the lesion removal so as not to harm the already lased tissue and the coagulated vessels. The treatment took 5 minutes and no local anesthesia was required. Due to the minimal thermal effect as well as the decontamination and the biomodulation in the underlying tissue, the healing was extremely fast. Complete re-epithelialization was achieved in 7-10 days.

No further post-operative care was needed. The patient could leave the office without any post-op pain and with a complete functional and aesthetic reintegration of the denture.

The main benefit of the QSP Er:YAG pressure sore treatment for the patient is its minimal and selective invasivity by controlled ablation, combined with simultaneous disinfection, biomodulation and biological wound protection of the treated area, as well as reduced pain during the treatment and no pain after.



Published by the Laser and Health Academy. All rights reserved. © 2013

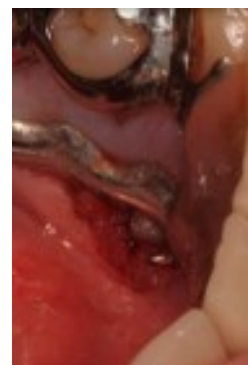
Disclaimer: The intent of this Laser and Health Academy publication is to facilitate an exchange of information on the views, research results, and clinical experiences within the medical laser community. The contents of this publication are the sole responsibility of the authors and may not in any circumstances be regarded as official product information by the medical equipment manufacturers. When in doubt please check with the manufacturers whether a specific product or application has been approved or cleared to be marketed and sold in your country.



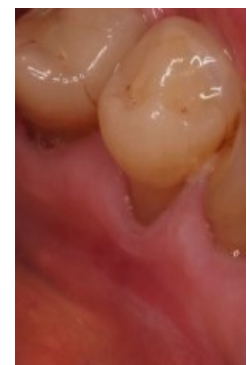
Before treatment



Immediately after lesion removal



Immediately post-op, with removable prosthesis in place



9 days after the treatment