SPECTRALASE IMPLANT DIODE LASER

DIODE LASERS IN IMPLANTOLOGY

The benefits of using soft tissue lasers in dentistry have been well established.
Oral surgeons began using CO2 lasers in the 1960s, dentists started using Nd:YAG lasers in 1991 and diode lasers in 1996, and orthodontists began using diode lasers 2004.

Implants have gone from a sometimes recommended treatment to almost the standard of care for a missing tooth. Unfortunately implants sometimes fail. Occasionally an implant will develop a deep pocket in the first 2 years, but most of the suffering implants happen down the road.

In modern implant dentistry there are a variety of standard soft tissue clinical indications for diode laser use. The treatment of a failed implant has become a very important laser procedure. Diode lasers used in surgery leave behind a sterile wound surface and are also able to kill bacteria, viruses and fungi. Many articles support the benefit of the diode laser in helping to manage suffering implants when used along side of convention methods. It has been documented that in the treatment of periimplantitis, decontamination and detoxification of the implant surface is essential. Using a 980nm diode laser has been recommended by many authors (1-17,20,22,25-31,37) and proven in numerous in vivo studies (1-14) to effectively eliminate bacteria and contribute considerably in successfully treating peri implantitis and extensive research concludes that 980nm diode lasers can be used safely on implant surfaces, (2,3,5,12,14,16,17,18-19,23,24,29,30-31).

Laser physicist Dr. George Bekov (PhD), the manufacturer of Spectrum Lasers in San Francisco since 1998, has developed a 980nm diode laser with an Super Pulse mode, with a powerful advanced pulse mode amplitude, with the proper power density to insure bacteria mortality while keeping the implant under the critical temperature threshold and not damaging the titanium surface. The Spectralase Implant Diode Laser has the highest level of bacteria decontamination of any diode laser. Decontamination of the implant surface is much more complicated than decontamination of a root surface and low powered 810nm lasers with outdated pulse modes are not able to guarantee a 100% bacteria elimination, especially in a non focused mode.

The Spectralase Implant Diode Laser can be used for all standard soft tissue procedures as well as detoxify an implant surface in the treatment of periimplantitis. CO2 lasers have been used for this purpose for more than a decade. Literature mentions a diode laser as an alternative.

The cost to own and use a Spectralase Implant Diode Laser is a fraction of the cost of a CO2 laser. CO2 lasers cost $30,000-$55,000 plus expensive maintenance. CO2 tube replacement is $2500 - $7000 every 2-5 years, articulating arm or flexible fiber replacement will need replacing, some require expensive single use tips, warranties are 1-2 years, and service contracts cost $3000-$6000 per year.

Spectralase is delivered fully equipped, requires no maintenance, and includes a 3 year warranty. There are thousands of Spectrum lasers in use that are over 10 years old.

Spectralase Implant Diode Laser is the most advanced, most dependable, and lowest priced diode laser in the industry (no expensive single use tips) and is an affordable and important part of the armamentarium of a fully equipped implant surgeon.

1. Bach G, Neckel C, Mall C, Krekeler G. Conventional Versus Laser-Assisted Therapy of Periimplantitis: A Five-Year Comparative Study.*Implant Dent 2000;9:247-251* Diode considerably effective in vivo

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Nd:YAG laser is contraindicated

3. Bach G, Diode laser surface decontamination in periodontitis therapy 15 years of incorporating. *Int M of Oral Implantology 2011; 3 (1) 7-12*Diode considerably effective, no thermal damage in vivo
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13. Romanos G, Nentwig GH, Diode Laser (980 nm) in Oral and Maxillofacial Surgical Procedures: Clinical Observations Based on Clinical Applications. *Journ of Clinical Laser Medicine and Surgery. 1999; 17 (5) 193-197* Precise incision margin
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100% bacteria reduction without damaging implant surfaces
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16. Romanos G, Hayo G, Nentwig G. Effects of Diode and Nd:YAG Laser Irradiation on Titanium Discs: A Scanning Electron Microscope Examination, *J Periodontol 2000;71:810-815*
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Precise incision margin, coagulation of vascular lesions, lack of swelling, bleeding, pain or, scar tissue formation, and good wound healing were observed in all of the clinical applications.