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Dr. Göfteci has been using Fotona dental lasers since 2012 for periodontology and oral surgeries including implantology. In 2018, she successfully completed the five-module course of study in the LA&HA Master's Program, and served as one of the lecturers for Module 5 at the Medicadent Dental Clinic in Istanbul, where she is currently working as periodontist & implantologist.



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Biomodulation with Nd:YAG for Treatment of TMJ Syndrome

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Parameters:

Laser source:	Nd:YAG (1064 nm)
Pulse duration:	MSP
Power:	0.5 W
Frequency:	10 Hz
Handpiece:	Genova
Timer:	60 sec per spot

Treatment procedure:

LLLT (Low-level laser therapy / biomodulation) is an effective tool for the treatment of simple and acute cases of temporomandibular joint disorders (TMD), such as facial pain after a prolonged dental appointment, as well as chronic TMD conditions. It is used to promote wound healing in cases of healing defects by inducing an increase in mitotic activity and the number of fibroblasts, as well as collagen synthesis, neovascularization and a decreased level of pain.

A 31-year-old female with periodontal problems was admitted to our clinic. Clinical and radiographic examination confirmed periodontitis and malocclusion, which is often the cause of pain in the jaw joint, also known as TMJ syndrome. She had difficulties opening her mouth and pain during the time that she kept it open. The treatment plan would involve scaling and root planning with laser and follow-up. While performing periodontal treatment, it was decided to perform biomodulation on the TMJ.

The periodontal treatment was performed in four sessions. Before each treatment was performed, biomodulation was applied with circular application zones around both TMJ points, with an open and closed mouth. Before and after application, measurement of the mouth opening was taken. The same protocol can be applied also after any dental treatment if the patient feels discomfort in the TMJ because of an opened mouth. No other treatments for TMJ were performed.

Biomodulation with 1064 nm Nd:YAG using the Genova handpiece was shown to be a non-invasive, non-thermal procedure with a deep tissue effect. Improvement was noticed on each visit. The mouth opening was increased from 22 (before) to 28 mm (immediately after Tx), from 24 to 29 mm and from 25 to 30 mm during the 1st, 2nd and 4th visit, respectively. Pain decreased with each visit, from 7, 5, 3 to 2, respectively (VAS scale of 1-10). It is one of the most fascinating new healing advances to manage TMJ pain / muscle and joint pain.



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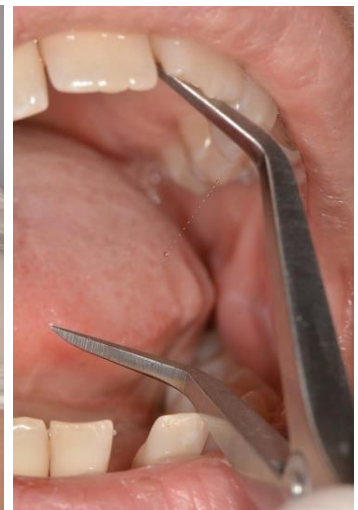
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Before treatment



During treatment



Immediately after treatment