Mustafa Rüştü Başkoru runs a private practice in Aydın, TURKEY where he provides laser-based procedures and implant treatments. He attended a mastership program on lasers in dentistry at Aachen University in Germany.

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Treatment of Diabetic Foot

Mustafa Rüştü Başkoru, DDS

Parameters:

Laser source:	Nd:YAG, 1064 nm	Nd:YAG, 1064 nm
Pulse duration:	SP	SP
Power:	2 W	0.25 W
Frequency:	20 Hz	10 Hz
Handpiece:	300 µm fiber	300 µm fiber

Treatment procedure:

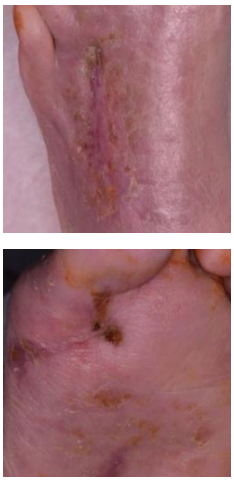
Patients with diabetes may face secondary complications in organs or tissues of the body caused by the disease. These complications, which are caused by blood circulation disorders and neuropathies, can affect the heart, eyes, kidneys, and especially the lower extremities. Nerve damage or poor blood flow increases the risk of various foot complications. Left untreated, cuts and blisters can develop serious infections, which often heal poorly. These infections may ultimately require toe, foot or leg amputation. Treatment depends on the severity of the disease. Antibiotics and surgical debridement may be necessary. But as the blood flow is impaired, antibiotics may not be helpful in severe cases. The patient may participate in activities as tolerated, however, weight bearing may be contraindicated.

A 59-year-old patient with type-2 diabetes had a diabetic foot that was treated with antibiotics and surgical debridement for 5 times in the last three months. As there was no improvement, amputation of the foot was proposed, but we instead decided to use Nd:YAG laser (Fotona LightWalker AT) for deep disinfection to eliminate the bacteria causing the infection and for low-level laser therapy to increase the healing potential of the wound.

On the first day of treatment, we held the fiber-optic beam delivery unit at a distance of between 0.5 – 1 cm to the wound for deep disinfection. After the fourth day, we applied low-level laser therapy to the wound area after deep disinfection for 4 sessions with three-day intervals.

Before treatment

18 days after the treatment



6 weeks after the treatment

2.5 years after the treatment