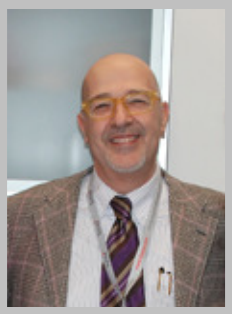
# Clinical Bulletin

2/12

Dr. Fornaini is an eminent researcher and lecturer in the field of lasers in oral applications and dentistry. He currently holds a research position at the University of Nice Sophie Antipolis where he also coordinates the EMDOLA, European Master degree in Oral Laser Applications program. He practices laser dentistry in his own private practice in Fiorenzuola d'Arda (Italy) with a particular focus on pediatric dentistry.



## TouchWhite™ Er:YAG Tooth Whitening

*Prof. Carlo Fornaini MD, DDS, MSc*

Many dental patients are not satisfied with the color of their natural teeth, and dental lasers are now routinely used for aesthetic tooth whitening treatments. Both Nd:YAG and diode lasers are frequently used for tooth whitening, but there is growing concern about the risk of thermal damage to the tooth pulp.

This case presents the results obtained by using a newer and safer form of laser-assisted tooth-whitening, known as TouchWhite™, which is based on the Er:YAG wavelength. Since the Er:YAG laser beam is fully absorbed by the acqueous bleaching gel, it does not directly heat the patient's hard tissue or pulp and therefore poses no safety risk. The procedure is also exceptionally fast.

The patient is a 43 year-old female who came to our office seeking whiter teeth. We recommended the TouchWhite treatment and educated the patient regarding the expected improvement. The following laser parameters were used during the treatment:

**Parameters:**

| | |
|---|---|
| Laser source: | Er:YAG |
| Wavelength: | 2940 nm |
| Spot size: | 7 mm |
| Pulse duration: | VLP |
| Energy: | 80 mJ |
| Frequency: | 10 Hz |

Fotona Tooth Whitening gel (35% hydrogen peroxide) was applied according to the procedure described in the LightWalker laser's application notes and gel instructions. The laser presets were adjusted to R16 (7mm spot size), VLP, 80mJ (increased from 40mJ, because of spot size), 10Hz.

The treatment was performed in line with instructions from the manufacturer, in which all steps are important: from taking before-and-after photos, polishing, protecting the gums, carefully applying the gel coating, using the preset laser parameters, and the use of an after-bleaching care gel. The total length of time for the procedure was 30 minutes for 20 teeth (total laser irradiation time: 10 min) and the patient was happy to leave our office in half the time she had planned.

The result was an immediate improvement from C2 to A1. Both dentist and patient were highly satisfied with the results and the very short procedure time.

Before TouchWhite Treatment


Application of the Er:YAG laser

Immediately after TouchWhite

Laser & Health ACADEMY