

The Diode Laser in an ENT Practice

For almost 15 years, I have been operating a surgical ENT practice between Potsdam and Berlin, and have been based at the "Ärztehaus am Rathausmarkt" medical center in Kleinmachnow for approximately five years. We have frequently hosted laser workshops here (and, since 2008, in Babelsberg), for fellow ENT specialists interested in this subject. Most of our workshops are attended by an international group of experts. The majority of participants has previously used conventional surgical methods and is interested in expanding their surgical expertise by learning what can be achieved with diode lasers.

At these workshops, I always use a diode laser manufactured by biolitec AG in Jena for demonstration purposes. For approximately the past thirteen years, I have been making regular and extensive use of this laser to enhance and perfect the range of surgical procedures I offer in my places of work (a private and "panel" practice with out-patient laser clinic, an out-patient surgical center and a private hospital in Potsdam). Before deciding in favor of this particular laser, I spent some considerable time testing virtually all of the leading laser systems on the German market that are of relevance for out-patient ENT surgical treatment. During my clinical training, most of my experience as head of laser therapy at the ENT clinic in Potsdam was with CO₂ lasers. Under the expert guidance of Herr PD Dr. med. Gundlach, my supervisor at that time, I focused my attention in particular on the use of CO₂ lasers in conjunction with modern scanner systems in the surgical treatment of tumors in the ENT field.

Later, I chose to procure a diode laser with a wavelength of 980 nm when setting up my own practice. Due to its impressive absorption behavior in tissue, it seemed to me that this laser



system was, overall, a pragmatic solution for ENT interventions. Furthermore, it offered a good compromise between cutting and coagulation. From an economical point of view and against the backdrop of increasing budget limitations and greater rationalization of our activities, the procurement of the diode laser meant greater efficiency for the practice. Innovative options for surgical treatment often enable significant improvements in a practice's financial health and, above all, its economic viability as a business that operates as an "ENT practice". The word "LASER" still impresses patients and has a positive effect on a practice's ability to market itself.

I relocated my practice to Kleinmachnow in April 2004. Since then, I have performed 770 endonasal laser surgical procedures on the nasal turbinates or nasal septum for the purpose of flow optimization (ridges, spurs, deviations, polyposis, and synechias). Most of these procedures involved the elimination of chronic problems with nasal breathing or were part of the stage-adapted treatment of patients with rhonchopathy. I performed 30 LAUPs in this context. For the treatment of

epistaxis, I performed 110 laser hemostases on the front septum using a non-contact procedure. I operated on 433 children with tonsillar hyperplasia (always bilateral), in most cases in conjunction with an adenotomy and sometimes also with laser myringotomy, which I have performed on 1,156 ears in total. In 107 cases of benign neuroplasia of the face, oral cavity or ear canal, I succeeded in removing tissue by laser surgery without any bleeding. In this way, the number of laser surgical procedures I have performed has quietly increased to number some 2,600 over the past five years.

Overall, the results have been positive, in the sense that many treatment objectives can now be achieved using much less invasive procedures. The vast majority of the procedures, in particular among adults, were carried out under local anesthetic, which allowed us to work with relative ease without the assistance of an anesthetist. Patient compliance can be rated as extremely high.

In the case of selected applications, in particular laser tonsillotomies for children, it is now possible to perform surgery on children with public health

insurance without their having to make any financial contribution thanks to the integration of diverse healthcare management models. This option is particularly appreciated by parents and pediatricians. To date, I have never experienced hemorrhage or other complications in connection with this surgery. All children recovered very well from the procedure, which I performed on an out-patient basis, in most cases in conjunction with an adenotomy. Most referrals come from pediatricians. While I perform this procedure using endotracheal anesthesia, I also administer two to three bilateral peritonsillar depot injections of 1 to 2 mL of ultracain 1% and suprarenin, which very clearly minimizes post-operative pain.

The indication for this procedure is laser tonsillotomy to treat tonsillar hyperplasia. I occasionally also treat this condition by removing up to 80% of the tonsil tissue, in most cases with the alligator forceps using gentle



luxation.

With the laser set to continuous mode, I use a suction handpiece to apply a carbonized fiber tip to the tonsil tissue directly at a wavelength setting of 15 to 18 W. I trim the tissue along a line parallel to the front palatal arch without any loss of blood. I find that covering the surrounding tissue with damp gauze pads is very helpful in preventing thermal damage.

I regularly prescribe antibiotics (oral cephalosporin) and anti-inflammatory drugs (Nurofen suspension) for approx. five to seven days post surgery. To date, I have experienced no problems post surgery using this procedure. This out-patient operation can essentially be regarded as an alternative to in-patient treatment. It requires careful coordination with the treating pediatricians, at whose instigation the procedure is often performed.

Overall, the use of this diode laser has had a lasting positive impact on the surgical services I offer at my practice. First and foremost, it provides increased comfort for patients, allows them to return to work sooner, and minimizes unpleasant post-operative side-effects.

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