

Use of Er:YAG and Nd:YAG Lasers During Orthodontic Treatment

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SUMMARY

In recent years laser technology has played an increasingly important role in modern dentistry, and, recently, the utilization of laser devices has also been proposed in orthodontics. The aim of this work is to describe the utilization of 1064 nm and 2940 nm lasers in soft and hard oral tissues to improve orthodontic treatment.

Several cases treated by Er:YAG and Nd:YAG in different stages of the treatment (before, during and after) are presented. All the cases reported showed, according to the literature, that the use of lasers with orthodontic treatment offers several advantages when compared to conventional methods. In soft-tissue surgery, it allows to reduce or eliminate the use of anesthetic injection, to avoid the use of sutures and to bond brackets in dry enamel; combined with orthophosphoric acid, it provides a stronger adhesion of the brackets to the enamel and helps to prevent carious lesions around the brackets; it may also repair broken appliances by welding them intraorally; at low power (LLLT) it helps to control pain in the first period after bonding and, by increasing the speed of teeth movement in the bone, reduces the time of the treatment.

Lasers and Dentistry

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SUMMARY

Dentistry is a very demanding medical profession. We, as dentists, must deal with people who are in pain or who are unhappy every day. Patients' expectations have been rising constantly and the information and education needed to fulfil these expectations are enormous. It is not enough today to simply be a good dentist – excellence is what we need to stay in the race, while dentistry is also becoming more and more complicated due to huge amounts of information, methods, products, devices, etc. And we are learning all of this to make our professional life easier.

In addition to the clinical requirements, marketing and establishing uniqueness are also crucial in today's worldwide economic environment. In our view, considering all aspects of the dental profession, only one device/product has the most "all in one" characteristic to be a game changer; the hard- and soft-tissue dental laser.

We will show how dental lasers can simplify the every-day professional struggle of the general practitioner with scientific and evidence-based dentistry.

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