An introduction to lasers in dental hygiene

By Jeanne M. Godett, RDA, EF, RDHEF

What is a laser? How does it work? How long have lasers been used in dentistry? How do they benefit our patients? How are lasers integrated in dental hygiene? Are they used in dentistry? How do they work? How long have lasers been used in dentistry? These and more were the questions I had when I first became interested in using laser technology. In short, this technology has simplified my dental hygiene day.

I now have more time in my hygiene treatment regimens to introduce comprehensive restorative dentistry, granting my clients the dentistry they want and deserve along with the ability to preserve their investment.

What is a laser? The word laser is an acronym for “light amplification by stimulated emission of radiation.”

We can thank Albert Einstein for theorizing that photonic amplification could emit a single frequency, or stimulated emission, which explains how a laser operates. Light is a form of energy that exists as a particle, called a photon, and travels in a wave. A photon wave has three basic properties.

Velocity: The speed of light.
Amplitude: The vertical measurement of the height of the wave, from the zero axis to the peak, which describes the energy of that wave. For convenience, energy is measured in millijoules, or thousandths of a joule.
Wavelength: The horizontal distance between any two corresponding points on the wave. In dentistry, we use wavelengths that range between 450 nm and 10,600 nm.

Laser light is distinguished from ordinary light in that it is monochromatic, it can be visible or invisible and each wave is coherent, or identical in physical size and shape. Laser energy is nonionizing radiation.

Lasers were introduced to dentistry in 1960 and are capable of being their hygiene departments run throughout the country, assisting their clients now more readily in water vs. the other laser wavelengths.

Any disadvantages? A perceived disadvantage of some practices is the initial cost. However, with proper training and laser integration (I consider this to be my specialty), the ROI (return on investment) can be less than three months.

The bottom line I love working with dental offices throughout the country, assisting them in the integration of laser technology, offering their clients this new gold standard in technology.

The offices I have worked with are seeing improved health for their clients. In conjunction, they are seeing their hygiene departments run at a profit.

I highly recommend that if you are going to use laser technology, you seek out education. The Academy of Laser Dentistry (ALD) is a
Are children receiving prompt cleft lip/palate treatment?

The timely repair of orofacial cleft (OFC) can greatly improve a child’s medical and psychosocial well-being. The American Cleft Palate-Craniofacial Association (ACPA) has set forth guidelines for the optimal time by which primary repair surgery should be received, broken down by type of OFC.

A retrospective study, published recently in The Cleft Palate–Craniofacial Journal (Vol. 46, Issue 6, Nov. 2009) was conducted to determine whether children with OFC receive primary repair surgery within the time recommended by these guidelines.

The study, conducted in North Carolina, found that most children in that state are undergoing primary repair surgery by the recommended age. The study involved vital statistics, birth defects registries and Medicaid files for resident children with OFC born between 1995 and 2002.

The many variables analyzed fell into five broad categories: maternal, child and system characteristics, perinatal care region and place of residence.

The findings suggest that most (78.1 percent) North Carolina children with OFC received primary repair surgery by the time recommended by the APCA guidelines.

Percentages varied among cleft lip (about 90 percent), cleft palate (58 percent) and cleft lip and palate (89.6 percent).

According to the authors of the study, “Children whose mothers received maternity care coordination, received prenatal care at a local health department, or lived in the southeastern or northeastern region of the state were more likely to receive timely cleft surgery.”


Results: 406 children in North Carolina with OFC were continuously enrolled in Medicaid during the first two years of life. Overall, 78.1 percent of children had surgery within 18 months. About 90 percent of children with cleft lip (CL), 78 percent of children with cleft palate (CP), and 89.6 percent of children with cleft lip and palate (CLP) received timely cleft surgery; the mean age at which surgery occurred was 5 months. Children whose mothers received maternity care coordination, received prenatal care at a local health department, or lived in the southeastern or northeastern region of the state were more likely to receive timely cleft surgery.”

The populations least likely to receive the surgery in a timely manner were African-American/non-Hispanic and those in the southwestern region of the state.

To read the entire article, “Timeliness of Primary Cleft Lip/Palate Surgery,” visit www.pinnacle.allenpress.com/doi/abs/10.1597/08-154.1JournalCode=epj

More information

The Cleft Palate–Craniofacial Journal is an international, interdisciplinary journal reporting on clinical and research activities in cleft lip/palate and other craniofacial anomalies, together with research in related laboratory sciences.

It is the official publication of the American Cleft Palate-Craniofacial Association (ACPA).

For more information, visit www.acpa-epf.org.

References

About the author
Jeanne M. Godett has been making a professional difference in people’s lives for more than 25 years. She has consulted with hygienists throughout the United States and Canada providing instruction, guidance and productivity guidelines related to hygiene and the use of lasers.

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Fig. 2: Laser fiber in sulcus.

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Six-year followup photo photo courtesy of Joseph P. O’Donnell, DMD

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