

## Statement to the article »Laser in the odontologic practice« by Kaj Stoltze

In his article (*Danish Dental Journal* 2002; 105 (4): 293-6), the author conducts a critical discussion on the use of lasers in several fields of dentistry. First of all, he denounces the marketing strategy of certain laser manufacturers to promote their products in a »one wavelength fits all purposes« manner. Later on, he questions the indication for laser application per se in periodontal treatment.

Speaking for a group that has performed many scientific studies on lasers in dentistry since the early 1990's, we have to agree in the first point: Not without a reason, there are several wavelengths available, each for almost every single indication. For example, lasers used in endodontology should not be used for enamel preparation, soft tissue surgery requires another wavelength than bone surgery does and so on. Undifferentiated marketing has certainly brought laser dentistry to some disrepute. To use lasers in a responsible way, we always have to keep in mind the benefits and limitations of each single wavelength.

In addition, lasers are no »wonder cure«, which could make established conventional treatment measures obsolete. A good example is the use of lasers as an adjunct in periodontal therapy. The most important prerequisite for a treatment success is the thorough removal of calculus from root surfaces. To achieve this using a laser only will result in damaging the treated surfaces, independent of whatever wavelength used. Applying an Nd:YAG or Diode laser at the appropriate power setting after the conventional scaling procedure will provide a very satisfying disinfection and the deactivation of endotoxins on the root surface. If pocket depth requires surgical measures, the laser will not be able to make it obsolete. But using the laser in combination with those measures, it will be brought to bear its outstanding benefits.

The same holds true for the endodontic procedure. No laser existing could replace the time-consuming mechanical preparation of the root canal. Used for the disinfection of the root canal lumen and the surrounding dentin, a laser with the appropriate wavelength will yield results superior to all other known methods.

Just to mention a few other examples, laser-assisted treatment schemes do also exist in various fields of dentistry, where they provide an unrivalled therapeutic outcome when compared to conventional methods. This is the case in CO<sub>2</sub>-laser operated pulp capping, a way of preserving tooth

vitality with significantly greater success than using calcium hydroxide alone. In the treatment of hypersensitive dental necks the same wavelength guarantees freedom from pain in most patients for at least 72 weeks after only two irradiations! Cavity preparation, when being performed with the Er:YAG laser, on the other hand allows virtually painless treatment in patients with small carious lesions to be restored with composite materials and makes acid etching unnecessary.

If we apply lasers correctly and respect their limitations, we possess a highly valuable tool for conducting the best treatment available for our patients. From this point of view, the question is not: »Can I take the responsibility for using a laser?«, but »Can I take the responsibility for not using it?«

For the dentist working with lasers, it is very important to stay up-to-date with all the new scientific findings regarding indications and treatment schemes and not only to rely on the informations provided by the marketing departments of laser manufacturers. Second, if the purchase of several different devices is not feasible in a private practice, it is necessary to limit the use of the laser available to the indications of its wavelength and not to try to extend its applications to fields where another wavelength would be required.

The European Society for Oral Laser Applications (ESOLA) has been founded and is undertaking the effort to establish a link between the private practitioners and universities. Another important objective of this organisation is the coordination of research and the definition of uniform standards for laser application in the fields of general dentistry and oral/maxillofacial surgery.

If we all (private practitioners, universities and laser manufacturers) join forces, we could easily reach our most outstanding goal: The benefit of our patients.

Univ. Prof. DDr. *Andreas Moritz*  
President of ESOLA

Univ. Ass. DDr. *Ulrich Schoop*  
Coordinator of Scientific Affairs

### Answer

Your statement is an expression of a very promising development. I and probably also the editorial board at *the Danish Dental Journal* are flattered that you took the time to read (in Danish) my comments around the use of laser in the odontologic practice. But even better you took the time to write a statement.

After the publication of my comments I received many expressions of agreement from highly acknowledged col-

leagues, both inside and outside our universities. From your statement it is pretty obvious that both of you actually agree with me concerning my reservations related to the dental use of laser.

I have to admit that I was not aware of the existence of the European Society of Laser Application and have therefore visited your website ([www.esola.at](http://www.esola.at)) to learn more about your society. At your homepage it can be read that: »ESOLA is a non-profit organization which is independent of economic and party-political interests«. Party-political interests? An impressive number of small abstracts can be read at your website. For scientific purposes they can only be used as appetizers and it might be a good idea to tell where the undigested articles can be found in toto.

In the final lines of your statement you wrote: »If we all (private practitioners, universities and laser manufacturers) join forces, we could easily reach our most outstanding goal: The benefit of our patients«. Again we can't agree more, but the difficult exercise is to control the impact of the unavoidable conflicting interests. I wish your society good luck.

*Kaj Stoltze*, Associate professor, DDS, Ph.D.  
Dept. of Periodontology, University of Copenhagen, President of Danish Society for the Study of Periodontology

## BOGANMELDELSER

## Æstetik: Odontologi set som kunst og videnskab

*Rufenacht CR. Principles of esthetic integration. Chicago: Quintessence; 2000. 248 sider, ill. ISBN 0-86715-369-5. Pris: GBP 82,- (indb.).*

Med en baggrund fra privat praksis i Geneve limiteret til »parodontal protetik« og æstetik samt en familiemæssig baggrund i klassisk kunst fører forfatteren os gennem æstetikken via fem veldisponerede kapitler og et hav af flotte illustrationer. De fire første kapitler omhandler hhv. morfologisk, biologisk, æstetisk og funktionel integration med et sidste kapitel om principper for æstetisk *setup*. Alle kapitler afsluttes med en referenceliste. Bogen er velskrevet med et nuanceret engelsk, illustrationerne er mangfoldige, systematiske og flotte, både hvad angår beskæring og farver. Forfatteren behandler emnet ud fra en kunstnerisk vinkel med stor

viden om daglig odontologi og giver læseren en helt ny indgang til at se den orale æstetik i en større sammenhæng. Eneste malurt er et par uheldige porcelænsfacader side 68-69 ud af mindst 500 illustrationer samt referencelister der ikke helt er ført up to date.

En anbefalelsesværdig bog for den der ønsker sig et kalejdoskopisk vue på den daglige odontologi, og for den der dagligt beskæftiger sig med den odontologiske æstetik – en af de bøger det er dejligt også at eje, ud over at have læst.

*John Orloff*

## Dansk bog om sundhedsvidenskabelig statistik

*Johansen K. Basal sundhedsvidenskabelig statistik. Begreber og metode. København: Munksgaard; 2002. 176 sider, ill. ISBN 87-628-0229-1. Pris: DKK 228,- (uindb.).*

Et grundlæggende kendskab til biostatistiske metoder er en central forudsætning for at kunne fortolke videnskabelige resultater. Men mange finder statistik svær, og det forhold at hovedparten af lærebøgerne på markedet er på engelsk, kan udgøre en ekstra barriere. Der er derfor et behov for en dansk lærebog. Den foreliggende bog gennemgår på et velskrevet og letforståeligt dansk de mest elementære biostatistiske metoder. Det er svært at skrive en kort bog om basal sundhedsvidenskabelig statistik pga. emnets karakter. Men det lykkes for forfatteren at fastholde en logisk linje fra gennemgangen af de generelle principper for statistisk analyse til de statistiske metoder der benyttes ved sammenligning af to og flere grupper, sluttende med lidt mere avancerede emner som regressionanalyse og overlevelsesanalyse. Bogens formål om at indføre læseren i statistisk tankegang og gøre brugeren i stand til at forstå og at udføre de mest almindelige analyser opfyldes således langt hen ad vejen. Udregningerne er dog foretaget ved håndkalkulation, selvom man, som forfatteren selv gør opmærksom på, i praksis anvender en computer. Bogen ville derfor have vundet ved at gøre som man gør i praksis. Man kunne så fx have henvist til et af de mange programmer der frit kan hentes på internettet. Bogen skæmmes desværre af flere fejl i beregninger og tabeller. Det letter ikke læsningen for den uerfarne.

Med de nævnte få forbehold kan bogen varmt anbefales. Tøv ikke med at ofre de få penge denne nyttige bog koster.

*Flemming Scheutz*