

Laser treatment of sleep apnoea and snoring

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_It has become common knowledge that lasers of different wavelengths can trigger varying reactions in tissues which are only reactive at a distinct wavelength. In addition, the intensity of those reactions at each special wavelength can be modified by changing the physical parameters of those monochromatic laser waves.

_Tackling snoring noise on a cellular level

The typical snoring noise familiar to most of us is a result of the soft palate vibrating with each breath after becoming relaxed when one falls asleep. This phenomenon of the general tissue relaxation during sleep only becomes a health risk when the tongue slips back to such an extent that the throat is sealed completely, thus blocking the respiratory tract.

As a consequence of respiratory arrest due to sleep apnoea, the body runs its own emergency programme—we wake up with a jolt and gasp for breath. If episodes of this kind happen frequently, the oxygen level of the blood drops below a critical value. This usually leads to the obligatory respiratory mask during sleep, which many patients resent.

In these cases, a special Er:YAG-laser programme can help, which tightens relaxed tissues by simply illuminating them. This can be illustrated to the patient by alluding to the image of the cement ceiling of a building in which the iron reinforcement is missing.

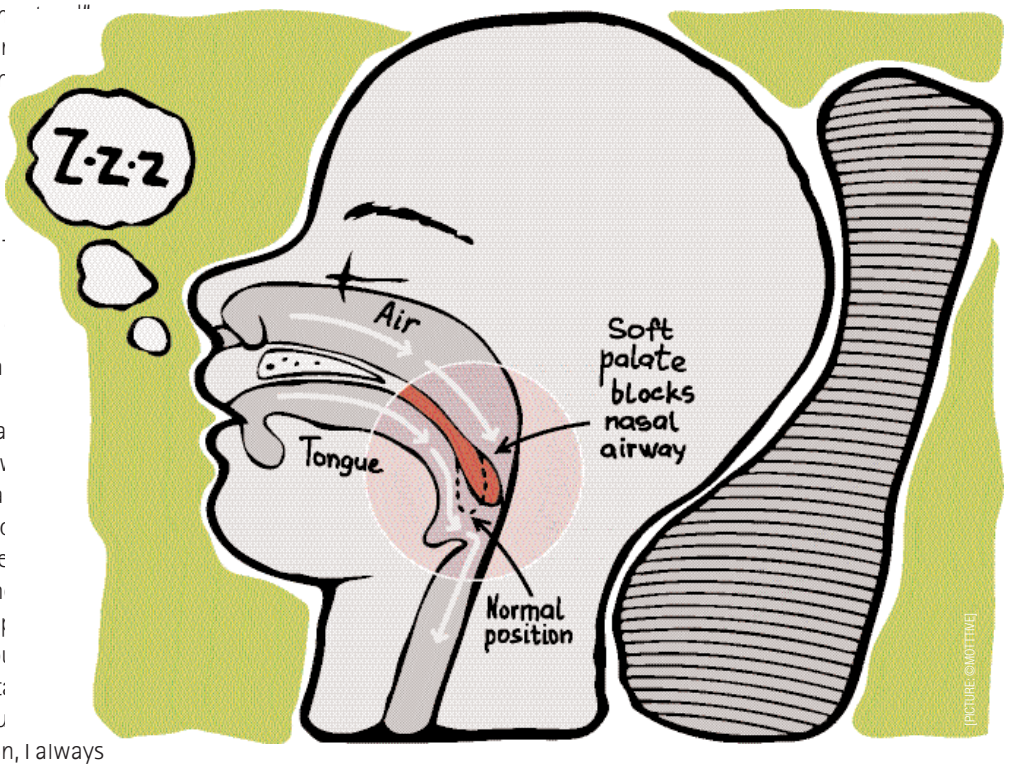
_Explaining laser therapy to the patient

The laser forms a standing wave in the tissue, along which tissue cells are clustering—just as iron powder would cluster along the magnetic field of a magnet in a school experiment. Of course, I tell my patients, cells cannot move like iron filings. For this

reason, the laser needs more than one treatment session to become fully effective. In the course of 45 minutes, the cells are furnished with the correct amount of energy to rebuild the desired fixed "iron bar" structure. When talking to patients, I like to refer to an image of a chain of people with linked arms.

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This image shows that nothing „ur or painful like burning, etching or scar happen during laser treatment. Or the contrary, the cells determine what will happen: laser treatment of the palate is a natural reaction of a group of tissue cells to a wavelength, just as the inner ear's celia respond to sound waves.



The cellular reaction of the tissue soft-palate and the parapharyngea leads to the desired tightening of the tissue. When patients ask me how ma sions will be necessary, I ask them hov they think they would have to be at a centre to train their muscles. This is hc them that there is no simple answe question, as many aspects, such as th of the tissue (trained or puffy) or the p age will influence the treatment o However, they happily accept my st reply that three to four sessions are su for 85 to 92 % of all cases. In addition, I always point out that this means that while one case can be treated in only three sessions, another might take five or six appointments to achieve the desired cellular reaction. Many patients agree to give their age and weight in order to extend my statistical database. Another psychological advantage of this treatment method is that the patient is in charge of ending the treatment. He or she (women are less frequently affected by sleep apnoea) is therefore always in full control. This includes the financial aspect. Sometimes intense question and answer sessions of the above kind, in combination with the assessment of findings with regard to the anatomical pharynx classification (I–IV), form the content of the first appointment. At the end of this session, also the payment modalities are discussed. Billing specifics for German dentists can be found below in the section "Kurz & bündig".

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_Legal aspects

From a legal point of view, I conclude that this kind of treatment does not constitute a bodily injury, as the body surface is neither cut nor injured. Since the legal act of bodily injury is not given, the execution of the treatment is not restricted to specially-trained personnel, but can be delegated.

So far, the treatment results have confirmed the effectiveness of this special kind of laser application, especially when it comes to the final survey of my patients—"highly recommended" usually is their verdict. This anti-snoring therapy is one of the few medical treatment methods without any known side effects. Even if the therapy should not have any success, it will not cause any harm either—and that is one positive aspect I do not want to miss. I therefore think that this new kind of therapy should be advertised widely, especially since announcing new types of therapy is explicitly granted to medical professionals in Germany by the Federal Supreme Court. From a legal point of view, this is not classified as advertisement, a fact that protects us from any unwanted adverse reactions, such as formal warnings. Please see paragraph "Kurz & bündig" below for further information with regard to the German law.

All in all, laser treatment of sleep apnoea and snoring is a promising new therapy, and most certainly a last resort for some troubled sleeping arrangements._

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Kurz & bündig

Ausgehend von den Wirkprinzipien unterschiedlicher Laserwellenlängen in verschiedenen Gewebearten beschreibt der Autor die theoretischen Grundlagen hinter der lasergestützten Therapie von Schnarchen und Schlafapnoe. Dabei geht er besonders darauf ein, wie diese dem Patienten erklärt werden können, ohne in die oft schwer verständlichen Fachtermini zu verfallen. Als Vorteile der lasergestützten Therapie aus Patientensicht wird hervorgehoben, dass der Patient die gesamte Zeit die Kontrolle über die Vorgänge behält – er bestimmt, wie viele Sitzungen notwendig sind, bis das gewünschte Behandlungsergebnis erreicht ist, und damit hat er volle Kontrolle über die Kosten dieser innovativen Behandlung.

Für deutsche Anwender hat der Autor zudem auch die juristischen Aspekte dieser Laseranwendung erörtert. Er beschreibt, warum diese aus seiner Sicht den juristischen Akt einer Körperverletzung nicht erfüllt und deshalb auch an geschultes Fachpersonal delegiert werden kann. Auch die Werbung für diese Behandlungsmethode werde nicht durch Mahnungen geahndet, da der Bundesgerichtshof es Medizinern explizit gestattet, auf neue Behandlungsverfahren hinzuweisen. Weiterhin schreibt der Autor:

„Während es für die Zuständigkeit u.a. der ZMK auch für den weichen Gaumen keinerlei Probleme geben sollte, könnte sich juristisch fragwürdig in diesem Zusammenhang ggf. nur die mit dem zurzeit auf dem Markt befindlichen Gerät auch mögliche Anti-Falten-Therapie der Naso-Labial-Falte oder von Falten an der Oberlippe darstellen. Hier befindet sich zwar der mögliche Ausgangspunkt der Bestrahlung innerhalb des Mundes – und damit auch innerhalb der Zuständigkeit eines Zahnmediziners –, das Zielgebiet liegt jedoch eindeutig außerhalb des gerichtlich für uns Zahnmediziner als Behandlungsgrenze definierten Lippenrots. So etwas müsste ggf. gerichtlich geklärt werden."

Schließlich gibt der Autor deutschen Anwendern die folgenden Abrechnungshinweise, die aufgrund der Anwendbarkeit im englischen Text nicht berücksichtigt wurden:

„Am Ende der Sitzung muss der Kassenpatient ein vorbereitetes Formular nach §4(5) BMV-Z bzw. §7(7) EKV-Z (= Vereinbarung einer Privatbehandlung) bzw. als Privatversicherter eine Vereinbarung einer Analogleistung nach §6(1) unterzeichnen. Ihm wird beschieden, er solle zuerst eine Nacht darüber schlafen und dann Termine ausmachen. Damit ist auch den Erfordernissen des Patientenrechteschutzgesetzes Genüge getan. Berechnet wird diese erste Sitzung nach Ä5 und Ä34.

Die eigentliche Laserbehandlung ist analog zu berechnen, muss also vom Behandler selbst herausgesucht werden, je nach betriebswirtschaftlichem Aufwand. Ich selbst berechne nach Ä2074a mit Einfachsatz zuzüglich der Zuschläge Ä441 und Ä444. Insofern habe ich immer Luft nach oben, sollten sich irgendwelche Erschwernisse während der Behandlung ergeben."

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Approbation: _____

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I apply for membership in the German Association of Laser Dentistry (Deutsche Gesellschaft für Laserzahnheilkunde e.V.)

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In case of no direct debit authorisation, an administration charge of €31 p/a. becomes due.

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