Coordinative training as a therapy for temporomandibular joint dysfunction syndrome

Numerous studies in recent decades have proven that home exercises for treating temporomandibular joint dysfunction syndrome have the same therapeutic effect as that of occlusal splints. Recent scientific studies have shown that the masticatory muscles can be trained very effectively, particularly with coordinative exercises at a submaximal force level. The coordinative training causes long-lasting changes in the functional patterns of the muscles. Owing to this training effect, specific cortical regions of the brain are modified. The muscular adaptations induced by the training are an essential effect of successful muscle pain treatment.

RehaBite is the first training device that allows force-controlled intra-oral coordinative training under reproducible training conditions. This is achieved with the aid of a hydrostatic system, comparable to balancing on a see-saw. Other therapeutic effects of RehaBite include post-isometric relaxation (i.e. therapeutically effective relaxation of the muscles after previous tension) and haptic control that works like biofeedback (perception of the muscle function through the finger feedback provided by the RehaBite device). Comparable forms of all these elements can also be found in contemporary physiotherapeutic concepts.

According to clinical research by the Oral Physiology and Experimental Biomechanics group at Heidelberg University and the Karlsruhe Institute of Technology in Germany, inter- and intramuscular adaptions are considered to have a successful effect on muscle pain. Exercises with kinematic feedback and electromyographic force-controlled bite exercises and coordinative home exercises with and without technical support have a significant effect in reducing muscle pain.

RehaBite is an innovative training device for home treatment and rehabilitation of muscle pain in the masticatory system. The elastic glycerine-filled bite fork is made of non-toxic flexible plastic material. A major breakthrough is the haptic force control based on the hydrostatic principle.
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AcceleDent Optima is the most advanced accelerated orthodontic device with a comprehensive suite of technology-driven features. The only vibratory orthodontic device cleared by the US Food and Drug Administration, AcceleDent Optima is powered by patented and clinically proven Soft-Pulse Technology, a cyclic force that has been shown clinically and in research to increase the rate of bone remodelling in orthodontic treatment compared with static forces.

With AcceleDent, orthodontists report that they are expanding the range of patients they are clinically confident in treating. Difficult or complex movements can become easier to achieve in the planned amount of time. In addition to helping orthodontists achieve predictable clinical outcomes, AcceleDent has been clinically proven to safely and effectively speed up tooth movement by as much as 50 per cent while reducing orthodontic discomfort.

**New features**

Designed with enhanced patient convenience in mind, Optima is a smaller, lighter device that is waterproof and able to connect with smartphones and tablets through Bluetooth connectivity. The device’s small charging case enables patients to wirelessly charge the activator, which has a battery life of five to seven days. To achieve accelerated treatment, it is important for patients to use the device daily for 20 minutes.

**Introducing the AcceleDent App**

AcceleDent Optima is the only orthodontic device that directly connects patients and practices with monitoring and direct messaging, via the state-of-the-art AcceleDent App. The HIPAA-compliant app allows patients to track their usage and set reminder notifications.

Orthodontic practice staff can view this real-time compliance data on each of their AcceleDent Optima patients via a web portal that is customised for each AcceleDent provider. This access to compliance data allows for more proactive case management, including informed scheduling, and an overall increase in practice efficiency. The compliance data also enables clinical teams to compliment patients who are excelling with compliance and to encourage low-compliance patients.

**Offering AcceleDent Optima at your practice**

AcceleDent Optima and the AcceleDent App are designed to help your patients achieve the healthy, beautiful smile they want faster while increasing predictability in clinical outcomes.

Orthodontists interested in learning more about AcceleDent Optima can visit [www.AcceleDent.eu](http://www.AcceleDent.eu) to view the clinical evidence and case studies or contact OrthoAccel directly.