



Figure 1. Children are very comfortable with learning through screen-based technologies.

Digital technology is transforming the dental experience for both patient and practitioner

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Technological advancements are perpetual catalysts for change that continue to transform the way we operate on a daily basis. For progressive practitioners, the constant wave of new technology provides an auspicious opportunity to increase prosperity and experience substantial benefits in other areas.

For decades, dental practitioners have been pigeon-holed into tediously repetitious practices such as the monotonous treatment of caries and removal of plaque build-up. Despite this, the prevalence of malocclusion in modern children is approaching 100 per cent and this growing incidence is allowing dentists to widen their scope of practice with the prospect of providing biologically-based orthodontic treatment. Additionally, the

recognition of sleep-related breathing disorders in dental patients is increasing, with recent research finding a relationship between the prevalence of malocclusion and dysfunctional breathing.¹

With this in mind, practitioners looking to diversify their paediatric treatment options in the increasingly competitive market that is modern dentistry should consider the benefits modern technology offers. It has been well-documented in recent times that Australian children are regularly using screen-based technology² and one of the leading reasons for this growing trend is utilising the devices as educational tools. The implementation of eLearning tools in Australian classrooms has produced a generation of students that feel comfortable using screen-based technology for self-directed learning and appreciate the low-pressure environment it offers.



Figure 2. Senior Myobrace Educator Jessica Maidman conducting patient education in the Myobrace Pre-Orthodontic Centre.

Recognising an opportunity to transform the way patient education is achieved in the dental environment through effective and engaging eLearning tools, Myofunctional Research Co. (MRC) has frequently released software over the last decade that complements the already successful Myobrace® treatment system. This marriage of modern technology and pre-orthodontic treatment has changed the dental experience for all parties involved and begins when the patient first steps foot inside the practice.

Myobrace Patient Consultation App

The recently released Myobrace Patient Consultation App is a screening and diagnostic tool capable of identifying malocclusion, dysfunctional breathing and TMJ disorders in almost any patient. It provides the user with a wealth of orthodontic knowledge and serves as an integral link for creating a knowledge base of the myofunctional treatment process. However, the App does not rely on the practitioner to educate patients on the benefits of myofunctional orthodontics. Instead, trained staff members are able to educate patients prior to any contact with the doctor, freeing up time for the practitioner to treat more patients.

Senior Myobrace Educator Jessica Maidman is an advocate for patient education through the use of digital learning tools and considers the patient's first encounter with The Myobrace System an important stepping stone for ongoing education and compliance. "As an Educator, I use the Patient Consultation App to deliver information to my patient in a child-friendly manner. It helps them understand the causes of their developmental issues, as well as the need for early intervention and corrective treatment," Ms Maidman said.



Figure 3. The Myobrace Activities App is available on multiple digital platforms.

"Once this education foundation is established, patient compliance is much easier to achieve because they understand why they are participating in this form of treatment and the associated benefits."

Ms Maidman, who is based at one of the Gold Coast's Myobrace Centres, has witnessed an improvement in her patients' ability to grasp an understanding of their treatment, which is resulting in better treatment outcomes. "I have learnt that children respond much better to learning from new and interesting technologies rather than an authoritative figure such as a dentist. The results are much more consistent because the information is being delivered the same way each and every time."



Figure 4. Children using the Myobrace Activities App in New Jersey, USA.

Once the patient has gained a sufficient understanding of the treatment process and wants to move forward, Myobrace appliances are introduced and habit retraining can begin. It is at this point that a second eLearning tool is introduced to facilitate patient motivation geared towards correcting the poor myofunctional habits causing their orthodontic issues.

Myobrace Activities App

The Myobrace Activities App, which was released in 2015, is an example of software specifically designed to improve the treatment experience, as well as address compliance and motivational issues faced by the practitioner. It employs audio-visual elements to deliver information to the user in an easily comprehensible style.

Delivery of information is often crucial when dealing with paediatrics and the App provides a sequence of videos that explain the activities in a child-friendly way. “Most children find it really fun to use. The characters are interesting and they enjoy completing the quizzes,” Ms Maidman said.

Information in the App is structured in a way that is conducive to successful myofunctional treatment. Patients will first be required to complete a series of breathing exercises and quizzes that will teach them to breathe through their nose, instead of their mouth. This is the first goal of Myobrace treatment and is fundamental to establishing correct myofunctional habits.

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Nasal breathing assists in controlling airflow and improving posture, as well as filtering bacteria before it reaches the lungs.

Once the user has sufficiently corrected their breathing habits and the practitioner is satisfied with their progress, level two activities can begin. The second Myobrace treatment goal involves strengthening and stretching the tongue muscles, while also teaching the tongue to rest in the correct position, which is in the roof of the mouth. Completion of these tongue activities allows the patient’s jaw to grow to its genetic potential and creates sufficient space for the permanent teeth to erupt into a Class I occlusal relationship.



Figure 5. The child-friendly Myobrace Activities Centre fit out, including screen-based technology and engaging graphics.

The user then progresses to third level activities when all habits relating to the tongue have been rectified. The third goal of Myobrace treatment relates to correcting swallowing patterns and promotes healthy mandibular growth. A reverse swallowing habit can restrict mandibular growth and correcting the behaviour is crucial for patients that appear to be on the trajectory to develop a Class II malocclusion.

The fourth and final Myobrace treatment goal aims to improve lip strength and address muscle incompetency concerns. The habit correction process continues until the user has corrected all poor behaviours relating to the tongue, breathing, swallowing, lips and cheeks. The App also regularly stresses the importance of maintaining a nutritious diet to avoid tooth decay and improve jaw development.

Although the patient is ultimately responsible for success of treatment, the practitioner maintains control throughout the treatment process by electing the suitable time for the patient to progress. "When the patient has completed or mastered an exercise, we can unlock a new activity for them to view in their App," Ms Maidman said.

"It feels rewarding for them, just like a game."

Upgrade your practice

MRC's eLearning software is available across all major digital platforms, allowing simplistic implementation for almost any practice. Taking advantage of these modern technologies allows any practice to transform into a tech-savvy environment that has an edge over competitors.

Along with learning new myofunctional treatment techniques for malocclusion, dysfunctional breathing and TMJ disorders, MRC course attendees will learn how to effectively implement eLearning tools in their practice and experience the financial benefits modern technology offers. Visit myoresearch.com to find a seminar near you or learn more about the Myobrace Member programs.

References

1. American Journal of Orthodontics & Dentofacial Orthopedics 2016;150:937-44.
2. Australian Child Health Poll. 2017. Screen time and kids: What's happening in our homes? [https://www.childhealthpoll.org.au/wp-content/uploads/2017/06/ACHP-Poll17_Detailed-Report-June21.pdf] Accessed 21 August 2017.