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Simplifying Orthodontic Treatment with The TRAINER™ Appliance System

Early treatment using The T4K Pre-Orthodontic TRAINER™

For many years now, I have been treating children in the mixed dentition with The T4K Pre-Orthodontic TRAINER™. This appliance is worn all night every night and an hour a day every day with the lips kept together.



In my experience the appliance reliably and consistently improves the myofunctional patterns of the peri-oral musculature; tongue posture and nasal breathing. The improved muscle patterns guide the teeth into an improved position as well as improving arch form, arch size, arch relationship and facial appearance.

The TRAINER™ appliances work very differently to other removable appliances. Most appliances apply pressure to the teeth, which in turn apply pressure to the alveolar bone thus moving teeth and improving arch form. The T4K Pre-Orthodontic TRAINER™ modifies the oral musculature and the improved musculature moves the teeth and modifies arch form.

Soft Tissue Dysfunction Syndrome

The force required to move a tooth is very small, however, the forces applied to the teeth by the muscles of the lips and the tongue can be very large in an aberrant swallowing pattern.

We swallow about two thousand times a day. In the normal swallowing pattern the tongue should be in contact with the roof of the mouth and there should be no muscle activity of the peri-oral muscles at all.

In the aberrant swallowing pattern it has been estimated that the lower lip can apply a force of 100-300 grams and the tongue up to 500 grams against the teeth. The T4K TRAINER™ works by redirecting these forces. It is incorrect muscle patterns that move teeth into a malocclusion and once corrected, the muscles help move the teeth into a better occlusion.

I have treated many children in the mixed dentition with The T4K TRAINER™ and have displayed the results to dentists and orthodontists throughout the world.

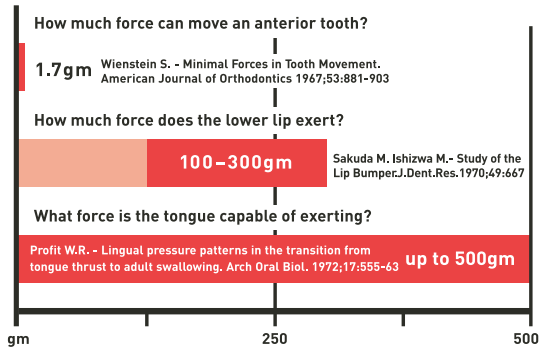
A new TRAINER™ Appliance

Recently I started using a new appliance, The T4A TRAINER for Alignment™.

This appliance is similar to the T4K™ except it is designed for the permanent dentition, however, once the child has

stopped growing there is no chance of changing the growth pattern. The T4A TRAINER™ has a limited ability to

MYOFUNCTIONAL FORCES COMPARISON CHART:



increase arch width in the permanent dentition by itself and can be used simultaneously with other arch development appliances.

I would not expect to get such large changes in tooth position using The T4A™ in the permanent dentition as I do with the T4K™ in the mixed dentition, but I have been able to change the myofunctional patterns at any age with these appliances.

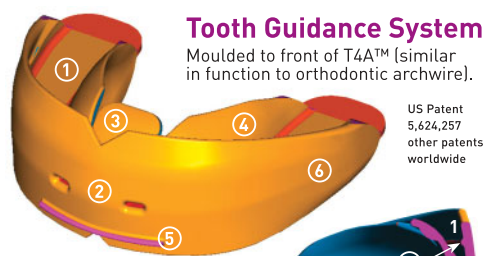
I use The T4A TRAINER for Alignment™ in cases of mild crowding, particularly lower anteriors and use it as part of my retention programme. It can be worn over a lower, fixed lingual retainer and over an upper, vacuum adapted retainer.

It will modify and improve muscle patterns to balance the corrected occlusion.

Stability post-orthodontic treatment

The stability of arch expansion in the maxilla and lower anterior arch lengthening is enhanced after correction of tongue position

Design Features of the T4A™



- 1. Tooth Channels**
- 2. Labial Bows** (impart a light force on misaligned front teeth)
- 3. Tongue Tag** for the correct positioning of the tongue tip as in myofunctional and speech therapies.
- 4. Tongue Guard** stops tongue thrusting when in place and encourages the wearer to breathe through the nose.
- 5. Lip Bumpers** discourage overactive lip muscle activity.
- 6. Correct Jaw Position** is produced when in place by preventing mouth breathing and tongue thrusting.

Myofunctional Training

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- 4. Tongue Guard** stops tongue thrusting when in place and encourages the wearer to breathe through the nose.
- 5. Lip Bumpers** discourage overactive lip muscle activity.

Jaw Positioning

- 6. Correct Jaw Position** is produced when in place by preventing mouth breathing and tongue thrusting.

US Patent 5,624,257 other patents worldwide

CASE STUDY

ORAL APPLIANCES

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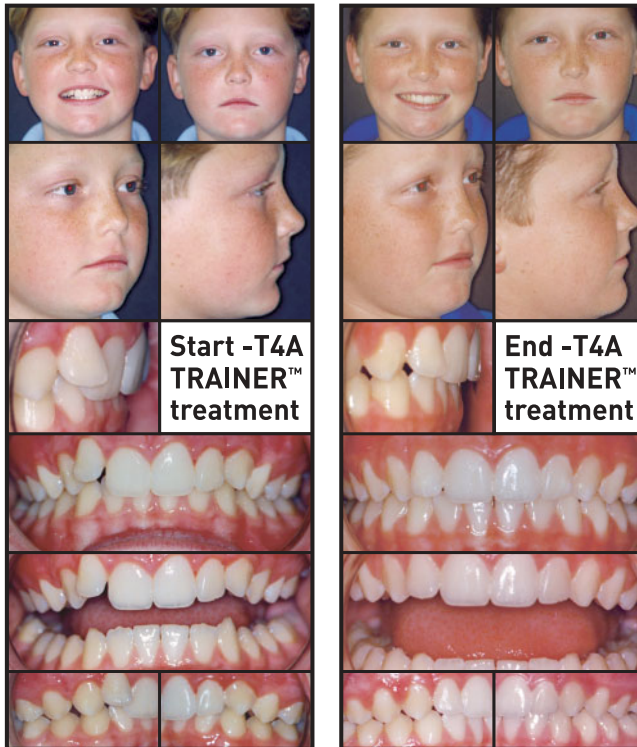
and function, plus the correction of mouth open posture.

These contributing factors to the malocclusion which other orthodontic techniques overlook can be successfully treated by The TRAINER™ Appliance System.

A Treated Case - 2002

Before treatment, this patient had a Class II Division 2 pattern with retroclined upper incisors, a deep Curve of Spee and instanding lower molars. The upper right lateral incisor was rotated and inclined buccally and the lower midline was to the left.

This is consistent with the tongue resting inbetween the posterior teeth and behind the lower anterior teeth. During the subconscious swallow the buccinator muscle will contract so the buccal mucosa will contact the lateral border of the tongue to make the seal required to swallow. After treatment with The T4A TRAINER for Alignment™ the incisors have proclined, the overbite has reduced, the midlines are now coincident and the Curve of Spee has flattened and the upper arch has developed. This dental pattern is consistent with



the tongue resting and functioning in the palate with no peri-oral muscles and no buccinator muscle activity on the subconscious swallow. During treatment The T4A™ postures the mandible forward, rather like a Bionator or Twin Block. As a result there has been a Class II skeletal correction with the mandible coming forward and the cranium moving back. This also helped to align the dental

midlines.

The upper right lateral incisor is still not perfectly aligned and I am discussing with parent and child the option of improving this with a fixed appliance.

Summary

The T4A TRAINER for Alignment™ was used in the permanent dentition for one year. Records were taken at the start and finish. The myofunctional patterns were improved; the tongue learned to rest and function in the palate and a lip seal developed.

Changes were noted in arch shape, size and relationship, tooth position and facial appearance.

There was good compliance and The T4A™ was worn all night every night plus an hour a day every day with the lips together.

Dr John Flutter BDS Dental Surgeon. 20 years General Practice in Australia. Federal President of the Australian Association of Orofacial Orthopaedics 1993-1995. Author of the DVD lecture programme 'Myofunctional Influences on Facial Growth and the Dentition'. John Flutter Dental - 6 Barry Street Gladstone QLD. john@jidental.com

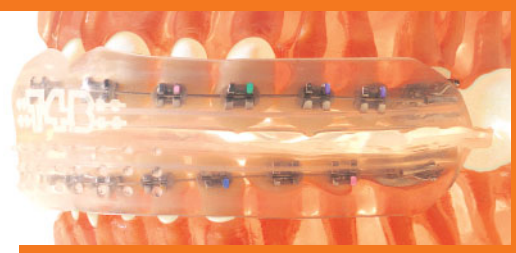
T4B™

TRAINER FOR BRACES

**SPEEDS UP
ORTHODONTIC
TREATMENT**

**IMPROVES
STABILITY**

- Tongue tag actively retrains tongue.
- Double mouthguard effect retrains mouth breathers.
- Class I Position assists Class II and III correction.
- IMPRESSIONS NOT REQUIRED - one size fits all patients.
- Lip Bumpers discourage over-active mentalis muscle activity
- Tongue Guard stops tongue thrusting when in place.



- **REDUCES** soft tissue trauma
- **CORRECTS** myofunctional habits
- **TREATS** TMD in ZERO chair time
- **ASSISTS** Class II correction

491-02/03



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