The Myobrace® System, by Myofunctional Research Co. (MRC), is a highly developed Myofunctional Orthodontic System which combines habit correction, arch expansion and dental alignment into one integrated system. It satisfies the demand from parents for a less invasive way to straighten teeth without braces, while also allowing children to develop to their genetic potential.

www.myoresearch.com

It is not always possible to achieve all treatment goals. Treatment success is heavily dependent on the patient’s compliance to Myobrace® treatment, their biological ability to change habits as well as growth patterns. Starting treatment early increases the chance of an optimum result.
75% of growing children have malocclusion and incorrect facial development. Soft Tissue Dysfunction is the major cause.

What causes orthodontic problems

The majority of children now have crooked teeth, which is evident from three to five years of age and is often attributed to hereditary factors. However, rather than blame genetics for crooked teeth and poor jaw development, modern research has produced evidence that points to other causes.

Mouth breathing, incorrect tongue positioning, reverse swallowing and thumb sucking – known as incorrect myofunctional habits – are the real causes of malocclusion and poor cranio-facial growth.

If a child breathes through their mouth during the day or while sleeping at night, the tongue drops to the bottom of the mouth, which results in upper and lower jaw development problems.

This restricted development limits the space available for erupting teeth and prevents them from emerging into their ideal natural position.

"You start treatment when you discover the poor oral habits that are going to create problems and you address the habits, not the teeth." Dr Barry Raphael – Orthodontist (Clifton, New Jersey, USA)

Limitations of orthodontic treatment with braces

The orthodontic profession now recognises that although braces can effectively align the teeth, maintaining this alignment requires permanent retainers for life. In addition, research has found that damage to the roots (root resorption) occurs in virtually every case [Darendeliler, May 2011]. Parents are increasingly questioning the effectiveness and safety of orthodontic treatment with braces.

RELAPSE - up to 90%. Relapse occurs in up to 90% of cases when retainers are removed. Little, R, et al. Vol 93, Issue 5, American Journal of Orthodontics, May 1988.


ENAMEL DAMAGE


ROOT DAMAGE - 100%.

The Myobrace® System

*Myofunctional Research Co. (MRC)* fills the need for less mechanical and more biologically based, myofunctional pre-orthodontic treatment by offering a wide range of modalities that address the underlying causes of malocclusion and airway dysfunction. The Myobrace® myofunctional orthodontic system packages airway and habit correction, arch expansion and dental alignment into a comprehensive treatment system ideally suited to treat children aged 3-15 years. By focusing on the aetiological factors that cause malocclusion, the appliances aim to correct the poor myofunctional habits affecting the teeth, jaws and facial development, offering patients a more natural orthodontic solution.

How Myobrace® Appliances Work

Since 1989 MRC has pioneered the use of single-sized, pre-fabricated appliances using myofunctional habit correction while the child is still growing to improve jaw development. This allows the teeth to align correctly without the need for braces and has added health benefits as well.

The fundamental keys to this treatment are obtaining correct nasal breathing, correcting tongue resting position, and retraining the oral muscles to function correctly. Along with habit correction, Myobrace® appliances apply light forces to the teeth to assist the teeth to align into their natural position, usually with no need for braces or extractions. The appliances are worn for just 1-2 hours each day, plus overnight while sleeping. A successful treatment outcome requires good patient compliance.

There are 3-4 stages of appliances that are designed for each dentition, which are specific to that age group. Myobrace® appliances effectively train the tongue to position correctly in the maxilla, retrain oral musculature and exert light forces to expand the jaws and align the teeth. The effect of the correct tongue position and patented Dynamicore™ develops the arch form, allowing better arch length and improving dental alignment.

Treatment Goals:
- Correct nasal breathing.
- Correct function of oro-facial musculature.
- Correct arch form and tooth alignment.

"What Myobrace does is treat the underlying causes of malocclusion - teaching children to breathe through their nose, put the tongue on the roof of the mouth and keeping the lips together, so the jaws can grow to their genetic potential, then there is plenty of room for the teeth to come in straight with the jaw relationship in Class I." Dr Chris Farrell (Myofunctional Research Co. CEO and Founder)

Above: Case study using the Myobrace® for Teens appliance series with the BWS™ and lip trainer - see appliance selector on myoresearch.com. The Myobrace® routinely improves arch form, gains space and aligns the anterior teeth into a stable position. Class II correction with Myobrace® completed by correcting breathing and tongue position. More cases on www.myoresearch.com
Myobrace® for Juniors

3 - 6 YEARS

All Myobrace® appliances are designed to correct habits, develop the maxilla and mandible, and align the teeth. Each stage focuses on a particular treatment goal.

- **MYOBRACE® J1**
  - The J1 focuses on establishing nasal breathing and myofunctional habit correction. It is soft and flexible which gives the best compliance, adapts to any arch form and malocclusion. It features anterior breathing holes to allow minimal mouth breathing at the beginning of treatment and the posterior air spring encourages cranio-mandibular muscle exercising.
  - Only move to the J2 when the J1 stays in at night and nasal breathing is established.

- **MYOBRACE® J2**
  - The J2 focuses on arch development as well as continuing habit correction. It has minimal breathing holes since nasal breathing is established in the previous stage. It focuses on establishing correct tongue resting position and correct swallowing. The J2 is made from medium hardness material which assists in developing the arch form and the correct jaw relationship. Only move to the J3 when the above goals are established.

- **MYOBRACE® J3**
  - The J3 focuses on finalising jaw development, correct arch form and habit correction. The J3 material is harder and intended to apply more force to the teeth and jaws for better alignment, optimising the arch form for the erupting permanent anterior teeth. The wider tongue tag hole allows the tongue to sit in its natural position directly on the correct spot. Move to the Myobrace® for Kids series if further treatment is needed in the mixed dentition.
Myobrace® for Kids

Use one hour daily plus overnight while sleeping.

1. Dynamicore™ with Frankel Cage - assists in widening and developing the jaws.
2. Tongue tag, guard and elevators - train the tongue to position properly.
3. Extended lip bumper - discourages strong, overactive lip muscles.

Myobrace® for Kids is a three-stage appliance system designed specifically to correct mouth breathing and poor oral habits, which assists in treating upper and lower jaw development problems. This allows the permanent teeth to align into their natural position. Most effective in the early to mixed dentition stage, 6 – 10 years. For assistance with appliance selection, use the ‘Appliance Selector’ feature on myoresearch.com

Designed for:
- Class II Division 1 + 2 malocclusion.
- Anterior (upper + lower) crowding.
- Deep bite.
- Open bite.

All Myobrace® appliances are designed to correct habits, develop the maxilla and mandible, and align the teeth. Each stage focuses on a particular treatment goal.

**MYOBRACE® K1**

The K1 focuses on establishing nasal breathing and myofunctional habit correction.

It is soft and flexible which gives the best compliance, adapts to any arch-form and malocclusion, as well as optimises staying in place at night. Only move to the K2 when the K1 stays in at night and nasal breathing is established.

**MYOBRACE® K2**

The K2 focuses on arch development and continuing habit correction. It features a Dynamicore™ which assists in developing the upper and lower arch form, allowing more room to establish the correct tongue resting position and correct swallowing patterns. Only move to the K3 when the arch form is improved, correct tongue position and swallowing patterns have been established, along with good dental alignment.

**MYOBRACE® K3**

The K3 focuses on completing habit correction, final tooth alignment and retention with its firmer polyurethane construction. The hollow tongue tag facilitates final tongue position directly on the correct spot. It also acts as a retainer until the permanent dentition erupts. The K3 can be replaced with transition to the T3 and T4 for final dental alignment in the developing permanent dentition.

6 - 10 YEARS

**HABIT CORRECTION**

Establish nasal breathing.

STAGE 1

The K1 is available in three sizes and comes in pink, blue and clear.

K1 APPLIANCE - PERSPECTIVE VIEW (left)
K1 - CROSS SECTION (above)

4-6 months

**ARCH DEVELOPMENT**

Establish correct tongue position.

STAGE 2

The K2 is available in three sizes and comes in pink, blue and clear.

K2 APPLIANCE - TOP VIEW (left)
K2 - CROSS SECTION (above)

4-6 months

**FINAL ALIGNMENT AND RETENTION**

Maintain correct lip posture and swallow.

STAGE 3

The K3 is available in three sizes and comes in pink, blue and clear

K3 APPLIANCE - REAR TECHNICAL VIEW (left)
K3 - CROSS SECTION (above)

4-6 months

For assistance with appliance selection, use the ‘Appliance Selector’ feature on myoresearch.com

The K1 is available in three sizes and comes in pink, blue and clear.
K1 APPLIANCE - PERSPECTIVE VIEW (left)
K1 - CROSS SECTION (above)

4-6 months

The K2 is available in three sizes and comes in pink, blue and clear.
K2 APPLIANCE - TOP VIEW (left)
K2 - CROSS SECTION (above)

4-6 months

The K3 is available in three sizes and comes in pink, blue and clear
K3 APPLIANCE - REAR TECHNICAL VIEW (left)
K3 - CROSS SECTION (above)

4-6 months
Myobrace® for Teens

Myobrace® for Teens is a four-stage Myofunctional Orthodontic system designed to replace the need for complex orthodontics with braces and extractions. The primary goal is to correct mouth breathing and poor myofunctional habits which cause malocclusion, while the stage 3 (T3) appliance guides the permanent teeth to erupt into their natural correct alignment in the developing dentition stage. If compliance is good, braces are usually not required.

**Designed for:**
- Treating malocclusion in the late mixed dentition.
- Class II Division 1 + 2 malocclusion.
- Anterior (upper + lower) crowding.
- Deep bite.
- Open bite.

**10 - 15 YEARS**

All Myobrace® appliances are designed to correct habits, develop the maxilla and mandible, and align the teeth. Each stage focuses on a particular treatment goal.

**HABIT CORRECTION**

Establish nasal breathing...

**STAGE 1**

- The **T1** focuses on establishing nasal breathing and myofunctional habit correction.
- It is soft and flexible which gives the best compliance, adapts to any arch form and malocclusion, and optimises staying in place at night.
- Only move to the **T2** when the **T1** stays in at night and nasal breathing is established.

**ARCH DEVELOPMENT**

Establish nasal breathing and correct arch form...

**STAGE 1**

- The **T1 BWS** is available in medium and large.
- Once the sufficient space in the upper arch form is obtained, the **BWS™** is removed and treatment progresses to the **Myobrace® T2**.

**ARCH DEVELOPMENT**

Establish correct tongue position, lip posture and swallow...

**STAGE 2**

- The **T2** focuses on obtaining and maintaining correct arch development with the Dynamicore™ specific to this age group, which has extra elements in the anterior region to promote further development of the anterior arch form. This allows space for the tongue to establish the correct resting position and swallowing patterns, which improves dental alignment. Only move to the **T3** when all the above goals are established.
The T3 is the tooth alignment stage of treatment. The Dynamicore™ acts as an arch wire and the tooth slots increase arch length, along with assisting dental alignment. Compliance with the T3 is essential to prevent losing arch form space, which occurs when the appliance is not worn regularly. The T3 predominately focuses on dental alignment, but still has habit correction features similar to the T1 and T2. Move to the T4 when satisfactory dental alignment has been achieved.

The T3N is identical to the T3, except it does not contain the inner Dynamicore™. This makes it more flexible with better retention. It is suitable in some cases to use initially at night time while sleeping, in conjunction with use of the T3 during the day. An alternative is to use the T2 at night and the T3 during the day for 1-2 months, followed by the T3 at all times. Move to the T4 at night after 2 months when it remains in the mouth every night.

The T4 is the final appliance in the Teens series, which continues all habit corrections, retains the dental alignment and reinforces good lip posture and nasal breathing. The T4 focuses on final alignment of the teeth and jaws, and is used as a retainer when treatment is completed. The hollow tongue tag encourages the tongue to position on the spot. It can be used as a long-term retainer.

**Case Study - Treatment using the Myobrace® for Teens Appliance Series**

This patient had a severe Class II malocclusion at age 13 years and 6 months. The Myofunctional Orthodontic Evaluation (MOEI) indicated that the patient was a mouth breather with a reverse swallowing pattern and aberrant lip function. Significant improvements to the dental alignment and facial development occurred after 12 months, using the Myobrace® for Teens series to establish nasal breathing and correct myofunctional habits. Complete Class II correction.
Myobrace® for Adults

Designed for:
• Treating most malocclusions in adult patients.
• Mild to medium upper and lower anterior crowding.
• Treatment of relapse of anterior alignment after orthodontic treatment with braces.
• Moderate Class II Division 1 and Division 2.

Myobrace® for Adults is a three-stage appliance system for the permanent dentition. For the adult patient, all the growth has taken place and the teeth are in their most stable position. Mouth breathing and incorrect swallowing habits have been established over many years and are more difficult to correct. For these reasons, results in adults are not as predictable as with children. The Myobrace® for Adults appliance series incorporates the same features of MRC’s proven appliance design principles. Can also be used with the Farrell Bent Wire System™.

Ideal arch form - encourages correct natural arch development.

Tooth channels - align the front teeth.

Tongue tag, guard and elevators - train the tongue to position correctly. This can prevent unwanted lower jaw growth.

Lip bumper - trains the lower lip.

Myobrace® for Adults

Myobrace® A1
The A1 focuses on establishing nasal breathing and myofunctional habit correction. It is soft and flexible which gives the best compliance, adapts to any arch form and malocclusion, and optimises staying in place at night.

Only move to the A2 when the A1 stays in at night and nasal breathing is established. The A1 can be combined with the Farrell Bent Wire System™ (BWS™) if the arch form is narrow.

Myobrace® A2
The A2 provides arch development, habit correction and dental alignment due to the medium hardness polyurethane material used. The harder material puts more force on the anterior teeth to improve their alignment. The focus of the A2 is to establish correct tongue position and swallowing in the adult patient.

Move to the A3 once all the habit correction goals above have been completed.

Myobrace® A3
The A3 provides final alignment and retention. Its firm polyurethane construction provides additional tooth alignment and retention, as well as additional final habit correction. The hollow tongue tag allows finalised tongue position on the correct spot.

Optimum final alignment can be achieved with braces or sequential aligners combined with the Myobrace® for Braces series.

All Myobrace® appliances are designed to correct habits, develop the maxilla and mandible, and align the teeth. Each stage focuses on a particular treatment goal.

Habit Correction
Establish nasal breathing.

Stage 1
4-6 months

Arch Development
Establish correct tongue position.

Stage 2
4-6 months

Final Alignment and Retention
Maintain correct lip posture and swallow.

Stage 3
4-6 months

Use one hour daily plus overnight while sleeping.
The majority of class III malocclusions are a result of a deficient maxilla due to mouth breathing and a lowered tongue posture. This results in both skeletal and dental class III malocclusions. The Myobrace® Interceptive Class III appliance system is specifically designed to correct Class III malocclusions. Most effective in the early mixed dentition (ages 5-8). The appliance has additional offset to improve dental correction of anterior crossbite.

### MYOBRACE® i-3N

The i-3N focuses on establishing nasal breathing and myofunctional habit correction. It is soft and flexible which gives the best compliance, adapts to any arch-form and malocclusion, and optimises staying in place at night.

Only move to the i-3® when the i-3N stays in at night and nasal breathing is established.

### MYOBRACE® i-3®

The i-3® focuses on arch development and continuing habit correction. It features a Dynamicore™ with Frankel Cage - assists in widening the upper jaw, allowing more space for the tongue.

### MYOBRACE® i-3H

The i-3H focuses on completing habit correction, class III correction, final tooth alignment and retention with its firmer polyurethane construction.

The hollow tongue tag facilitates final tongue position directly on the correct spot.

### MYOBRACE® P-3®

The P-3® is intended for the permanent dentition where skeletal class III is difficult to correct. The focus of the P-3® is dental class III, anterior crossbite correction where possible. It provides habit correction (correction of mouth breathing and swallowing habits) and the additional 3mm offset* between the upper and lower anterior arch form provides dental class III correction. Note: class III correction in permanent dentition is not always possible.
Myobrace® for Kids - Broad

Use one hour daily plus overnight while sleeping.

1. Patented Dynamicore™ design - specifically for developing broad arch forms.
2. Tongue tag, guard and elevators - train the tongue to position properly.
3. Extended lip bumper - discourages strong, overactive lip muscles.
4. Patented Broad design - specifically for broader arch forms.

The Myobrace® for Kids – Broad appliance series is a three-stage system with a specialised arch form for specific genetic and racial groups. This wider arch form is prevalent in many Asian countries, as well as Central and Latin American groups. The appliance is characterised by its flatter anterior arch form with wider canine area, and a more flared posterior arch form. Ultimately, the natural arch form is determined by the tongue position and the K Broad series treats breathing, corrects tongue positioning and arch form.

Designed for broad arch forms with:
- Class II Division 1 + 2 malocclusion.
- Class III.
- Anterior (upper + lower) crowding.
- Deep bite.
- Open bite.

All Myobrace® appliances are designed to correct habits, develop the maxilla and mandible, and align the teeth. Each stage focuses on a particular treatment goal.

**MYOBRACE® K1 BROAD**

The K1 Broad focuses on establishing nasal breathing and myofunctional habit correction. It is soft and flexible which gives the best compliance, adapts to any arch form and malocclusion, and optimises staying in place at night.

Only move to the K2 Broad when the K1 Broad stays in at night and nasal breathing is established.

**MYOBRACE® K2 BROAD**

The K2 Broad focuses on arch development and continuing habit correction. The K2 Broad features a Dynamicore™ which assists in developing the upper and lower arch form. This allows more space to establish correct tongue position and correct swallowing. This, in turn, improves dental alignment. Move to K3 Broad when arch form is improved, as well as tongue resting position and correct swallowing patterns are established.

**MYOBRACE® K3 BROAD**

The K3 Broad focuses on completing habit correction, final tooth alignment and retention with its firmer polyurethane construction. The hollow tongue tag facilitates final tongue position directly on the correct spot.

6-12 YEARS

**HABIT CORRECTION**

Establish nasal breathing.

**STAGE 1**

The K1 BROAD is available in medium and large and comes in clear and yellow.

K1 BROAD APPLIANCE - PERSPECTIVE VIEW (left)
K1 BROAD - CROSS SECTION (above)

4-6 months

**ARCH DEVELOPMENT**

Establish correct tongue position.

**STAGE 2**

The K2 BROAD is available in medium and comes in clear and yellow with a red Dynamicore™.

K2 BROAD APPLIANCE - TOP VIEW (left)
K2 BROAD - CROSS SECTION (above)

4-6 months

**FINAL ALIGNMENT AND RETENTION**

Maintain correct lip posture and swallow.

**STAGE 3**

The K3 BROAD is available in medium and comes in red.

K3 BROAD APPLIANCE - REAR TECHNICAL VIEW (left)
K3 BROAD - CROSS SECTION (above)

4-6 months

4 - 12 YEARS

Use one hour daily plus overnight while sleeping.
Speciality Appliances

The Biobloc System: A narrow arch form in the mixed dentition requires arch expansion, which creates more room for the tongue and allows all of MRC’s appliances to work more efficiently. One disadvantage of the Biobloc is that it occupies the tongue space and cannot be used simultaneously with MRC’s appliances.

Myolay™ is a composite buildup technique used to assist in arch development and jaw alignment in combination with The Myobrace® System. The Myolay System™ involves building up of the four lower deciduous molars by 2-4 mm with composite to assist in arch development, Class II and Class III correction, as well as cross-bite correction.

**Arch Development – AGES 8 to 15+ (MIXED AND PERMANENT DENTITION)**

**BWS™:** The Farrell Bent Wire System™ (BWS™) is a light-wire appliance that produces arch development when used in combination with MRC’s appliances (the Trainer or Myobrace® systems). It is particularly effective in gaining anterior arch expansion. In the late mixed dentition, most of the jaw growth is completed. Extra expansion is needed to establish more space for the teeth and correct positioning of the tongue. The Myobrace® T2 can achieve this however, the BWS™ combined with the T1 BWS can obtain this result quicker and more effectively.
GETTING STARTED

Step 1 - Research
Your first step is to review myoresearch.com. This website provides detailed information on myofunctional orthodontics and MRC’s appliance systems and it will allow you to start treating cases.

Step 2 - Contact an MRC representative
Contact your MRC representative to get further information about the appliances and treatment methods. The representative can also provide you with information about MRC’s courses, along with giving you access to doctor, staff and patient education media.

Step 3 - Attend a course
Our courses will equip you with the ability to treat a wider range of cases and achieve better patient compliance - all while experiencing increased profitability. Attending one of our courses will allow you to practice in a new and profitable technique that can be applied to most cases.

Attend one of MRC’s seminars for hands-on training
Gaining the latest knowledge and developments in dental technologies is vital for practitioners looking to diversify themselves in a highly competitive market.

With international doctor and staff training facilities in USA, Europe and Australia, MRC provides dental professionals with a practical clinical approach to the treatment of malocclusion, airway dysfunction and TMJ disorder, using MRC’s appliance systems.

MRC seminars will teach you the myofunctional evaluation system that identifies breathing and myofunctional problems limiting facial growth and causing malocclusion, as well as provide you with the ability to treat myofunctional problems evident in almost every child.

Detailing everything from clinical procedures, live demonstrations and patient education, the training seminars also serve as a great introduction for doctors wanting to become a Myobrace® Member or Certified Provider. Contact your nearest MRC representative or visit myoresearch.com for more details.

MYOBRACE® MEMBERSHIP PROGRAMS

The Myobrace® Membership Programs have been developed for dentists and orthodontists who would like a streamlined process for introducing myofunctional orthodontics into their practice. The program’s global network is comprised of dentists and orthodontists who are united in the common desire to provide comprehensive and high-quality myofunctional orthodontic care to their patients. Being a part of the Myobrace® Membership Program allows practitioners access to MRC’s own clinically developed educational and support tools.

Why become a Myobrace® Member?

- Treat a wider range of patients.
- Increase patient flow in your practice.
- Less chair-side time required.
- Financial benefits for you and your patients.

For more info visit www.myoresearch.com or contact an MRC representative.

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