

How To Positively Affect the Health of Children in Your Practice

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INTRODUCTION

If you are general dentists who, after many years of practice, realize that dentistry is a difficult profession physically, I would like you to consider learning to treat the children in your practice with functional appliances. Thirty-five years ago, I decided that I was not enjoying the 'Drill-Fill & Bill' routine of my practice and decided to take courses so I could treat the orthodontic problems of the children in my practice. I have found this decision to be very rewarding both from a financial, as well as a personal satisfaction standpoint. I believe that general dentists have a great opportunity to increase the size of their practices by learning how to become knowledgeable in early orthodontic treatment for children. Mothers are becoming more aware of the importance of treating their child's orthodontic and airway issues early to avoid future more costly treatment. They are becoming aware that early treatment using functional appliances to expand the arches and move the lower jaw forward can prevent future extractions and jaw surgery.

Some orthodontic clinicians are still telling mothers 'Let's wait until all the permanent teeth erupt at age 13 and treat the problem then.' Most mothers have learned that other health problems are best treated early. Why is orthodontics the only dental or medical problem that can only be treated after age 13? Parents are concerned about their child's crooked teeth and narrow jaws and some children also suffer from lower self-esteem as a result.

When you expand the constricted arches, move the deficient lower jaw forward, straighten the front teeth early in mixed dentition this has a positive effect on the health and appearance of the child. Children with crooked teeth and undesirable profiles have a poor self-image. Children with crooked teeth often do not smile. Other children perceive this to be an unfriendly child which affects their relationships negatively. Early treatment results in children having a broad smile, improved profile, straight teeth and improved self confidence. When the mandible is moved forward

with functional appliances the health of the TMJ improves. The tongue also moves forward which helps reduce future problems including snoring and sleep apnea.

Every year there are more general dentists graduating and more dentists that were trained abroad are immigrating here and becoming qualified. Also, dentists are not retiring and are continuing to work much later in life. This trend is likely to continue, and it would be prudent to look for other sources of income in this ever-increasing competitive environment. It has been estimated that approximately 75% of children have a malocclusion. This is a great opportunity for general dentists to take courses and learn how to treat these children and increase the size of their practices. Another reason that I enjoy treating children is that the treatment plan acceptance rate for a parent is close to 100%. This is quite different when you are proposing treatment to the parent for crowns, veneers, bridges or implants. Parents are highly motivated to do what is best for their children. Another important observation is that parents are very appreciative in the services you provide to increase the health and the appearance of their children. They are constantly thanking my team and I for the positive impact we have had on their child's life.

My question to you is "When was the last time a patient thanked you for a filling?" I cannot recall this ever happening. I am at the point in my career where I would like to be appreciated for the services I provide. Starting children on the path to functional oral health complimented by beautiful aesthetics has been very fulfilling.

Another reason that orthodontic treatment of children appeals to me is that your team can do most of the work. In Ontario, hygienists are trained to do all the orthodontic procedures. Recently the RCDSO created a 3-day course where dental assistants can be trained to put on brackets and bands and remove archwires. The general dentists can make the diagnosis, do the initial and final consultations with the patients and the team can do most of the treatment. Compared to general dentistry, orthodontics is much easier

physically and, I believe, more rewarding. If you are getting tired of the “Drill-Fill & Bill” routine, then I highly recommend you take a course in orthodontics to learn how to treat children and adults.

I have been treating patients with Functional Philosophy for the past 35 years. I highly recommend that general dentists increase their knowledge of functional appliances to help the children in their practice to achieve an optimum level of health.

FUNCTIONAL PHILOSOPHY

1. Proper size maxillary arch
2. Proper relationship between the maxilla and mandible
3. Importance of airway and nasal breathing

1. Proper size maxillary arch

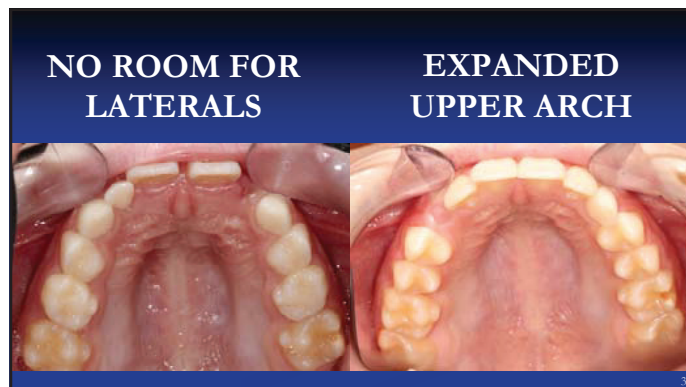
In the opinion of many orthodontic clinicians that implement the functional philosophy the proper development of the maxilla is the key to overall health. Functional appliances are used to expand the maxilla to allow room for all the permanent teeth. The primary cause of dental crowding is not that the teeth are too large but that the arch is too narrow. The objective is to treat the case non-extraction. Functional appliances either fixed or removable can develop the arches transversely, sagittally and vertically to make room for all the permanent teeth. Mouth breathing is extremely harmful health wise and often can be the cause of the malocclusion. When the maxilla is constricted it causes the anterior teeth to be crowded. Also, the cause of

the Class II skeletal malocclusion is the constriction of the maxilla resulting in a retrognathic mandible in order to occlude with the upper teeth. When the maxilla is expanded with functional appliances the nasal cavity directly above the palate also expands and frequently converts mouth breathers to nasal breathers.

Oxygen is the number one nutrient for life and nasal breathing delivers 20% more oxygen than mouth breathing. When patients breathe through their mouths, the tongue does not touch the palate upon swallowing and this causes the upper arch constriction, malocclusions and sometimes TM Dysfunction. Some clinicians believe that the mid-palatal suture calcifies in females at age 14 -15 and in males at age 16 -17 when children's growth has been mostly completed. This is not correct, and in fact, the suture remains open throughout the entire life of most patients. I have been developing maxillary arches in adults for over 35 years. One has only to contact the dental labs that fabricate these arch development appliances to confirm that arch expansion appliances are successful in expanding maxillae in adults.

Orthodontic Problem: Daniel, Male, Age 7

He presented with a narrow upper arch. No room for permanent incisors. Need to expand maxillary arch with fixed expander (Transforce Transverse). After expansion there is adequate room for incisors. Failure to treat, lateral incisors would have erupted in the palate. Expansion appliance created a broad smile. Expansion appliance opened the nasal airway.



2. Proper relationship between the maxilla and the mandible

The vast majority of Class II, Div 1 skeletal malocclusions are actually normally positioned maxillae and retrognathic mandibles. This fact was confirmed by two world renowned clinicians and researchers, Dr. JA McNamara and the late Dr. RE Moyers who stated that 80% of the Class II malocclusions have retrognathic or underdeveloped mandibles. Dr. McNamara has further stated that less than 5% of Caucasian maxillae are truly prognathic.¹ These patients often have narrow maxillary arches, moderate to large overjets and deep overbites. The treatment of these cases is certainly not bicuspid extraction which retracts the 6 upper anterior teeth which flattens the upper lip and makes the nose appear larger. Parents and patients much prefer the early treatment option.

When clinicians extract the upper bicuspid in a normally positioned maxilla and ignore the real problem which is the retrognathic profile, the patient is left with an unattractive receded profile. The question is, 'why would you treat the maxilla which is normal rather than the mandible which is clearly the problem?' The ideal treatment is to first expand the maxilla to normal size. The next step using a functional jaw repositioning appliance such as a Twin Block for patients under age 11 or a MARA or Herbst Appliance or Carriere Class II Motion Appliance after age 11. The last step would be to open the vertical dimension and deep overbite by erupting the lower posterior teeth.

Another major problem of not advancing the mandible in cases where the patients have a retrognathic profile is that in some cases this can result in TM dysfunction. When the mandible is retruded this frequently causes the condyles to be posteriorly displaced which causes compression of the nerves and blood vessels in the bilaminar zone distal to the condyle. This compression can cause some children to have internal derangements (clicking jaws) which can cause headaches, ear symptoms, neck problems, fainting, dizziness, pain behind the eyes and shoulder pain. If their malocclusion is not treated, the TMD symptoms will be much worse especially in females after age 20.

The treatment choice for a Class II skeletal patient with a retrognathic mandible under age 11 would be to use a Twin Block Appliance. The mandible is repositioned anteriorly to its normal position in approximately 7 months. This avoids the possibility of orthognathic surgery to move the lower jaw forward at age 17 and 2 years of orthodontics. Parents much prefer the early treatment option in order to avoid possible surgery and orthodontic treatment in the future when the teenager is hopefully in college or university.

The Twin Block was developed by Dr. William Clark, orthodontist, Fife Scotland². Over age 11 the fixed functional appliance MARA (Mandibular Anterior Repositioning Appliance) developed by Jim Eckart, orthodontist from Manhattan Beach, California³. The Carriere Class II Motion Appliance developed by Dr. Luis Carrieré, Barcelona, Spain, is the latest and most comfortable of the fixed functional appliances to be used to treat Class II, Div 1 malocclusions.

The latest book on

Early Orthodontic Treatment for Children

by Dr. Brock Rondeau

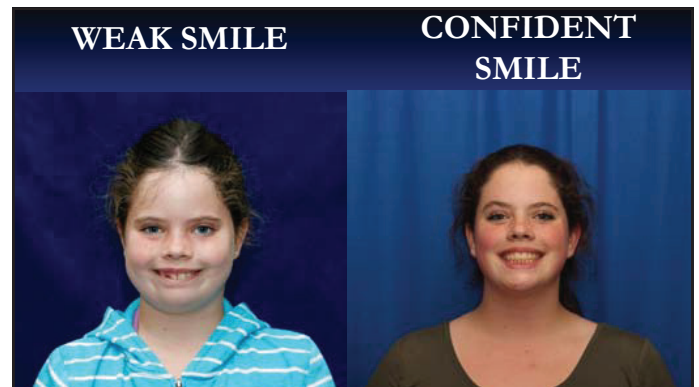
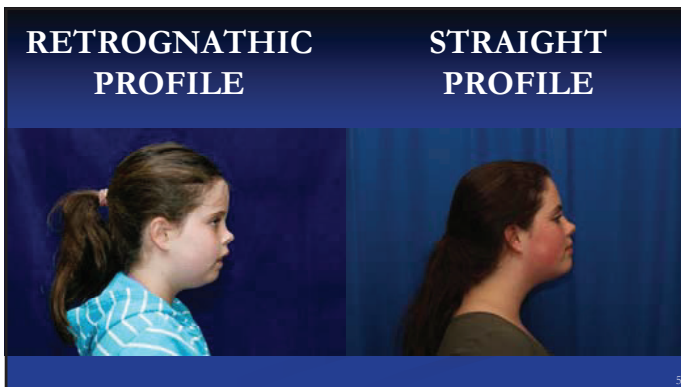
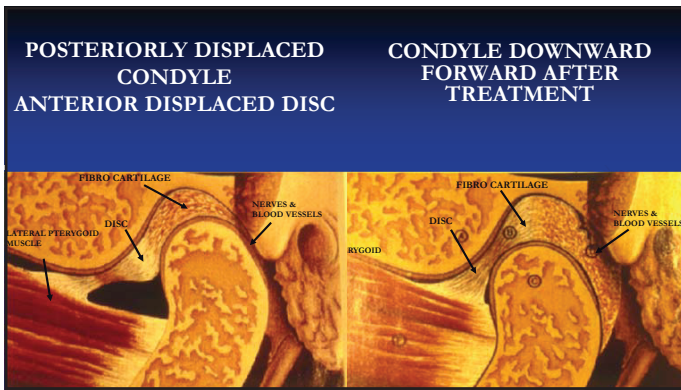
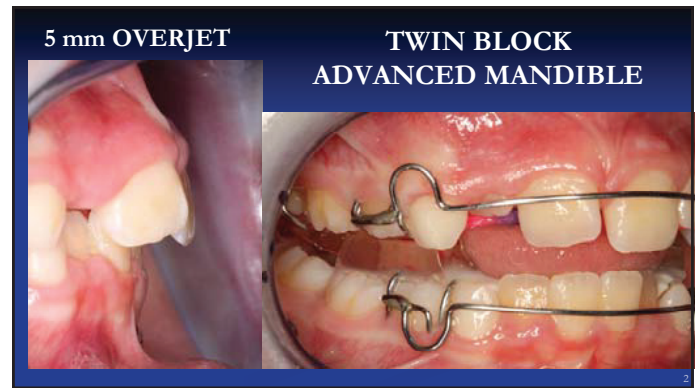
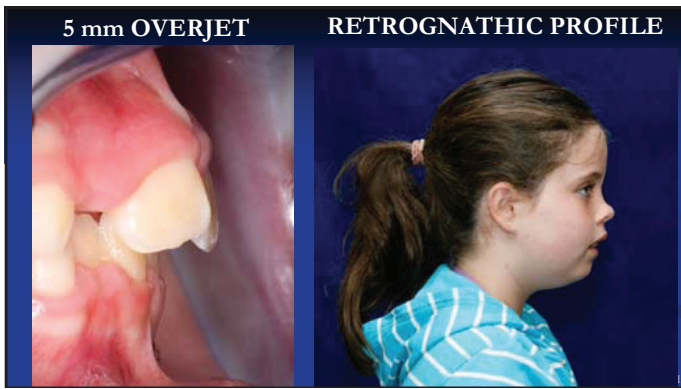
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Introduction by: Dr. Neal C. Murphy
Professor of Orthodontics





Orthodontic Problem: Amelia, Female, Age 8

She presented with a 5 mm overjet, a deep overbite and a retrognathic profile. The Twin Block was worn for 7 months. She then had full orthodontic braces for 12 months.

Very favorable straight profile at the end of treatment. Extremely happy patient.

Prior to treatment, most Class II skeletal malocclusions with retrognathic mandibles have condyles posteriorly displaced and the disc is anteriorly displaced evidenced by the fact that the patient clicks on opening and closing. When functional jaw repositioning appliances are utilized, they move the lower jaw forward recapturing the anteriorly displaced discs which eliminates the click on opening. The literature is clear that when the anteriorly displaced discs are recaptured most patients have a significant reduction in the signs and symptoms of TM Dysfunction ⁴.

Surely, we must be concerned with more than just straightening the teeth in our patients. I strongly believe that creating a healthy TMJ must be one of our main objectives in the orthodontic and orthopedic treatment in both mixed and permanent dentition. It is hard to comprehend how so many children and 34% of the adult population suffers from TM Dysfunction and yet the diagnosis and treatment of TM Dysfunction is not taught in the majority of the dental schools in North America.

Another functional appliance that can be used to reposition the mandible forward is the Herbst Appliance. Dr. Sabine Ruf and Dr. Hans Panherz ⁵ treated their Class II skeletal patients with the Herbst functional appliance or orthognathic surgery. 23 of their patients were treated non-surgically with the Herbst Appliance and 64 of their patients underwent orthognathic surgery in order to move the mandible forward. The article was entitled, "Orthodontic Surgery and Dentofacial Orthopedics in Adult Class II, Div I

Treatment. Mandibular Sagittal Split Osteotomy vs Herbst Appliance". The conclusion was that patients with pre-existing TM dysfunction (internal derangements, clicking jaw) the Herbst Appliance not only corrected the Class II skeletal malocclusion but also eliminated the TMD symptoms. The first fact that this confirms is that functional jaw repositioning works in adults. The second fact is that to improve the health of the TMJ, the mandible must be moved down and forward. Unfortunately, some dental schools are still teaching that the condyles should be up and back in the glenoid fossa when the patients occlude in centric occlusion. This causes the condyles to compress the nerves and blood vessels distal to the condyle in front of the ear. This causes numerous signs and symptoms of TM Dysfunction. Dr. Ruf and Dr. Pancherz's patients that were treated with orthognathic surgery revealed the surgery corrected the malocclusion, but the TMD symptoms worsened. The authors reported that 56% of their patients treated with orthognathic surgery suffered from neurosensory disturbances of the lower lip. Other complications included non-union or mal-union of the bony fragments and condylar resorption.

Obviously, teenagers aged 17 or 18, when they are attending college or university are not in favor of orthognathic surgery with its inherent risks and 2 years of orthodontic treatment.

3. Importance of Airways and Proper Breathing

The use of functional appliances can help maintain a patent airway which ensures that the patient receives an adequate amount of oxygen to help achieve a normal sleep. Functional appliances open the nasal airway by expanding the maxilla and thus increasing the width and height of the nasal airway located directly above the palate. Functional jaw repositioning appliances like the Twin Block and Carriere Class II Motion Appliance can increase the size of the airway by moving the lower jaw and tongue forward ⁶.

Children must learn to breathe through their nose. Clinicians must diagnose the presence of airway obstructions, which could be due to allergies, which can cause enlarged adenoids and tonsils. Other nasal obstructions could be due to enlarged turbinates, polyps or a deviated nasal septum. Ideally, these children should be referred to an ear, nose, and throat specialist to correct the problem.

Airway obstructions can cause mouth breathing which can cause a number of malocclusions including constricted maxillary and mandibular arches, bilateral posterior crossbites, unilateral posterior crossbites, which cause facial asymmetries, narrow smiles, speech problems due to constricted arches, anterior and lateral tongue thrusts and Class II, Div I malocclusions (normal maxilla and retrognathic mandible). ⁷ Many authorities believe that the cause of the Class II malocclusions is

airway obstruction. This causes the constriction of the upper arch which results in preventing the lower jaw from coming forward to its proper position.

Airway obstructions in children cause a lack of sufficient oxygen which can also result in snoring, obstructive sleep apnea and ADHD (Attention-Deficit Hyperactivity Disorder). ⁸ The airway obstruction due to lack of sufficient oxygen in the blood results in interruptions in breathing during sleep causing the brain to be aroused waking up the patient several times per night. Children with ADHD become more aggressive and hyperactive in school, and this poses a problem for teachers. It also results frequently in poor concentration in school which negatively affects school performance, increases daytime sleepiness, irritability, and headaches. ⁹ Medical doctors often prescribe a stimulant called Ritalin to calm them down, however, in some cases the patient becomes extremely subdued. Many parents do not want to have their children prescribed a central nervous system stimulant like Ritalin and are looking for alternative treatments. The treatment of choice would be to diagnose the source of the airway obstructions. The patient needs a new drug called oxygen to solve the problem of obstructive sleep apnea and ADHD. Frequently the treatment of choice is to remove the adenoids and tonsils and expand the maxillary arch to normal. Since 90% of the face is developed by age 12, if you want to guide the growth of your younger patients you must treat early with functional appliances. Otherwise, younger patients will develop skeletal abnormalities in the mixed dentition which will be much more difficult to treat in the permanent dentition.

I strongly recommend that general dentists take courses on how to treat children in mixed dentition and early permanent dentition.

Phase I (Orthopedic or Bone Phase) Mixed dentition, age 4-11

Functional and skeletal (bone) problems are solved as early as possible to minimize harmful effects. Research has shown that untreated malocclusions worsen as children grow older. ¹⁰

- a) Functional problems include habits such as mouth breathing, tongue thrusting or thumb sucking. Functional problems as mentioned previously can cause anterior open bites, snoring, obstructive sleep apnea, and ADHD, due to airway obstruction. ¹¹
- b) Skeletal (orthopedic) problems include constricted maxillary or mandibular arches. Constricted maxillary arches can cause bilateral posterior crossbites, unilateral posterior crossbites which cause facial asymmetry and frequently restrict the forward movement of the mandible which cause the Class II, Div 1 skeletal malocclusion. Frequently eighty percent of the problems can often be solved with functional appliances.

Level I Introduction to Orthodontics

AIRWAY FOCUSED ORTHODONTICS *ALSO AVAILABLE ONLINE*



BROCK RONDEAU

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Course Objective & Content

The purpose of this comprehensive program is to teach general and pediatric dentists how to diagnose and treat simple orthodontic cases. Emphasis will be placed on thorough records and diagnosis. Treatment will involve using a combination of functional appliances, mainly in mixed dentition and fixed orthodontic braces (straight wire technique) in permanent dentition. Dr. Rondeau's systematic approach, organization and marketing tips make incorporating orthodontics into the general practice relatively easy.

Session 1. Early Treatment Mixed Dentition, Functional Appliances, Diagnostic Records, Cephalometrics, Practice Management

Session 2. Straight Wire Mechanics, Class II Treatment, Twin Block™, Rick-A-Nator™, Carriere Motion 2, Bracketing, Banding of Molars, Archwires

Session 3. TMJ in Orthodontics, Sagittal & Tandem Appliance, Class III, Splint Therapy, Joint Vibration Analysis, Carriere Motion Appliance 3, Myofunctional Appliances

Session 4. MARA™ Appliance, Open Bite Cases, Impacted Cuspids, Clear Braces, Case Finishing, Retention, Snoring & Sleep Apnea, Clear Aligners, Molar Distalization

Course Dates & Locations

Vancouver, BC

Session 1 April 14 & 15, 2023
Session 2 June 9 & 10, 2023
Session 3 September 29 & 30, 2023
Session 4 October 27 & 28, 2023

Chicago, IL

Session 1 September 15 & 16, 2023
Session 2 November 10 & 11, 2023
Session 3 January 19 & 20, 2024
Session 4 March 22 & 23, 2024

Toronto, ON

Session 1 September 22 & 23, 2023
Session 2 November 17 & 18, 2023
Session 3 January 12 & 13, 2024
Session 4 March 1 & 2, 2024

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Session 1 October 13 & 14, 2023
Session 2 December 1 & 2, 2023
Session 3 February 16 & 17, 2024
Session 4 April 5 & 6, 2024

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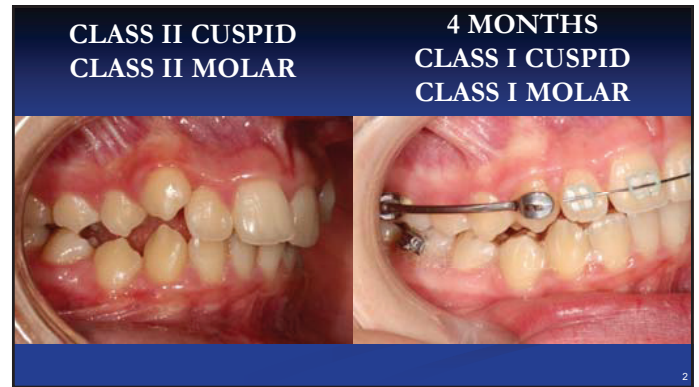
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Orthodontic Problem: Julia, Female, Age 13

She presented with Class II molar and Class II cuspid relationship. 5 mm overjet and deep overbite. After only 4 months' treatment with Class II Motion Appliance, achieved Class I molar, Class I cuspid, normal overjet and normal overbite.

removed and their arches expanded so they can breathe normally through their nose.

7. It is important to reposition the lower jaw forward in growing children which improves their appearance and helps to prevent TMJ problems which include headaches, ear problems, stiff neck muscles, dizziness, shoulder, and back pain.

ADVANTAGES OF EARLY TREATMENT

1. Children with narrow jaws have their arches widened which helps to create beautiful, broad smiles.
2. When arches are expanded painlessly with functional appliances, there is no need to extract permanent teeth.
3. Children with deep overbites and receding lower jaws often have headaches and ear problems due to TM dysfunction. These can be eliminated with early treatment.
4. Self-esteem can be improved when teeth are straightened, especially when the "buck" teeth look is corrected by moving the lower jaw forward.
5. Speech dramatically improves when the open anterior bite is corrected with an appliance and a tongue crib which prevents anterior tongue thrust habits.
6. Enlarged tonsils can cause mouth breathing, snoring and sleep apnea. This can restrict a child's ability to grow. It can also cause ADHD (Attention-Deficit Hyperactivity Disorder). These children are extremely aggressive and have problems concentrating in school. Rather than be given the drug Ritalin, they need to have their tonsils

WHY WE MUST BE PROACTIVE AND NOT COMPLACENT

I believe that it is vitally important for general dentists to learn to treat malocclusions in their younger patients in order to help them prevent more costly orthodontic treatment later on. Also, when one looks at the ODA's Ontario Report, it is apparent that 42% of Ontario dental offices report that they are not busy and would like more new patients. The Ontario Dental Association is also predicting that dentists' net incomes in Ontario will fall by 25% in the future as present trends continue. Dental schools are increasing their enrolment (Toronto 10% increase), fewer dentists are retiring, an increasing number of immigrating dentists are being accepted into dental schools in Canada. AND Corporate dentistry has arrived in Canada and the U.S. These practices are highly organized and purchase dental supplies at lower cost, hire dentists for less than 40%, and have large marketing budgets. They attract large numbers of new patients, possibly away from established practices, offer evening and weekend appoints and a full range of services including orthodontics.

Dentists that have incorporated early treatment orthodontics into their general practice have reported the following:

1. A significant increase in revenue, more so when their staff are trained
2. More important, I believe is the personal satisfaction they experience by helping children improve their self-esteem, create broad smiles, healthy TMJ's and improved overall health.

In my opinion, now is the time for general dentists to start offering more services to their patients such as orthodontics to ensure practice success in the future.

If you want to recession proof your practice I recommend that you enroll in an orthodontic course that teaches Phase I Orthodontics including early orthodontic treatment for children. [So](#)

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Dr. Rondeau has been treating children's orthodontic orthopedic problems for over 35 years and has taught over 24,000 dentists worldwide. He recommends early orthodontic treatment for children utilizing a functional philosophy which is a non-extraction, non-surgical approach. By developing the arches with functional appliances he avoids the extraction of permanent teeth. He utilizes functional appliances to reposition the lower jaw forward which prevents orthognathic surgery and future TMJ and snoring and sleep apnea problems.

Treatment must be implemented to prevent children from mouthbreathing which causes malocclusions and many health problems such as ADHD, aggressive behaviour, poor marks in school, bedwetting, bruxism, snoring and sleep apnea.

Since 75% of children and adults have a malocclusion general dentists need to take courses in order to treat them. Parents are looking for general dentists to help not only improve the appearance of their children but also increase their overall health by creating beautiful, broad smiles, patent airways and healthy TM joints.