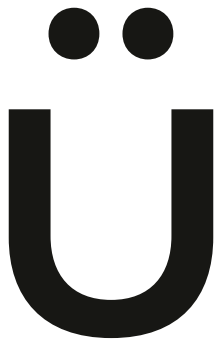

Intended for the general public, the Bücco Orthodontics Care Guide is a general educational guide. Its contents present some of the most common orthodontic practices. However, there are many different approaches and philosophies to orthodontics, and your orthodontist will be able to advise you on what he or she believes is best for your oral health. Don’t hesitate to consult an orthodontist for more information.

Many thanks to Dr. Jules Lemay and Dr. Jean-Marc Dumoulin for their invaluable contributions.

The Bücco team and its partners

1st edition

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The cost of dental care in Quebec

On the weekend of April 7 and 8, 2012, La Presse newspaper published several articles on dentistry in Quebec in the Business section, including one entitled “Comment choisir son dentiste” (“How to choose your dentist”). Several questions received regarding this article prompted us to publish these comments. The main image of this special report by journalist Isabelle Ducas can be confusing. It’s interesting to realize that the front page of the newspaper and the cover of the Business section appear to depict orthodontic appliances (braces) illustrated by “$” signs connected by a wire (see illustration above), but there is absolutely no mention of orthodontics in any of the articles. Perhaps a professional bias dictates our perception?

Can the cost of dental care be compared between different practitioners?

Yes, but it’s difficult to compare dental treatments offered by different dentists. The main reason is the very nature of what we’re trying to compare-a service, not a tangible commodity that’s easily measurable and comparable.

It could be argued that it is indeed possible to compare simple acts or services such as taking an X-ray, a cleaning and a few other basic dental procedures.

But the fact remains that, despite public perception, it is often impossible to compare treatment plans unless they are exactly identical, and even then... For example, being offered a gum graft and the placement of a number of dental implants to support a bridge by two different dentists can imply significant differences in the approach used by each, which can easily justify a significant difference in fees.

Does this mean that the “most expensive” dentist abuses his patient? Absolutely not. In fact, the most expensive treatment plan can turn out to be a “bargain” in the long run if it’s well executed and brings additional benefits to the patient compared to the less “expensive” approach.

Examination-cleaning as a comparison

The same applies to the famous “cleaning exams with X-rays”, which are often the main point of comparison between two dental practices. A teenager will not have the same needs as an adult with a long dental history and severe periodontal problems. A teenager’s “cleaning” can take just a few minutes with a dental hygienist, and a simple panoramic X-ray can provide all the information needed.

In contrast, the deep scaling required by adult dental conditions may require several sessions with the dentist (in addition to the dental hygienist) and a full series of x-rays to cover all areas of the mouth in detail. The cost of these two procedures is obviously not the same. How can we make the consumer understand these subtleties simply by announcing a “price” for one category of procedure? Many other examples abound: dentures, restorations, root canal treatment, etc.

It’s not so easy to compare treatment costs

Some dental procedures are simple, but others are complex and even so intricate that many practitioners will refuse to venture to do them. However, dentists who agree to do them may charge higher fees because of their particular experience and expertise in performing this kind of work. Patients who simply compare the cost of a “generic” procedure may not appreciate the complexity of their case. The same applies to various procedures in other areas of dentistry, such as prosthodontics, periodontics, orthodontics and maxillofacial surgery. As orthodontic specialists, patients sometimes ask for our opinion to help them “compare” and understand different treatment plans proposed by dentists, even though we don’t do the kind of work proposed to them. On the surface, these treatment plans may appear identical to patients, but a more thorough evaluation usually reveals significant variations that can explain the difference in cost between two practitioners (type of prosthesis, materials used, etc.). Does this mean there’s never any abuse? No, because as in any field where people are free to determine the value of their services, exaggerations can occur.

What is the value of dental care? An expense or an investment?

It’s all a question of perception and the value placed on dental services. Too many people still see dental costs as an expense rather than an investment. A large proportion of dental expenses could be avoided with good prevention and interception. What is a fair fee for a treatment plan or dental service (specialized or not)? It should be an amount for which both the patient AND the dentist feel they are getting value for money. The patient should receive a service that meets his or her needs and expectations (if they are realistic), and the dentist or specialist should be compensated adequately for the services rendered. This cannot be dictated by any insurance company, tariff guide, rate chart, etc.

To make an analogy

An analogy could be made with car owners. A person who follows the manufacturer's recommendations for regular vehicle maintenance, whether or not there are problems (symptoms), will invest little or moderately, but on a regular basis. On the other hand, someone who waits until they detect problems with their car may end up, after several years, with major problems requiring major repairs that will be very costly, sometimes more than the amount that would have been invested in a regular maintenance program spread over several years.

For many dental problems, it's not dental care that's expensive, but patient neglect that catches up with them after many years. How many of you have been offered dental procedures to correct developing problems and not followed the dentist's recommendations (with the exception of cosmetic procedures only)? There's no smoke without fire and, eventually, the flames will appear too.

The 29-year-old computer scientist mentioned in the La Presse article confirms this theory, and is the first to admit that he has neglected his teeth for several years! The amount he now has to invest ($10,000) involves major restorative work that will hopefully enable him to save his damaged teeth, since the loss of these 4 teeth and their subsequent replacement would involve an even higher bill if, for example, he opted for implant-supported crowns! It would have been easier and cheaper for him to use his insurance coverage ($2,000 annually) for regular preventive dental visits.

The value of dental treatments

The content of the La Presse article is similar to another published in Le Journal de Québec in January 2012 ("Dentistes : des prix en dents de scie"), from which we quote Dr. Serge Langlois, President of the Association des chirurgiens dentistes du Québec (ACDQ): "Some dentists lower their prices at the first appointment to attract customers," explains Serge Langlois. For children, for example, some dentists charge nothing for cleaning. What's that, their cleaning isn't worth anything?" "Someone it's been five years who hasn't been to the dentist, it's likely to take longer than someone who goes every year" Mr. Langlois agrees that dentist fees can seem high. "It depends on our values. Some people spend $300 at a restaurant and it doesn't bother them. It's a matter of choice. "I just got back from the dentist and the bill goes up to $180 for a cleaning and a dental exam with X-ray! It seems expensive to me. I just had plaque between 2 lower front teeth, but the hygienist told me that my teeth were very well cared for and very clean, I use an electric brush. It's expensive and I'm going to spend a hell of a lot of time not going, I think. With my husband and children, a visit to the dentist cost us $895! Now that's luxury. Perhaps her surprise will be similar to the computer scientist's when she decides to return to her dentist with her little family in a few years' time!

What is the real solution to dental problems?

The solution to dental problems is more complex than simply flossing, but definitely involves proper oral hygiene and regular preventive visits to the dentist. The article also mentions that 40% of Quebec teenagers and adults had not visited a dentist for more than a year in 2008. It's implausible that this entire proportion of the population has no dental problem that doesn't warrant immediate attention or that could benefit from some form of prevention. Many have little time bombs in their mouths, and will be the most surprised when they "explode"! Dr. Dolman also mentions "... that good treatment lasts a lifetime." This is partly true. Good treatment should keep your teeth looking good for the rest of your life, but it also means that patients continue to have regular check-ups with their dentist.

The lifespan of dental treatments

A root canal can last a lifetime, but the tooth that has undergone the treatment may need a crown to prevent fracture. Modern implants can last for decades, but the prostheses they support are unlikely to last as long. The average "lifespan" of a prosthetic crown is approximately 8-10 years, so this means that some crowns will be problematic after just a few years and will need to be replaced, while others may last 15-20 years and perhaps longer. What happens if a patient has a dental bridge made in another country?

Orthodontic treatment in adolescence or even adulthood is by no means a guarantee that corrections will last a lifetime. In fact, most orthodontists will guarantee and promise that there will be some changes in tooth position in the years and decades following the completion of treatment.

Just like a car, an oil change and an engine tune-up don't guarantee that the owner can keep his vehicle in "perfect" working order for the next 10 years without returning to his mechanic regularly for checks and preventive maintenance. The oil will even have to be changed again... and several times! A well-known slogan reminds us that "moderation tastes better", but when it comes to prevention and hygiene, we should be saying "prevention tastes better", or... "prevention costs better"!

In another article published in La Presse on April 9, Dr. Véronneau mentions that "several studies have shown that prevention can save millions of dollars in the long term...". This overall saving is the sum of all the small individual savings that could be made by those who visit their dentist regularly. It should be noted that dental care is not only necessary because of neglect. There are many reasons why dental work is needed: accidents, trauma, hereditary problems, wear and tear, habits, malocclusions, etc.

Competition in the dental sector

The article quotes Ms. Duval, President of the Regroupement des hygiénistes dentaires du Québec (RHDQ) as saying, “There is no competition in the dental field today…”. Most of the article is about comparing the costs of dental services provided by different dentists. Doesn’t this freedom of choice on the part of the patient generate a certain amount of “competition” between dentists?

Dental tourism: savings at what price?

As described above, it is difficult for patients to assess the quality of the services they receive or are offered, even if, on the surface, treatment plans appear similar. There may be places (other countries) where it is possible to get quality care at lower cost, but this is not the case everywhere.

The quality of general and specialized dentistry available in Quebec is among the best in the world. What happens to the patient who undertakes a major dental rehabilitation in another country and, once back in Quebec, encounters problems? Who is responsible for a treatment plan drawn up by another practitioner, for the quality of the work carried out, for maintenance and post-operative follow-up? Will the Quebec dentist who follows up on work undertaken elsewhere be at fault because he or she agreed to follow up a patient and tried to help him or her, but, basically, the initial work did not meet local standards and is doomed to failure in the more or less long term?

An example of the dangers of dental tourism

Take, for example, the case of an implant-supported bridge that proves to be a failure after just a few years. Who would be responsible for this failure? If “local” dentists don’t want to venture into supervising treatments undertaken elsewhere, what will happen to these dental tourism patients? Will they continue their treatment in other countries? Such seemingly cost-effective solutions can turn out to be very costly in the medium to long term. It’s not easy for patients to assess the quality of services, treatments and materials used in other countries.

In France, an investigation revealed that the products used in the manufacture of dental prostheses in certain countries were of inferior quality and could even be hazardous to health. The use of some of these materials is prohibited in France. Faced with the uncontrollable phenomenon of prosthesis manufacture by laboratories outside France, some countries even require dentists to have “certificates of traceability” to prove the origin of prostheses and the content of the materials used in their manufacture. Even so… a new black market is developing for this “certification”.

International” orthodontics or orthodontic tourism

As orthodontic specialists, we don’t see many patients who have resorted to “dental tourism” or “orthodontic tourism” in our field, as the majority of our services are usually spread over several months or years and don’t really lend themselves to “out-of-country” treatments.

However, we have seen several cases of immigrants who have returned to their country of origin to have fixed braces fitted, and who return in the hope of continuing here with these braces and the treatment plan developed by another practitioner. Some Quebec residents have also gone outside Quebec to “get braces”, but wish to continue follow-up treatment with local orthodontists.

We’ve also seen people having braces fitted just before moving to Quebec, in the hope of reducing the cost of their orthodontic treatment. Once in Quebec, some are surprised to realize that the cost of treatment in their home country doesn’t even cover corrective appliances and diagnostic material in Quebec! Find the mistake! In other cases, the appliances and materials used were so out of the ordinary that everything had to be redone.

Sometimes, the initial treatment plan was unrealistic and had to be completely modified. In short, it’s very rare for patients to save money by transferring their orthodontic case from another country to a Quebec orthodontist.

Orthodontic case transfer

Occasionally, a patient may need to relocate during orthodontic treatment. When this happens, new arrangements will need to be made with the orthodontist who will be taking over the case to complete the treatment.

Disagreement between patient and orthodontist. It’s also possible that a patient may want or need to change orthodontists during treatment for a variety of reasons, and not because they can no longer go to see them for practical reasons such as moving house, the practitioner’s retirement, etc. There may have been a disagreement between the patient and the orthodontist, a lack of trust that has developed on both sides, a lack of cooperation on the part of the patient causing the orthodontist to no longer wish to continue the treatment, a disagreement over the treatment plan, etc. These situations are very rare, but when they do occur, the orthodontist may be able to help. These situations are very rare, but when they do occur, they greatly complicate the situation for the patient, who has to find a new orthodontist. When we are asked to continue the corrections undertaken by another orthodontist for such reasons, our first advice is always to try to get along and “reconcile” with the orthodontist who started the case and complete the treatment with him or her. This is always the simplest and least costly solution for the patient.

When there is a change of orthodontist during treatment, the new orthodontist may, but is not obliged to, respect the original agreements made with the first orthodontist. Payment terms may vary from one practice to another.

Thus, when a case is transferred, the portion of the fees paid by the patient may not be proportional to the treatment performed at the time of transfer. Depending on the case, the patient may have paid a greater or lesser proportion of the total fees. For example, the entire fee may have been paid well before the end of treatment, or a smaller portion of the fee (e.g. 60%) may have been paid when treatment is almost complete. Adjustments may therefore have to be made by the orthodontist and the patient during a transfer.

Usually, the orthodontist will evaluate the work done during the transfer and charge accordingly. Patients should understand, however, that these fees are not solely related to the length of time spent in treatment. For example, a treatment with an expected duration of 2 years may represent more than 50% of the fee if the case is transferred after 12 months (50% of the estimated duration). This amount will depend on a number of variables (type of case, orthodontic appliances used, diagnostic material, etc.) and may represent 60, 70, 75% of the total amount of the complete treatment (these figures are for illustrative purposes only).

There may therefore be financial adjustments to be made during a transfer; the patient may have to pay an additional amount to what he or she has paid to date for treatment, or the orthodontist may have to refund part of the patient's fees if he or she considers that he or she has overpaid. This assessment is made by the orthodontist by evaluating all the aspects described above.

Even when a patient doesn't move to a remote area such as another province or country, there can be differences in fees between different orthodontists in different cities. These differences can be even greater between provinces and countries.

Each orthodontist assesses the case

Another factor that can influence the cost of a transfer is the new orthodontist's assessment of the case in terms of diagnosis and treatment plan.

Treatment plan

- The first orthodontist may have diagnosed and evaluated the case in a certain way (e.g. not requiring extractions or orthognathic surgery), while the second orthodontist sees things differently, considers the case to be more complex and would like to modify the treatment plan by resorting to procedures such as extractions, surgery or special appliances.

Treatment time

- Another possible situation is that the new orthodontist agrees with the treatment plan already established, but assesses that the time needed to complete it is much longer than initially expected. For example, we have seen cases transferred to us with a statement that there were only a few months left to complete the treatment, whereas our assessment to achieve the same treatment goals was much longer, sometimes more than 12-18 additional months! In such cases, the new approach can be much more costly for the patient, who then has the choice of accepting the new orthodontist's recommendations or seeking a second opinion from another orthodontist if the proposed treatment plan or fees are not to their liking.

- Please note that an orthodontist who accepts a “transfer case” is not obliged to respect any financial agreements made with another practitioner, or to complete the treatment following the same treatment plan, but must explain this to the patient so that he or she can make an informed decision.

Modifications to braces

- In some cases, it may be necessary for the new orthodontist to change multiband appliances (“braces”) or other corrective appliances if he or she is not familiar or comfortable using those in the patient’s mouth at the time of transfer.

- The quality and design of fixed braces vary widely from country to country. The same applies to orthodontic wires and archwires. The way orthodontic brackets are fitted and used also varies widely. It’s not uncommon to see “transfer cases” arrive with brackets placed so awkwardly and unorthodoxly that they hinder treatment progress.

- Some orthodontists will charge to change braces, while others will not.

Additional costs

- Changing orthodontists during major orthodontic treatment almost always results in additional costs for the patient that would not be necessary if the case were not transferred. The new orthodontist usually has to take new diagnostic material to “document” the condition of the case being transferred. The transferring orthodontist, in turn, may also charge a transfer fee for reports and the shipment of diagnostic material required for a transfer. (A standardized form from the Canadian Association of Orthodontists can be completed at the time of transfer to describe and explain to the new orthodontist the diagnosis, treatment plan, progress of treatment, patient cooperation, what remains to be done in the treatment to complete it, total fees, terms of payment, disbursements made at the time of transfer, etc.).

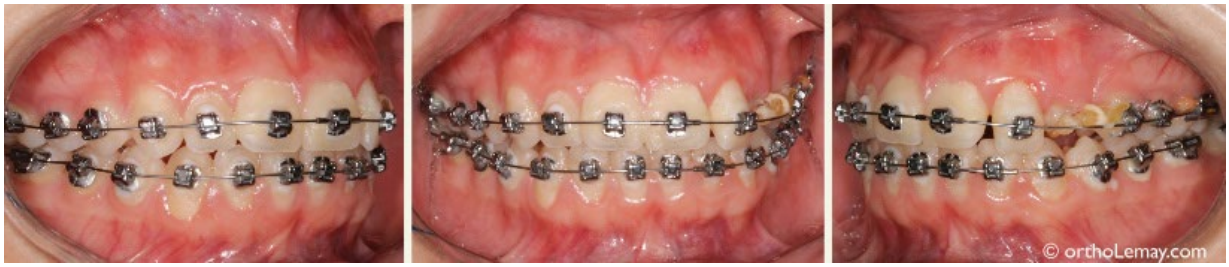
Is the orthodontist obliged to accept a case?

- Please note that not all orthodontists accept “transfer cases”, i.e. they agree to complete a treatment started by another practitioner. Some orthodontists do not treat certain types of problems (e.g. adults, periodontal cases, cases requiring orthognathic surgery, etc.) or may refuse a case if they do not agree with the initial treatment plan and the patient does not wish to modify it.

- Thinking of moving? If you’re planning to start major orthodontic treatment and you know you’ll be moving soon afterwards, especially if it’s to another province or country, it’s best to have your case assessed (diagnosis and treatment plan) and fees determined with the orthodontist who will be doing most of the treatment. This way, you’ll avoid worries and possibly additional expenses.

Case history - Device modification #2707

Orthodontic case transferred to our office because the fixed multiband appliances (“braces”) fitted before the patient moved to Sherbrooke were the same ones we use. Although brackets are indeed a type we use regularly, there was one major problem; the top ones are all fitted... upside down! This will have a direct impact on the position of the teeth and the course of treatment, as there is an individual prescription for each bracket to place the teeth precisely.



So... how do you choose your dentist?

The title of the main article in the Business section does not fully answer the question posed. Instead, it focuses on a discussion of the cost of dental care in Quebec. The title on the cover of the weekend edition was more appropriate: “The cost of your smile”. In the article, Dr. Langlois recommends asking family and friends for references when choosing a dentist. This is a good starting point, but the best person to ask when choosing your dentist will ultimately be the dentist himself. The relationship between dentist and patient can last years, decades or even a lifetime, so it’s important that there’s a bond of trust between you and your dentist.

Don’t hesitate to ask a dentist about his or her training, experience, expertise, continuing education and so on. Does he do all types of treatment, from the simplest to the most complex, does he work with specialists, what kind of cases will he refer to a specialist, etc.? Dentists can do all types of dental work, but they don’t all have the same expertise and experience to do it.

The orthodontist performs over a hundred cases of orthodontics each year.

A dentist can perform implant-supported prosthetics, but only single crowns. It takes a different kind of expertise to undertake a case requiring the placement and harmonization of 6, 10 or 12 or more implants, spread over the two arches of a single mouth. There’s a significant difference in expertise between a dentist who has placed half a dozen implants and one who has placed several hundred.

To take another example from orthodontics, will a dentist offering “orthodontic services” using the Invisalign technique undertake complex cases with skeletal problems or requiring an interdisciplinary approach? Will a dentist who has treated a few simple cases have the same expertise as a specialist who has treated thousands of cases?

In short, it is possible to find differences, sometimes significant, in dental care fees without this being abnormal, but make sure you ask your dentist to understand what is involved. The consumer has a right to information and should be able to obtain it, but the dentist also has a right to be adequately remunerated for the work he or she does. It’s a win-win situation for everyone!

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Patient Cooperation in Orthodontics

It's normal for young people not to cooperate!

Everyone knows that patient cooperation is essential during orthodontic treatment.

When there is a problem of cooperation of any kind with a young patient, we discuss it with him or her and report it to the parents. Occasionally, some parents mention that we need to be aware of the fact that teenagers can't cooperate completely all the time. It's in the "nature" of the teenager, it's normal and it's a fact of life today that they try to explain to us! Perhaps... but the fact remains that lack of cooperation will always have major consequences for the quality, duration and success of orthodontic treatment.

Regardless of what some parents may think, we are well aware that, even if they consider a lack of cooperation normal, it is certainly possible for a child or adolescent to cooperate in an exemplary way throughout a course of treatment. We've seen it time and again with patients who are motivated and interested in the success of their treatment. What would parents think if we said to them: "You know, it's normal that sometimes we're not tempted to work according to the rules and use all our expertise, resources and knowledge to treat your child as well as possible! I don't think they'd find that acceptable...

Appropriate cooperation involves, but is not limited to:

- wear elastic bands as prescribed,
- maintain good oral hygiene and visit your general dentist regularly,
- monitor your diet to ensure it's adequate and to avoid appliance breakage,
- appointment attendance.

Accepting or taking for granted that a patient will not cooperate 100% throughout his or her orthodontic treatment must be synonymous with accepting compromised treatment and incomplete results. Many treatment plans are complex and it's difficult to achieve treatment goals even with good cooperation, so if cooperation is irregular, there will be inevitable consequences for the treatment. It's worth noting that "compromise treatment" is possible in orthodontics in certain situations, but this is a treatment objective established from the outset. We're talking here about a treatment where we're aiming for optimal or ideal corrections, but the patient's lack of cooperation forces us to change the initial ideal treatment goals and instead achieve compromise treatment, which is different.

Orthodontic treatment should be seen as a tacit agreement or “contract” between patient and orthodontist. The practitioner undertakes to do his or her best to treat the patient according to the “rules of the art” with the means at his or her disposal, his or her knowledge, expertise, etc., while the patient undertakes to cooperate and follow the instructions of the orthodontist and his or her staff (wearing of elastics, oral hygiene, diet, attendance at appointments, etc.). Failure to do so may jeopardize the success of the treatment.

Cooperation is obviously a free choice, but remains the patient’s personal responsibility, even if parental support is essential. This responsibility cannot be transferred to the orthodontist.

If parents perceive that a child will be uncooperative or uninterested in undertaking orthodontic treatment, it’s best not to begin treatment, as the success of the treatment will depend, among other things, on this essential cooperation. “Paying” for treatment is no “guarantee” of success! As the saying goes, you can’t force a heart to love, and you can’t force a patient to cooperate!

In conclusion, for those who believe that today’s youth are different from the teens of yesteryear, it’s worth reading this description of contemporary youth… written 2,400 years ago!

“*Children today are tyrants. They contradict their parents, devour their food whole and bully their teachers.*” (Socrates, 470-399 BC)

However, to achieve results, in orthodontics or in many other fields, cooperation and effort have always been, remain and will continue to be essential.

The habit-forming cycle

Creating good habits takes time, but goes through 3 stages of a habit-forming.

When these principles are applied, patients can cooperate well with the use of elastics, oral hygiene and diet during orthodontic treatment, thereby maximizing chances of success within a reasonable time.

The Dental Triad

The masticatory system

Teeth are part of a complex masticatory system comprising, among others, the “triad” of dentition, periodontium, temporomandibular joints (TMJs) and jaws, all under the influence of the neuromuscular system (nerves and muscles).

The teeth are in the alveolar bone of the jaws, but are surrounded by a periodontal ligament that acts as a “buffer” between the tooth root and the bone, but also has several other important roles. As for the jaws, they are linked to each other at the TMJ level. So, the three entities of this “dental triad” are linked together more or less directly in a form of equilibrium where each element influences the others.

Teeth <-> Periodontium (bone, periodontal ligament) <-> Jaws (and TMJs)

It would seem, and rightly so in most cases, that problems affecting the masticatory system develop progressively over time and are therefore more common in older people, but this is not always the case. An example would be a young child who bruxes or grinds his or her primary teeth to the point of significant or almost complete wear (see an example in the section on bruxism). On the other hand, the majority of problems will tend to appear over time and affect the various components of the “triad” to varying degrees.

What can happen with the dental triad?

The use of the masticatory system is complex and can either proceed normally or encounter certain problems. When a normal or physiological force is applied to the teeth during normal function (mastication), the various components of this “chain” are stressed to different degrees, and 4 situations are possible:

1— When the forces are normal or physiological and the tissues making up the triad are healthy, everything functions normally and there are no problems or breakdowns other than the inevitable wear and tear associated with normal function. The result is a balance in which all components are in harmony. Balance between the components of the neuro-masticatory system: dentition, periodontium, TMJ. The dental triad.

(NORMAL STRENGTH [chewing] <-> NORMAL TISSUES [dental triad] <-> NORMAL FUNCTION [no problems/damage/breakage])

2— On the other hand, if one or other of the triad’s components is affected by a problem, this important and complex balance can be disrupted, causing damage to the triad’s tissues, even if the force applied is normal.

(NORMAL FORCES (chewing) <-> ANORMAL TISSUES (dental triad) <-> ANORMAL FUNCTION (problems/damage/breakage)

3— If, in addition, excessive and abnormal force is applied to the dentition, as in the case of bruxism or tooth clenching, damage can also occur even if the components of the triad are healthy. Healthy, intact tissues may not be able to withstand excessive forces, and will deteriorate in the presence of extreme forces.

(ANORMAL FORCES (chewing) <-> NORMAL TISSUES (dental triad) <-> ANORMAL FUNCTION (problems/damage/breakage)

4— The last and most damaging possibility is when non-physiological or excessive forces are applied to already weakened tissues (broken, missing or worn teeth, periodontal problems, TMJ problems, etc.).

(ANORMAL FORCES (chewing) <-> NORMAL TISSUES (dental triad) <-> ANORMAL FUNCTION (problems/damage/breakage)

As in any situation involving several variables, the weakest link in the chain will give way. In the case of the masticatory system, it will be one of the 3 variables of the dental triad: the dentition, the periodontium and the temporomandibular joints. In rarer cases, all 3 variables may be affected to varying degrees.

Examples of damage and possible problems

Dentition: Excessive force can cause tooth wear, breakage (fracture, cracking, abfraction [breakage of enamel prisms], breakage of restorations, pain, tooth mobility, etc.), loss of teeth with little support (bone and gum), tooth displacements that can cause malposition, rotations, tilts and interdental spaces, etc.

Periodontium: If the supporting tissues of the teeth are weakened (loss of bone and gingiva), force applied to the teeth, even if normal, can cause tooth mobility and displacement (malposition, rotation, tilting, creation of interdental spaces, even tooth loss) and contribute to malocclusion. Excessive force applied to teeth can cause significant mobility, as in the case of occlusal trauma.

Temporomandibular joints (TMJ): The forces exerted by the musculature are transmitted directly or indirectly to the joints and can give rise to joint symptoms (cracking and joint noises [dislocation, subluxation], limited opening, bone degeneration, pain, etc.). This can happen without the teeth or periodontium being significantly affected.

The reaction to the forces exerted by the muscles of the masticatory system varies from one individual to another, depending on which “link” in the chain is weakest. In some people, if the periodontium is healthy and very resistant, damage will result in tooth damage or joint symptoms. In others, the teeth will not be affected by breakage or wear, but the weaker periodontium will not be able to support the teeth, which will become mobile or shift, and may even fall out in extreme cases.

In other cases, the joints may be affected, while the dentition and periodontium remain relatively intact. Masticatory muscles such as the masseter or temporalis may be more sensitive. In some chronic bruxers, the masseter muscles may even become much more developed, like the muscles of an athlete who trains regularly.

To this “triad” must be added genetics or heredity, and various factors such as the neuromuscular system, which can influence the whole.