

Treatment with Orthodontic Appliances for Children and Adults

Straight, regular teeth are attributes for life. Unfortunately nature is not always that kind: over 50% of children have malocclusion (dysgnathia), which require orthodontic treatment with dental braces. There are also many adults who suffer from malocclusion, as in the past orthodontic treatment was not used to correct tooth alignment or treatment was not carried out properly.

Our practice focuses on aesthetics and function, which makes orthodontics an ideal addition to the treatment we offer.

We are fortunate to have [experienced orthodontists](#), who works closely with [Dr. Schulte, and the other specialists of our team](#) in providing orthodontic treatment for children and adults.

Modern orthodontics has developed into an independent, extensive specialised area – the information provided here is also extensive. You can read through all the information or select specific areas of special interest to you by clicking on the following headings.



37-year-old female patient before and after a dental correction with an invisible lingual brace

If you are interested in specific topics or if you want to read the chapter in sections, please choose from the following bullet points:

Why Dental Braces?

Summary of the reasons

Aesthetics

Nowadays attractive, straight teeth and a charming smile play an important role socially. They represent youthfulness, dynamism and success, increase self-esteem and confidence and are a kind of optical calling card that creates an initial impression when meeting people. On the other hand misaligned, unsightly teeth can make people inhibited and shy and even contribute to depression in those predisposed to the condition.

Prophylaxis of caries and periodontitis

Crowded, misaligned teeth often form hidden corners for bacterial deposits like plaque and tartar; these areas are difficult to clean. The result is that the risk of caries or periodontal disease is greatly increased in comparison with correctly aligned teeth.

Mouth breathing

Certain types of malocclusion (open bite) cause mouth breathing because the lips do not close correctly. This increases the risk of illnesses of the respiratory tract and often results in caries and periodontitis.

Speech defects

Malpositioned upper front teeth can contribute to speech defects such as a lisp.

Reduced masticatory function and incorrect loading

A poor occlusion impairs masticatory function, which can cause problems with the alimentary tract and damage to the teeth (abrasion, loosening) and temporomandibular joints due to overloading. Incorrect loading of the masticatory

muscles and temporomandibular joints can result in facial pain and headaches, noise in the ears (tinnitus) as well as stresses and incorrect posture of the spinal column.

Common Types of Malocclusion (Dysgnathia):

Source: [Association of Austrian Orthodontists \(VÖK\)](#)



Gaps



Open bite



Lateral crossbite



Centric slide



Pronounced overjet



Overcrowding (too little space)



Negative overjet (prognathism)



Negative overjet (prognathism)



Deep bite

Dental Braces for Children

introduction

Fortunately not all children require a dental brace. Children should be examined by an orthodontist to determine whether and when treatment is required.

When should the examination take place?

- First examination at 4 years (milk teeth)
- Second examination at 8 years (early transitional dentition)
- Third examination at 12 years (late transitional dentition)

When should treatment begin?

Generally treatment begins between the ages of 7 and 12. An earlier start to treatment in the deciduous dentition is only required in difficult cases.

Removable orthodontic apparatus (expansion plate)

Removable dental braces are the standard tooth correction appliances for children and young adults. The appliance uses the natural growth of the jaws during this period to guide the teeth and bony structures gently into the correct position. There are various types of removable appliances for different areas of application, e.g. orthodontic expansion plates, activators and bionators. They all have one thing in common; they must be worn regularly for about 15 hours a day to produce good results. A check-up is required about every 4 weeks with the orthodontist; if required the expansion screws in the appliance are then reactivated to maintain the pressure on the teeth and jaws.

Important:

- Success depends on wearing the appliance regularly! This means that parents have to keep their children motivated.
- Do not wear removable appliances when eating and always keep the teeth and dental braces clean to prevent caries!
- When the brace is not in use, it should be kept in a sturdy box to ensure it is not accidentally damaged or lost.

Fixed dental braces



Removable dental braces cannot be used in complex cases with severe malalignment of the teeth and jaw bones. In these cases modern orthodontics increasingly uses fixed appliances, also known as *multi-band appliances*, for children and young adults: small attachments called *brackets* made from metal, plastic or porcelain are bonded to the teeth with adhesive and connected with custom bent flexible wire arches, which are changed at regular intervals. The force applied by the arches moves the teeth very precisely into the required position. Tooth correction

with fixed dental braces is generally completed in 2 – 3 years and therefore requires less time on average than treatment with a removable appliance. Treatment does not depend on the discipline of the child or parents, as the appliance functions 24 hours a day. Fixed dental braces are effective *regardless of age* – they function just as well for adults as for children.



Before and after multi-band treatment in the upper and lower jaw

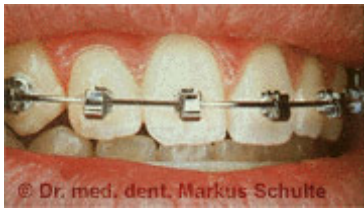
One disadvantage is that fixed appliances with brackets and arches make it difficult to clean the teeth, increasing the risk of caries. *Particularly thorough and precise oral hygiene* with special toothbrushes is therefore required. Our dental hygienists provide special instructions for dental brace wearers. Not every patient is comfortable with the “silver smile” of a fixed dental brace, though the aesthetics of dental braces has been improved in the past few years: *transparent brackets* made from porcelain or plastic are hardly visible. The latest type uses the *lingual technique* to bond the appliance onto the *inner surface* of the teeth and is therefore completely invisible. Further details can be found at Adult treatment.



Ceramic brackets

Preventing a relapse: After correction, teeth have a tendency to return to their original position. The risk of relapse used to be underestimated. Consequently, after spending a lot of time and effort obtaining initially good results, many patients (and orthodontists) felt frustrated that the teeth returned to their original malposition over several years.

This problem is now solved by fitting a *retainer* after completion of treatment, which fixes the teeth in their new position. A thin wire, which is bonded with adhesive onto the inner surfaces of the teeth and remains fitted for many years, is generally used as a retainer.



Speed brackets: Reduced treatment time by up to 50% thanks to better power transmission, minimal irritation of the lips and cheek due to the small size, better aesthetics and hygiene.

Prevent relapse: After a tooth correction, the teeth have a tendency to return to their old position. In earlier times, this risk of relapse was underestimated. Therefore, many patients (and orthodontists) had the frustrating experience that after a long and painstaking dental correction with initially good results, the teeth wandered back to the old faulty position over several years.

Today, this problem is solved by the use of a so-called **Retainer, which fixes the teeth in their new position. It usually uses a thin wire, which is glued to the inside of the teeth and remains there for many years. Alternatively, a removable retainer rail can be used, which is worn only at night.**



Mandibular wire container

Prophylaxis: Parents' responsibilities



About half of tooth and jaw anomalies are not inherited or congenital, but are acquired through bad habits, e.g. thumb sucking, or due to the premature loss of milk teeth.

Prolonged *thumb sucking* can cause the anterior section of the upper jaw including the incisal teeth to protrude. At the same time the lower jaw is pushed back. The result is an open bite due to thumb sucking, in which the incisal teeth can no longer be closed. This can also cause speech defects and mouth breathing.



Open bite

All small children need something to suck on. It is much better for the child to suck a *dummy* rather than a thumb. From an orthodontic point of view there is nothing wrong with moderate use of a dummy up to the age of three.

Milk teeth have an important function as *space maintainers*, i.e. they keep the correct amount of space free for the permanent teeth. Premature loss of the posterior milk teeth due to caries can therefore cause severe malocclusion in the permanent dentition. Optimum oral hygiene from early childhood and healthy nutrition are therefore important for maintaining the milk teeth until eruption of the permanent teeth.

Our [paediatric dentist](#) is happy to offer advice on orthodontic prophylaxis



Caries in milk teeth



Orthodontic Treatment for Adults

Introduction

Teeth can be moved – a lifetime.





It is never too late: teeth can be moved – for a lifetime.

The mouth is not only used for taking in nutrition and breathing, it is also used for communication and other people automatically focus on it. It is therefore no surprise that beautiful, regular, healthy teeth are a kind of “calling card” for an attractive, well-groomed person.

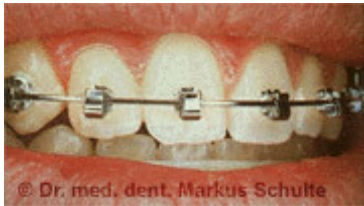
While it is common to see children and young adults wearing dental braces, it is still relatively rare for adults to wear orthodontic appliances, even though there has been a high increase in the past few years. One reason for this was that in the past there was a lack of information about the options for adult treatment. With the modern techniques that are now available it is possible to correct malocclusions in adults of any age.

Generally tooth correction in adults is carried out using *fixed appliances*, which have to be worn over a period of 6 – 24 months. Many people are deterred by the idea of having to wear this type of dental brace in the mouth for a long time. They overlook the fact that thanks to new techniques dental braces are now much more comfortable to wear than in the past. From an aesthetic point of view there have also been major advances: dental braces that are not visible or only partially visible – wishful thinking in the past – have now become a reality for all patients.

Multi-band appliances

The “classic” fixed dental brace comprises *brackets*, anchorage points bonded onto the teeth with adhesive, which are connected with special flexible wire arches. This proven technique moves teeth, even in adults, gently, effectively and precisely into the correct position.

Until a few years ago the unsightly appearance of these types of orthodontic appliances acted as a deterrent. Now brackets made from tooth-coloured *porcelain* or transparent *plastic* are available, which almost make the dental brace look like of a piece of dental jewellery.



Small but effective: Speed brackets shorten the treatment time, irritate the lip and cheek less and facilitate oral hygiene



Ceramics brackets in the upper jaw, normal steel brackets in the lower jaw

The new speed brackets are much smaller than the usual ones. Improved power transmission enables treatment times that are up to 50% shorter than with normal brackets.

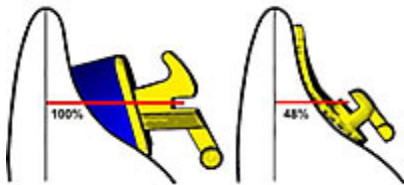
Lingual Technique

The *lingual technique* really is a revolutionary innovation. In the lingual technique brackets and arches are not bonded onto the outer surfaces of the teeth but onto the lingual surface, i.e. onto the *inner surfaces*, of the teeth and are therefore completely invisible. The “camouflaged” dental braces function just as effectively as conventional appliances.

The disadvantages of lingual dental braces up to now have been uncomfortable irritation of the tongue by the lingually fitted appliance and speech problems, especially in the first weeks of treatment. A completely new development provides a solution to these problems: *Incognitobackets* are customised CAD/CAM brackets, which lie flat on the surface of the teeth and protrude much less into the mouth than conventional lingual brackets.

As soon as three weeks after starting treatment the patient has generally become perfectly accustomed to the lingual dental brace and no longer experiences discomfort.

The lingual technique is very demanding technically and is mastered by only a few, highly specialised orthodontists. Operators must also acquire special certification for using Incognito brackets. We are pleased that we are able to provide these innovative treatment options in our practice.



A comparison: left a normal bracket, right an ultra flat Incognito lingual bracket

How does a treatment with the lingual brace work?

- Our orthodontist will check whether the lingual technique is suitable for you and advises you about possible alternatives, such as: Invisalign.
- If you choose a lingual brace, you will make precise silicone impressions of your teeth and send them to Incognito Lingual Technique.
- There, plaster models of your teeth are made and cut with fine saws, so that the model teeth can be moved. The teeth are then placed in the ideal position that your teeth should have at the end of the treatment (set-up). This ideal tooth setup stores a precise 3D digital scan.
- The platelets (brackets), which will later be glued to the inside of your teeth, are then individually planned by computer and cast from gold. A computer-controlled bending machine forms the elastic archwires, which are later clipped into the brackets.
- Your orthodontist will receive the brackets in a silicone transfer rail adapted to your jaw. This allows him to glue all the brackets to the right place on the inside of your teeth at the same time. He then places the preformed archwire in the brackets. This pushes the teeth with the previously calculated on the computer forces in the course of treatment in the correct position.

Advantages and disadvantages of lingual treatment

- Completely invisible from the outside
- stuck, therefore can not be lost or damaged
- Very effective method, applicable to almost all dental malocclusions
- Control interval only every 4-8 weeks, therefore also suitable for patients with long journey to the orthodontist
- Higher costs than other treatment methods
- Internal brackets temporarily cause irritation of the tongue and pronunciation problems in the first few days after the start of treatment.



Incognito lingual brackets in the upper jaw before and after treatment

Cost of Orthodontic Treatment

Average cost range of common treatments

The cost of orthodontic treatment depends of course on the difficulty of the case as well as on the type and length of treatment. In our clinic, **the first orthodontic consultation is free**. We only charge the X-rays or plaster models that may be necessary.

We provide a detailed written estimate before each treatment. Treatment costs are distributed over the whole treatment period and are invoiced every quarter. Usually we offer a fixed price that is kept even if the treatment is longer than scheduled.

Average cost range of common treatments

Treatment with Invisalign or fixed braces	SFR 4'000 – 12'000
Treatment with lingual braces	SFR 7'000. – 15'000
Orthopulse treatment accelerator	SFR 1'100

Do you want to convert the CHF prices (Swiss francs) to euros? Use the [online currency converter](#).

Tariff / Tax points in our practice

In our practice, orthodontic services, i. Treatments with braces, uniformly billed to all patients with the Dentotar tax point value of 1.00 Fr. (social rate). Irrespective of whether it is a private patient or a compulsory benefit in accordance with the KVG or disability insurance. More information about our [billing](#).

Insurance

Statutory insurance companies usually do not take braces treatments. Only in particularly severe cases (birth defects), which have to fulfill certain, precisely defined criteria, does the disability insurance (IV) reimburse the treatment costs up to the age of 20 years.

Most health insurers offer supplementary health insurance (dental insurance), which covers part of the cost of dental corrections in children. Such policies should be completed in toddlerhood when the need for braces treatment is not foreseeable. For older children, insurances usually require an appraisal and can exclude braces from the policy in the event of misalignments.

Questions and answers

At what age should a child begin tooth correction treatment?

There is no generally accepted answer. The first examination should be carried out at 4 years as a precautionary measure, though treatment normally only begins at 7 – 12 years.

Until what age is orthodontic treatment possible or effective?

As long as the teeth are healthy and there is adequate bone structure, there is no age limit for orthodontic treatment. Even at the age of 60, treatment can be effective.

Is orthodontic treatment painful?

In the first few days after having the appliance fitted, the feeling of stress on the teeth fluctuates. Initially the oral mucosa of the lips, tongue or cheek may be irritated. Sometimes there are also speech problems. All of these symptoms generally wear off after the first few days and after becoming accustomed to the appliance it can be worn without any problem.

Can a fixed appliance cause caries?

Caries is not caused by the dental brace but by bacterial tooth deposits (plaque), which have not been removed with a toothbrush. With fixed appliances plaque builds up readily at the brackets that are bonded to the teeth. This is why teeth should be thoroughly and regularly cleaned with special brushes to avoid damage to the tooth by caries.

Is it possible for the teeth to return to their original malposition after orthodontic treatment?

Yes, there is that risk. This is why in most cases, after completion of treatment, a fixed or removable retainer is now fitted that fixes the teeth in the correct position.

Why do we now see more adults wearing dental braces?

In childhood many adults did not receive any orthodontic treatment or, according to modern standards, received incorrect orthodontic treatment. Nowadays an increasing number of people attach importance to their outward appearance and want to improve the aesthetics of their teeth. An increasing number of adults therefore decide to make up for lost time in their youth and attain an attractive smile with orthodontic treatment.