

# Orthodontists Offer a Wide Range of Treatment Options to Straighten Crooked Teeth

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## Description

Orthodontics is a dentistry specialty that addresses the diagnosis, prevention, management, and correction of malpositioned teeth and jaws, and misaligned bite patterns. It may also address the modification of facial growth, known as dentofacial orthopaedics. Abnormal alignment of the teeth and jaws is very common. Nearly 50% of the developed world's population, according to the American Association of Orthodontics, has malocclusions severe enough to benefit from orthodontic treatment: although this figure decreases to less than 10% according to the same AAO statement when referring to medically necessary orthodontics. However, conclusive scientific evidence for the health benefits of orthodontic treatment is lacking, although patients with completed orthodontic treatment have reported a higher quality of life than that of untreated patients undergoing orthodontic treatment. Treatment may require several months to a few years, and entails using dental braces and other appliances to gradually adjust tooth position and jaw alignment. In cases where the malocclusion is severe, jaw surgery may be incorporated in the treatment plan. Treatment usually begins before a person reaches adulthood, insofar as pre-adult bones may be adjusted more easily before adulthood. A typical treatment for incorrectly positioned teeth malocclusion takes from one to two years, with braces being adjusted every four to 10 weeks by specialists called orthodontists, university-trained dental specialists versed in the prevention, diagnosis and treatment of dental and facial irregularities. Orthodontists offer a wide range of treatment options to straighten crooked teeth, fix irregular bites, and align the jaws correctly. There are many ways to adjust malocclusion. In growing patients there are more options to treat skeletal discrepancies, either by promoting or restricting growth using functional appliances, orthodontic headgear or a reverse pull facemask. Most orthodontic work begins in the early permanent dentition stage before skeletal growth is completed. If skeletal growth has completed, jaw surgery is an option. Sometimes teeth are extracted to aid the orthodontic treatment (teeth are extracted in about half of all the cases, most commonly the premolars).

## Orthodontic Therapy

Orthodontic therapy may include using fixed or removable appliances. Most orthodontic therapy is delivered using appliances that are fixed in place, for example, with braces that are adhesively bonded to the teeth. Fixed appliances may provide greater mechanical control of the teeth; optimal treatment outcome is improved by using fixed appliances. Fixed appliances may be used, for example, to rotate teeth if that do not fit the arch shape of the other teeth in the mouth, to adjust multiple teeth to different places, to change tooth angle of teeth, or to change the position of a tooth's root. This treatment course is not preferred where a patient has poor oral hygiene, as decalcification, tooth decay or other complications may result. If a patient is unmotivated (insofar as treatment takes several months and requires commitment to oral hygiene, or if malocclusions are mild. Biology of tooth movement and how advances in gene therapy and molecular biology technology may shape the future of orthodontic treatment. Braces are usually placed on the front side of the teeth, but they may also be placed on the side facing the tongue called lingual braces. Brackets made out of stainless steel or porcelain are bonded to the center of the teeth using an adhesive. Wires are placed in a slot in the brackets which allows for controlled movement in all three dimensions. Apart from wires, forces can be applied using elastic bands and springs may be used to push teeth apart or to close a gap. Several teeth may be tied together with ligatures and different kinds of hooks can be placed to allow for connecting elastic band. Clear aligners are an alternative to braces, but insufficient evidence exists to determine their effectiveness. Orthodontic headgear sometimes referred to as an extra-oral appliance is a treatment approach that requires the patient to have a device strapped onto his or her head to help correct malocclusion typically used when the teeth do not align properly.

## Orthodontic Headgear

Headgear is most often used along with braces or other orthodontic appliances. While braces correct the position of teeth, orthodontic headgear which as the name suggests is worn

on or is strapped onto the patient's head is most often added to orthodontic treatment to help alter the alignment of the jaw, although there are some situations in which such an appliance can help move teeth, particularly molars. Whatever the purpose, orthodontic headgear works by exerting tension on the braces *via* hooks, a facebow, coils, elastic bands, metal orthodontic bands, and other attachable appliances directly into the patient's mouth. It is most effective for children and teenagers because their jaws are still developing and can be easily manipulated. (If an adult is fitted with headgear, it is usually to help correct the position of teeth that have shifted after other teeth have been extracted. Thus Headgear is typically used to treat a number of jaw alignment or bite problems such as overbite and under bite Palatal expansion can be best achieved using a fixed tissue born appliance. Removable appliances can push teeth outwards but is less effective at maxillary sutural expansion. The effects of a removable expander may look the same as they push teeth outwards but should not be confused with actually expanding the palate. Proper palate expansion can

create more space for teeth as well as improve both oral and nasal airflow. Citation needed Jaw surgery may be required to fix severe malocclusions. The bone is broken during surgery and is stabilized with titanium plates and screws to allow for healing to take place. After surgery, regular orthodontic treatment is used to move the teeth into their final position. To reduce pain during the orthodontic treatment, low-level laser therapy vibratory devices, chewing adjuncts, brainwave music, or cognitive behavioral therapy can be used. However, the supporting evidence is of low quality, and the results are inconclusive. After orthodontic treatment has completed, there is a tendency for teeth to return, or relapse, back to their pre-treatment positions. Over 50 of patients have some reversion to pre-treatment positions within 10 years following treatment. To prevent relapse, the majority of patients will be offered a retainer once treatment has completed and will benefit from wearing their retainers. Retainers can be either fixed or removable.