

Adult treatment

6. „Invisible“ treatment modalities

- Lingual / ceramic brackets (Dentsply/GAC, Ispringen/Germany)
- Transparent oral splints (e.g. Invisalign®, Align Technology, Inc., San José/USA)

In-Ovation-C®



In-Ovation-L®



® Dentsply/GAC, Ispringen/Germany

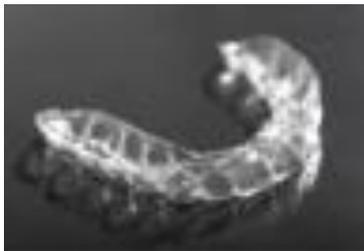
In the past years, patient demands as to aesthetics have increased tremendously. Modern developments in biomechanics and materials research have made it possible to meet those demands. Less than fond memories of relatively large brackets and rigid archwires that today's adults have from previous treatment – and the sentiment is not entirely unjustified – are a thing of the past. Modern miniaturised brackets without ligatures and highly flexible titanium archwires make treatment much faster, much more efficient and much more comfortable. In addition, materials based on ceramic have been developed that enable companies to produce brackets that are almost transparent. Those will show much less than metal brackets when the patient smiles. In our practice we use ceramic brackets from Dentsply/GAC – or more precisely Dentsply/GAC's In-Ovation-C® system (with "C" for "ceramic"). There is also the possibility to cement brackets on the lingual surface of the teeth, meaning the tongue-side surface. This type of brackets is called lingual brackets (as in Dentsply/GAC's In-Ovation-L® system). The fact that they are fixed to the lingual surface makes those brackets invisible from the outside.

As regards treatment results there is no difference between the bracket systems mentioned and normal modern metal brackets (e.g. Dentsply/GAC's In-Ovation-R® brackets, Ormco's Damon® Brackets, etc. - Ormco, West Collins/ USA). There are „white“, respectively transparent brackets from other companies as well: Ormco's Inspire ICE®, 3M's Clarity Braces® or Biomers' SimplyClear® *). A special advantage of ceramic brackets against white plastic brackets (available on the market as well) is that they don't discolour. A fact that has to be mentioned here, though, is that the white and the lingual brackets come at an increased cost not covered by the insurances or dental plans. Lingual brackets also require longer treatment and may, in the first few days after insert, irritate the tongue and so cause temporary problems with speech and eating. Before they can be cemented on the teeth, lingual brackets entail a prolonged preparation phase, because every single bracket must

*3M Unitek, St. Paul/ USA, Biomers, Jacksonville/USA

first be positioned on the model and can then be transferred on the corresponding tooth, via special silicone jigs. Chair-time during appointments is also slightly longer – compared with normal buccal brackets. A reason for this is the poorer accessibility of brackets and archwire to the dental assistant and a slightly less efficient force transmission from the archwire to the tooth, because the force acts from the lingual side.

The following overall conclusion can be made: From an aesthetic perspective, transparent or lingual brackets are the most satisfying solution. One may well become almost enthusiastic about the range of possibilities that modern materials offer. Less compromise needs to be made in terms of treatment results. All bracket systems in use in our practice yield the same excellent results. Patients, however, will doubtlessly have to make concessions as to treatment duration and the costs and effort involved. It is therefore always useful to weigh the pros and cons carefully before deciding on which bracket system to choose.



Everywhere patients are being offered a host of different splint therapies, based on a host of different, partly contradictory concepts (mostly named after their inventors). Orientation in this “wood” of concepts and names can present not only the layman with a major challenge. What is the solution to this? If there is one, it is perhaps the basic conclusion that, after all, teeth *can* be aligned with splints and without the use of brackets. In cases with only minor tooth misalignments and essentially aesthetic requirements, this is actually a viable option. Most widely known among laymen is the Invisalign®-System from Align Technology, Inc. In that concept, correction is performed with individually fitted, transparent plastic splints or jigs. They are hardly noticeable by others when worn but can interfere with speech, if only in the first few days. The disadvantage of this method is that not everybody benefits from it, and it is necessary to make and fit new jigs for every little correctional step. Those, of course, involve costs, among other. And it is absolutely mandatory for the patient to wear the splint all day long, every day of the week, which requires a high measure of compliance on the part of the patient.