The uniqueness of the Tip Edge bracket allows seemingly impossible tasks, with conventional edgewise brackets to be attended to in routine fashion. The use of only three wires during complete orthodontic treatment is just one of them.

The Tip Edge, or differential straight arch technique, represents the most versatile operator and patient friendly method of transforming malocclusions to perfect results since 1925 when the edgewise bracket was invented.

The technique is divided into three distinct stages of treatment. The first stage uses .016 wire, the second uses .022 wire, and the third finishing stage uses .0215 x .028 wire.

The Tip Edge bracket is an edgewise bracket in evolution. The theory of this type of tooth movement has been in use as far back as the beginning of tooth movement.

Not until 1986 however, when Dr. Peter Kesling of Westville, IN, combined the rapid movement of the light force technique with the precise finishing and control of edgewise into an edgewise type bracket was the potential for this theory fully capitalized and appreciated.

There is more to this technique than just a hardware or bracket change for the conventional edgewise practitioner. The theory of light forces to tip teeth to their desired positions is as important as the bracket itself. One will not work without the other. The software change along with the hardware change, for the conventional edgewise operator is a necessity.

Actually, the theory is very simple, but must not be violated to be successful - allow for the crown tipping in one direction (without archwire deflection) and provide for the precise root angulation and final finishing.

The Tip Edge bracket, by having the diagonally opposed corners removed, allows free crown tipping under light elastic force in one direction and controlled uprighting in the other. The limiting surfaces of the bracket control the amount of tipping and uprighting in each direction automatically.

It also seems impossible to not rely on functional appliances, headgear, or other removable auxillaries during or before treatment. The Tip Edge appliance itself and only rapid palatal expansion as an adjunct can do it all.

In the practical application of the technique, there are three distinct stages of treatment, utilizing three archwires.

1. **THE FIRST STAGE** - Translate the maxillary anterior teeth to an edge.
   - Open or close the bite as needed
   - Correct anterior crowding, spacing, and rotations, and gain bracket engagement
   - Correct molar relationships and crossbites
*Length - up to six months. Other things limited to the first stage besides .016 archwire are utilization of the gingivally located round molar tubes and anchor bends in the .016 archwire, both which are necessary for anterior bite opening and control of the anchor molars during first stage of treatment.

The Tip Edge bracket encourages the crowns to tip distally and the roots to take the paths of least resistance. This not only allows the bite to open but also facilitates bracket engagement of the crowded teeth. The mandible is therefore then able to adjust interlocking cuspal interference, present in malocclusions during the first stage of treatment, the potential for mandibular growth and repositioning is encouraged.

Since this preliminary correction simulates orthopedic changes and functional appliances, these devices are not necessary when differential tooth movement is used. Pain present at the start of treatment from occlusal interference and/or temporal mandibular joint dysfunction routinely disappears with no need for occlusal splint therapy.

2. **THE SECOND STAGE** - Maintain all the first stage corrections with the .022 archwires.
   - Close any posterior spaces
   - Correct bicuspid rotations and gain their bracket engagement

*Length - up to four months

3. **THE THIRD STAGE** - Maintain all the first and second stage corrections and overcorrections.
   - Correct the axial inclinations of all teeth to ideal mesiodistal and labiolingual inclinations with .0215 x .028 archwires and sidewinder uprighting springs.

*Length - up to twelve months for severe discrepancies.

The translation from the first stage to the second stage is facilitated by a pre-two stage utilizing the first stage .016 archwire. At or slightly before the edge to edge anterior tooth relationship, anchor bends are removed from the .016 archwires and replaced with rocking chair bends of the 2nd and 3rd stages and the wire is placed into the square more occlusally located molar tubes. Light space closing horizontal elastics can be instituted while total bracket engagement of all teeth, including the bicuspids, is being developed for transition to the heavier .022 second stage archwire.

The unique design of the Tip-Edge bracket which allows free tipping in one direction without archwire deflection, also permits the use of larger archwires without flexing or bending. This is possible because as the crowns tip, the archwire slot increases from .022 to greater than .028 yet closes to .022 during the finishing stage of treatment for precise control. The Tip Edge operator routinely progresses directly from .016 pre two to .022 round second stage archwire. This feature enhances patient comfort and greatly reduces operator workload.
The finishing or third stage can be accomplished using the .022 archwire and uprighting springs (sidewinders) and torquing auxiliaries however, the .0215 x .028 flat archwire is the standard finishing procedure.

Uprighting spring power, which is used to achieve desired final crown tip, can also be used for torquing when applied against a flat .0215 x .028 archwire. Crown tip is limited in both directions by the flat surfaces of the bracket and each bracket had a prescription of torque and tip angles for final finishing. These prescriptions are answered with the flat archwire and sidewinder springs in the third stage of treatment.

Tip Edge is even more operator friendly by the fact that all the archwires and auxillaries are preformed and used directly from the box with no wire bending. The molar bands come with the tubes and lingual lugs attached and can be fitted and seated with finger pressure and a single band pusher.

The use of light forces during treatment not only translates the teeth faster and with less patient discomfort, but maintains and preserves the root apices all the way through treatment.

Through the judicial use of light forces and round archwires in the first two stages of treatment, coupled with the final stage of root correction, permanent changes in the skeleton can be accomplished with relatively little need for surgical procedures.

The same brackets can be used to treat non-extraction Class I, II, and III malocclusions with only a slight variation in the brackets to allow the second bicuspids to tip mesially in the event of first bicuspid extractions. Most cases, however, are treated non-extraction even though Tip Edge handles extraction cases as a non-eventful routine situation.

Note: Tip Edge is a registered trademark of TP Orthodontics, Inc., LaPorte, Indiana U.S.A.