Interproximal Enamel Reduction (Stripping)

Space creation is an important part of orthodontic treatment. Interproximal enamel reduction is a long-established alternative treatment to extraction. A number of terms are used in the orthodontic literature to describe this technique, and this can sometimes be confusing: interproximal reduction (IPR) of enamel, stripping, tooth size reduction, recontouring, reshaping, slenderizing, slicing, slicing, Hollywood trim, selective grinding, mesiodistal reduction, reapproximating, interproximal wear, and coronoplasty.

Advantages and Disadvantages

Interproximal enamel reduction has several advantages:

- There is only minimal loss of tooth substance (in comparison with extraction treatment in particular)
- Less overall tooth movement is often necessary (in comparison with space closure in an extraction approach).
- Treatment times are usually shorter.
- There is potentially better stability of the arches (due to establishment of contact surfaces rather than contact points).
- Residual extraction spaces after orthodontic treatment are avoided.

Although some of the potential side effects are not confirmed in the scientific literature, it is important to carefully inform patients and obtain their consent, in view of the following potential issues associated with tooth size reduction:

- Interproximal cleaning can be more difficult following the procedure and special adjuncts may become in order to maintain good oral hygiene.

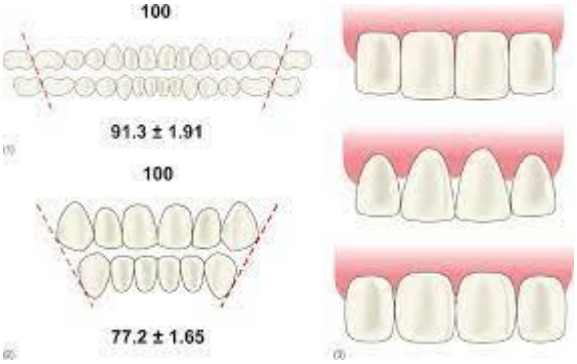
- There may be cosmetic issues such as a squarer appearance of the teeth.
- There is a potential for all the enamel to be removed down to the dentine, with subsequently increased sensitivity of the teeth.
- There is potentially an increased risk of decay (caries).

Contraindications

- 1.Severe crowding
- 2.Poor oral hygiene and poor oral environment
- 3.Small teeth which exhibit hypersensitivity
- 4.Suceptibility to decay.

Indications: Orthodontists should choose appropriate indications by balancing between its benefits and risks. With cautious pre-treatment planning, appropriate performance and post-treatment protection, IPR possesses unique advantages in facilitating better treatment outcome in a more conservative and physiological way without harming dental or periodontal tissue

1- Relief mild-moderate crowding
2- Biomechanical purpose
   a-Midline correction (unilaterally)
   b- Inter-arch relation: Boltons ratio



3- Esthetics improvement:

a-Wide incisors

b-Black triangle

Amount of Space Creation

IPR is particularly useful in patients with primary or secondary crowding. It is also used in patients with significant tooth size discrepancies between the arches and those with abnormally shaped teeth and to reduce or eliminate triangular-shaped spaces in the gingival tissues in patients with an increased distance from the dental contact point to the alveolar crest. The overall space that is made available has been extensively described in the literature, but with significant variations between authors. Most references suggest removing no more than 50%of the existing enamel thickness. This will lead to space creation between 6.5 and 9 mm per arch. Up to 11 mm of space may be created if all of the teeth including the second molars are slenderized. The lower incisors should only be slenderized by approximately 0.2mm on each side, so that no more than 50% of the enamel is reduced

Methods:

1- Manual

A-Stripper-more control, time wasting, one or two sided

B-Sawing device, faster, better control, one or two sided

Mechanical (Air motor stripper ARS):

A- Disk , dangerous, one or two sided

B- Oscillating: Fast, poor control for reshaping, one or two sided

C- Dental burs: For reshaping only, abuse trimming

Timing:

A-Before starting orthodontic treatment(at Bonding)

B-During treatment

C-After treatment (Before permanent retainers)

Prophylaxis step: Fluoridated tooth paste and water may be enough for preventing decay after IPR, however topical fluoride can be used.