
Both Conventional Canine Distalizer demonstrated localized stress along the mesial crestal bone and associated roots mesial to path of tooth and bone movements and tensile stress distal to path of movement.

Both Canine Distalizer Appliance and Nullbrane cleared laminated aligner demonstrated localized compressive stress along the mesial crestal bone and associated roots mesial to path of tooth and bone movements and tensile stress distal to path of movement.

Laminated aligner demonstrated more uniform stress as compared to the Distalizer.

Conventional Canine Distalizer demonstrated localized stress along the brackets required for appliance retention.

Laminated aligner possessed no brackets or attachments and therefore, had no focused stress.

Discussion

1. The periodontal ligament may have osteogenic properties that mimic that of the scalp on the mid palate. It may be possible to utilize this property with the goal of distal tooth movement or retraction in cases of moderate Class III malocclusion.
2. Clinical evidence showed that premolar extraction in conjunction with parafunctional appliance and the administration of an appliance with constant force over a short time span, may aide in repositioning the canine and anterior tooth segment.
3. The use of a Mechanical Canine Distalizer may provide focused tooth movement, however, there are concerns on oral health and patient compliance setbacks due to irritation, poor oral hygiene and mucosal tissue.
4. Both traditional and laminated orthodontic appliances demonstrated similar stress patterns during anterior segment distraction.
5. The clinician may wish to select laminated aligners for rapid distraction as benefits include; ease of hygiene, lower risk of allergic reactions, unreacted stress to teeth and bone outside of the region, esthetics, and or greater patient comfort.

Conclusion

1. Both conventional and laminated orthodontic appliances can provide distalization for the rapid canine tooth movement. The laminated orthodontic aligner has benefits of continuously moving the canine in addition to the anterior segment during the distraction period.
2. Both conventional and laminated orthodontic aligners demonstrated similar stress patterns during the rapid canine distraction method.
3. The laminated aligner may have benefits where ease of hygiene, lower risk of allergic reactions, unreacted stress to teeth and bone outside of the region, esthetics, and or greater patient comfort are mandated.

References


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