

“Piezocision: An Appealing Approach to Accelerate Tooth Movement”.

Expediting the rate of tooth movement has been gaining significant interest in the orthodontic profession. Surgical methods to enhance the speed of tooth movement and reduce treatment duration have shown some promise. Broad range of procedures have been described that vary on the level of surgical invasiveness. Among these different methods, corticotomies have been evaluated more frequently showing a temporary effect in tooth acceleration in animal models.

In the different animal models, surgical techniques have produced conflicting results in the effectiveness of accelerating tooth movement. It appears that the reflection of a flap may influence the intensity of the tooth movement acceleration. Additionally, the extent of bone removal and injury and proximity may have an effect on the intensity of the result.

This lecture will present the results of a recent completed animal study in rats evaluating the effect of corticotomies with flap and without a flap and of a corticision with and without a flap. Additionally, a modified corticision procedure produced by means of a piezotome will also be evaluated.

Clinically, corticotomies is one of these surgical methods that has been studied and has shown tooth movement acceleration during the first few months after the injury; however, the invasiveness of this procedure has limited its application. A new procedure called piezocision produces a surgical insult without a flap, thereby being a less invasive procedure which results in better patient acceptance and also lends itself to repetition in order to maintain the effect on the rate of tooth movement.

This lecture will:

- 1) Describe the piezocision procedure
- 2) Report on animal studies evaluating the effects of different surgical insults including of piezocision
- 3) Present the results of a randomized clinical trial evaluating this technique