**Topical Anesthesia for Subgingival Band Placement: Comparison of Oraqix® versus Benzocaine**

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**PURPOSE**

The purpose of this study is to show that Oraqix® is a more effective topical anesthetic than 20% Benzocaine gel for subgingival orthodontic band placement.

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**MATERIALS AND METHODS**

**Inclusion criteria:**
- Healthy children and adults who are starting orthodontic treatment at St. Barnabas Hospital or Union Community Health Center.
- Patients who require bilateral bands placed on identical teeth on both sides of the same arch, in the same stage of eruption.
- Patients mentally capable of completing the Faces Pain Scale.

**Exclusion criteria:**
- Children less than 7 years old.
- Patients with a history of methemoglobinemia (or patients taking drugs associated with drug-induced methemoglobinemia), glucose-6-dehydrogenase deficiency, or allergy to amide local anesthetics.
- Patients who are pregnant.

**Study Design:**
- Split mouth design – Oraqix applied to one side, 20% Benzocaine gel applied to the other.
- The Oraqix side of the mouth alternated between the right and left sides in consecutive patients.
- After cotton roll isolation, the predetermined anesthetic was placed on the right side.
- After 2 minutes, band placement began on the right side.
- The process was repeated on the left side with the other anesthetic.
- Immediately following band fitting, each patient was asked to rate the pain experienced on each side of the mouth using the Faces Pain Scale.

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**RESULTS**

- 45 patients participated in the study (23 male, 22 female).

**MEAN PAIN SCORE**

- **Oraqix:** 1.49 out of 10
- **Benzocaine:** 2.09 out of 10

- *However, with a p-value of .125, this difference is not statistically significant.*

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**DISCUSSION**

The majority of orthodontists do not use Benzocaine when placing orthodontic bands because it has been shown to be ineffective on the gingival tissues. A new topical anesthetic, Oraqix, has been shown to be effective for periodontal scaling and root planning procedures. Orthodontic band placement is less invasive than deep scaling so Oraqix should be effective for pain control during subgingival orthodontic band placement.

The mean pain scores for Oraqix and Benzocaine were 1.49 and 2.09, respectively. Although more patients preferred Oraqix, the difference in pain score was not statistically or clinically significant. There was no difference in outcome between males and females. Additionally, there was no difference in outcome based on the amount of soft tissue covering the occlusal surface (eruption stage).

Most patients were fairly comfortable during band placement as demonstrated by the average pain score in the "mild pain" region. Although the difference between the two anesthetics was insignificant, we found that both were equally as effective in pain control during the procedure.

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**CONCLUSIONS**

- **Topical anesthetic should be used when insertion of an orthodontic band will impinge on the gingival tissues.**
- **Oraqix and Benzocaine gel are equally effective as when using topical anesthesia prior to band placement.**

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**BIBLIOGRAPHY**


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**Planing in Pain**

**References:**