

Background

Methods

Results

Discussion

- Dental practitioners are concerned with the impact of restrictive frenulum on oral motor function, feeding, and speech.
- Frenotomy surgically alters restrictive attachments. The number of maxillary labial frenotomies has exponentially increased over the past two decades.
- This study aimed to investigate the association between anterior maxillary caries and the frenum position and attachment.
- N=319 dental charts of children 6 months-3 years reviewed by five dental practitioners of the South Texas Oral Health Network (STOHN) for maxillary frenum attachment levels and stage of decay on maxillary anterior teeth.
- Collected insurance type and age at exam.
- Practitioners were calibrated on standardized reporting forms.
- Correlations between frenum attachment, presence of maxillary caries, and insurance type.
- Of the N=319 charts reviewed, 170 (53.9%) had no maxillary anterior caries (ICDAS score = 0).
- Higher caries grades were observed in older children (P = 0.0001).
- Most children had Medicaid (250, 78.3%), private insurance (45, 14.1%), with uninsured at (17, 5.3%).
- Several had Class III (94, 29.5%) or Class IV (91, 28.5%) frenum attachment.
- No significant relationship between insurance type, frenum attachment, and caries severity.
- No relationship between frenum attachment and position, severity of caries in the anterior maxillary position, and insurance type.
- This supports conservative approaches to frenotomies, given the lack of evidence linking restrictive frenula to caries.
- The next step should be to replicate this study with a larger more diverse sample to allow for stratification by age group.

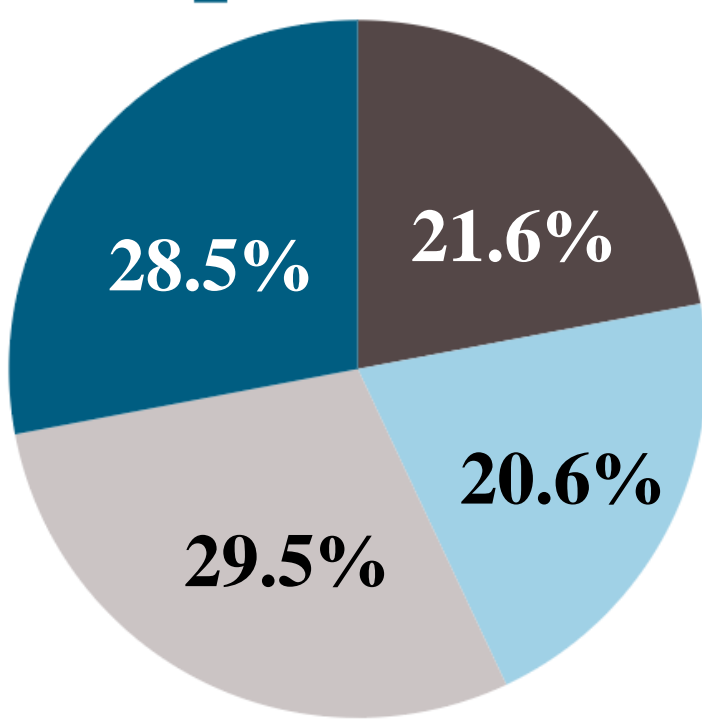
NO significant relationship found between maxillary frenum attachment, caries severity, or insurance type

Maxillary Frenum Classification:

Caries Ratings (ICDAS):

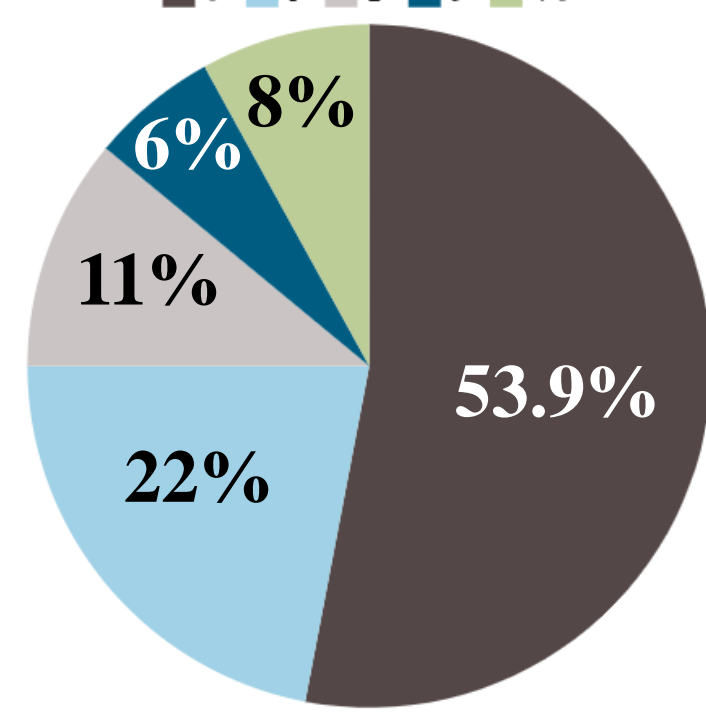
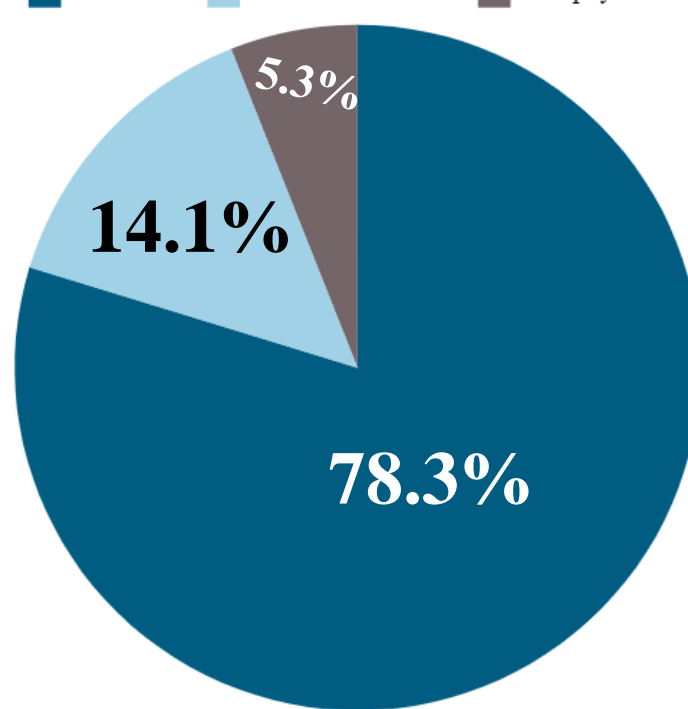
1 - Mucosal 2- Gingival 3- Papillary 4- Papillary Penetrating

0 1 2 3 4-6



Insurance Type:

Medicaid Private Insurance Self-pay/Cash

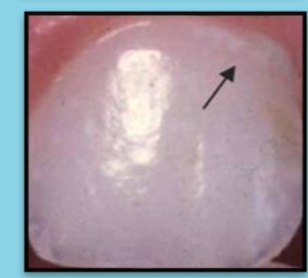


Caries Ratings (ICDAS Scale)

Maxillary Frenum Classification



• **Rating of 0** – Sound tooth surface: no evidence of caries after air drying for 15 seconds.



• **Rating of 1** – First visual change in enamel: opacity or discoloration (white or brown) visible with air drying.



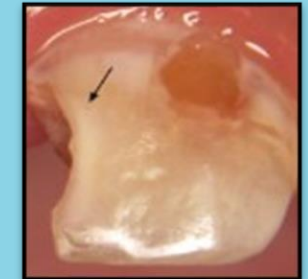
• **Rating of 2** – Distinct visual change in enamel that is visible when wet with visible lesion when air dried.



• **Rating of 3** – Localized enamel breakdown (no visible dentinal involvement) when wet and after air-dried.



• **Rating of 4** – Underlying dark shadow from the dentin.



• **Rating of 5** – Distinct cavity with visible dentin.



• **Rating of 6** – Extensive (more than 1/2 of the surface of the tooth) distinct cavity with visible dentin.



• **1 - Mucosal:** Insertion of the frenum is near the mucogingival junction.



• **2 - Gingival:** Insertion is along the mid-attached gingiva.



• **3 - Papillary:** Insertion is along the inferior margin of the alveolar papilla.



• **4 - Papillary Penetrating:** Insertion is penetrating to the posterior (lingual surface)