

Does Upper Labial Frenectomy Reduce Upper Midline Diastema In Children With Mixed Dentition?

Neha Arora, Nathaniel Gomolin, Rebecca Israel, Amanda Kasner-Remer, Annie Wiseman

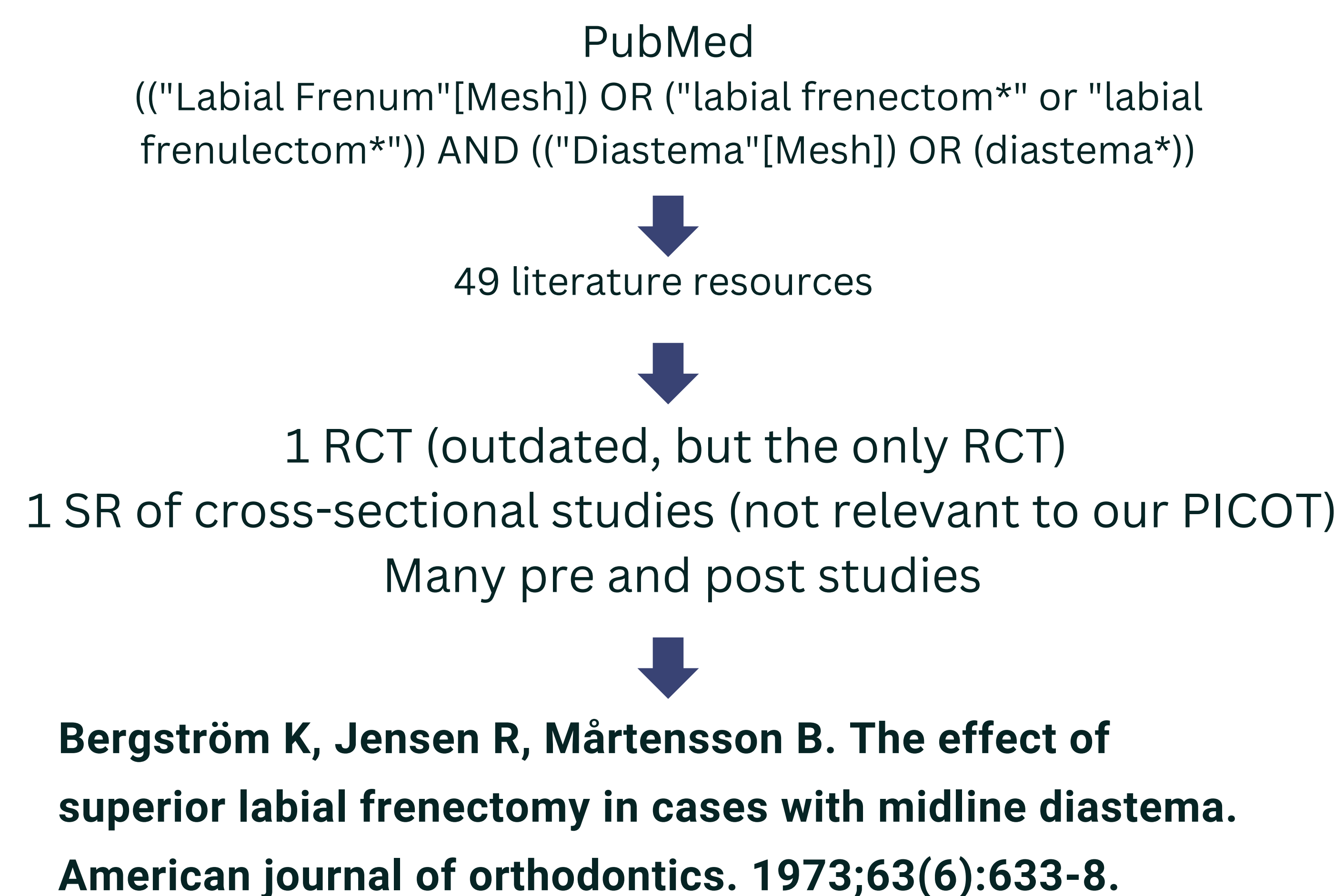
Clinical Problem

- Hyperplastic maxillary frenum interferes with diastema closure in children with permanent anteriors (Prescott, 2020)
- May contribute to dental crowding (Carneiro, 2022)
- Long-term stability of diastema closure after frenectomy?

Clinical Question

Among children with papillary or papillary penetrating labial frenulum associated with maxillary midline diastema, to what extent does labial frenectomy in comparison with no frenectomy affect diastema closure in permanent dentition within a period of at least 5 years?

Methodology



References

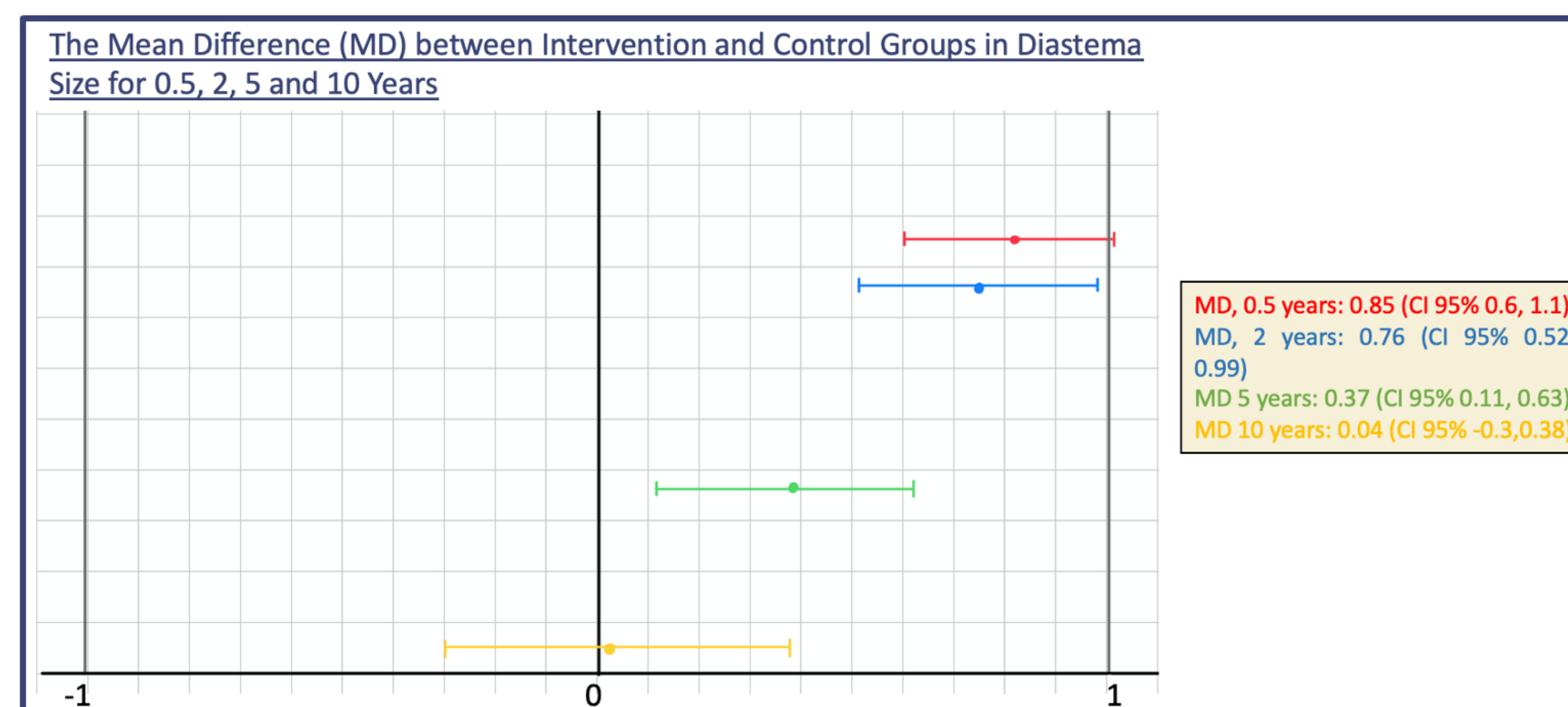
- Prescott, C. A. J. (2020). International Journal of Pediatric Otorhinolaryngology. International Journal of Pediatric Otorhinolaryngology, 138, 110198-110198.
- Carneiro, D. P. A., Venezian, G. C., Valdrighi, H. C., de Castro Meneghim, M., & Vedovello, S. A. (2022). Esthetic impact of maxillary midline diastema and mandibular crowding in children in the mixed dentition. American Journal of Orthodontics and Dentofacial Orthopedics, 161(3), 390-395

Clinical Bottom Line

There is **insufficient evidence** to support the **long term success** of a **maxillary labial frenectomy** in relation to **midline diastema closure**.



Results and Interpretation



Statistically significant: 0.5, 2, 5, years shows statistical significance. 10 year follow-up is not statistically significant.
Clinical meaningfulness: Assuming a range of clinical equivalence of -1 to 1. All effect size estimates are not clinically meaningful as the mean difference falls within the range.
Clinical decisiveness: Follow up of 2, 5 and 10 years: clinically decisive showing no effect. Follow up of 0.5 years is not clinically decisive but it may not be relevant for practice.

Intervention: Frenectomy
Sample Size: 40

Control: No frenectomy
Age: 8-9 years of age

Evidence Quality

Strengths

- **Randomized** control design
- Sufficient **follow-up**

Limitations

- Allocation concealment, missing data and the reason of loss to follow-up was **not reported**
- No mention of **blinding**
- The **intention to treat analysis** was not clear
- Co-variants like presence of functional issues, habits and oral treatments during follow-up period was **omitted from the study**
- **Psychological impact** of short-term closure was not evaluated
- **Sex/gender** and **socioeconomic aspects** were not reported
- Small **sample size**

Clinical Applicability

- The study was conducted in Sweden on a Caucasian population
- The topic is relevant as patients continue to seek care for a midline diastema
- This is a feasible procedure and can be accomplished in a Canadian setting
- Clinicians are performing frenectomies without adequate research to support the effectiveness of this intervention
- More evidence with rigorous methodology is needed to answer the clinical question

Acknowledgements

This CAT was made possible through the support of Praveen Bhoopathi Haricharan, Dr. Julia Cohen-Levy and Dr. Svetlana Tikhonova