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CADTH RAPID RESPONSE REPORT: SUMMARY OF ABSTRACTS

Tongue and Lip Tie Cutting for Posterior Tongue Tie and Lip Tie: Clinical Effectiveness

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About CADTH: CADTH is an independent, not-for-profit organization responsible for providing Canada's health care decision-makers with objective evidence to help make informed decisions about the optimal use of drugs, medical devices, diagnostics, and procedures in our health care system.

Research Questions

1. What is the clinical effectiveness of posterior tongue tie cutting for newborns and infants with posterior tongue tie?
2. What is the clinical effectiveness of lip tie cutting for newborns and infants with lip tie?

Key Findings

Three non-randomized studies were identified regarding the clinical effectiveness of frenotomy in infants with posterior ankyloglossia and lip ties.

Methods

A limited literature search was conducted on key resources including PubMed, The Cochrane Library, University of York Centre for Reviews and Dissemination (CRD), Canadian and major international health technology agencies, as well as a focused Internet search. No filters were applied to limit the retrieval by study type. Where possible, retrieval was limited to the human population. The search was also limited to English language documents published between January 1, 2013 and December 19, 2018.

Selection Criteria

One reviewer screened citations and selected studies based on the inclusion criteria presented in Table 1.

Table 1: Selection Criteria

Population	Infants and newborns with posterior tongue tie (ankyloglossia, tethered oral tissues [TOT]) or lip tie (superior labial frenulum)
Intervention	Q1: Posterior tongue tie cutting with scissors, lasers or scalpels Q2: Lip tie cutting (frenectomy or frenotomy) with scissors, lasers or scalpels
Comparator	No treatment; other treatments (physiotherapy, osteopathy, chiropractic treatment), tongue tie or lip tie cutting with a different instrument (scalpel, laser, scissors)
Outcomes	Clinical effectiveness (breastfeeding, decrease in pain [for mother], infant weight gain, speech impediments and malformation of sinuses, harms, safety)
Study Designs	Health technology assessments, systematic reviews, meta-analyses, randomized controlled trials and non-randomized studies

Results

Rapid Response reports are organized so that the higher quality evidence is presented first. Therefore, health technology assessment reports, systematic reviews, and meta-analyses are presented first. These are followed by randomized controlled trials and non-randomized studies.

Three non-randomized studies were identified regarding the clinical effectiveness of frenotomies in those infants who have posterior ankyloglossia. No relevant health technology assessments, systematic reviews, meta-analyses or randomized controlled trials were identified.

Additional references of potential interest are provided in the appendix.

Overall Summary of Findings

Three non-randomized studies[1-3] were identified regarding infants with posterior ankyloglossia and lip tie and whether there was any clinical effectiveness after a frenotomy.

The first non-randomized study[1] recruited 30 newborns that were clinically diagnosed with posterior ankyloglossia to examine the changes in breastfeeding and maternal nipple pain before and after the frenotomy. Researchers concluded that there was significant improvement in breast feeding post operation through LATCH tool as well as a decrease in maternal nipple pain that maintained after 14 days.[1] It was concluded that posterior frenotomy was effective for increasing breast feeding and reduced maternal nipple pain.[1]

Similarly, the second study[2] looked at the impact of a frenotomy of infants diagnosed with poster ankyloglossia or tethered maxillary labial frenula. Of the 237 dyads enrolled after self-electing laser lingual frenotomy and/or maxillary labial frenectomy, 78% of the infants were diagnosed with posterior ankyloglossia.[2] Researchers concluded there was a significant increase in breastfeeding and latching as well as a reduction in maternal nipple pain compared to pre-operation of those infants who underwent a frenotomy.[2]

The last non-randomized study[3] assessed the effectiveness of office-based frenotomy while improving breastfeeding among infants with posterior or anterior ankyloglossia. Of the 299 infants that underwent a frenotomy, 254 of them had posterior ankyloglossia.[3] The researchers concluded that infant latching and breastfeeding significantly improved while maternal nipple pain reduced after the frenotomy.[3]

References Summarized

Health Technology Assessments

No relevant literature identified.

Systematic Reviews and Meta-analyses

Randomized Controlled Trials

No relevant literature identified.

Non-Randomized Studies

1. Srinivasan A, Al Khoury A, Puzhko S, et al. Frenotomy in infants with tongue-tie and breastfeeding problems. *J Hum Lact*. 2018 Dec 13:890334418816973.
PubMed: PM30543756

2. Ghaheri BA, Cole M, Fausel SC, Chuop M, Mace JC. Breastfeeding improvement following tongue-tie and lip-tie release: a prospective cohort study. *Laryngoscope*. 2017 May;127(5):1217-1223.
PubMed: PM27641715

3. O'Callahan C, Macary S, Clemente S. The effects of office-based frenotomy for anterior and posterior ankyloglossia on breastfeeding. *Int J Pediatr Otorhinolaryngol*. 2013 May;77(5):827-832.
PubMed: PM23523198

Appendix — Further Information

Previous CADTH Reports

4. Frenectomy for the correction of ankyloglossia: a review of clinical effectiveness and guidelines (*CADTH Rapid response report: summary with critical appraisal*). Ottawa (ON): CADTH; 2016: https://www.cadth.ca/sites/default/files/pdf/htis/june-2016/RC0785%20Frenectomy%20Final.pdf. Accessed 2019 Jan 9.

Non-randomized studies

Alternative Outcomes

5. Walker RD, Messing S, Rosen-Carole C, McKenna Benoit M. Defining tip-frenulum length for ankyloglossia and its impact on breastfeeding: a prospective cohort study. *Breastfeed Med*. 2018 Apr;13(3):204-210.
PubMed: PM29620937

6. Benoiton L, Morgan M, Baguley K. Management of posterior ankyloglossia and upper lip ties in a tertiary otolaryngology outpatient clinic. *Int J Pediatr Otorhinolaryngol*. 2016 Sep;88:13-16.
PubMed: PM27497378

7. Pransky SM, Lago D, Hong P. Breastfeeding difficulties and oral cavity anomalies: the influence of posterior ankyloglossia and upper-lip ties. *Int J Pediatr Otorhinolaryngol*. 2015 Oct;79(10):1714-1717.
PubMed: PM26255605

Qualitative Studies

8. Manipon C. Ankyloglossia and the breastfeeding infant: assessment and intervention. *Adv Neonatal Care*. 2016 Apr;16(2):108-113.
PubMed: PM27003478

Additional References

9. Douglas P. Making sense of studies that claim benefits of frenotomy in the absence of classic tongue-tie. *J Hum Lact*. 2017 Aug;33(3):519-523.
PubMed: PM28719783

10. Brookes A, Bowley DM. Tonguetie: the evidence for frenotomy. *Early Hum Dev*. 2014 Nov;90(11):765-768.
PubMed: PM25258296