

BACKGROUD

Ankyloglossia, or tongue-tie, is a congenital condition characterized by limited tongue mobility leading to difficulties in breast feeding. In recent years there have been a notable increase in ankyloglossia diagnoses and frenectomy procedures worldwide. The increase in number of frenectomy procedures raises concerns about potential over-diagnosis in infants and children.

GOALS OF THIS STUDY

- To critically evaluate the available literature and guidelines for proper diagnosis of ankyloglossia that interfere with breast feeding and recommended treatments.
- To do so, we **compare** extracted information to illustrate commonalities, agreements and disagreements between various organizations.

MATERIALS AND METHODS

Publications between January 2000 – September 2024 found on PubMed/MEDLINE and Google Scholar were utilized. Search terms: "ankyloglossia," "tongue-tie," "guideline," "position paper," "diagnosis," "treatment" were used.

Inclusion Criteria included published guidelines or position papers that addressed infants and breastfeeding. Exclusion Criteria included case reports, opinion pieces, meta-analyses, and clinical trials NOT focused on lingual frenum in infants, as well as those focused on buccal/labial ties or adult populations.

Twelve manuscripts were identified, and common themes and discrepancies among them were identified and organized into 7 key criteria, which were synthesized and evaluated critically.

Dental Societies	Medical Societies	Governmental
2024 AAP Clinical Report	Academy of Breastfeeding Medicine	Agency for Health R and Quality - MMS
AAP Review 2022	Developmental Period Medicine -	National Institute for Care excellence -CB
AAPD 2022	The American Academy of Otolaryngology–Head and Neck Surgery (AAO-HNS)	Canadian Agencies f technologies - MMS
Australian Dental	Laryngology and otolaryngology - MMS	
	Canadian Pediatric Society - MMS	

The Criteria used to evaluate each manuscript were identified as critical qualities and characteristics pertaining to ankyloglossia and breastfeeding. The following 7 criteria were identified:#1 Definition of Ankyloglossia, #2 Diagnosis of ankyloglossia, #3 Difficulties in Breastfeeding/Lactation, #4 Assessment Tool for evaluation of ankyloglossia, #5 Consultations, #6 Treatments, and #7 Treatment Outcomes. Each reference was evaluated to determine its contents and recommendations using the criteria above. Points were then compared and contrasted in order to identify common definitions, themes, criteria, and recommendations.

RESULTS													
Criteria #1: Definitions													
Ref #s	#1	#2	#3	#4	#5	#6	#7	#8	#9	#10	#11	#12	
Ankyloglossia	x	х	х	x	x	×	х	x	х	х	х	х	
Anterior Tongue Tie		x			×					х			
Posterior Tongue Tie	х	х	х		x	x	х		х	х			
Anterior Tongue Ti	e· A c	onditio	n in whia	h lingua	l frenuli	ım exter	nds to th	e tin of t	he tongi	le or ne	ar the tir	o of the	

A condition in which ingual nendium extends to the tip of the tongue of hear the tip of the tongue and restricts tongue mobility was described in 3 publications. one publications indicated this condition as more common in males.

Posterior Tongue Tie: A condition in which the frenulum is attached further back on the tongue, closer to the base was described in 8 publications.

A Critical Gap in Consensus of Ankyloglossia Treatment Guidelines

Department of Pediatric Dentistry, School of Dental Medicine UConn Health



				Crit	teria #2	2: Dia	gno
Ref #s	#1	#2	#3	#4	#5	#6	
Function					x		
Anatomical	×	x	x	x	x	х	
Weight loss/Failure to thrive	x			x			

No universally accepted criteria exists. Inconsistent discussion of standardization within the <u>literature</u>. **Anatomy:** 6 publications recognized that there is an anatomical component/appearance for the diagnosis of ankyloglossia. No single anatomical characteristic was cited to be linked to the impaired tongue function. 3 publications also indicated that anatomical definitions and grading systems are available, but seldom utilized in the clinical domain. Function: 4 publications discussed functional component for the diagnosis of symptomatic ankyloglossia. Symptomatic ankyloglossia is specifically associated with breastfeeding difficulties that do not improve with lactation support.

Criteria #3: Difficulties in Breastfeeding and Lactation												
Ref #s	#1	#2	#3	#4	#5	#6	#7	#8	#9	#10	#11	#12
Lactation	х	х		x	х	x	x					
Nipple Pain	х		×			x	x					
Latching and maintenance of latch	x					x	x					
Duration of breastfeeding						×	×					
Restriction of Movement (baby tongue)	x	x	x	x			x					

Six articles discussed breastfeeding difficulties. Inconsistencies for a clear association between breastfeeding difficulties to ankyloglossia. Nipple Pain: Discussed in 4 articles. Nipple trauma is associated with multiple symptoms of ankyloglossia & main reason for premature weaning, switching to the bottle, and treatment of ankyloglossia. Latching: Discussed in 3 publications. Latch and its maintenance is part of some of the most commonly associated symptoms of ankyloglossia. **Duration:** Discussed in 2 articles. Obtaining a lactation history which includes the duration of breastfeeding is vital in the diagnosis of ankyloglossia. **Restriction of movement:** 2 articles indicated utilizing scales in order to evaluate the restriction of movement (the Corylos classification & Hazelbaker scale). 4 articles indicated the importance of assessing the restricted tongue movement clinically, highlighting the importance of the elevation of the tongue rather than the tongues ability to protrude.

	Criteria #4: Assessment Tools for evaluation of Ankyloglossia														
Ref #s	#1	#2	#3	#4	#5	#6	#7	#8	#9	#10	#11	#12			
Assessment tool discussed	x	x	x		×	x	x	x	x		x	x			

Discussed in 9 publications. No classification systems have been validated in the literature leaving inconsistency in their clinical application. Assessment Tools Discussed: Hazelbaker Assessment Tool for Lingual Frenulum Function (HATLFF), Bristol Tongue Assessment Tool (BTAT), The Tongue-tie and Breastfed Babies (TABBY) assessment tool, Kotlow's grading system, Frenectomy Decision Tool for Breastfeeding Dyads, Neonatal Tongue Screening Test.

	Criteria #5: Consultations													
Ref #s	#1	#2	#3	#4	#5	#6	#7	#8	#9	#10	#11	#12		
ENT		x			х	х								
Pediatrician	x				х									
Pediatric Dental	x				x									
Lactation consultant	x	x	×		×	х	x					x		
Others			х	x			x	x	х					

Tiana Piscitelli, DMD; Mitra Marvasti-Sitterly, DMD, MS; Carly Ramirez, DMD; Rosa Pelaez-Shelton, DDS, MDS; Mina Mina, DMD, MSD, PhD



ENT consultation: discussed in three publications. No guidelines were provided. **Pediatricians** consultation: discussed in four publications. No guideline on timing or indication were provided. **Pediatric Dentist:** discussed in two publications indicating their role in the care of infants with ankyloglossia. Lactation Consultant: discussed in of the 12 publication indication their role in the patient's care team. Majority had strong emphasis on multidisciplinary team approach.

Criteria #6: Treatments													
Ref #s	#1	#2	#3	#4	#5	#6	#7	#8	#9	#10	#11	#12	
Surgical	x	x	x	x	x	x	x	x	x	x	x	x	
Non-surgical Dental	x	x	х	х	х	x	x	x	х	x		x	
Who	x		x	x	x	х			х				
Time		x	x			x	×			×		×	
Analgesia			x	x					х			x	

Surgical Approaches: No consistent recommendation on surgical methods. Majority suggested that laser and electrosurgery offer benefits (improved hemostasis, reduced pain, fewer complications), but data on safety and efficacy are limited. **Non-Surgical Options**: non-surgical management was recommended by 11 publications. Who Performs Treatment: No clear consensus on who should perform surgery, but should be done by appropriately trained professionals (physicians, oral surgeons, dentists). **Timing of Treatment**: Half of sources recommend surgery as soon as possible after diagnosis. Analgesia: No clear guidelines on analgesic use post-surgery, with only 4 sources mentioning it.

Criteria #7: Treatment Outcomes													
Ref #s	#1	#2	#3	#4	#5	#6	#7	#8	#9	#10	#11	#12	
Adverse effects			x	×	x			x	x	x	x	x	
Short term	х			x	x	x	x	x		x			
Long term	x		x	x	x	x	x	x		x			

Adverse Effects: Articles that discuss, consensus is that the procedure is generally safe with minimal risks. Potential complications: bleeding, infection, scarring, reattachment, reoperation. Rare risks: nerve damage, hematoma, tongue movement restriction. No longterm adverse effects reported in any of the sources. **Short-Term Benefits:** discussed by 7 publications and eastfeeding wit inconsistent reports on positive impact on infant Tongue Tie breastfeeding. No comparison to non-surgical interventions for short-term benefits were provided. **Long-Term Benefits**: discussed in 11 publications. More long-term research needed to assess impacts Normal Tongue Position on breastfeeding and infant health.

CONCLUSIONS/RECOMMENDATIONS

Professional associations that have released guidelines on ankyloglossia were limited to pediatric medicine, pediatric dentistry, breastfeeding academy, ENT, developmental medicine, and international dental academies.

Among the seven criteria examined, definition of ankyloglossia and frenectomies were the most consistently agreed upon. There were no overall consensus for other criterias. Importantly, there was no conclusive consensus on key areas such as diagnosis, referral, treatment modalities, and follow-up.

Our study indicates that a multidisciplinary standardized guidelines by medical community is needed for: diagnosis and treatment of ankyloglossia, as well as which specialties should be completing these procedures. Further research regarding long-term effects and treatment outcomes is needed.

REFERENCES

Please see handout.

HEALTH



