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Position Statements

International Consortium of oral Ankylofrenula Professionals (ICAP): Practice guidelines for ankylofrenula management

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International Consortium of Oral Ankylofrenula Professionals (ICAP) Practice Guidelines for Ankylofrenula Management

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Abstract. This document contains Practice Guidelines developed by the International Consortium of oral Ankylofrenula Professionals (ICAP) Consensus Committee and accepted by the Board of Directors to delineate the roles and responsibilities of healthcare professionals involved in caring for individuals with ankylofrenula. These Practice Guidelines apply to practitioners serving individuals across all age groups, from infants to adults. It aims to standardize healthcare practices concerning ankylofrenula definition, diagnosis, assessment, and management. The purpose of these Practice Guidelines is twofold: firstly, to communicate ICAP's stance on the standardization of healthcare practices for health professionals engaging with patients and families affected by ankylofrenula. Secondly, it serves as an educational resource and advocacy tool for ICAP in interactions with external stakeholders, such as multidisciplinary team members, healthcare management, government bodies, researchers, funding agencies, patients, caregivers, and their families.

Keywords: tongue-tie, ankyloglossia, ankylofrenula, practice guidelines, ICAP

Position of the International Consortium of Oral Ankylofrenula Professionals

Frenum refers to a band of tissue that connects two bodily structures. The term frenulum refers to a small frenum. The terms frena or frenula are the plural forms of frenum and frenulum, respectively. ICAP defines oral ankylofrenulae as restrictive frenula located in the oral cavity that result in a functional restriction. A glossary of selected terms is provided in Table 1.

The oral frenula include the lingual frenulum (tongue), the labial frenulum, (lip) and the buccal frenulum (gum to cheek). Ankylofrenula is the overarching term for oral restrictions, including

lingual, labial, and buccal frenula. Ankyloglossia, or tongue-tie, specifically refers specifically to functional restriction of the lingual frenulum. Because size is relative, oral frenula are also commonly referred to as oral frena, and the lingual, labial, or buccal frenulum may also be referred to as the lingual, labial, or buccal frenum respectively.

ICAP advocates for a *comprehensive evaluation* of symptomatic infants, children, young people, and adults, including observation of the oral structure, and functional assessment of the frenula.¹ This includes an examination of the tongue and lip appearance, movement of the tongue and lip, and assessment of the impact of the frenula during functional activities, such as breastfeeding, bottle-feeding, eating, drinking, breathing, sleeping, speech production and orofacial development.

ICAP recognizes the importance of an *individualized treatment plan* based on each patient's unique needs. We advocate for evidence-based treatment approaches integrating both empirical evidence and practice-informed knowledge.

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Table 1. Glossary of terms

Ankylofrenula	Ankylofrenula may include ankyloglossia or tongue-tie, labial frenula and/or buccal frenula. From the Greek origin of “ankylo” (constricted) and “frenula” meaning multiple frenum, or connective tissue that join two structures. ²
Ankyloglossia	A functional diagnosis when the lingual frenulum restricts anterior and mid-tongue mobility, ³ impacting feeding, eating, drinking, and speaking functions. From the Greek terms “ankylo” (constricted) and “glossa” (tongue), ankyloglossia is used synonymous with tongue-tie. ²
Frenotomy/frenulotomy	A surgical procedure involving the incision or cutting of the frenulum, a small fold of tissue, to release tension and improve the range of motion, typically performed with scissors or a laser. ⁴
Frenectomy/frenulectomy	A surgical procedure in which the complete removal of the frenum/frenulum including its attachment to underlying bone. This may involve cutting, excising, or using a laser to eliminate the frenulum. ⁴
Frenuloplasty	A surgical procedure providing complete release of the frenulum. ⁵ May take various forms, including horizontal-to-vertical or z-plasty frenuloplasty. ⁶
Lingual frenulum	A dynamic structure formed by a midline mucosal fold passing fold in the floor of the mouth fascia between the under-surface of the tongue and the floor of the mouth. ^{3,7}
Posterior tongue tie	Frenulum is located posterior to the anterior mucosal covering of the ventral tongue and floor of mouth. Tension or restriction in the mid to posterior tongue to the floor of mouth. ⁸
Surgeon	Refers to any medical or dental healthcare provider that engages in the act of frenotomy/frenectomy surgery.
Tethered Oral Tissues (TOTs)	A collective term to refer to oral restrictions, including tongue-tie (ankyloglossia), maxillary lip-tie (ankyloablabia) and cheek ties (buccal ties). ⁹

ICAP promotes collaboration amongst *multi-disciplinary health care teams* comprised of licenced professionals from medicine, dentistry, speech-language pathology, and lactation, as well as advanced practice and allied health professionals and manual therapists (e.g. physical therapists, occupational therapists, massage therapists, chiropractors, osteopaths). All health professionals should have licensure with the relevant authorities in the country and state of practice. This collaborative approach ensures individualized and excellence in the standard of care for patients.

Assessment

A comprehensive evaluation of both the structure and function of the oral cavity and associated oral ankylofrenula by a health professional trained in oral restrictions is essential. A comprehensive assessment and review must integrate data from structure, as well as relevant functions.

Structural and Functional Assessment

Before the assessment, a comprehensive case history should be collected from the patient or caregiver. The next initial step in the assessment process should involve a thorough structural and functional assessment or clinical evaluation by a specialist

skilled in the applicable area. For example, breastfeeding concerns necessitate a consultation with an international board-certified lactation consultant (IBCLC). If the patient presents with difficulties with feeding, eating, drinking, or speaking, they require the expertise of a speech-language pathologist (SLP) or national equivalent. Expert input on oral structure and function from a manual therapist (e.g., physical therapist/physiotherapist, osteopath, chiropractor) regarding muscular, fascial, or neurological comorbidities can also contribute to the functional assessment.

Clinical assessment tools with reliable psychometric properties and parent-reported outcomes should be utilized to consider the needs and desires of the mother-baby breastfeeding dyad.

During clinical assessment, oral structures should be observed, including palatal and tongue appearance, dentition, tongue mobility during isolated movements, and functional impact of the lingual and labial frenula on feeding, eating, drinking, breathing and/or speech production should be examined and documented. There is currently limited research to support buccal frenula assessment and release.

Classification systems may be used to describe the appearance of the lingual and labial frenula. There is

no unanimous agreement on classification of appearance for ankyloglossia.¹

A comprehensive report summarizing all functional symptoms and potential comorbidities should be written to inform and educate the caregiver, patient, referrer, and release provider.

Surgical Assessment

The first step of the surgical assessment is a thorough review of symptoms, previous consultations, and treatments with other health professionals, followed by a physical exam which includes visual inspection, palpation of the frenula and assessment of tongue range of motion. Visual examination may also include examining blanching tissues when the lip or tongue is palpated or stretched.

In cases involving breastfeeding infants, where timeliness of intervention may be pertinent, if consultation with an IBCLC or SLP with infant feeding expertise is not feasible or possible and the infant has faltering growth, the surgical provider may conduct a comprehensive functional assessment. A surgical procedure alone is never adequate, and the patient should be referred for functional therapy with an IBCLC, SLP or other relevant therapist immediately or at most a week after the procedure. The surgeon should also offer patients/caregivers alternative non-surgical treatment options, and other complimentary pre-surgical therapies, and be informed that the presenting symptoms may not fully resolve by surgery alone.

Diagnosis

Any qualified and licensed health care provider can provide a diagnosis of ankylofrenula, including ankyloglossia or a restricted labial frenulum. The diagnosis should be supported by data from the assessment on functional limitations in line with the surgical diagnosis criteria above.

Decision Making of Treatment Options

Medical, dental, and other health practitioners can provide treatment options and recommendations. It is important that all providers understand and abide by the scope of practice for their relevant profession and licensure. Some professionals may diagnose ankylofrenula but are not authorised to provide treatment recommendations.

It is important to consider non-surgical options to facilitate optimal oral functioning be considered before proceeding to surgical assessment and treatment.¹⁰

Surgical management providers are ethically required to present information objectively based on the provider's expertise and high-quality evidence-based research, so that the caregiver/patient can make a fully informed treatment decision. The caregiver/patient should be presented with all the treatment options, which may include further therapy or monitoring/watchful waiting, and the benefits and drawbacks of each treatment modality, to give them the best chance for achieving their outcomes.

Surgical providers are required to provide details on the benefits and potential contraindications, complications, and biases of different treatment options. With infants and young children, this may involve discussing supplementary feeding options such as bottle feeding with breastmilk or formula, even if that conflicts with the personal views of the provider.

It is important that providers create a supportive environment and provide opportunity for questions and discussion. The knowledge base of both the caregiver/patient and provider may differ and be influenced by outside factors, which may be inaccurate or not evidence based. This process allows both the provider and the caretaker/patient to review the treatment choice and for all parties to share and validate knowledge. A thorough assessment and diagnosis, as well as detailed follow-up regarding all treatment(s) chosen, will enable providers to optimise outcomes for future patients.

Treatment

The goal of treatment is to improve function. Functional goals could include improving oral resting posture, feeding, swallowing and/or speech through increased range of tongue motion, tongue endurance, or tongue strength.

Non-surgical options should be considered for all patients before proceeding or considering surgical treatment options. If non-surgical management fails, surgical treatment can be explored, such as laser therapy or scissors release.

As with any surgery, surgical treatment plans should be discussed in details with caregivers/patients prior to initiating surgery. For infants, special attention should be given if an infant has not had a vitamin K shot, which could result in excessive bleeding that does not clot normally. If a provider intends to offer a release to an infant under 6 months of age who has not received vitamin K, s/he must document that the risk of NOT doing the procedure outweighs the risk of potential Vitamin K deficiency bleeding and the parents/caregivers are made aware and provide informed consent.¹¹ The surgeon should discuss pain management and risks of reattachment, scarring

or relapse of symptoms should also be clearly communicated to the patient as part of the informed consent process and the surgeon should be available to answer patient/family questions during the post-operative period.

Due to the multi-disciplinary nature of successful treatment and resolution of ankylofrenula, it is difficult to prescribe a single practitioner that should oversee follow-up care and for what duration. A follow-up care plan should be prepared for all caregivers/patients, outlining the team members involved and the plan. At a minimum, the care plan should include caregiver/patient instructions for monitoring healing.

Post-surgical monitoring should be provided by the practitioner who conducted the initial functional assessment and other feeding specialists and therapists to allow comparison of pre-operative and post-operative changes and may include a symptom monitoring plan with outcomes recorded by the clinician and caregiver/patient. It is suggested that clinical changes of appearance, oral mobility and function be collected and documented, including adherence of caregivers/patients to the pre- and/or post-operative care regimen.

Soft-Tissue Healing

Soft-tissue healing should be monitored by the treating surgeon, until the surgeon feels that re-attachment has been avoided and that the surgical outcomes have been maintained. Follow-up care should be provided after all ankylofrenula release. Follow-up visits are guided by the functional goals of the surgical procedure, and the surgeon should be concerned with whether the soft tissues can function optimally post-surgery, and whether that function is maintained without regression.

There are currently no published standardized follow-up procedures for surgical techniques, so it is not possible to determine the optimal duration and timing of follow-up appointment for symptom resolution. Follow-up of soft-tissue healing is recommended up to two (2) to four (4) weeks post-surgery.

Active Wound Management

There is no overall consistency in the active wound management of ankyloglossia.¹²

The caregiver/patient should be the key person implementing active wound management under the guidance of a licensed medical professional/surgeon. There is currently no documentation on the scope of practice or licensure for professionals for implementation of pre- and post-operative wound care. It is suggested that these are limited to qualified

medical professions with expertise in oral anatomy and physiology.

This is not within the scope of practice or licensure for many professionals, including IBCLCs, SLPs, physiotherapists and orofacial myofunctional therapists.

Pre- and Post-Operative Exercises

There is currently limited evidence and consensus on the use of pre- and/or post-operative exercises of the lingual and labial frenula.

Only licenced health professionals who provide functional assessments of feeding, eating, drinking and speech production can provide pre- and/or post-operative exercises to improve function prior to any potential non-surgical and/or surgical management. There is currently no documentation in most fields specifically on who is qualified to provide pre- and post-operative exercises. It is suggested that these are limited to qualified health professions with expertise in oral anatomy and physiology. The functional experts should also be involved in monitoring for functional recovery after the surgical procedure and offer pre- and post-operative care to aid in full functional recovery.

If a pre- and/or post-surgical exercise regimen is provided for labial and lingual frenula, caretakers/patients must be provided with clear direction and understanding of all post-operative exercises, and subsequent monitoring and evaluation that they are being performed as prescribed.

The age and compliance of the patient need to be considered, and the caregiver/patient knowledge and ability to perform pre- and/or post-operative care.

Existing Consensus and Position Statements

The landscape of healthcare is influenced by consensus and position statements from authoritative bodies. In ankylofrenula, various disciplines and organizations worldwide have issued positions based on a combination of literature review, expert opinion, and clinical experience. We summarise these positions to assist healthcare providers navigate the diagnosis and treatment of ankyloglossia, as well as for patients seeking informed care decisions.

This section provides an overview of key consensus and position statements from organizations such as the Academy of Breastfeeding Medicine, the Academy of Otolaryngology/Head & Neck Surgery, the American Academy of Pediatric Dentistry, the Australian Dental Association, the Agency for Healthcare Research and Quality, and the New

Zealand Ministry of Health. Each statement reflects the perspectives of experts in their respective fields, offering insights into diagnostic criteria, treatment recommendations, and the need for further research.

By examining these statements collectively, healthcare professionals can gain a comprehensive understanding of the current consensus, identify areas of agreement and divergence, and make informed decisions in the management of ankyloglossia. Additionally, recognizing the limitations inherent in these statements underscores the ongoing need for rigorous research and multidisciplinary collaboration to enhance patient care and outcomes.

Academy of Breastfeeding Medicine (ABM) Position Statement (2021)¹³

- Taskforce of 9 expert clinicians who work extensively with breastfeeding dyads
- International representation of Breastfeeding Medicine specialists from New Zealand, United States, Canada, Australia.
- Literature Review with Expert Opinion

Major conclusions:

1. Frenotomy can be an effective way to increase maternal comfort and breast milk transfer by the infant, with restrictive lingual frenulum.
2. Frenotomy may prevent the premature cessation of breastfeeding.
3. The decision to treat ankyloglossia requires a high level of clinical skill, judgement, and discernment.
4. Ongoing need for high-quality research in related to the treatment of tongue-tie:
 - a. A clear definition of “tongue-tie” in distinction from the normal frenulum
 - b. The extent of the incision needed for optimal results.
 - c. Consistent documentation of immediate and long-term adverse outcomes after surgical intervention by any method.
 - d. Identification of the optimal surgical instrument and technique for frenotomy.
 - e. The subsequent long-term outcomes after frenotomy on effectiveness and duration of breastfeeding.

Limitations of the ABM Position Statement:

1. Group of 9 experts, all physicians, some dual IBCLCS, many of whom may not perform frenotomies.
2. Lack of high-quality research to support conclusions, and potential biases in research and selected articles for inclusion.

American Academy of Otolaryngology/Head & Neck Surgery (AAO/HNS) Clinical Consensus Statement (2020)¹⁴

- Panel of 13 pediatric otolaryngologists who all evaluate and treat children with ankyloglossia
- United States only
- Literature review, expert consensus – modified Delphi for expert opinion

Major conclusions:

1. Lingual frenectomy in infants with ankyloglossia can lead to an improvement in breastfeeding.
2. Not all infants with ankyloglossia need to have a frenectomy and there are other more common causes of breastfeeding difficulties.
3. A frenulum procedure is an option for older children with speech articulation errors and/or other mechanical social issues, but the evidence is limited and of inadequate quality.
4. More research is needed.

Limitations of the AAO/HNS Clinical Consensus Statement:

1. Small group United States pediatric otolaryngologists. Unclear expertise of everyone on the paper.
2. Lack of input from other disciplines and professionals, including IBCLCs, SLPs, dental, pediatricians.
3. Lack of high-quality research to support conclusions.
4. Potential bias in selection of the taskforce on this paper.

American Academy of Pediatric Dentistry (AAPD) Policy on Management of the Frenulum in Pediatric Patients (2022)^{4,15}

- Developed by AAPD Council on Clinical Affairs in 2019
- Countries not stated
- Literature review of the past 10 years, and expert consensus of literature

Major Conclusions:

1. There is need for additional research on the causative association between ankyloglossia and difficulties in breastfeeding and speech articulation, between hyperplastic labial frenula and increased risk of dental caries or periodontal disease, and between upper lip restriction and difficulties with breastfeeding/latch.
2. Causes other than ankyloglossia are more common for breastfeeding difficulties and that, while frenulotomy for ankyloglossia can improve breastfeeding, not all infants with ankyloglossia require surgical intervention.
3. Due to the broad differential diagnosis, a team-based approach including consultation with other specialists can aid in treatment planning.
4. Further randomized controlled trials and other prospective studies of high methodological quality are necessary to determine the indications and long-term effects of frenulotomy/ frenulectomy.

Limitations of the AAPD Management Policy:

1. Small group of reported experts. Expertise of individuals was not provided. Names were not provided but suspect all pediatric dentists from the United States.
2. Lack of input from other health professionals, such as IBCLCs, speech-language pathology, pediatricians, ear, nose and throat specialists.

Australian Dental Association (ADA) Policy Statement Policy on Ankyloglossia and Oral Frena (2022)^{10,16}

- Panel of 16 health professionals from dental, oral health therapies, speech-language pathology, lactation consultancy, osteopathy, neonatology, midwifery, and chiropractic.
- Australia
- Expert Opinion with undisclosed method

Major Conclusions:

1. The diagnosis and treatment of ankyloglossia requires inter-disciplinary care by multiple health professionals.
2. Not all individuals diagnosed with ankyloglossia require surgical treatment and non-surgical management strategies should be considered as first-line treatment.

Limitations of the ADA Policy Statement from Rebuttal to the Statement of the Australian Dental Association (ADA) on Ankyloglossia:¹⁷

1. Concerns that members of the committee did not have extensive experience in the surgical management of ankyloglossia in general and in neonates specifically.
2. Concerns that no members of the committee declared their conflicts of interest.
3. Concerns that the literature review was incomplete with significant research articles omitted.
4. Concern that there was no call for submissions from interested parties with experience around management of ankyloglossia when the ADA initially decided to formulate a consensus paper.
5. Concerns there was no opportunity for comment on a preliminary draft of the consensus from members of the dental or other professions.
6. Concern that the consensus was defined as a general agreement, when there are clearly areas of disagreement, and concerns that the document does not meet the needs as a consensus paper.

Agency for Healthcare Research and Quality Executive Summary: Treatment for Ankyloglossia and Ankyloglossia With Concomitant Lip-Tie (2014)¹⁸

- Panel of eight medical practitioners and public health researchers.
- United States
- Systematic literature review

Major Conclusions:

1. There is some evidence that frenotomy may improve breastfeeding and nipple pain, but strength of evidence is too low to draw conclusions.
2. Research is lacking on non-surgical interventions, as well as outcomes on speech and dental issues, and long-term impact on duration of exclusive breastfeeding, growth, and other measures of health outcomes post frenotomy.
3. Harms of frenotomy are minimal and rare. Further research is needed on prevalence and incidence of ankyloglossia and associated problems.
4. There is a lack of standardized approaches to ankyloglossia assessment and treatment which challenges research efforts.

Limitations of the Agency for Healthcare Research and Quality Executive Summary:

1. Supported by the United States government.
2. Unclear how reviewers were selected. Two reviewers, plus a “senior reviewer” to resolve disagreements.
3. No indication if these reviewers are clinicians or are professionally involved in the assessment or management of ankyloglossia.
4. No evidence of input from dental or other health professionals, e.g. dentists, IBCLCs, SLPs.

New Zealand Ministry of Health: National Guidance Paper for the Assessment, Diagnosis and Surgical Treatment of Tongue-tie in Breastfeeding Neonates (2020)¹⁹

- Multidisciplinary panel of 11 health professionals (midwives, IBCLCs, physicians, dentists, and public health workers)
- New Zealand
- Literature review (brief) and panel recommendations

Purpose:

Guideline designed to provide the health sector with clear, concise, and consistent guidance to identify, assess, diagnose, and treat tongue-tie in breastfeeding infants in New Zealand. It applies only to the management of a simple or anterior tongue-tie.

Major Conclusions:

1. Tools for identification, assessment and diagnosis are needed to support consistent understanding and communication between clinicians.
2. Evidence informed information for women and their babies to support informed consent.
3. Educational and training are required and ongoing professional development for clinicians providing surgical treatment.
4. Referral pathways needed in each district health board/region to support equitable access and a

publicly funded service for women and their babies.

5. Follow-up processes and breastfeeding support services needed, including the availability of breastfeeding support in the community.

Limitations of the New Zealand Ministry of Health National Guidance Paper:

1. Supported by the New Zealand government.
2. Small group of reviewers.
3. Lack of research to support conclusion, no citations throughout document.

New York University – Tongue-Tie Case Definition (NYU-TTCD) (2019)²⁰

- Panel of 13 ankyloglossia experts from the United States only (Maryland, Virginia, New York, Ohio, Pennsylvania, Illinois, Alabama, Arizona, California, and Oregon, as well as the District of Columbia), including 9 dentists (6 pediatric dentists, 1 periodontist, 1 general dentist, and 1 oral surgeon who also was an MD) and 4 physicians (2 ear, nose, and throat specialists and 2 pediatricians).
- United States
- Delphi survey

Major conclusions:

1. Consensus for definition of tongue tie only based on sixteen diagnostic items selected by the panellists in two rounds with agreement over 70%.
2. Four items for anatomy (tight tissue under tongue, tip of tongue attached to lower lip, bifid appearance of tongue tip and distance from tongue tip to frenum is <1cm).
3. Five items for tongue function (tongue elevation, downward protrusion of tongue cannot reach beyond lower lip, upper protrusion of tongue cannot reach beyond upper lip, lateral protrusion of tongue cannot reach corner of mouth, floor mouth tenting with tongue elevation).
4. Four nursing issues (difficulty latching, gumming/chewing nipple, clicking sound during nursing, noisy breather, starts and stops).
5. Three mother issues (nipple trauma, breastfeeding pain, and inadequate supply).

Limitations of the NYU-TTCD Definition:

1. No consensus for the assessment and treatment for children with ankylofrenula.
2. Developed for infants from birth to six months.
3. No validation or reliability of the proposed definition.
4. Only physicians and dentists were included on the expert panel.

Summary

The key points from published position and consensus statements are:

1. Frenotomy can effectively improve maternal comfort and breast milk transfer in infants with restrictive sublingual frenulum, potentially preventing premature cessation of breastfeeding.
2. Decision-making for treatment requires a high level of clinical skill and judgment.
3. Further research is needed to define "tongue-tie," determine the extent of optimal incision and surgical techniques, document immediate and long-term adverse outcomes, and evaluate long-term breastfeeding effectiveness post-frenotomy.
4. There is agreement on the importance of interdisciplinary collaboration and evaluation for other potential causes of breastfeeding difficulties before frenectomy.
5. While there's evidence supporting the benefits of frenotomy for improving breastfeeding, there are limitations in research quality and consensus among expert statements.

Scope of Practice

Scope of practice (SOP) delineates the extent and limitations within which the healthcare provider can operate. SOP serves as the guiding framework for determining the range of services professionals are authorized to offer. It encompasses a specific skill set that reflects proficiency in a health professionals' field, grounded in objective policies established under professional licensure, organizational bylaws, and a defined code of ethics. National accrediting bodies outline the roles, responsibilities, and ethical boundaries for each profession, which are typically adopted, but not always, by state licensing boards. Healthcare professionals are required to secure liability insurance to safeguard them as they assess and treat within the boundaries defined by their SOP. This ensures that consumers receive medical and educational care within the confines of established SOP.²¹

Given the diverse structural and functional presentations of oral ankylofrenula, effective intervention often necessitates the collaboration of multiple healthcare professionals within a multidisciplinary care team. Potential interventions may include:

Dental Hygiene

Dental hygienists have a clinical role to assess the oral structures and perform routine dental hygiene tasks. The American Dental Hygienists' Association¹⁵ acknowledges that the scope of dental hygiene practice includes the assessment and evaluation of orofacial myofunctional dysfunction; and further advocates that dental hygienists complete advanced clinical and continuing education prior to providing orofacial myofunctional therapy.²²

Lactation Support

Lactation support is a crucial option for functional assessment and treatment of oral ankylofrenula due to the specialised role by international board-certified lactation consultants (IBCLCs), which include:²³

1. IBCLCs must possess advanced clinical knowledge of ankyloglossia to pass the certification exam.
2. IBCLCs provide clinical care to families that prioritises the public's health, safety, and welfare. They assess for oral restrictions, offer evidence-based guidance to families regarding its impact on infant feeding goals, and communicate clinical concerns with primary healthcare providers.
3. The IBCLC practicing solely on the stand-alone certification cannot diagnose and cannot perform corrective procedures.
4. Direct, face-to-face assessment is optimal for evaluating tongue-tie, as it allows for thorough examination of breastfeeding and human lactation, including visual and digital inspection of the baby's oral cavity using appropriate precautions.
5. IBCLC's play a crucial role in educating families and healthcare colleagues about the significance of tongue function in breastfeeding and the potential impact of oral restrictions on feeding.

Occupational Therapy

Occupational therapists assess and treat activities of daily living including feeding and swallowing participation across the lifespan.²⁴ Occupational therapists may seek specialized training in the oral ankylofrenula and the impact on feeding and swallowing.

Occupational therapists should align with national and state's licensure and the SOP in each unique licensure law.²⁵

Orofacial Myofunctional Therapy

Orofacial Myofunctional Therapists (OMTs) work on improving the muscles of the lips, tongue, cheeks, and face to improve functions for sucking, chewing, swallowing, and breathing in children and adults. Infants and toddlers should consult a feeding specialist rather than an OMT professional for management.

Different regulations exist in different for provision of OMT.²⁶ In some countries, SLPs are only permitted to conduct OMT. In other countries, other registered healthcare practitioners, including dental practitioners, are allowed to practice OMT without having a specialized certification. It is recommended that providers check their national and state

regulations for restrictions for OMT practice for clients with ankylofrenula.

Physical Therapy/Physiotherapy

Physical therapists or physiotherapists encompasses a wide array of assessment and treatment modalities as outlined by the American Physical Therapy Association (APTA).²⁷⁻²⁹ Assessment involves the assessment and treatment of various bodily systems and the impact on activities of daily living, including cardiovascular, pulmonary, endocrine, gastrointestinal, integumentary, neurologic, and musculoskeletal systems.

Treatment within the scope of physical therapy includes techniques such as massage, mobilization/manipulation, dry needling, and soft tissue work, targeting impairments in body functions and structures. Physical therapy interventions aim to improve airway clearance, balance, energy expenditure, gait, integumentary integrity, joint mobility, muscle performance, postural alignment, range of motion, relaxation, sensory awareness, weight-bearing status, and work of breathing.

Additionally, interventions encompass flexibility exercises, muscle lengthening, neuromotor development training, strength training, and neuromuscular education, muscle-based dysfunction, whole body systems, and wound management.

Speech-Language Pathology

Oral ankylofrenula is recognised within speech pathology as a condition that may present during an evaluation of the orofacial complex. Treatment of the functional implications from ankylofrenula may require oral motor, dysphagia, oral placement or orofacial myofunctional interventions that are conducted by trained SLPs, as part of a collaborative team.

SLPs provide these services as members of interprofessional team. The American-Speech-Language-Hearing Association's (ASHA) Code of Ethics states that SLPs who serve this population should be trained for this.³⁰ Therapy in infants and children with ankylofrenula may include improving speech sound placements, eliminating associated non-nutritive sucking habits, improving nasal breathing, improving feeding and swallowing, improving strength and resistance of the orofacial musculature, and improving oral resting posture.³¹

ASHA's Orofacial Myofunctional Disorders (OMD) Practice Portal specifically discussed the role of the SLP's role in the assessment of ankyloglossia as follows:³²

Ankyloglossia, also referred to as tongue-tie or tethered oral tissue(s) (TOTs), is a medical diagnosis. The decision to perform a frenectomy, frenotomy or frenuloplasty is a medical decision made on a case-by-case basis by dentists, oral surgeons, and otolaryngologists. As members of an interdisciplinary team, SLPs may be asked to provide input on the functional implications caused by a tongue-tie or help support medical necessity for surgery. If concerns regarding the frenulum's structure or function arise during an examination of the orofacial complex, a referral to a surgeon who has experience with frenectomies should be made. There is evidence that releasing a tongue-tie may improve breastfeeding function^{8,33} and preliminary evidence continues to evolve regarding speech and feeding beyond the breast.^{34,35}

Surgeon

The most common providers of surgery are medical practitioners (pediatricians, primary care physicians, otolaryngologists, and surgeons) and dental practitioners (pediatric dentists, general dentists, periodontists, oral surgeons). Surgery and follow-up care appointments and guidance are within the scope of practice as designated by the medical and dental licensing boards that govern each state or province. The American College of Surgeons stipulates that a surgeon's scope of practice is determined by the appropriate surgical specialty board recognized by the American Board of Medical Specialties (ABMS) or the Royal College of Physicians and Surgeons of Canada (RCPSC).

Procedures performed are dictated by the guidelines set by a specialty board. Performing procedures outside of the field defined by a specialty board mandates additional education and experience, as well as certification where appropriate. Similarly, a dentist, as defined by the American Dental Association (ADA), evaluates, diagnoses, and treats diseases, disorders or conditions of the oral cavity, maxillofacial area and the adjacent or associated structures and their impact on the human body, within the scope of his/her education, training, and experience. This must be conducted in accordance with the ethics of the profession and applicable law. In Canada, provinces dictate the scope of practice of dentists. Although each province has its own version of the dental act, all versions state the practice of dentistry is the assessment of the physical condition of the oral-facial complex and the diagnosis, treatment and prevention of any disease, disorder, or dysfunction of the oral-facial complex. Frenectomy surgery and active wound management falls within this scope of practice. It should be noted that surgery is not within the scope of practice for dental assistants, dental therapists, or dental hygienists.

Conclusion

These International Consortium of oral Ankylofrenula Professionals (ICAP) Practice Guidelines aim to standardize healthcare practices surrounding ankylofrenula, including its definition, diagnosis, assessment, and management across all age groups. ICAP emphasizes comprehensive evaluation, individualized treatment plans, and multidisciplinary collaboration for holistic care.

Assessment involves both structural and functional evaluations, with a focus on functional impact. Treatment goals prioritize improving function, with non-surgical options explored before considering surgical intervention. Surgical procedures require careful consideration of risks and benefits, with post-operative monitoring essential for optimal outcomes.

Multidisciplinary collaboration is crucial, involving dental, medical, lactation, allied health, and advanced practice medical professionals. Each discipline operates within its scope of practice, ensuring competent and ethical care delivery. Further research is needed to enhance understanding and management strategies for oral ankylofrenula, including exploring non-surgical interventions, assessing long-term outcomes, and investigating genetic and environmental factors.

By adhering to these guidelines and fostering ongoing research and collaboration, healthcare professionals can provide informed and comprehensive care for individuals with oral ankylofrenula, improving patient outcomes and quality of life.

Areas Requiring Further Research

ICAP acknowledges the need for ongoing research in various facets of oral ankylofrenula assessment, diagnosis, and management, including:

- Exploration of non-surgical investigations as an alternative or adjunct treatment.
- Exploration of the short and long-term outcomes of surgical investigations.
- Investigate recurrence rates and patient satisfaction with non-surgical and surgical management.
- Investigation of optimal surgical techniques.
- Exploration of pre- and post-operative care protocols to optimize outcomes.
- Assessment of the social and psychological implication of living with untreated oral ankylofrenula.
- Examination of genetic and environmental factors contributing to oral ankylofrenula and the potential risk and protective factors.

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