

How a Tiny String Under the Tongue Impacts
Nursing, Speech, Feeding, and More

TONGUE



TIED

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with

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Foreword by **Rajeev Agarwal, MD, FAAP**

Foreword

Rajeev Agarwal, MD

It is a great honor and privilege to be invited to write the foreword to this much-needed comprehensive and educational publication regarding issues surrounding the evaluation, diagnosis, and management of oral ties. I have been working in this field for more than 10 years and have often wished for a collective, comprehensive, and balanced document that I could share with my pediatric colleagues as well as patients and families, which outlines the past, present, and future issues associated with these very common diagnoses.

Pediatricians are charged with the responsibility of quickly and accurately identifying alterations to the most vital of biological functions in the newborn, including breathing, feeding, growth, and development. Feeding is a dynamic, multifaceted process encompassing physiology and anatomy, infant oral-motor function, and issues related to the primary caregiver, which is most often the breastfeeding mother. My interest in the effects of oral ties was ignited by the overwhelming volume of breastfeeding dyads failing to achieve reasonable feeding goals.

Over the past several decades, bottle-feeding has become the accepted answer for pediatricians when faced with slow weight gain and breastfeeding difficulties in infants. Although supplementation is often useful for meeting weight-gain goals and preventing post-birth complications and longer hospital stays, early identification of barriers to breastfeeding could surely increase the success rate for nursing dyads. Time is of the essence in the early postpartum

period, and feeding difficulties should be thoroughly vetted to aid mothers in the successful institution of a breastfeeding relationship.

My interest in oral ties has taken root in this uncharted territory over the past 20 years of primary pediatric practice, and it is only in recent years that other professionals from a variety of specialties have begun to recognize oral restrictions as contributing to poor breastfeeding outcomes. Though my interest started with dysfunctional milk extraction in newborns, it has been easy to see how the oral ties affect an individual over his or her lifetime, along with compensatory mechanisms, which sometimes help the individual enough that the procedure is not warranted, but often do not help enough, which leads to a lifetime of functional deficits.

I often reflect back on my early medical training. I was taught very complicated algorithms for the diagnosis and management of rare diseases, but the seemingly simple issue of oral ties and feeding went unidentified or ignored. Sadly, the same is true for most pediatric residency programs even today, despite the overwhelming evidence demonstrating the benefits of breastfeeding to infant health and well-being.

Over the years, these diagnoses have also been burdened with a lot of myths, mysteries, and superlative claims that have divided pediatric care communities. Because so many specialties have “owned” the diagnosis and have put their spin on it, it has become like the proverbial blind men and the elephant! Everybody has something to say about it, but no one has yet presented the big picture effectively.

There has been mounting resistance, primarily grounded in misunderstanding, from pediatric care providers regarding evaluating, diagnosing, and managing oral ties, especially the more elusive posterior tongue-ties. The absence of standardized diagnostic criteria and management pathways, primarily related to the lack of published, quantifiable outcomes, have hampered the understanding of these conditions and given way to ambiguity and variation in management techniques. The concern among pediatric professionals is that “too many” infants are having frenectomy

procedures and may not “need them.” How do we identify need? How do we measure outcomes? How do we develop standardized procedures to create appropriate and safe inclusion criteria? Are tongue-ties a “new problem” or have they been an unrecognized, underdiagnosed problem? The sudden increase in the incidence of diagnosed tongue-ties, coupled with a steep incline in providers performing these procedures, has led to great controversy among those within the medical and breastfeeding communities.

Hopefully, this text will serve to examine, unify, and clarify information, creating a valuable and useful resource for parents and professionals alike. This book is comprehensive, organized, and well-written, but most importantly, it is balanced. It may be instrumental in increasing awareness, knowledge, and comfort regarding oral ties and associated issues for pediatric care providers, scope-of-practice concerns, and education in medical training programs. As I often state in many of my lectures, “Your eyes do not see what your mind does not know . . . but once you have seen it, it is impossible to unsee.”

Introduction: Why Write a Book About Tongue-Ties?

Imagine for a moment that you are born nearsighted (as all babies naturally are), but your nearsightedness (myopia) never self-corrects over time. Some readers may not have to stretch their imaginations much to do so, as this is their reality. When nearsighted as a young child, everything seems fine; toys, food, and loved ones are all nearby. However, behind the scenes, this limitation is slowly making everyday tasks more and more challenging. The child is largely unaware, as he assumes that what he is experiencing is shared by everyone and is therefore “normal,” just as a person who is born colorblind will assume that the way he sees is normal. The nearsighted child will start to modify his actions to accommodate his unrecognized limitation, such as getting closer to the TV or sitting in the front of the room at school to be able to see the whiteboard more clearly. Although often diagnosed before age 12, sometimes it is not until that child is 16 years old and fails the vision portion of a driving test that he realizes he needs glasses! Thanks to a simple diagnosis via an eye examination and straightforward treatment with a pair of glasses, the world is now available in high definition. For the first time, that child can see leaves on trees! What wonders await!

An undiagnosed and uncorrected tongue-tie (also known as ankyloglossia) can follow a course similar to that of undiagnosed and uncorrected nearsightedness. More and more often, the effects of a tongue-tie are recognized early due to nursing, feeding, or speech difficulties, but sometimes the diagnosis still slips through the cracks and goes unidentified until adolescence or even adulthood.

Many adults reading this may experience sleep-disordered breathing, migraines, neck or shoulder pain, and difficulty with swallowing or speech. Any of these things coupled with a history of feeding and/or speech problems as a child warrant an evaluation by a trained dental or medical professional for restricted tongue movement due to a persistent tongue-tie.

Although education related to the topic of tongue-ties is improving, the impact of such a restriction can still be excused or even ignored. With feeding difficulties, for instance, it might be said that the child is “easily distractible” or is “a picky eater.” With breastfeeding difficulties, the mother might be told that “It is supposed to hurt for six weeks,” or “You’ll build calluses with time so it won’t hurt so much,” or “Your baby is just a lazy nurser.” Such advice is often well-intentioned and meant to be encouraging, but it ignores the problem or fails to even recognize the problem at all. The real problem may well be a tongue-tie. Years of a person’s life may be spent accommodating this unrecognized limitation when the actual process of diagnosing and treating a tongue-tie can be safe, simple, and straightforward, much like we saw for the nearsighted child above. Similar to the nearsighted child who isn’t even aware of what he is missing, a life with an unrestricted tongue can open the door to a whole new world of speaking, eating, and many other invaluable human experiences.

The process of diagnosing a tongue-tie involves taking an in-depth history, completing in-person pretreatment assessments, and examining the oral cavity and head and neck structures. This process can be confusing for patients as well as providers. Our goal in writing this book is to make the process of diagnosing and treating tongue-ties safe, simple, and straightforward for practitioners as well as more easily accessible to patients, as the number of providers comfortable diagnosing and treating them increase.

On both a personal and professional level, my life has been deeply impacted by tongue-ties. I had a tongue-tie that went undiagnosed into adulthood, and my twin daughters both had tongue-ties. I’ve learned that such a thing shouldn’t come as a

surprise—predisposition to tongue-tie is a genetic trait, and it is common. When my tongue-tie was first recognized, I was training to become a dentist, and it was brought to my attention only as a possible cause of some minor gum recession. Even after my dental education at a great school, I did not know there were other problems the tongue-tie could cause, but I later learned that I had several.

Some researchers estimate the prevalence of tongue-tie to be between 4% and 10% of the population, but the actual number may be higher because most studies don't take into account posterior tongue-tie (discussed in detail later). It is likely that someone you know is affected by this condition and does not even know it. A tongue-tie can be the hidden reason behind nursing difficulties in babies, feeding problems in toddlers, speech issues in children, and even migraines or neck pain in adults. Is tongue-tie the cause of all the world's ills? No. But it is often overlooked, misdiagnosed, and written off by many healthcare providers. My hope is that this book and the stories within it will help encourage more healthcare providers, educators, parents, and patients to recognize that this condition is worth understanding and treating. Let's begin this journey together.

CHAPTER 1



What Is a Tongue-Tie, Anyway?

I grew up with a tongue-tie and never knew I had one (and maybe you or someone close to you did, too). I finished dental school and pediatric dentistry residency without ever receiving a single lecture on tongue-tie. A tongue-tie must not be important or cause much trouble if it is not taught in dental schools, medical schools, or residency programs, right? Is it all just a myth? Is diagnosing and treating tongue-ties a fad or a way for surgeons to make money? This book is my humble attempt to help parents of children with tongue-ties, healthcare professionals, and even affected adults realize the implications of an untreated or poorly treated tongue-tie. If you're a provider and a skeptic, go ahead and skip to Chapter 9 for the research and evidence on tongue-ties and breastfeeding. Otherwise, continue reading with an open mind, and see the new paradigm that is emerging regarding tongue-ties.

The condition known as ankyloglossia has been around for thousands of years. There have been dozens of definitions proposed, and most contain similar elements, involving visual criteria, developmental origins, and functional limitations. Recently, the International Affiliation of Tongue-Tie Professionals (IATP, and yes, that is a real organization!) agreed on a succinct definition that encompasses the different presentations seen with tongue-tie. It states that tongue-tie is “an embryological remnant of tissue in the midline between the undersurface of the tongue and the floor of the mouth

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that restricts normal tongue movement.”^[1] This means it is a tight string of tissue under the tongue that can prevent the tongue from functioning properly. Most people have a frenum or string of some kind under the tongue, so many professionals consider a tongue-tie to be normal or a variant of normal. That’s why the definition includes a caveat about “restricting normal tongue movement.” There has to be a functional limitation in addition to an anatomical finding when you look under the tongue, in order for the oral structures to meet the criteria for a tongue-tie. If the tongue appears tied, it is important to assess what function has been impacted. Functional deficits may have been blamed on other factors (“He just gets distracted while nursing,” or “He is a picky eater,” when he is actually having difficulty with basic functional movement of the tongue), so asking specific questions is important. Often a patient can appear as if he is getting by just fine with his tongue restricted, or a baby can be gaining weight, so the parents are told “He’s fine” (even with many other tongue-tie–related symptoms significantly affecting quality of life). We want babies, children, and adolescents not just to survive or be “fine,” but to thrive and live without restrictions and compensations in nursing, feeding, speech, and more. No parent wants mediocrity for their baby or child. We want them to be the best they can be and live to their fullest potential. Something as simple as releasing a tongue-tie can be one part of helping a child reach his or her potential and achieve normal development.

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Conversely, the tongue may not visually appear tied, but the baby, child, or adult may still exhibit symptoms of a tongue-tie. In this case, it is important to investigate further because it might be a variant known as a posterior tongue-tie. We have seen countless patients who have suffered from many of the symptoms of a tongue-tie and have been told by a healthcare provider that they do not have one; yet after the posterior tongue-tie is released, we often see the symptoms improve. Nursing improves, feeding improves,

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speech improves, and sleep improves, and often those results are immediate and not attributable to any other factor. Other tissues can also be restrictive or considered tied, leading to problems in the mouth. Examples of such tissues include a labial frenum (when restricted, it is known as a lip-tie), or even the cheek or buccal frena (when restricted, they are known as buccal-ties). These other ties are discussed along with traditional tongue-ties later in this book.

Now that we understand what a tongue-tie is, let's explore what a tongue-tie does. Imagine if your first pair of running shoes had the laces tied together. You try to run around the track, but you struggle. Could you eventually make it around? Yes, most likely. But would you fall to the ground, go slowly, or lose your balance at times? Almost certainly. Once someone points out that the laces are tied together and then unties or cuts the strings, now you can run faster and unhindered, and you didn't even realize that the laces weren't supposed to be tied together! This analogy illustrates the impact of living with a tongue-tie. Often many benefits of a tongue-tie release are realized after removal of the restriction, but a tongue-tie release alone will not provide the full benefits. Our fictitious runner who now has full mobility of her feet will be a bit awkward at first, running with two separate shoes and laces, but she will adapt quickly with coaching and time. Surgical treatment combined with speech, feeding, and myofunctional therapy for patients of all ages, as well as lactation support for babies, are goals that could lead to better outcomes. If you have walked around with your shoes tied together, your muscles and skills are not fully developed, and compensations need to be undone. The tongue is a muscle and, just as your legs would need to re-learn how to walk, the tongue muscle memory must be re-trained to do the proper movements and patterns to allow it to chew, talk, and swallow.

The tongue is a complex organ composed of eight muscles that are involved in feeding, breathing, speaking, sleep, posture, and many other essential functions. Ideal tongue function and muscle rest postures also provide a mold for proper growth and development of the dental arches and facial/airway development.

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After completion of oral development in the fetus, a thin membrane called a frenum or frenulum underneath the tongue remains. This string of tissue varies in length, thickness, position, and elasticity. If the frenum is too short, too thick, too high up on the tongue, or too inelastic (or often a combination of these factors), the baby, child, or adult can have issues with feeding, speech, and more. Some ties are hidden underneath the outer mucosal layer and are not readily visible. The mouth is also naturally a part of the body considered more mysterious than others because its contents are hidden. When the body has an external congenital issue, such as fused fingers, it is typically easier to diagnose and receive treatment for that than for a congenital disability of the oral structures. Some anatomical defects of the mouth are well understood, their assessment is routine and treatment for them is widely accepted. For example, most providers recognize a cleft palate and understand that it can cause issues with nursing, feeding, and speech. When it comes to an anatomical defect with the tongue, however, many do not understand how to diagnose such a defect, nor do they associate the functional issues with the anatomical defect.

Embryology

A tongue-tie results from a failure of the tissue under the tongue to completely resorb during development, which is a process known as apoptosis (programmed cell death) around the 12th week in utero.^[2,3] The frenum results when the tongue moves posteriorly (backward) from the primitive jawbone, and it holds the tongue in the correct position. It is then supposed to disappear.^[2] A common example of apoptosis is the gradual disappearance of the tadpole-like tail that occurs as the human embryo develops. A fault in the apoptotic process can leave a string under the tongue that is connected too high on the gum and under the surface of the tongue. Another variation of faulty apoptosis occurs when the string has mostly disappeared, but the tissue is tighter or less elastic than it should be. This more restrictive tissue can lead to problems similar

to those of the classic tongue-tie. The example above of webbed fingers, also known as syndactyly, also results from a failure of tissue apoptosis.

A Brief History of Tongue-Ties

The condition of tongue-tie and the process of releasing the tongue was noted in early Japanese writings, other historical documents, and even the Bible. Moses was thought to be tongue-tied, as it reads in Exodus 4:10 that he was “slow of speech and of tongue” (ESV). Mark 7:35 tells of a deaf man Jesus healed who also had a speech impediment. It says that “his ears were opened, his tongue was released, and he spoke plainly” (ESV). Some translations even mention “the string of his tongue” (KJV).

For a long period, the tongue-tie was released without a second thought and was seen for what it is—a restrictive piece of tissue that holds the tongue down and keeps it from doing its important work. In the 1600s, frenotomy was widely known. An obstetric textbook from 1609 states: “One should also gently pass the finger under the tongue to find if they have the band...the surgeon consulted to this business will remove it with a scissors tip without risk.”^[4] Louis XIII, the King of France born in 1610, had the procedure done. “Seeing that he had trouble nursing we looked into his mouth. It was seen that the tongue-string was the cause. At five in the evening it was cut in three places by M. Guillemeau, the king’s surgeon.”^[4] Around this time and prior, midwives would keep one fingernail sharp so that if a newborn baby had a tongue-tie, they could release the tongue without the use of instruments (which they were not allowed to use).^[5] There are wood carvings from 1620 that reveal Fabricius’ technique for releasing the tongue, with a baby swaddled and the tongue held with a handkerchief. In 1666, a “tongue lifter” was invented by Scultetus and improved upon in 1680 by Mauriceau. In 1774 (just before the American Revolution), Petit improved upon these designs and invented the grooved director that is still used today.^[4]

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Releasing the tongue appears to be one of the oldest surgical procedures still being performed today, although it used to be far more common than it is at present. Nursing issues and speech issues including stuttering, speech delay, and lisping were also seen as tongue-tie problems and were treated by cutting the string without hesitation.^[5]

From 1830 to 1841 a great wave of surgeries swept through France, Germany, and England,^[5] leading many people to seek out surgeons for all kinds of issues. Some surgeries were truly helpful, while others were less so. Once people realized in the 1850s that surgery wasn't the best option in all cases, they began to think it wasn't helpful in any case. The metaphorical “throwing the baby out with the bathwater” occurred, and, unfortunately, surgically releasing the tongue fell out of favor—not due to a lack of evidence, but by cultural choice.

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In the past, if a mother was unable to nurse her baby, the family would employ a wet nurse to nurse the baby, or the baby would die due to lack of nourishment. Historically, in some eras breastfeeding was regarded as something the “common people” did, so royalty or the elite would hire wet nurses instead of breastfeeding. The practice of wet nursing declined in the 1800s, but many still employed them to feed their babies. As infant formula was developed and became safer in the early 1900s, marketing campaigns by companies such as Nestlé® began promoting their formula products and implying they were better than breast milk. These companies provided formula to hospitals so they could start the babies off on the right foot. Drinking from a bottle allowed the milk to fall into the baby's mouth with little effort, so nursing problems were treated with a bottle and formula. As formula feeding became more common, the tongue-tie wasn't treated at birth, and it would persist into toddler years, childhood, and

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adulthood. With tongue-ties resulting from dominant genes in many cases, successive generations had more and more tongue-tied people.

In recent decades there has been a resurgence in breastfeeding, along with a growing body of research supporting its benefits.^[6-8] These include reductions in otitis media, asthma, eczema, obesity, diabetes, childhood leukemia, and SIDS.^[6] We are also seeing more mothers initiating and having difficulty nursing their infants. A bottle won't tell you whether it has pain or a poor latch, but a mother is acutely aware of it every time the baby nurses. Many mothers experience painful nursing, with bleeding and cracked nipples, while their babies may experience poor weight gain, excessive gas, reflux, and a shallow latch. The response of many providers to such problems is still simply to offer the child a bottle with formula, and maybe some reflux medication. Some providers might fail to recognize these issues or even dismiss them outright, forcing patients to look for answers elsewhere.

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In recent years, there has been a steady rise in the number of people asking for help in online forums or social media platforms. Mothers with difficulties related to breastfeeding have formed large online communities where they share tips and information. As a result, there has been a renewed interest in the diagnosis and treatment of tongue-tie. Treating tongue-tie is a surgical procedure that can offer enormous benefits with very little risk to patients in need. I encourage practitioners, however skeptical, to read on, because patients are out there seeking answers for their struggles, and tongue-tie may well be a contributing factor that you could learn to recognize and treat or refer for treatment.

CHAPTER 2



It's Complicated— The Misunderstood Tongue-Tie

To date, more than 500 articles on tongue-ties have been published in peer-reviewed journals, according to a PubMed search. Research on tongue-ties has historically stirred up disagreements about the definition, assessment, and diagnosis of a tongue-tie, the means of measuring the effects of releasing the tie, and the complexities related to the ethics of working on vulnerable babies. There are strong opinions on both sides of the debate as to the merits of releasing a tie. As mentioned previously, tongue-tie is similar to syndactyly, also known as webbed fingers. Syndactyly is a congenital deformity of fused tissues that may cause a limitation that can have a negative functional impact throughout life. As with the common practice of separating webbed fingers in the case of syndactyly, I do not believe the issue of tongue-tie release should be controversial. The primary difference between the two conditions is that the tongue-tie is relatively hidden and not easily assessed by an untrained provider. Once teeth erupt, to elevate the tongue and examine a baby properly may put you at risk for losing a finger, or at least being bitten! Additionally, the contemporary medical community has not studied the diagnosis or treatment of tongue-ties while in training.

Lactation consultants, who are often the first care providers to pick up on this issue, are not allowed to officially diagnose the

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presence of a tie per their practice guidelines. Speech therapists don't routinely check in the mouth and must receive special permission to perform an oral examination in school-based speech programs. Lactation consultants, speech therapists, and other health professionals also vary in their knowledge and familiarity of tongue-ties. Many training programs leave out or dismiss the idea that tongue-ties cause issues. The dentist is the physician of the mouth and should diagnose a restricted tongue during a soft tissue examination, but without proper education and training, ties often go undiagnosed by dentists as well.

As a board-certified and actively practicing pediatric dentist, I routinely see new patients who are 7 to 15 years old for whom I am the first person to mention to the parent that the child has a significant and functionally restrictive tongue-tie. Parents often wonder why no one ever told them their child was tongue-tied. After hearing this many times, I began to feel a responsibility to at least attempt to play a part in reducing the number of undiagnosed tongue-ties that are causing functional problems in children. I believe that it is not an indication of a lack of caring or poor training; rather, it is simply a gap in medical and dental education. Physicians learn much less about pathological conditions in the mouth than dentists, and dental training often focuses intensely on the teeth and gums. In dental school, students study oral pathology for countless hours and are tested on very rare conditions that may affect one in a million people, while something that may affect 1 in 10 is left out. My hope is that this book will help providers, parents, educators, and patients see that this seemingly minor condition can cause significant problems. Once the medical community as a whole recognizes this condition and understands how to diagnose and treat it, countless lives will be changed for the better. It is quite likely that every provider, once

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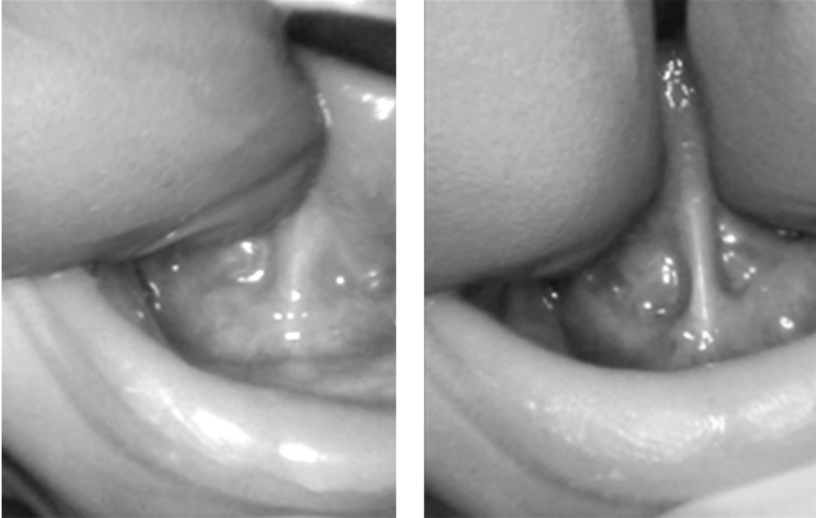
educated about this common congenital abnormality will have the opportunity to identify a tongue-tie that is causing a functional limitation the very next day in practice!

Many professionals have strong and varied opinions regarding tongue-ties.^[9] Some pediatricians believe that no tongue-ties affect breastfeeding, whereas some say that only classic ties (at or near the tip) affect breastfeeding. Others have seen the benefits of releasing anterior and posterior (or submucosal) tongue-ties. Lactation consultants have varying levels of training regarding tongue-ties, with some falling on different sides of the “release or do not release” debate. Some believe that classic anterior tongue-ties should be released when they are causing functional problems, but that posterior ties don’t exist. Some breastfeeding specialists think that tongue-ties and nursing difficulties can be overcome with better positioning during nursing, and tongue-tie releases are rarely, if ever indicated.

However, many parents whose babies I have treated for posterior tongue-tie (after exhausting all other options) report marked improvement in nursing immediately after their child’s tongue-tie release. One baby with a posterior tongue-tie and a restrictive lip-tie was consuming only 2 oz of breastmilk in 45 minutes during a weighted feed (weigh the baby, let them nurse, weigh again, and the difference is the amount of milk taken). Immediately after the procedure—and that was the only difference—he took 4 oz in 10 minutes of nursing (see photo of the posterior tongue-tie and laser release). That’s an improvement from 1.3 mL/min to 12 mL/min after the procedure. A weighted feed is an objective measure, but it is also worth noting that subjectively the mother also experienced significantly less pain while nursing. This example is representative of patients in whom tongue tie releases are done correctly. Objective measures such as milk intake before and after nursing and hearing no clicking noises, coupled with subjective measures such as the mom noticing a deeper latch and less pain, confirm the fact that a posterior or submucosal tie did exist and was causing problems. This scenario repeats itself regularly in many

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offices when releases are performed on babies who have posterior tongue-ties, and other practitioners report seeing the same results.



Aforementioned baby with posterior tongue-tie: elevation and two finger evaluation revealing the thick, restrictive tie.

We owe it to our patients to use the most up-to-date knowledge and best clinical judgment to help mother-infant dyads who are struggling with painful and inefficient nursing. There are multiple studies and blinded randomized controlled trials showing that releasing the tongue can help with breastfeeding issues.^[10-20] In fact, no evidence-based research exists to show the non-effect from treatment of tongue-ties in infants struggling to nurse effectively. The only procedural harm that has been reported by these studies is minor bleeding, although more excessive bleeding is a possibility when scissors are used, or the cut is too deep, which highlights the need for proper training. The majority of studies support Buryk's assertion in the journal *Pediatrics* that the procedure is "rapid, simple, and without complications."^[10] Interestingly, Dr. Kotlow, a pediatric dental practitioner, references a parody article about parachute safety,^[21] and likes to ask in his lectures, "Who would

like to participate in a randomized controlled trial to determine if a parachute works?” The response is of course silence. For some things that seem to clearly work, we don't need to subject others to harm so we can have a tidy research study. This is why there is such difficulty obtaining approval from ethics boards to perform randomized trials on infants; the potential benefit of tongue-tie release makes it unethical to deny that treatment to others for the sake of a study control group. Blinded randomized controlled trials and case studies have been conducted, however, and it is my hope that this book will convince the skeptics that diagnosis and treatment of tongue-ties can be of huge benefit to their patients.

The effects of a tongue-tie may last a lifetime. Some who have previewed this book have said it brought up traumatic memories of being teased in childhood, and they found it painful to read. If this is you, please know that it's never too late to have a tongue-tie released, and reading this book may help you to understand your situation better. The resources at the end may help you to find the right provider or support group for your situation.

This book provides an overview of the current thinking and research about tongue-ties and lip-ties as they affect patients throughout their lives. After you read this book, our hope is that the importance of correcting tongue-ties will be very clear to you, and you will find that your ability to help patients, parents, and perhaps even your family members is newly enhanced. In the Foreword, Dr. Agarwal wisely reminds us that the “eyes do not see what [the] mind does not know.” Once you have the latest knowledge about tongue-ties in your mind, you will very likely be able to analyze your patients' related issues in a new context. So enjoy the journey of discovery presented here. Mothers and children are waiting for answers from their healthcare providers regarding health issues related to difficulties with nursing, eating, speaking, and many other areas of life that turn out to be affected by these abnormal structures.

Section 1: Nursing

The following vignette is a composite of many of my patients' roller coaster experiences of emotions and doctor visits, and it is a story that is repeated in our office more often than we would like.

Baby Maggie was born full term at 40 weeks weighing 8 lb 2 oz to a first-time mom who had made the decision to breastfeed. In the hospital, when Maggie tried to latch, everything appeared to be normal. The lactation consultant came around and mom reported to her that nursing was pinching a little bit. The specialist reassured her that Maggie was just getting used to breastfeeding and that the positioning looked good. At home, however, Maggie was spitting up and burping all the time. She seemed more fussy than average, and she looked uncomfortable. At Maggie's first visit to the pediatrician, her mom was assured that some babies are just fussier than others.

But every feed was still a struggle, and Maggie was still spitting up a lot. The pain got worse, and at three weeks, Maggie still hadn't regained her birth weight. Her mom sought out a lactation consultant, who noted the latch looked good from the outside and that she seemed to be transferring milk well, so she gave her a nipple shield to help ease her discomfort.

Still frustrated and searching for answers, Maggie's mom posted her dilemma on Facebook, and a friend suggested she join a support group on Facebook and check out an online list of professionals who work with tongue-tied babies. As a last resort before switching to formula, mom decided to make the four-hour drive to the closest provider on the list. At the provider's office, he asked questions about the baby's and

mom's symptoms, examined the baby's entire mouth using appropriate positioning and a headlight with magnification, and took pictures, pointing out the areas where tissues were restricted. Mom had all of her questions answered in detail.

After discussing the procedure, risks, benefits, aftercare exercises, and need for follow-up with a team of professionals, the provider used an ultra-precise laser to remove the restricted tissue under the lip and the tongue with minimal to no bleeding and no sutures. No general anesthesia or sedation was needed. A small amount of numbing jelly was used to help ease the discomfort. Immediately after the procedure, Maggie was taken to her mother in a private nursing room where she was able to nurse in seclusion. Mom noticed a deeper latch and less pain immediately, although Maggie seemed like she was not quite sure what to do with the new freedom in her tongue. After nursing, she did seem happier and more full. She had stopped making clicking noises, and she was finally feeding in a more relaxed position rather than being frustrated at the breast.

The next week, Mom had several visits with her lactation consultant, who helped with positioning, latch, and emotional support. Seven days after the procedure, Mom reweighed Maggie, who had gained a full pound! There were still some difficult feeds mixed with the good ones, but overall mom noticed that the improvement was holding. The hardest part was keeping up with the aftercare exercises four to six times a day to help the area heal properly. Even though the exercises were quick and as playful as possible, Maggie didn't like having mom's fingers in her mouth. Mom had more confidence that she could breastfeed Maggie, and the pain and stress they were both experiencing was much relieved. Maggie regained her weight and was back up to the 75th percentile by the third month.

This section is likely the most critical for many reasons. We'll start with how symptoms of a tongue-tie affect the mother and then the baby. Next, we will discuss the lip-tie and other oral ties. The role of the lactation consultant, assessment, compassionate care, the tongue-tie release, and what to do afterward will also be discussed. Finally, we'll conclude this section with a review of the published

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evidence. If the tongue-tie release occurs during the infant stage, a host of potential issues in the future can be prevented.

CHAPTER 3



Tongue-Ties and Babies

The nursing relationship between mother and baby is vital, and the difficulties they experience can affect their bond and the baby's health during a critical time of development. Many mothers of tongue-tied babies experience excruciating pain from a poor latch. We have mothers in our office nearly every day who report severe pain when nursing. Moms know the benefits of breastfeeding, and they want to do it, but it may be so painful that they can't endure it long-term. Meanwhile, many well-meaning people in their circle advise them to give up, supplement, or pump exclusively if there are problems. Mothers try to push through the pain and reach out to professionals for help. Often if there is significant pain, there is a problem, and the most likely reason is that the baby is biting down on the nipple or using excessive vacuum pressure to try to extract milk. The most likely reason this happens is that the tongue isn't moving properly.

Babies have a reflex to bite if there is some object (nipple, bottle, finger, pacifier) between their gums and the tongue is not sticking out over the lower gum pad. If the tongue is restricted and unable to move forward to cup the nipple, covering the gum pad, the baby will bite down reflexively. That hurts. Pain, however, does not always indicate a tongue-tie, and many babies with a tongue-tie surprisingly do not cause pain during nursing for mom, but instead have other signs, such as a poor latch, poor seal, losing milk out of the corner of the mouth, and gagging while feeding. A tongue-tie release

provider assesses all of these symptoms and tries to make the best decision for the infant and mother and only intervene when other options have failed. For this reason, if you are having nursing difficulty, it is important to first be evaluated by a knowledgeable International Board Certified Lactation Consultant (IBCLC). After breastfeeding has been assessed, and lactation interventions fail to address the issue, or a tie has been identified, an examination by a provider who is knowledgeable about tongue-ties should be considered.

If the tongue is restricted and does not cover the gum pad, the baby will bite down reflexively.

Mother's Symptoms

- » Painful nursing
- » Poor latch
- » Cracked, creased, flattened nipples
- » Bleeding nipples
- » Lipstick shaped nipples
- » Poor breast drainage
- » Plugged ducts, engorgement, mastitis
- » Nipple thrush
- » Using a nipple shield
- » Feeling like feeding the baby is a full-time job

The consultation visit should include a review of the medical and feeding history and all the symptoms of the mother and the baby to get a full picture of where the issues lie. These symptoms are integral to determining whether or not to proceed with a tongue-tie release. Without this information, it is challenging to make an educated decision as to whether to treat or not. Other issues for mothers include bleeding, cracked, creased, or lipstick-shaped nipples. These are a result of a shallow latch, excessive biting, and pressure from the baby trying to get milk as best he or she can by using excessive force. If the baby has to use the lips and cheek muscles to create a vacuum, like sucking on a straw, this will

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extract milk inefficiently and also cause significant nipple damage. This damage can lead to wounded nipples, mastitis, or thrush. The ineffective latch can also lead to plugged ducts and poor breast drainage when milk is left over after feeding and breasts remain full.

A tongue-tied baby often will not receive enough milk to feel full, causing the baby to want to feed every 30 to 60 minutes. Babies with a tongue restriction will inefficiently suck and transfer milk and may feed for an hour at a time. To prevent engorgement or mastitis, a mother may have to use a breast pump to relieve the pressure of the excess milk the baby was unable to transfer and use her own milk in a bottle to top off and satisfy her baby. The triple feeding—feeding at breast, pumping, and feeding pumped milk by bottle or supplemental nursing system (SNS) at breast—often leaves the mother exhausted and frustrated with the process, and can lead to premature weaning of breastfeeding. Most often, moms report to us that it “feels like a full-time job just to feed him!”

Babies are highly adaptable and try to get milk any way they can. There is no such thing as a baby who “does not want to eat” or a baby who is “just not interested.” They certainly may be tired from exerting so much effort to nurse, but saying they desire not to take milk or not feed is not the case. It is the baby’s biological need to breastfeed for both nutrition and nurturing. Phrases such as “That’s just how some babies are,” or “Some mothers [or babies] just can’t breastfeed” should be a red flag to families that the practitioner may not be up-to-date on current breastfeeding or tongue-tie information and should lead the parent to search for other answers. Just because something is common does not mean it is healthy or normal.

*Moms report to us that it
“feels like a full-time job just
to feed him!”*

Tongue-Tied Baby's Issues

- » Poor latch at breast or bottle
- » Falls asleep while feeding
- » Slides on and off the nipple when feeding
- » Cries often/fussy often
- » Reflux symptoms
- » Spits up often
- » Clicking or smacking noises when eating
- » Gagging or choking when eating
- » Gassy burps and toots
- » Poor weight gain
- » Biting/chewing the nipple
- » Pacifier falls out easily or won't stay in
- » Milk dribbles out of the mouth when eating
- » Short sleeping
- » Mouth breathing, snoring, noisy breathing
- » Congested nose
- » Milk coming out of the nose
- » Frustration at breast or with bottle
- » More than 20 minutes per feeding required after newborn period
- » Eating more frequently than every 2 to 3 hours

As previously mentioned, babies can experience poor weight gain because they are consuming less milk per suck than would a non-tongue-tied baby. They are using muscles other than the tongue, such as cheek or lip muscles, to get milk, and they become more tired and burn more calories trying to eat than does a baby free of restrictions. Many (but not all) babies we see have trouble regaining birth weight or staying on the growth curve. Ideally, babies should gain their birth weight back within 10 days, although some still take longer. But we have some babies at our office

Just because something is common does not mean it is healthy or normal.

who are one or even two months old and are not much heavier than their original birth weight.

We want to encourage parents to discuss feeding and weight issues with their pediatrician and seek help from a skilled IBCLC. Parents can weigh the baby if they suspect there may be an issue with weight gain. Lactation consultants will often assess a pre- and post-breastfeeding weight on a highly accurate digital scale to determine exactly how many milliliters of milk the baby takes from each breast during a feeding. Far too often, babies who are having trouble gaining weight are given formula or told to switch to bottle-feeding without investigating all of the potential causes of the issue. An IBCLC can best assess the mother's milk supply and feeding issues and design a feeding care plan to problem solve root causes and increase the mother's milk supply.

Often parents have commented that the child's doctor was unsure about how to assist with the breastfeeding issues, so formula was seen as a quick fix. A recent survey of pediatricians revealed that they have limited clinical lactation knowledge and training with breastfeeding management. The survey revealed pediatricians often receive as little as 3 hours of breastfeeding education per year during residency.^[22] More education and training is key. A lack of education coupled with increasing patient loads and decreasing insurance reimbursements to primary care providers have only magnified this problem, as they reduce the amount of time the provider can spend with each patient to dig deep and ask probing questions.

Usually, if problems persist, the pediatrician will recommend pumping and bottle-feeding or simply formula and bottle-feeding. Some babies with a tongue-tie may see improvement with bottle-feeding, but many still have problems such as gassiness, fussiness, reflux, and spitting up. Many have milk dribble out the corner of the mouth when feeding, which results in having to wear a bib during feeding and developing a rash on the neck. Some babies on formula or expressed breast milk—if the mother is triple feeding (nursing, pumping, and feeding the expressed milk)—still have trouble gaining weight and are hospitalized. When this happens,

they undergo all manner of invasive tests and procedures including swallow studies, GI scopes, ultrasounds, X-rays, and feeding tubes, which cost thousands of dollars and hours of stress and worry for the parents. Too often, babies in these intensive feeding programs are either not adequately assessed or never checked for a tongue-tie. Even if examined, many of those assessing for ties are not aware of the spectrum of presentations. The doctors also often fail to look beyond the baby and question mothers about the symptoms discussed above using a checklist or a questionnaire (see Appendix). Ideally, this assessment would occur at the pediatrician's office during a routine check-up, with referral to a skilled lactation consultant for one-on-one therapy if there are issues.

Many of those assessing for ties are not aware of the spectrum of presentations.

Other symptoms exhibited in babies with tethered tissues are related to the poor latch. The lip-tie, or restrictive maxillary frenum, can very much affect nursing and a quality latch. If the baby has an ineffective seal on the breast (or bottle), there will be a clicking or smacking noise heard when the baby eats. This sound is a sign that air is entering the baby's mouth and the baby is swallowing pockets of air. These babies are literally eating air, a condition known as aerophagia.^[23] If this happens during feeding, the baby will have a distended or hard belly, and be very gassy and fussy. The air either comes back up from the belly as big burps or spit-up, or passes through and is released as toots. The spit-up ranges from simple teaspoon-sized wet burps to large "I think he may have spit up everything he ate" vomits. Spit-up also creates massive amounts of laundry due to the need to repeatedly wash bibs, burp cloths, the baby's clothes, and mother's or father's clothes. This seemingly insignificant problem increases the burden of a tongue-tie on families. Many parents mention to us that their baby "toots like a grown man." The babies have excessive gas in their intestines and pass gas frequently. These babies are labeled as "colicky" or "fussy" and treated with gripe water or simethicone gas drops in an

attempt to alleviate the excess gas instead of finding the cause of the gassiness. Certainly, there can be other causes of colic or reflux, but any baby displaying signs of either should be evaluated for a tongue- or lip-tie.

Dr. Scott Siegel, MD, DDS, FAAP (Fellow of the American Academy of Pediatrics), has been treating babies with tongue- and lip-ties in New York for almost 20 years and recently published a paper about aerophagia-induced reflux (AIR).^[23] He describes a condition we just discussed, in which a baby with tongue-tie swallows or eats air and subsequently has reflux-like symptoms. In the study, Dr. Siegel treated 1,000 infants with reflux by merely releasing the tongue- and/or lip-tie, and 52.6% improved in their reflux symptoms so significantly that they were able to wean off or decrease their medications (such as Zantac® or Nexium®). Improvements were often seen within a week or two. Another 19.1% improved in their reflux symptoms but still needed medications. The last group, 28.3%, did not have any change in their reflux symptoms—pointing to another cause of their reflux. This study demonstrates the effectiveness of treating the restricted tongue in many cases of reflux. The concept of AIR should be put into practice for every baby who has signs and symptoms of reflux before medication is considered. Babies with reflux, choking, or spitting up should be checked for an anterior (classic) tongue-tie or a posterior submucosal tongue-tie that is restricting function and potentially causing the issue.

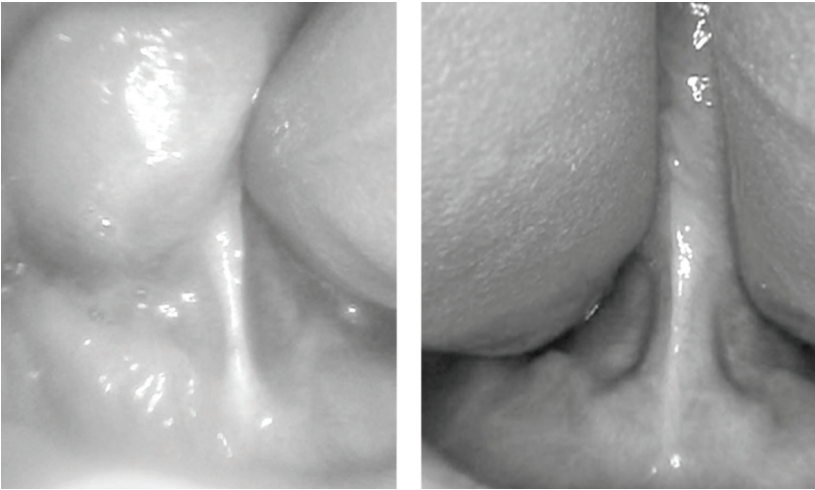
The Elusive Posterior Tongue-Tie

Some babies have difficulty nursing or bottle-feeding and have symptoms similar to those listed above, but when a parent or provider looks in the mouth, it appears normal at first glance. It is often by looks alone that many providers then diagnose the child as not having a tongue-tie. The mother is left confused, as she is still having issues related to nursing, which may or may not prompt her to look elsewhere

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for advice. The solution to catching these elusive posterior ties is simple—an oral examination including feeling underneath the tongue.

Some practitioners believe there is no such thing as a posterior tongue-tie. They say that it doesn't exist, or it doesn't cause problems. The name “posterior tongue-tie” does not accurately describe the finding (it is not in the back of the throat), but it is the most common terminology, so it will be used throughout this book. Of note, many babies may appear to have posterior ties, but if there are no symptoms or functional issues, then, by definition, they are not posterior tongue-ties. They must cause problems in order to justify the diagnosis and subsequent treatment—“If it ain't broke, don't fix it!”



Examples of two posterior tongue-ties that were causing significant symptoms and improved after treatment.

Posterior tongue-tie was first described by Watson-Genna and Coryllos in 2004, so the concept is relatively new.^[24] All tongue-ties have a submucosal component, but one kind of posterior tongue-tie is completely submucosal. The tie, or restriction, is hidden under the tissue (mucosa) lining the floor of the mouth. Upon first glance, there is no obvious or visible string of tissue, as there is with an anterior tongue-tie. Posterior ties in general consist

of connective tissue that is tighter or more restrictive than normal,^[25] which causes a functional issue even though it does not extend near or to the tip of the tongue.

The tongue-tie does not contain muscle itself, but it lies just over the genioglossus muscle under the tongue. When examining the tongue, the provider should position him or herself behind the baby's head, use two index fingers to elevate the tongue, and see how far up it elevates. If a tight string pops up or holds the tongue down, or you see a dimple in the middle of the tongue, these are signs of limited movement and indicate a posterior tongue-tie. If the provider runs his or her index finger under the tongue in a finger sweep maneuver (side to side), the floor of the mouth should feel smooth, soft, and spongy. If there is a feeling of tight tissue in the floor of the mouth, like a speed bump or like the finger has to jump a fence at the midline to get across to the other side, then this is a sign of a posterior tongue-tie.

If it ain't broke, don't fix it!

A posterior tongue-tie can be released with scissors by a skilled and careful provider making multiple cuts, but a laser offers better visibility and hemostasis, as we will discuss later. If a baby has all the symptoms of a tongue-tie but no visible tie, it is most likely a posterior tie. If the mother is describing all the symptoms of a tongue-tie as we discussed earlier, and the provider looks quickly and not thoroughly, a posterior tie may be missed. If the provider puts on gloves, checks from a position seated behind the baby with a headlight, and lifts up the tongue and performs the finger sweep, tighter than normal tissue will likely be evident. If symptoms exist, usually something is holding the tongue down and preventing the infant from latching properly. Many babies examined in the hospital would appear to have a posterior tongue-tie, but without symptoms and function, there is nothing to be done. This fact highlights the need to check on families one or two weeks after discharge to ensure they are able to meet their goals.

A quick word about bodywork (such as craniosacral therapy, chiropractic care, or myofascial release) would be helpful at this point. Bodywork is an important part of the team approach to the treatment of tongue-ties. It can certainly be tried first and is helpful with one-sided pain (i.e., the left breast hurts worse than the right when feeding), torticollis, or other issues, but if the nursing issues are not resolved completely, a referral to a knowledgeable release provider should be made promptly to assess for a tongue-tie. More information may be found in Chapters 24 and 25.

The Lip-Tie

While the most common presentation of restricted oral tissues is the tongue, the lip and its frena are still critical pieces of the puzzle and warrant examination. Collectively, tongue-ties, lip-ties, and buccal-ties are referred to as TOTs, or tethered oral tissues. The tissue referred to in all these cases is known as a frenum or frenulum. A restricted or tight frenum prevents normal movement of the oral tissues.

What, then, is considered to be the normal range of motion of oral soft tissue? As we have discussed, there should be a functional impact of restricted tissues along with the clinical presentation of a tie in order to justify treatment. The lip-tie can contribute to nursing difficulties for the baby and can independently make breastfeeding painful and difficult for the mother. It can contribute to a poor seal on the breast due to the inability of the upper lip to flange outward normally. In my experience, if a child only has a lip-tie, and it is released, the symptoms can and do resolve. One article also discusses the phenomenon of breastfeeding difficulties from upper lip-tie only, and in 14 babies who underwent only a lip-tie release, 78% saw improvement.^[26]

The lip-tie can contribute to nursing difficulties for the baby and can independently make breastfeeding painful and difficult for the mother.

If there is a tongue-tie present as well (which is the most common presentation), then providers release both the tongue-tie and the lip-tie simultaneously. Although there is a classification system created by Dr. Kotlow (Class 1 to Class 4), the main issue when evaluating for any tie is the functional impact.^[18,27] No provider, family member, or Facebook friend can diagnose a lip-tie from a photograph alone (and the same holds true for tongue-tie). In fact, most babies have what appears to be a lip-tie when the frenum is inspected visually, but only a fraction of those demonstrate significant functional impairment.

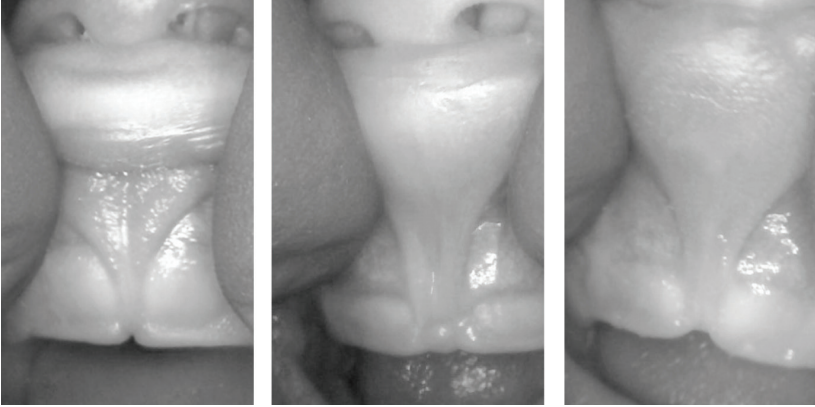
According to a study by Flinck in 1994, 93.4% of the included babies had a maxillary frenum that either inserted into the gum ridge or the palate.^[28] If the baby is having nursing issues and the upper lip has a tight frenum holding it down and preventing it from flanging outward normally, there is a good chance that releasing it will help the baby. Often, a lip-tie and a tongue-tie will be present together in the same baby. According to Dr. Bobby Ghaheri, an ENT and well-known authority on tongue-tie, if there is blanching (it turns white when the lip is lifted) in the area where the frenum attaches to the tissue, if there is a dimple on the upper surface of the lip, if there is a notch in the gum tissue or bone, and/or if the lactation consultant (IBCLC) determines the baby has a latch suggesting a lip-tie, then a lip-tie may be present, and a release should be considered.^[29]

If the frenum causes pain or distress to the baby when lifted, or if the tongue-tie has already been released and latching issues persist, a lip-tie may be affecting the latch as well. Some lip frena are especially thick, tight, or broad. Their shape is highly variable, but the main factor is their impact on function. If the lip won't flange outward easily, or curls under when nursing, usually the seal will be affected and the latch will be shallow. The baby

The lip-tie shape is highly variable, but the main factor is the impact on function.

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will make clicking noises, reflux may be present, and the mother may experience discomfort.



Lip-ties come in different shapes and sizes, thick or thin, and some even cause bone notching.

It is difficult to quantify which issues are related to the tongue-tie and which are related to the lip-tie because there is considerable overlap, and there are no good studies that define the distinguishing features of each disorder. We have seen mothers and infants who continue to experience persistent nursing struggles after the tongue-tie is addressed. We owe it to these mothers and babies to use the best available evidence and our clinical judgment to do something now to help them with nursing difficulties. To help the family in front of us, we create a unique plan for that individual baby using the best practice recommendations advised by the group of professionals currently treating these cases of persistent nursing difficulty. It is not a one-size-fits-all treatment.

Ideally, the lip-tie release, if needed, should happen at the same time as the tongue-tie release so the baby is not put through two different procedures. If there is a question about whether to cut or not to cut, the second correction can be performed at the one-week follow-up appointment. A recent study showed that multiple clinicians couldn't agree on the classification of the lip-tie from a

photograph—whether it went all the way to the palate, or whether it stopped short.^[30] The clinicians created their own grading type, which is similar to the Kotlow classification system but defines only three types: Type 1—into the area between the mucosa (cheek lining) and the gingiva (hard gum tissue); Type 2—into the mid-attached gingiva; and Type 3—into the inferior margin of the papilla (at the edge of the gum) or wrapping around to the palate. However, in the article’s example photograph, Types 2 and 3 both appear to insert into the inferior ridge. They also found that the inter-rater reliability of their new scale was only 38%. The researchers concluded that because it is hard to determine the classification of each tie from a photograph, a release shouldn’t be performed based on appearance alone,^[30] a recommendation for which there is general agreement. You cannot diagnose a lip-tie from a photograph alone. Instead, it is more about the tactile feel of the tissue and the history reported by the mother than about how it looks. If the lip tucks in when nursing, it cannot evert properly, and the baby and/or mother may experience symptoms; in this case, a release should be discussed with the parents. The procedure carries very little risk when performed with a laser (other than minor bleeding, minor swelling, and soreness for about three days). It takes around 15 seconds when performed properly. The release technique is discussed in Chapter 7.

You cannot diagnose a lip-tie from a photograph alone.

The lip-tie comes in every conceivable shape and size. Again, most babies (more than 90%) have a frenum that extends close to or onto the palate. It can be thin or thick, fleshy or fibrous, triangular or corded, but only if it is functionally restrictive *and* the baby has nursing problems does it likely need treatment. If there are no nursing issues, no intervention is needed. We field many calls at our office from parents who are concerned that their child has a lip-tie. If upon examining that child, there is no functional restriction and/or no nursing difficulty, we do not perform the procedure. We don’t treat the baby for something that may arise in the future, such as a

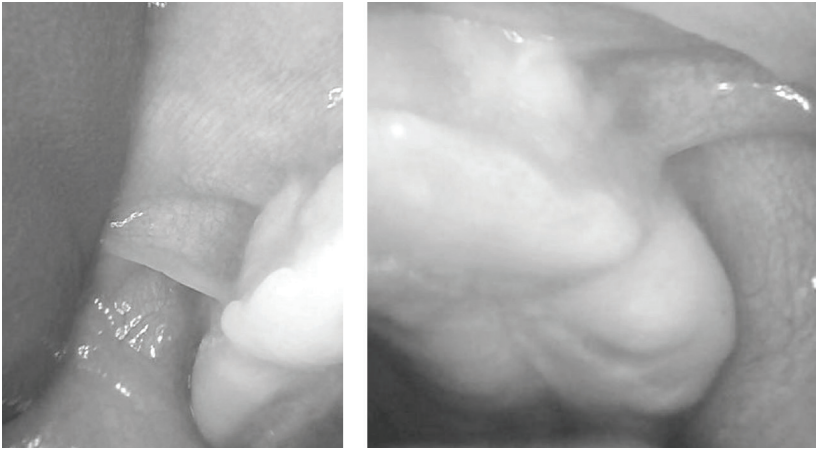
gap between the teeth or difficulty brushing the teeth (see Chapter 21). We treat the baby based on the current issue, the best available information, the clinical exam, and the clinician's best judgment.

Some practitioners believe that a lip-tie doesn't play a significant role in nursing issues, while others have concluded that the lip-tie does, in fact, cause significant nursing issues on its own. Sometimes a lip-tie is diagnosed, but the parent elects only to release the tongue; in other cases, insurance only covers one procedure per day, and the parent chooses to wait, so only the tongue is released. This is appropriate if only one tethered tissue can be addressed because the odds are in favor of the tongue being the primary cause of nursing difficulty. The wound healing of the tongue takes about three weeks, and the lip-tie wound takes about two weeks to heal. If the parent is performing aftercare exercises or stretches (see Chapter 8) after the tongue is released, the baby can return at one week to check the healing. If symptoms still persist, the lip-tie can be released at that visit, which will not extend the overall recovery period. When the lip-tie is treated independently a week after the tongue-tie, mothers often report a significant decrease in pain, and a much better and deeper latch. It does make a difference clinically—and we often see the results immediately after the procedure before the mother leaves the office.

One Final Type: Buccal-Ties

There are no research studies mentioning the impact of buccal-ties on nursing or oral motor skills, but many providers who routinely treat restricted oral tissues acknowledge their existence and recognize that they can require intervention as well. Buccal-ties have been the subject of lectures and discussion at various professional conferences as well. There are four buccal frena in the cheek, which is what the name *buccal* (pronounced like “buckle”) refers to—by the cheek. Two are in the upper arch of the mouth and two are in the lower arch.

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Buccal-ties can cause difficulty with cheek mobility.

The lower buccal frena do not typically seem to cause any issues. The upper buccal frena, however, can be tight, prevent the baby from moving his or her jaw or cheeks well, and contribute to nursing issues. During a first exam, after checking outside the mouth, I check inside the mouth. I first check the lip flange and upper lip frenum, and then I check the tongue movement and lingual frenum, and finally, I check the cheeks to make sure it feels smooth when rubbing a finger from front to back in the deepest part between the cheek and gums. If there is a buccal-tie, it feels tight and like a speed bump, similar to a posterior tongue-tie but in the upper cheeks. We do not charge any extra for buccal-ties in my office, and I release them far less often than the lip- or tongue-tie.

Though less common than lip- or tongue-tie, it is important to check for buccal-ties because they can restrict movement of the cheeks and lips. We have also seen a difference clinically when doing a buccal-tie release after having performed a tongue and lip release with babies still having some persistent nursing difficulties. When we released the buccal-ties, the mothers noticed a difference in the latch and experienced less pain. I have also noted that when the upper lip-tie is released and the lip still doesn't seem as mobile as it should be, the buccal-tie on one or both sides can be released

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with the laser in about 5 seconds per side. As a result, the upper lip will often flip up easily with more freedom and less effort.

Lactation consultants around the country are observing firsthand how these buccal-ties can inhibit the cheeks from activating properly, and seeing an immediate difference in the quality of the latch after the release because the baby can move the cheeks better and suck more effectively. Other release providers around the country are noticing these restrictive buccal frena as well and releasing them and finding similar positive results.