

The front of the tongue vs the middle of the tongue

by Dr Bobby Ghaheri MD. Written on 26 July 2017.

There is still much confusion about how to properly diagnose posterior tongue tie, how to do a complete release of an anterior (and posterior) tongue tie, and what the goals of postoperative exercises are. I think this post could help providers, lactation consultants and parents understand *why* frenotomy works for improving breastfeeding.

A few preliminary facts:

1. Sticking the tongue out of the baby's mouth is irrelevant when it comes to breastfeeding. This was demonstrated in Donna Geddes' 2008 study using ultrasound during breastfeeding. That study shows that the motion of the tongue during breastfeeding is up and down, not out.
2. The 2014 study by David Elad did the math behind the findings in the Geddes study. In this remarkable study, Elad and colleagues found that the tip of the tongue works in unison with the jaw and moves in a locked fashion up and down to keep contact with the breast. The tip of the tongue does NOT knead milk out of the breast or do anything else. He found that the mid- to posterior tongue is responsible for the generation of the vacuum.

With these facts in mind, let's make some important statements.

- 1) If the mid- to posterior tongue is the important part of the tongue during breastfeeding, and if the motion of the tongue during breastfeeding is up, then we as doctors and lactation consultants have a very important and obvious job (excuse the caps lock): IF BREASTFEEDING ISN'T GOING WELL AND TONGUE TIE COULD BE THE CAUSE, THEN WE MUST CHALLENGE IF THE MID- TO POSTERIOR TONGUE MOVES UP NORMALLY OR NOT. Any other type of examination is IRRELEVANT.
- 2) If you don't know how to examine a baby for tongue tie, go read this and watch the video: [How to examine a baby for tongue tie or lip tie](#)

Specifically, proper examination of the tongue isn't peeking under the tongue with a tongue depressor and a penlight to see if an anterior tongue tie is there. You must use two fingers on either side of the frenulum to challenge the lifting of the tongue.

Now, let's talk about surgery: if the surgical release of the tongue only releases the anterior part of the tongue, then you haven't fully released the tie. Period. There's no such thing as *just* an anterior tongue tie. If an anterior tongue tie is present (which restricts the front of the tongue), then the middle of the tongue is also restricted by the posterior part of that tie. If there is just a posterior tongue tie (no visible band), the tip of the tongue can move well but the middle of the tongue can't. In either case, the middle of the tongue is restricted, so the surgical goal is to release the mid-tongue's restriction. Whether it's an anterior tie or a posterior tie, the end surgical result should be a diamond-shaped wound under the tongue. Here's more on the difference between anterior/posterior tongue tie: [Rethinking tongue tie anatomy: anterior vs posterior is irrelevant](#)

Finally, let's talk about post-procedure stretches. Is there evidence that stretches prevent reattachment? No. Is there evidence that NOT stretching allows for normal tongue mobility? Also no. So we use our best judgement. I'll use principles of wound healing when explaining this part.

- 1) Nature wants to heal wounds toward the center. If there's a diamond-shaped wound from an appropriate surgical release, and it's left untouched afterwards, I maintain that the diamond will contract in towards the center of the wound. That results in a pulling down effect of the mid-tongue that was properly released. This explains the statement "Things were so good for a week after the surgery but then it went back to the way it was before"
- 2) The purpose of the stretches is NOT to prevent scar tissue. You can't prevent scar tissue. The purpose of the stretch is to hack biology to get the scar to do what we want it to do. Read this for the explanation: [The importance of active wound management following frenotomy](#)
- 3) The stretches, when done properly, draw the diamond shaped wound into a taller and taller diamond so that ultimately, the diamond collapses in from the SIDES and forms a new band (neo-frenulum). This new frenulum is no longer stuck to the muscle underneath the tongue (genioglossus muscle) and is longer and deeper than the previous tie. That allows for the new band to have slack, which will no longer pull the mid-tongue back down.
- 4) If a diamond-shaped wound was never seen following the release, then stretches don't matter one bit. Stretches are done to prevent reattachment - not to stretch tissue that should have been surgically released.

I've attached a couple pictures that demonstrate what the wound should start to look like as healing is progressing. I hope these points make it clear what our goals are for assessment, surgical release, and post-procedure stretches.

