



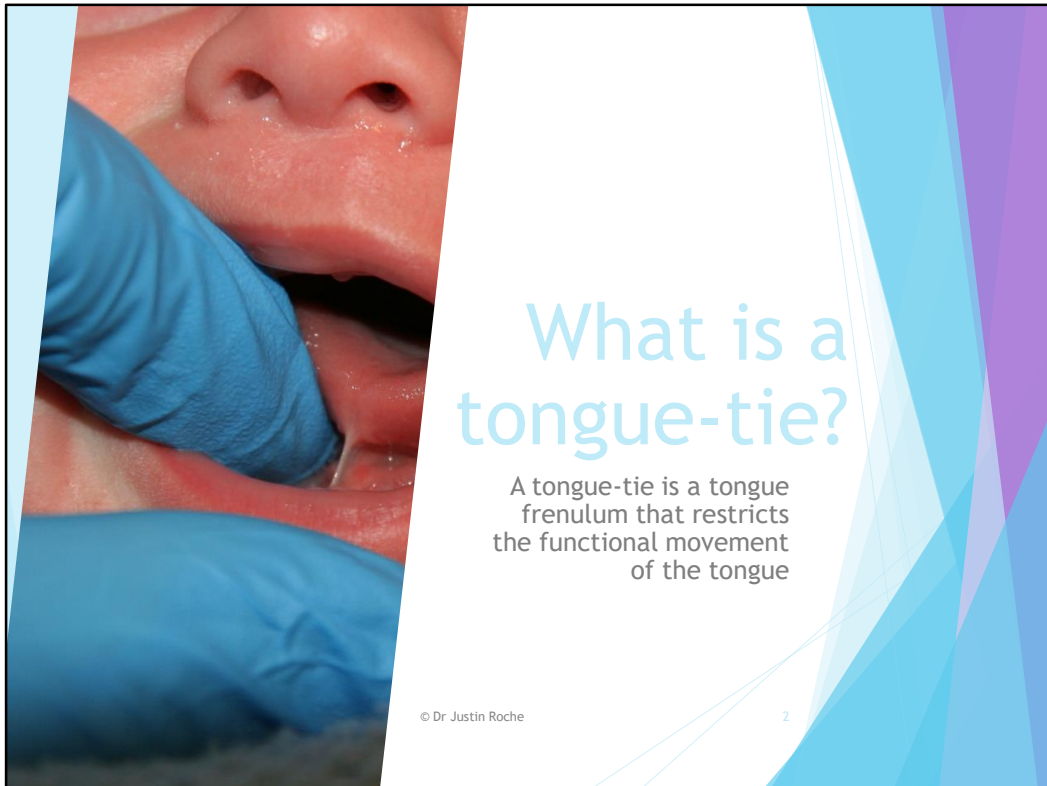
# Tongue-tie (Ankyloglossia)

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This presentation is an introduction to tongue-tie, its effects and the management of it.



The tongue is unique in that it is the only muscle that has a connection at only one end. It is actually a number of muscles that work synergistically together to achieve the functions necessary for feeding, speech etc. Every other muscle in the body has an origin and an insertion. The presence of any connection, apart from its muscular origin, between the bottom of the tongue and the floor of the mouth is a tongue frenulum.

If there is one present and it is causing no functional impairment of the tongue then it is simply a frenulum and it is probably best to leave this intact.

If, however, it is having an impact on tongue function and thus causing symptoms then it is a tongue-tie. In newborns and infants then this will usually manifest as feeding difficulties. These can be either symptoms in the baby, the mother or often a combination of both.

Some mothers feel that if the symptoms are exclusively happening to them that division of the tongue-tie is not fair on the baby. In this circumstance I feel that the benefits to the baby, if breastfeeding can be improved, far outweigh any risks of the procedure. Expressing and bottle feeding the expressed milk is difficult to maintain and formula, whilst it can meet baby's nutritional needs, cannot replicate the immunological protection and other benefits that breastmilk has to offer.

It is not possible to identify if a baby with no symptoms currently may have issues with tongue function in later life. However, the current wisdom is that in the absence of symptoms the frenulum is best left intact.

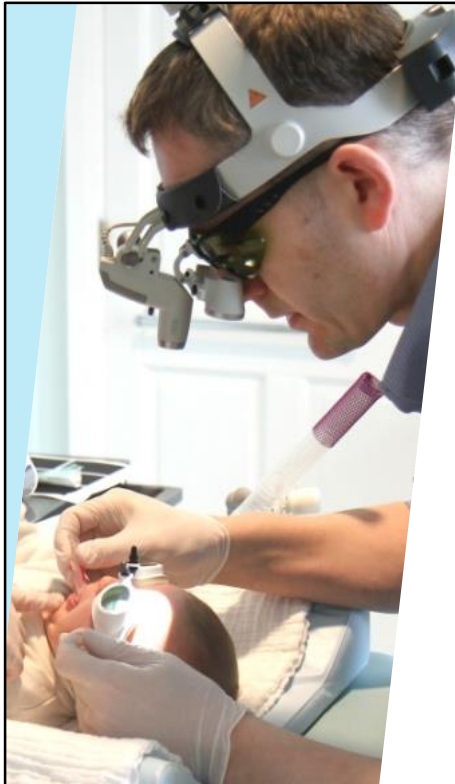
## How does a tongue-tie affect feeding?

The most important movement for feeding is elevating the middle portion of the tongue.

•When the tongue is dropped back to the floor of the mouth this creates a vacuum which sucks milk from the breast or bottle.

A tongue-tie reduces the elevation that can be achieved.

- This reduces the efficiency of the suck.
- The baby then has to suck more frequently to get the same volume of milk.
- This means baby has to compensate and they:
  - Fall asleep and feed again soon after
  - 'Snack' at the breast resulting in prolonged feeds
  - Use compression to extract milk often causing pain to mother



## Procedure (laser)

- ▶ Topical anaesthetic gel applied
- ▶ Baby brought to the laser room
- ▶ Baby is weighed to calculate analgesia doses
- ▶ Baby swaddled, eye protection applied and few drops of sucrose solution given
- ▶ Tie(s) divided with laser
- ▶ Baby unswaddled and brought back to mother for feeding

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If you are happy to proceed with division of your baby's tongue-tie, and have signed the consent form, then a small amount of local anaesthetic gel will be applied with a cotton bud to the tongue-tie +/- lip-tie prior to division.

For division your baby will be taken to the laser room whilst parents remain in the consultation room.

Your baby will be weighed to accurately prescribe pain relief doses.

They will then be swaddled and the laser set up ready to use.

The division will take 15 to 30 seconds for each tie to be divided.

Your baby will be unwrapped and brought back to you to feed.

Due to eye safety guidelines, parents cannot be in the treatment room for the division.

Your baby will be taken for treatment and returned to you for feeding within 5 minutes.

## Why CO2 Laser?

No bleeding ensures a clear field of vision and allows for a more precise division down to the desired fascial layer.

Less discomfort following division means babies achieve a better latch afterwards.

Reduced inflammatory response seen in CO2 laser divisions related to sealing blood vessels and lymphatics as the laser cuts.

Division of lip tie is only available with laser due to the increased bleeding associated with lip ties.

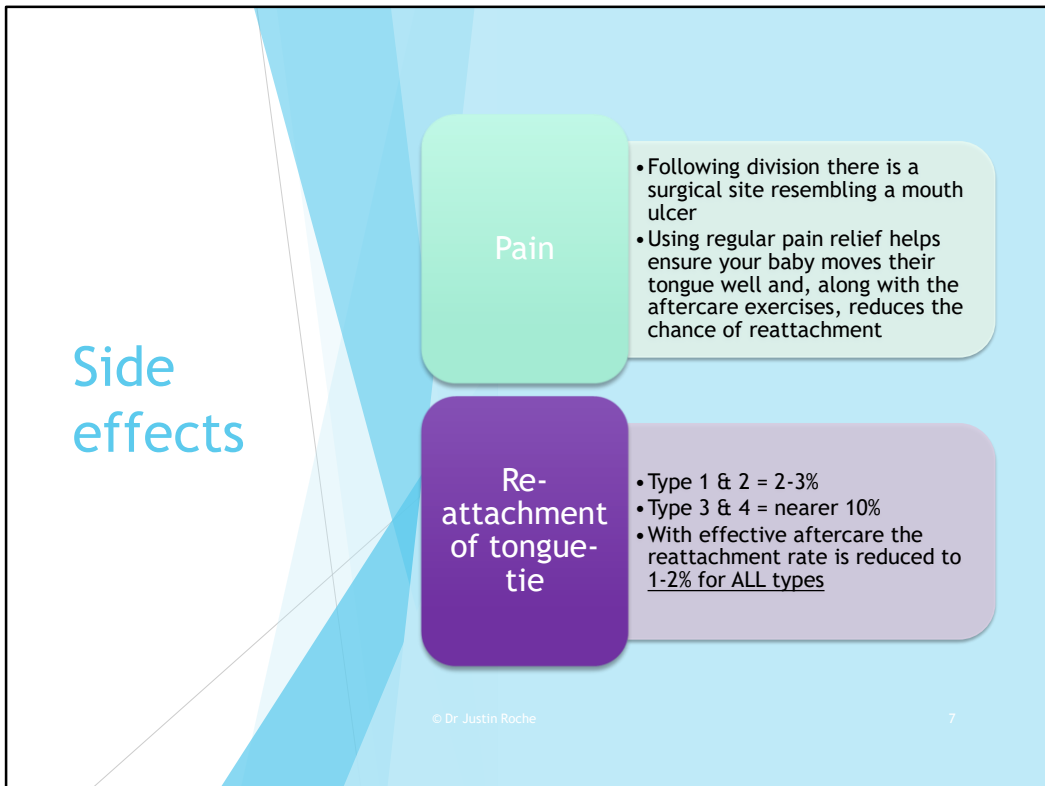
## Other potential problems associated with tongue-tie

- ▶ There are other problems that can be associated with tongue-tie seen in older children and adults which include:
  - ▶ Speech problems - lisp
  - ▶ Sleep disordered breathing & Obstructive sleep apnoea
  - ▶ Problems with dental hygiene
  - ▶ High-arched palate and Orthodontic issues
  - ▶ Temporomandibular joint problems
  - ▶ Altered neck posture with cervical spine problems
  - ▶ Inability to lick and ice-cream or french kiss

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Whilst it is not possible to predict which babies may go on to have the above issues they are seen in older children and adults and are reason for performing divisions in these older groups.



The risk of infection is 1 in 10,000. The sign to look for is increasing redness around the wound site. A rim of 2-3 mm of redness is normal.

Typically, there is little to no bleeding with laser division. If there is bleeding during the aftercare this is because you have re-opened a division site that is trying to reattach.

The risk of reattachment when performing either none or infrequent exercises resulted in a need to redivide the tongue-tie in 2-3% of anterior ties and 10% of posterior ties. Since changing to the more frequent exercise program this has reduced to one to two in a hundred for all tongue-tie types.

It is also likely that the babies with anterior ties that have reattached have improved but not necessarily optimised their feeding.



## Post-division

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This is the diamond-shaped wound that will be visible immediately after division. Please note the two fleshy ridges on either side of the lower half of the diamond which are the salivary glands.





This is how the wound should look after 2 days.

What you can see is a fibrin patch which is part of normal healing and is essentially a 'wet scab' hence the slight yellow-green hue.

This should gradually get smaller at the rate of about 1 mm per day and usually resolve in 1-2 weeks.

If there is a significant reduction in size from one day to the next, i.e. greater than 1mm, then the posterior component is reattaching.

This may be accompanied by a deterioration in feeding symptoms.

We are looking for the wound to heal by re-epithelialisation so that the wound has to be healed from the edges inwards. The quickest way for the body to heal the wound is by primary intention whereby the raw surfaces of the wound heal back together in the original orientation and thus the posterior component will reoccur.

Secondary intention healing can occur whereby the wound gradually reduces in size but it also comes forward towards the salivary glands. This can also result in a deterioration of feeding symptoms.

A rim of redness up to 2-3mm around the perimeter of the wound is normal. If the redness increases in size or there is a patch that is significantly wider than the rest of the wound then this is suggestive of infection.



Following division babies fall into three groups:

The first are the 'eureka' babies. These account for about a third of the babies. Their feeding improves pretty much immediately following division because the three conditions are all met once the tongue has a better range of movement.

The second group are slower to transition as they have an established feeding style. In order for them to change they need to realise that the tongue can move differently, that using this movement is more efficient than the current feeding technique(s) and be able to sustain this new way of feeding throughout each and every feed. This transition typically takes between 2 to 4 weeks. This group are typically two thirds of the babies.

The third group are rare, occurring about one in a thousand. They have relied on compensations as their feeding style and following division they have to learn a completely new way of feeding as their tongue moves so differently. It can take them 24 to 48 hours to begin to work out this new way of feeding and, understandably, they can be very frustrated and unsettled during this time. The only advantage of this group is that they will have their feeding sorted within a week following division.

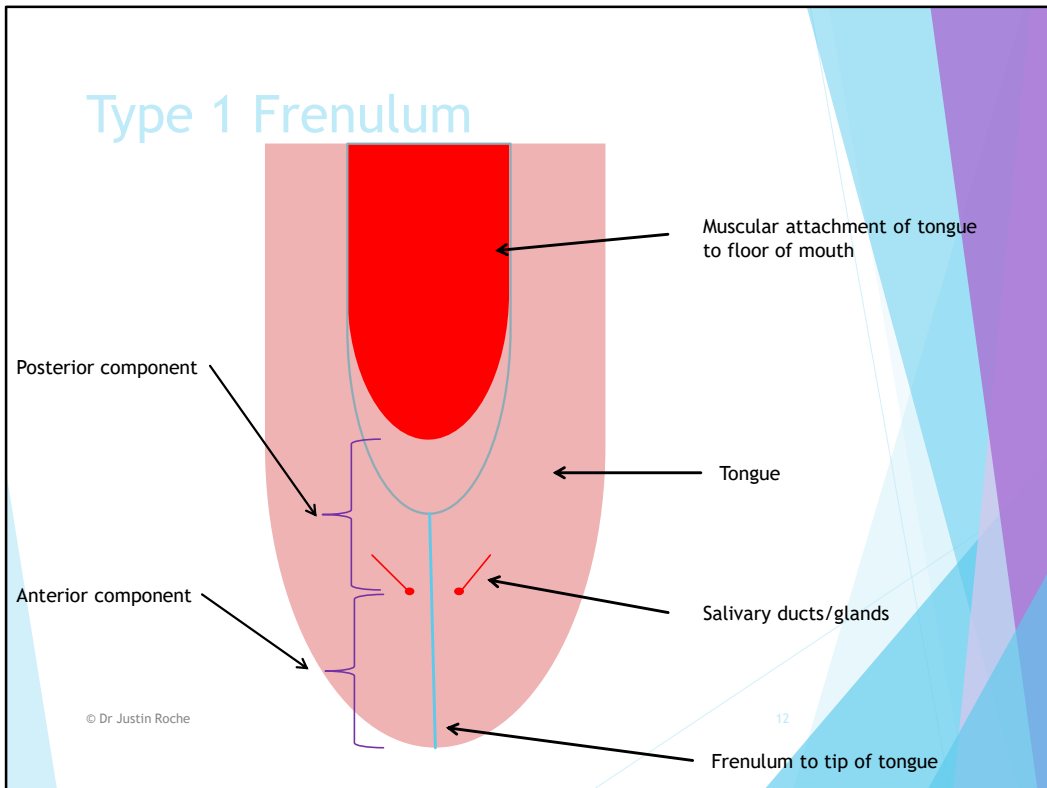
## Classification of frenulum

Type 1	Frenulum extends to tip of the tongue
Type 2	Frenulum extends most of the length of the tongue but not to the tip
Type 3	Frenulum less than 50% of tongue with thick posterior component visible
Type 4	Just the posterior fold of skin

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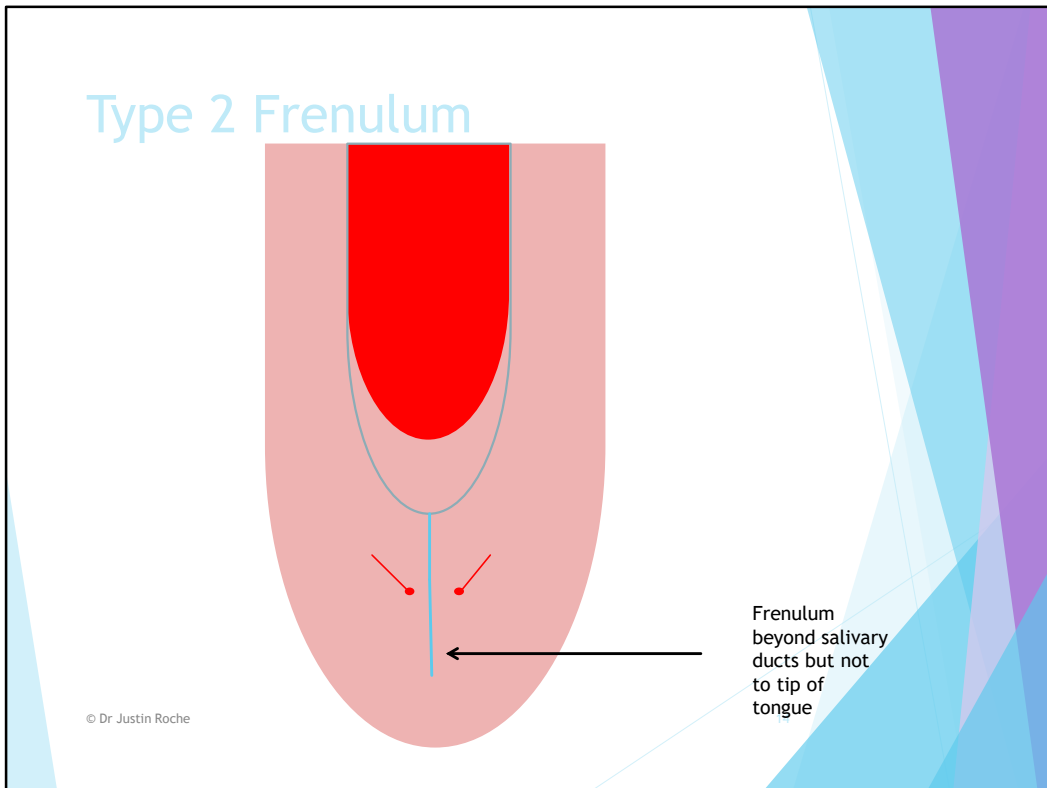
This classification system is in common use but it only describes how far forward the frenulum comes. What it doesn't describe is the 'height' of the frenulum or if there is any stretch or elasticity of the frenulum. It is these factors that have the greatest effect on the function of the tongue.



In a Type 1 frenulum the web of tissue is to the tip of the tongue. Note that there is a posterior component that sits at the back of the web. This part is pink like the skin of the rest of the mouth lining.



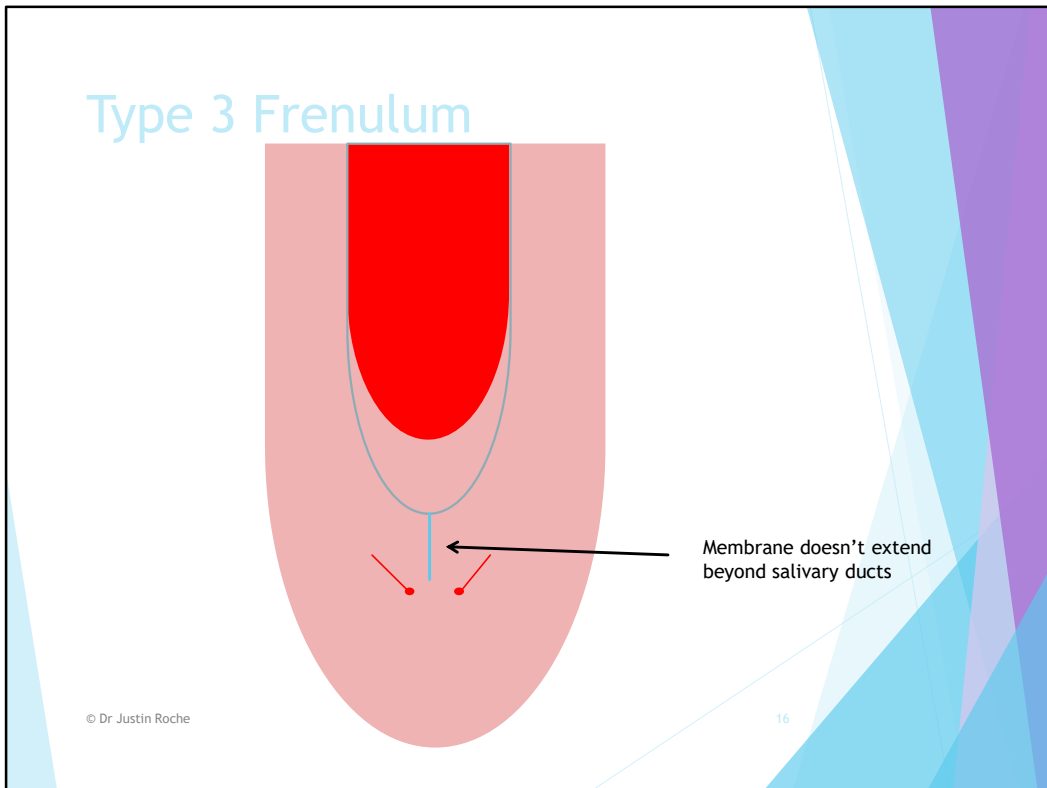
This frenulum is right to the tip of the tongue.



In a Type 2 frenulum the tip of the tongue is free but the web extends beyond the salivary glands/ducts.

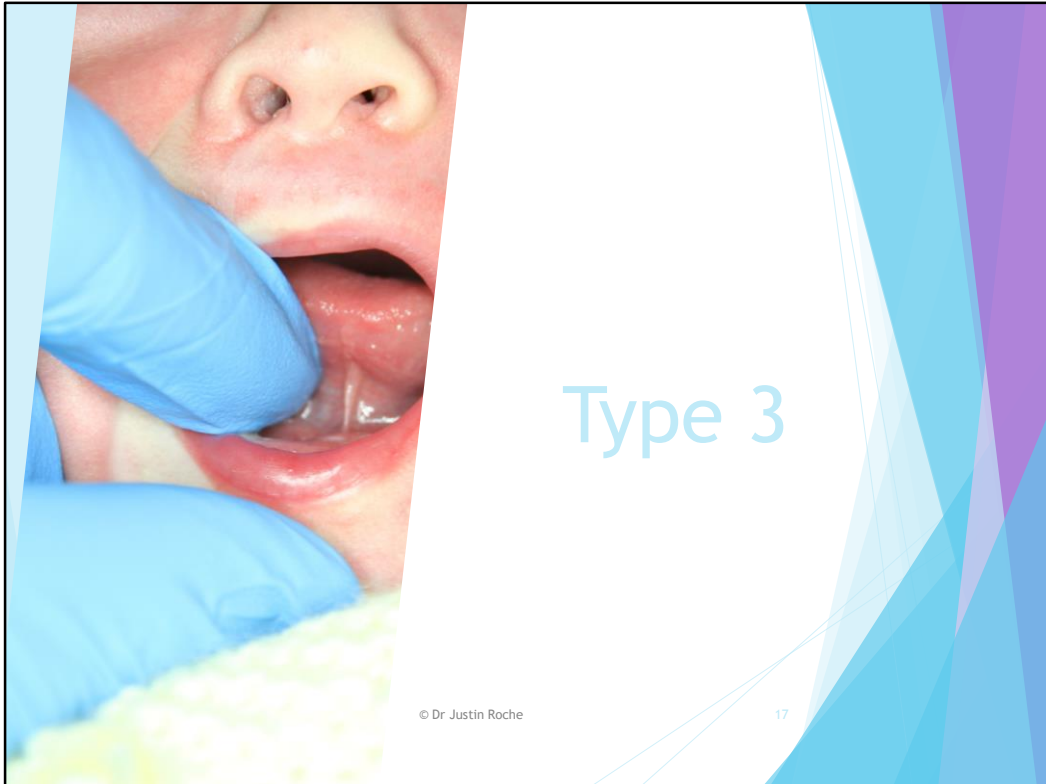


This is quite a thick frenulum and appears quite short in height although to assess this properly both index fingers need to be placed underneath the tongue and then the tongue lifted up until resistance is felt.

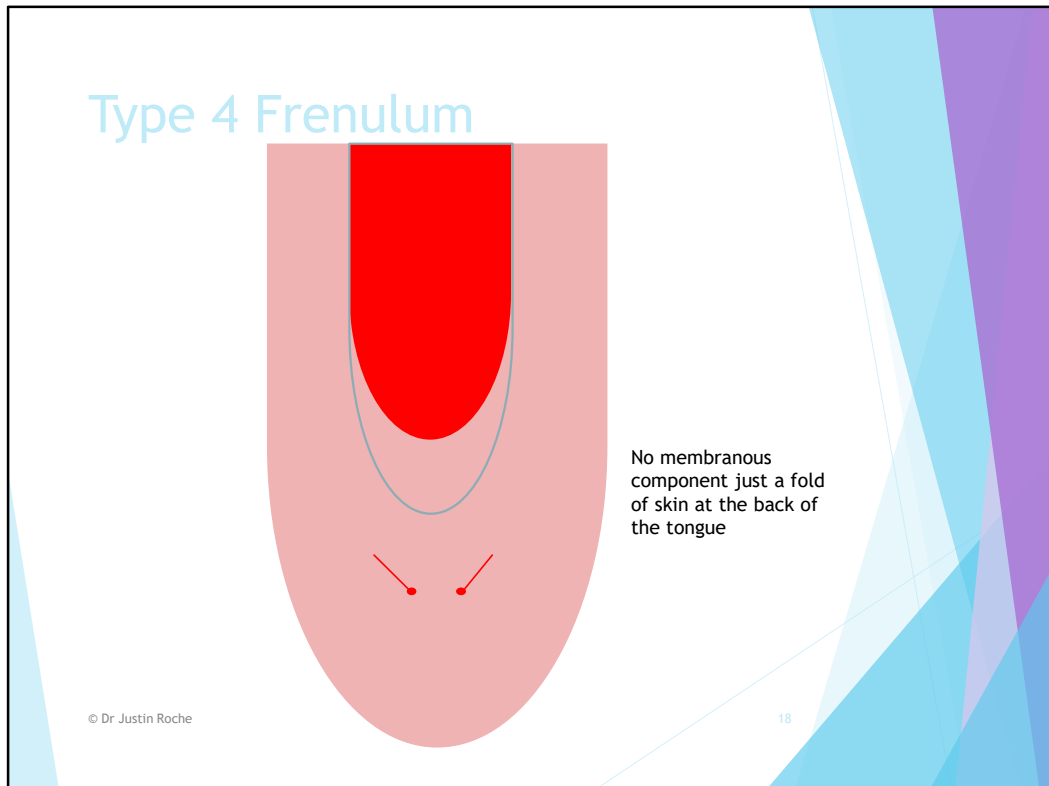


In a Type 3 frenulum the web does not extend beyond the salivary glands/ducts. This is classed as a posterior tongue frenulum/tie



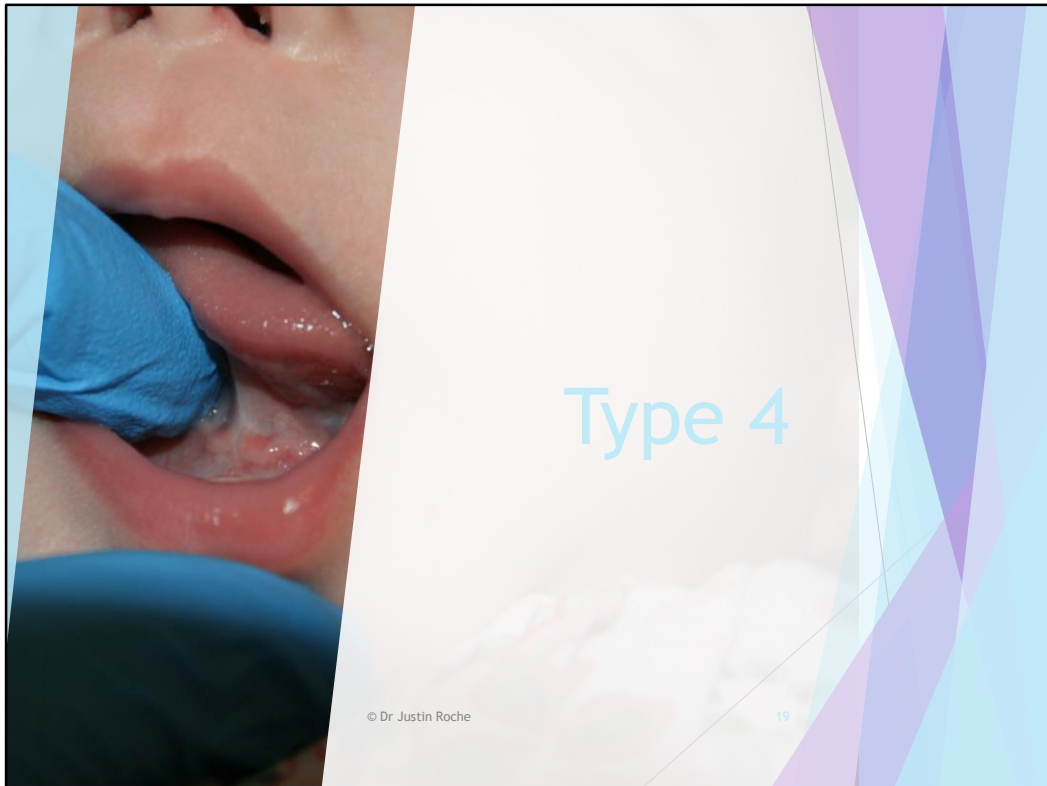


In this photograph of a Type 3 frenulum there is only as small web visible. There can be a more apparent web than this in some children with a Type 3 frenulum



With a type 4 frenulum there is no membrane projecting forwards, it is a fold of skin that sits ahead of the muscular attachment of the tongue to the floor of the mouth. Usually, in order to see this type of frenulum then the tongue has to be lifted up with both index fingers.

All type 1, 2 and 3 frenulums have a type 4 frenulum at the back



This is a photograph of a type 4 frenulum.

There is only a fold of skin to see and no membrane projecting forwards. The front edge of this fold sits about 1cm ahead of the insertion of the muscle of the tongue into the floor of the mouth.

The folds or ridges visible underneath the tongue are the salivary ducts and glands.



Please free to ask us any questions either before or after the procedure.  
You can contact us by text or email anytime.  
Our lactation consultant will also contact you within 48 hours after the clinic visit.