

MYOFUNCTIONAL EVALUATION

NORMAL SWALLOW

Teeth are together

Tongue, especially back of tongue, is in palate, force directed laterally

Closing muscles and pharyngeal muscles contract

- Masseter will bulge from strong contraction

Facial muscles are relaxed

- No contraction of orbicularis oris

- No contraction of mentalis

- No contraction of buccinator

- Negative pressure builds up in oral cavity

ABNORMAL SWALLOW (Visceral or Infantile Pattern)

Teeth are apart

Tongue is between teeth (produces scalloped edges) and away from the palatal alveolar processes

Masseter barely contracts

Facial muscles contract (facial "grimace")

- lips purse

- mentalis dimples ("golf ball chin")

- buccinator dimple

- positive pressure may build up causing air to be forced forward

NORMAL TONGUE POSTURE

In palate (low broad palate)

Away from anterior teeth

Not between posterior teeth

Tip of tongue can contact posterior palate in wide opening

ABNORMAL TONGUE POSTURE

Out of palate (high narrow palate; possibly asymmetrical)

Between anterior teeth and/or

Between posterior teeth

Tip of tongue drops away from posterior palate in wide opening - possibly restricted due

to short lingual frenum

EFFECTS OF ABNORMAL FUNCTION

Anterior dental open bite
Unilateral or bilateral posterior open bite
Anterior spacing (upper and/or lower)
Clockwise growth producing
 Openbite skeletal pattern
 Class II skeletal pattern
Dental Class III or anterior cross-bite
Division 2 pattern

NORMAL vs ABNORMAL GROWTH AND DEVELOPMENT

30% of children between ages 6 and 9 have "abnormal" function.

80% of children who have abnormal function at age 8 grow out of it by age 12 or so.

There is a normal transition from infantile patterns to normal function with the tongue postured within the oral cavity and a normal swallow.

The tongue growth curve parallels that of the neural tissues in that it grows fairly steadily and reaches maximum size about the age of eight. So, basically, we have a mature size tongue in an immature size mouth.

Between the ages of 8 and 12 the oropharynx cavity, or air space, increases as growth becomes very rapid around puberty. This increase in cavity size is caused by:

- * a downward growth of the ramus of the mandible
- * an accompanying downward shift of the tongue in the oral cavity
- * a general decrease in the size of the lymphoid tissue in the oropharynx which is a function of normal reduction of tonsils and adenoids
- * vertical growth of the bodies of the cervical vertebrae.

BASIC IN-OFFICE OROFACIAL MYOFUNCTIONAL EXERCISES

The purpose of these exercises is to assist the patient in finding the proper postural position of the tongue, lips and jaw and to understand proper muscle function for a normal chewing and swallowing. For patients with a minor dysfunction, these exercises may assist them toward normal function. This list of exercises is not designed as a complete program of myofunctional therapy. Further assistance from a qualified myofunctional therapist will usually be needed for the patient to completely alleviate the orofacial muscle dysfunction.

1. Spot Position

Place a tongue depressor or your finger on the gum ridge just behind the incisal papilla (small bump on the gum ridge behind the upper teeth). Remove and place the very tip of the tongue on the same "spot". Replace the tongue depressor and repeat the procedure. This is the spot where the tip of the tongue is placed for normal tongue posture and a normal swallow. CAUTION: Do not allow the tip of the tongue to curl.

2. Pop the Tongue

Suck the tongue up into the roof of the mouth. Make sure that the tongue is sucked up flat with the tip of the tongue on the spot and there is a stretch of the lingual frenum. After stretching widely and holding for a count of five, pop the tongue down. Suck the tongue up again and follow the same procedure.

3. Open and Close

With the tongue sucked up into the palate, open the mouth. Keeping the tongue sucked up, close the teeth, leaving the lips apart. Again open and close. Be sure the tongue remains sucked up flat.

4. Traps with a Straw

Using a cup of water and a straw, suck small sip of water onto the top of the tongue and suck the tongue up against the palate. Make sure the tip of the tongue is on the spot and the sides of the tongue are up against the gums and not against the teeth. The water should be "trapped" between the tongue and the hard palate. Then open the mouth widely so that there is a stretch of

the lingual frenum. Hold for a count of five, bite the back teeth together and swallow, lifting the tongue against the palate and keeping the lips apart.

5. Drinking Sip by Sip with a Straw

With a straw, take a small sip of water onto the top of the tongue. Bite the back teeth together and swallow lifting the tongue against the palate and keeping the lips apart.

6. Drinking with Two Straws, One Between the Teeth

With the tip of the tongue on the spot, suck the tongue up into the palate. Place a straw horizontally behind the upper cuspids and gently bite the teeth together. (Biting the straw will help the patient keep the teeth together during the exercise and will lock the tongue in position above the straw with the tip on the spot.) Now place a straw between the lips in front of the cuspids. Drink through the straw keeping the teeth and lips together.

7. Soft Food Trap

Place a small amount of food such as yogurt, pudding or applesauce on top of the tongue. With the tip of the tongue on the spot, lift the tongue against the palate. Bite the back teeth together and swallow lifting the back of the tongue.

8. Raisin

Place a raisin on the most posterior molar. Chew the raisin in that position, not allowing it to come forward. After the raisin has been sufficiently chewed, gather it onto the top and back of the tongue, place the tip of the tongue to the spot, bite and swallow lifting the back of the tongue.

9. Tongue Resting Posture

Hold the Straw Under the Tongue

With the tip of the tongue on the spot, suck the tongue up into the palate. Place a straw horizontally behind the upper cuspids and gently bite the teeth together to hold the straw. Hold the tongue up in this position for five minutes, gradually increasing the amount of time.

10. Lip Resting Posture

Hold an object between the lips so the lips stay gently together.