Ankyloglossia: The Orofacial Myology Perspective

by

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www.OrofacialMyology.com
Ankyloglossia
IATP

Definition:

“Embryological remnant of tissue in the midline between the undersurface of the tongue and the floor of the mouth that restricts normal tongue movement.”
Orofacial Myology
(Holtzman’s definition)

Definition:

“The study and treatment of the oral and facial muscles as they relate to speech, dentition, chewing/bolus collection, swallowing, and overall mental and physical health.”
Orofacial Myology (Myo) Roots

- **Early 1900’s**
  - DDS realized that certain malocclusions occurred along with very obvious swallow patterns
  - Concluded that the tongue “pressure” during the swallow “caused” certain malocclusions such as open bites
  - Noted that most of those same patients had lisps or other articulation disorders.
  - Began sending “tongue thrust” patients to speech therapists to correct the whole ball of wax:
    - The thrusting tongue during the swallow...
    - The lisp or other articulation problem
    - Any negative oral habits such as thumb sucking
Obstacles in our way

▶ Some patients were not improving
  ▶ Common factors that proved to be barriers toward progress
    ▶ Negative oral habits: thumb sucking, lip biting, blanket sucking, etc.
    ▶ Certain orthodontic appliances
    ▶ Airway issues
  ▶ AND LIMITED MOBILITY OF THE TONGUE……
    ▶ This was the connection between orofacial myology and ankyloglossia!
      ▶ It became apparent that there were consequences in not having the procedure done in infancy.
Possible consequences of foregoing release in infancy

- Poor Eating Habits with poor transfer, swallow, and clean up
- Drooling, rashes
- Speech Disorders
- Swallowing Implications
- Other effects on normal daily living activities, skills and functions
  - Playing Musical Instruments
  - Appearance
  - Health/Emotional Issues
  - Orthodontics - Correction Inhibited or Relapse Post Ortho Treatment
  - Romantic/Intimacy
A little more detail re the consequences.

**Poor Eating Skills**

- Inadequate Rotary Action/Transfer
  - Tongue cannot easily transfer food side to side for effective bilateral chewing to occur

- Drooling/Excessive Salivation, Rashes
  - Saliva pools in oral cavity due to *ineffective suctioning and trapping skills*
  - Rashes naturally follow when excessive saliva “leaks” out onto the skin of facial area

- Peristalsis
  - Proper peristalsis anteriorly to posteriorly prior to the swallow is inhibited
Speech/Communication Consequences

The habitual resting postures of the tongue, lips, and jaw determine the location where speech production begins and ends……the “home base.”

Most common acceptable lingual rest posture is with tongue tip to incisive papilla as shown:

Depending upon various aspects of a lingual restriction such as location of insertions, length, and tautness , any combination of the following might be compromised:

- Articulation of sounds
- Overall precision in continued speech
- Ease of communicating with increased speed, volume, pitch changes
- Voice quality
- Ability to participate in normal oral play that leads to speech/language development
  - Tongue Clucking, Lip Smacking, Lip Pursing
  - Blowing, Tongue Grooving
  - Tongue Protrusion,
  - Tongue Trilling - Also related to paying certain musical instruments
Obstacles reported to playing trumpet, trombone, other wind instruments.

*Examples of email complaints received*

- Can’t get “flutter tongue”
- Can’t accomplish double or triple tongue
- Can’t get solo piece in band
- Growl isn’t clean sounding
- Instructor seeks exercises to help tongue tied student play trumpet better
Post release – happy musician!
Appearance, Health/Emotional Issues

- Periodontic
  - Inability to clean back areas of oral cavity
  - Lack of stimulation of the gingiva, possibly contributing to “gum” disease

- Self consciousness; inability to perform lingual movements like their peers
  - Peers can see that their tongue is “different”
Some research suggests ankyloglossia relationship to crowding, malocclusions


- Srinivasan B and Chitharanjan A, Skeletal and dental characteristics in subjects with ankyloglossia, Progress in Orthodontics 201314:44

Subjects with ankyloglossia had reduced maxillary and mandibular intercanine widths and reduced maxillary intermolar width. The mandibular plane angle and overbite were altered with severity of ankyloglossia.
Intimacy, Other Considerations

- Many blogs with complaints regarding ridicule of “tongue tied” individuals by peers, girl/boy friends
- Teens threatening to “cut” it themselves if parent won’t agree to release
- Inability to achieve tongue piercing
- Discomfort using oral thermometer
- Difficulty during dental examination, treatment
The Role of Orofacial Myology

Evaluation and Consultation:

- See patient prior to release
  - Take measurements, photos, provide plan, confer with referral source
- See patient within 3 days post release, whenever possible
  - Compare with initial exam and begin post release treatment

Goals:

- Maximize tongue excursions, shaping, eliminate labial and mandibular “assistance” in movements
- Address all areas of weakness including:
  - Oral prep stage of swallow in detail; resting postures of tongue, lips, mandible; integration into daily living; speech issues as required
Role of the Orofacial Myologist – Labial Frenum

- See patient prior to surgery whenever possible
- Test lip capacity (Myo Lip Strength Meter) to determine if resistance, compression, “strength” is within the normal range of 3 – 5 lbs.
- Determine if patient is a mouth breather
- Note oral resting posture: lips, mandible, tongue
- Ascertain if bilabial speech sounds or other sounds are being compromised by restriction
- Create treatment plan; confer with parents, patient, and referral source
- See patient within three days post surgery whenever possible
- Re-evaluate pertinent areas post surgery and proceed with treatment plan
Outlook

- Consequences of failing to address ankyloglossia in infancy can be numerous as shown in previous slides.
  - Efforts must be expanded to convince other states to follow New Jersey’s lead to assess all newborns for ankyloglossia. See following link:
    - [www.njleg.state.nj.us/2016/Bills/S1500/1230_I1.PDF](http://www.njleg.state.nj.us/2016/Bills/S1500/1230_I1.PDF)
  - For older children and adults, orofacial myology treatment should be implemented as soon as possible following frenectomy.
  - More dental and medical professionals must be informed of the consequences of failing to release in infancy.
  - More dental and medical professionals must be trained to screen, assess and provide release using the most state of the art procedure methods.
  - Terminology must be more consistent between and among professionals so as to reduce confusion to the public. (ie., “posterior tongue tie,” “anterior tie,” “lip tie,” “tethered oral tissue,” etc.)

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