The comprehensive oral peripheral mechanism evaluation and the school SLP:

What to do when TOTs and/or tongue thrust is suspected?

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Financial Disclosures
- Ms. Brakebill is a salaried Speech-Language Pathologist at Sensible Rehab
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Non-Financial Disclosures
- Ms. Vogl and Ms. Brakebill are both trained orofacial myologists through the International Association of Orofacial Myology (IAOM)
- Ms. Vogl is a member of the IAOM
Learning Objectives

1. Review the comprehensive oral peripheral mechanism exam
2. Identify TOTs and/or tongue thrust
3. Describe appropriate referral process
Background

LEISHA VOGL, M.S., CCC-SLP
EI/ECSE 2006 to 2010
K-12 (mostly K-5) 2010-2013
Private Practice
- minimal progress with some of my articulation clients/patients
- orofacial myofunctional therapy

LEAH BRAKEBILL, M.S., CCC-SLP
Salem Keizer Public Schools
6th-12th grades 2017-2018
Private Practice 2018- present
- minimal progress with many articulation students/patients, desire to learn more about root causes for disordered oral function
- orofacial myofunctional therapy
Comprehensive Oral Mech Exam
Facial Symmetry

Symmetry
Abnormal Movements
Mouth Breathing
Jaw/Teeth

ROM
Symmetry
Movement
TMJ
Occlusions
Teeth
Arrangement of dentition
Hygiene
Lips

Pucker
ROM
Symmetry
Strength
Smile
ROM
Symmetry
Puff cheeks and hold air
Lip strength
Nasal Emission (absent/present)
Tongue

Surface Color
Abnormal Movements
Size
Frenum
Protrusion/Retraction
ROM
Pharynx

Color

Tonsils/Adenoids
Hard and Soft Palate

Color
Rugae
Arch Height/Width
Growths
Fistula
Clefting
Symmetry
Gag Reflex
Phonate on /ɑ/
Symmetry of Movement
Posterior Movement
Uvula
Nasality
Identifying TOTs and/or Tongue Thrust
Identifying Tethered Oral Tissues (TOTs): Red Flags

- Difficulty breast feeding / bottle feeding
- Prolonged sucking habits
- Narrow/vaulted hard palate
- Dental rotations toward the tongue of lower central incisors
- Diastemas
- Difficulty with articulation
  - Lips "m, p, b, w, f, v, sh, ch, j"
  - Tongue "t, d, n, l, s, z, k, g, r, sh, ch, j, th (voiced), th (voiceless)"
Objective Assessments of Tongue Tie

Tongue Tie Assessment Protocol (TAPS) by Carmen Fernando 1998
- Cosmetic Appearance
- Oral Hygiene & Dental Health
- Feeding Skills
- Lingual Movements
- Oral Kinaesthesia
- Speech
- Emotional Status

Functional Assessment and Remediation of TOTs by Robyn Merkel-Walsh & Lori Overland 2018
- Appearance and structures of tongue/lips/cheeks
- Facial Features
- Dentition
- Function
- Pre-Feeding/Feeding Skills
- Articulation
- Additional Concerns
How to measure the Tongue Tie?

Kotlow Rating Scale
- Class I TT is located from the base of the tongue halfway to the salivary duct
- Class II TT located between the salivary duct halfway to the base of the tongue
- Class III TT located from the salivary duct halfway to the tip of the tongue
- Class IV TT located at the tip of the tongue extending halfway between salivary duct and tip of tongue

Coryllos & Genna Classification
- Sub-mucosal attachment, hidden tongue-tie
- Type 4, 0%, fibrous attachment, asymmetry of tongue movement
- Type 3, 50% tongue tie, may appear WNL, may perform very poorly
- Type 2, 75% tongue tie, restricted elevation and extension
- Classical Type 1, 100% tongue tie, heart shaped tongue
Identifying Tongue Thrust: Red Flags

Articulation

• Anterior tongue thrust
  ➢ Interdental and/or anterior placement for any of the following (usually multiple phonemes) "t, d, n, l, s, z, ch, sh, j"
  ➢ Anterior jaw sliding

• Lateral tongue thrust
  ➢ Lateral "lisp" or distortion on the same possible phonemes
  ➢ Lateral jaw sliding

Dentition

• Open bites (anterior and/or lateral) and/or cross bite

Tongue Resting Posture

• Low and forward, open mouth
Comprehensive Oral Mech
Case History of feeding skills, oral habits, dentition, etc.
Feeding/Swallowing Evaluation
- Prolonged mastication? Rotary mastication?
  Lateralization of the bolus?
- Poor bilabial seal?
- Pursing of lips during oral management/swallow?
- Placement of the bolus?
- Tongue movements during oral management and initiation of the swallow?
Articulation Assessment if needed
Orofacial Myology page on the ASHA Practice Portal

https://www.asha.org/public/speech/disorders/Orofacial-Myofunctional-Disorders/

Speech Sound Disorders Screening and Assessment Includes:

https://www.asha.org/PRPSpecificTopic.aspx?folderid=8589935321&section=Assessment#Screening

“…orofacial examination to assess facial symmetry and identify possible structural bases for speech sound disorders (e.g., submucous cleft palate, malocclusion, ankyloglossia)…”
Case Study #1

Unable to breast feed due to difficulty with latch, tried for approximately 6 months and then gave up.

Began speech therapy with the WESD at age 3 for multiple speech sound distortions including severe interdental lisp.

Received speech therapy in public school setting through first grade with minimal progress noted by parents who then sought out private speech therapy.

Anterior sublingual frenulum presentation, tissue appears to be tight and restrictive, patient complained moving tongue within mouth was painful stating "it hurts".

Bowing of lingual tip observed, unable to reach incisive papilla with tongue tip, significant jaw grading observed during attempts, limited lingual ROM.

Unable to protrude tongue upward past upper lip with mouth open.

Unable to protrude tongue horizontally/midline, past vermillion border without resting on the lower lip.

During swallow assessment unilateral chew observed (primarily on right side), pocketed bolus in right cheek prior to initiating swallow. Minimal lateralization of tongue during process of mastication, cracker debris on lips.

Significant speech sound distortions on /s/, /z/, /r/ (all allophones).

Post sublingual frenectomy/post-myofunctional therapy.

Greatly increased lingual ROM.

Able to reach incisive papilla "the spot" without significant jaw grading.

Rotary mastication and lingual lateralization achieved without effort.

Speech sound distortions <90% remediated.
Case Study #2

Trouble breastfeeding
Very slow eater
Orthodontist – 3 years with braces
Tongue feels tired after eating and/or talking
Throat feels like she needs to “clear” it frequently

Errors included:
• Anterior placement and/or distortions on /t, d, n, l, s, z, sh, ch, j/
• Mumbling
• Difficulty with rapid speech and precise articulation
• Fatigues after talking for longer periods of time
Case Study #3

Patient referred to Sensible Speech & Rehab via Bright Now Dental
Patient evaluated for orthodontia, but orthodontist Dr. Susan Park does not want to place braces until patient has corrected his "suspected tongue thrust"
Low tongue resting posture and tongue thrust confirmed following complete swallow assessment by myofunctional therapist
Approx. 3mm open bite with overjet observed upon assessment
During PO trials of cracker textures unilateral, left-sided chew observed, minimal lingual lateralization for movement of bolus
PO trials of thin liquids revealed lingual pumping with audible swallow
Case Study #4

Breastfed till just over one year
Sucked her thumb till she was ~7
Upper palatal expander twice "jaw just isn't growing right"
Three tongue cribs (1st 7-8 years, 2nd 10 years, 3rd just before picture)
Upper 1st bicuspids pulled "to prevent crowding"
Ortho removed the crib and allowed us to do OMT
Speech therapy in preschool – didn't transition to Kinder
Errors included:
• Distortions on stridents /s,z,sh,ch,j/ secondary to tongue crib
• Slides jaw forward even without the crib
Case Study #5

Pre-sublingual frenectomy:
Unable to breast feed due to difficulty with latch
Sore and bleeding nipples, often pulling off in frustration
Profound speech sound distortions, overall intelligibility significantly reduced
Anterior insertion, thin, tight and restrictive, patient complained pain when "stretching tongue"
Bowing of lingual tip
Unable to reach tongue to incisive papilla/ "the spot"
Unilateral, munch chew, intermittently open mouthed, observed to chew mostly on right side of mouth

Post sublingual frenectomy/post-myofunctional therapy:
Can reach tongue tip to incisive papilla without jaw grading/not effortful
Greatly improved lingual ROM, no complaints of pain
Improved lingual lateralization and mastication
Who and **HOW** do you "refer"?

- ENT
- DENTIST
- ORTHODONTIST
- SLP WITH EXTENSIVE TRAINING IN OROFACIAL MYOLOGY/MYOFUNCTIONAL THERAPY
Questions
References


