Oral Placement Therapy
To Improve Speech Clarity and Feeding Skills

By Sara Rosenfeld-Johnson, M.S., CCC-SLP

Author of:
Oral Placement Therapy (OPT) for Speech Clarity and Feeding,
Oral Placement Therapy (OPT) for /s/ and /z/
and Assessment and Treatment of the Jaw
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SRJ Therapies™, Charleston, SC

Sara Rosenfeld-Johnson, M.S., CCC-SLP, a graduate of Ithaca College and Columbia University, has more than 40 years of experience as a speech-language pathologist. She has spent the last 35 years developing oral placement techniques for infants, children, and adults, and has seen a high degree of success in their therapeutic application. For this reason she is now a leading advocate for the use of oral placement techniques in conjunction with more traditional speech therapies and is devoted to teaching other professionals about oral placement techniques to promote speech clarity and feeding safety.

Sara is the author of Oral Placement Therapy for Speech Clarity and Feeding, Oral Placement Therapy for Speech Clarity and Feeding, Oral Placement Therapy (OPT) for /s/ and /z/, Assessment and Treatment of the Jaw, The HOMEWORK Book, the Drooling Program, and many other educational materials.

In 1995, Sara founded Innovative Therapists International, Inc.TM/TalkTools® as a speakers bureau and source for oral placement therapy and therapy tools. She has held seminars throughout the United States, as well as in Canada, Italy, Germany, New Zealand, Australia, Ireland, England, South Africa, China, Malaysia, Cyprus, Sweden, Bulgaria and Singapore. Her courses are approved for both ASHA and AOTA continuing education units, and many are available on DVD for home study. The list of available classes includes:

“Level 1: A Three-Part Treatment Plan for Oral-Motor Therapy”
“Horns as Therapy Tools”
“Straws as Therapy Tools”
“Bubbles as Therapy Tools”
“Early Intervention: Oral Placement Therapy for Children with Down syndrome”
“Assessment and Treatment of the Jaw”
“As a Parent What Can I Do?”

Sara is an international spokesperson for speech, language and feeding disorders related to CHARGE Syndrome and Moebius Syndrome, a member of the National Down Syndrome Congress’ Professional Advisory Committee, and a nationally-recognized presenter on behalf of Down syndrome and Cerebral Palsy associations. Having worked with numerous early intervention programs in Texas, New York, Connecticut, New Jersey, Arizona and South Carolina, she is also a nationally-recognized speaker in the area of early intervention. In addition, Sara regularly appears as a featured speaker at American Speech-Language-Hearing Association (ASHA) conventions, on both the state and national levels.

Even while nurturing these many projects Sara has remained committed to the cause that first drew her to this arena, so she also founded SRJ Therapies™, a clinic specializing in the assessment and treatment of clients with oral-motor, speech, and feeding deficits. The clinic is located in Charleston, SC, and Sara still works with her clients there today.

Sara is now working on a new book, Oral Placement Therapy for Adults with Muscle-Based Feeding and Communication Disorders.
Sara Rosenfeld-Johnson’s innovative tactile-sensory approach to speech therapy uses therapy tools to train muscle movements for improved feeding safety and speech clarity. Learn how these highly motivating motor activities can be used to improve phonation, resonation, and speech clarity. Muscles of the abdomen, velum, jaw, lips, and tongue will be discussed within the parameters of movements necessary for speech production. Developmentally appropriate motor movements for speech are therapeutically targeted using highly motivating techniques appropriate for children and adults. Each activity can be implemented easily within the school and/or home environment.

**Learner Outcomes:**

1. Understand the need for dissociation and grading for feeding and speech.

2. Appropriately apply at least 5 new therapy techniques.

3. Learn to use Oral Placement Therapy (OPT) techniques as a tactile cueing system in conjunction with traditional speech therapy techniques to improve speech clarity.

4. Describe how therapeutic straw drinking can be use to improve speech clarity for /s/ and /z/.

Oral Placement Therapy
To Improve Speech Clarity and Feeding Skills

What Is Oral-Motor Therapy?

Published Article

Treatment of children with speech oral placement disorders (OPDs): A paradigm emerges.
Communication Disorders Quarterly, 31 (3), 131-138.

Dissociation: LIPS FROM JAW

MUSCLE MOVEMENT

Following normal speech development

1. Open
   - Closed to Open
   - Open to Closed

2. Protrude
   - Retract

3. Lower Lip Retraction/Tension
   - Lower Lip Protrusion/Tension

PHONEME EX.

(ah, uh)

(m, p, b)

(oo, oh, w, ee, ih)

(f, v)

(sh, ch, j, r, er)
Dissociation: TONGUE FROM JAW

**MUSCLE MOVEMENT**

1. Retraction- Protrusion: **Balance** (Equal range of motion)
2. Retraction- Protrusion: **Imbalance**
   Gradual increase in retraction
   Gradual decrease in protrusion
3. Retraction (stability) - Lateralization of tip
   a. Midline to both sides
   b. Across midline
4. Retraction - Tip Elevation/Depression
5. Retraction - Back of Tongue Side Spread

**PHONEME EX.**

- (all sounds except th)
- (t, d, n, l, s, z, sh, ch, j, k, g)
- (stability for co-articulation, er)
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To Improve Speech Clarity and Feeding Skills

Tongue Thrust

1. Retraction- Protrusion: Balance (Equal range of motion)
   • Gradual increase in protrusion
   • Gradual decrease in retraction
2. Retraction – Protrusion: Imbalance
   • Significantly more protrusion than retraction for function: feeding and speech

Our Professional Title

Speech and Language Pathologist

NOT: Speech or Language Pathologist

Combination of:
(1) OPT for feeding and speech and
(2) language therapy

Oral Placement Therapy for Speech Clarity and Feeding

1. To increase the awareness of the oral mechanism
2. To normalize oral tactile sensitivity
3. To improve the precision of volitional movements of oral structures for speech production
4. To increase differentiation of oral movements
   a. dissociation: The separation of movement, based on stability and adequate strength, in one or more muscle groups.
   b. grading: The controlled segmentation of movement through space based upon dissociation.
   c. fixing: An abnormal posture used to compensate for reduced stability which inhibits mobility.
5. To improve feeding skills and nutritional intake
6. To improve speech sound production to maximize intelligibility

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Stability / Mobility

Stability in the body will allow for maximum mobility in the mouth.

The Tactile System

1. **Tactile Hyposensitivity**: An under-reaction to tactile input.
2. **Tactile Hypersensitivity**: An over-reaction to tactile input.
3. **Mixed Sensitivity**: Any combination of hyper, hypo or normal sensitivity.
4. **Fluctuating Tactile Sensitivity**: Responses that change over time.

**Tactile Defensiveness**: A learned tendency to respond negatively or emotionally to tactile input.
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To Improve Speech Clarity and Feeding Skills

A Three-Part Treatment Plan for Oral-Placement Therapy (OPT)

Speech
Feeding
Oral-Placement Therapies

Martha at Birth

Before and After
The Clinician’s Role in Teaching Proper Infant Feeding Techniques

- The semi-upright position of the infant during breast feeding helps eliminate the entry of milk into the middle ear...
- These advantages, so natural to breast-feeding, are likely to be absent from bottle feeding unless some of the natural techniques associated with breast feeding are adopted.

Ruth Lawrence, MD - *Journal of Pediatrics* 1995;126:S112-7

Why is feeding so important to an Oral Placement Therapy program?

**SPOON FEEDING:** Positioning in conjunction with proper spoon placement in the oral cavity will address the following goals:
- Lip Closure
- Tongue Retraction
- Jaw Grading

Why is feeding so important to an Oral Placement Therapy program?

**SPOON FEEDING:**
- Lateral Placement
- Front Placement
- Spoon Slurp
Oral Placement Therapy
To Improve Speech Clarity and Feeding Skills

Why is feeding so important to an Oral Placement Therapy program?

CUP DRINKING: Choosing the right cup is very important. Thickened liquids are easier for the client to control, when learning a new muscle movement. As the skill level increases, the liquids can be thinned. Specific goals of cup drinking may include:
- Lip Closure
- Tongue Retraction
- Tongue Tip Elevation or Depression
- Jaw Grading

STRAW DRINKING: Many children evidence poor oral movements with spoon fed foods, despite attempts at intervention. Straw drinking of these traditionally fed “spoon foods” may improve functioning. Begin with a large diameter straw and a slightly thickened liquid (e.g. nectar). As the oral functioning improves, reduce the diameter of the straw while increasing the thickness of the liquid (e.g. yogurt). Specific goals may be:
- Lip Rounding
- Tongue Retraction
- Defining Facial Musculature
- Jaw Stability
- Independent Self-Feeding

Straw Hierarchy

GOALS: Lip Protrusion, Tongue Blade Retraction/Grading

A. Honey Bear with Straw - to teach straw drinking
B. Thin Liquids (8 Straws in Hierarchy)
   - Begin with either Straw #1 or #4

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3. Straw Drinking Hierarchy

A. Thin liquids (8 straws in hierarchy)
   1. Home Program = all thin liquids, all day
   2. Criteria to move to next straw = ease or under baseline
SOLIDS (Cubes or Julienne): A preference for soft foods is frequently seen with children who have oral-motor deficits. Introduction of “chew solids” is important for all clients with weak jaw musculature. Gradually increasing food textures, while acknowledging each client’s taste preferences, is an integral component of oral-motor therapy. Goals to be addressed include:

- Tongue Lateralization
- Jaw Stability
- Jaw Symmetry
- Tongue Retraction
- Independent Feeding
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**JAW EXERCISES – BIRTH TO 3**

a. Gloved Finger

b. Finger Cuff

c. Ark Probe or Z-Vibe

d. Bite-Tube Hierarchy:
   - Red Tube
   - Yellow Tube
   - Purple Tube
   - Green Tube

**Oral Placement Therapies**

4  ➙ Articulation

3  ➙ Resonation

2  ➙ Phonation

1  ➙ Respiration
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Oral Placement Therapy

PHONATION: Speech is superimposed on volitionally controlled oral airflow.

   GOALS: Abdominal Grading, Jaw Stability, Lip Rounding, Tongue Retraction

2. Horn Blowing: Criteria for success= 25X in rapid succession without a break
   GOALS: Phonation, reduce/eliminate drooling, improve speech clarity, improve sensory awareness/reduce hypersensitivity

Duration Requirements: Horn #1: any duration; #2: 1 second duration; #3 & 4: 1+ second duration; #5, 6, 7 & 8: 2 second duration; #9 & 10: 2+ second duration; #11 & 12: 3 second duration.
HORN BLOWING HEIRARCHY  Phonation and Articulation

The horns presented on this Airflow Hierarchy form represent a technique for improving abdominal muscle strength for prolongation of controlled exhalation. The #1 horn is the easiest to blow. The therapist should hold the horn perpendicular to the client’s mouth. By allowing the client to hold the horn, you may facilitate the following compensatory problems:

1. Teeth biting on the mouthpiece for jaw stability, which will inhibit jaw-lip dissociation.
2. Body extensor patterns which are associated with volitional hand-to-mouth movements in many of our clients.
3. Bite reflex.

Although each horn is presented as it relates to improving airflow, horns are also a valuable tool for improving articulation by increasing awareness, creating placement and developing strength in specific muscles, and for reducing/eliminating drooling.

Working with horns facilitates increased muscle strength/muscle memory as a prerequisite to the development of the following components of standard speech production:

1. Jaw grading
2. Jaw-lip dissociation
3. Jaw-tongue dissociation
4. Lip closure for saliva control (drooling)
5. Lip rounding
6. Tongue retraction
7. Back of tongue side spread
8. Motor planning

All horns from #9 through #12 are more difficult to blow. As lip protrusion is increased, tongue retraction will be initiated. These horns will address tongue retraction, which is a necessary component of all speech sound production with the exception of /θ – ð/. Use horns from #9 through #12 with children who do not necessarily have airflow deficits, but are working on the correction of an interdental lisp.

1. Flat-mouthed horns will work on lip closure to address drooling control and on phonemes that require a) lip approximation, b) lower lip reaction and c) lower lip tension.
2. Round-mouthed horns will work on lip rounding phonemes.
3. The harder the client is required to blow using lip protrusion with tension, the more tongue retraction you will obtain.
4. Superimposed jaw stability and assisted lip closure may be used for horn #1 & #2, but may not be used for the remainder of the horns in the hierarchy.
5. When a client relies on lip protrusion to blow a horn, it may be a compensatory pattern to establish jaw stability. Go to a lower level on the hierarchy until the client can blow with abdominal constriction and lip closure, rounding or protrusion. Inhibit all compensatory body postures.
6. Remember to remove the horn after each blow and to use only one horn at a time. At no time should you be using more than 1 horn during any therapy session.

Disinfecting Statement:

Most TalkTools® products are reusable and should be thoroughly cleaned or sterilized between uses. If this is a concern, please contact your local Center for Disease Control for further guidance.
HORN BLOWING HIERARCHY

Oral Placement Goals

1. Lip Closure:
   - Bilabial sounds /m - b - p /
   - Lower lip /f - v - r /
   - Drooling control

2. Lip Closure:
   - Bilabial sounds /m - b - p /
   - Lower lip /f - v - r /

3. First Level Lip Rounding:
   - Lower lip /f - v - r /
   - Prerequisite for lip rounding sounds /w - oo - f - tʃ - dʒ /

4. Lip Closure:
   - Bilabial sounds /m - b - p /
   - Lower lip /f - v - r /
   - Drooling control

5. Lip Closure:
   - Bilabial sounds /m - b - p /
   - Lower lip /f - v - r /
   - Drooling control

6. Second Level Lip Rounding:
   - Prerequisite for lip rounding sounds /w - oo - f - tʃ - dʒ /

7. Low Jaw, Open Mouth Sounds:
   (vowels) /ah - eh - ih - uh /

8. Lip Closure:
   - Bilabial sounds /m - b - p /
   - Lower lip /f - v - r /

9. Lip Protrusion / Tongue Retraction:
   /w - oo - f - tʃ - dʒ - s - z - t - d - ɛ - r /

10. Lip Protrusion / Tongue Retraction:
    /w - oo - f - tʃ - dʒ - s - z - t - d - ɛ - r /
    Graded airflow

11. Lip Protrusion / Rapid Tongue Retraction with Release:
    /w - oo - f - tʃ - dʒ - k - g - r /

12. Lip Protrusion / Tongue Retraction:
    /w - oo - f - tʃ - dʒ - s - z - t - d - ɛ - r /
    Graded airflow

Note: The horn hierarchy has been reconfigured to reflect recent clinical data. This hierarchy was tested and validated by Quest Engineering Solutions (Billerica, MA.). For a copy of “Test Report #Q08024” please contact TalkTools Therapy.

#1 = any duration
#2 = 1 sec.
#3,4 = 1+ sec.
#5, 6, 7, 8 = 2 sec.
#9, 10 = 2+ sec.
#11, 12 = 3 sec.
ARTICULATION: Jaw Activities

1. Feeding Program - Chew on back molars
2. Non-Food Jaw Activities

Jaw Grading Bite Blocks

Three sequential exercises for each Bite Block height:

1. Bite Block
2. Twin Bite Block
3. Bite Block for Jaw Stability
1. How to Evaluate Jaw Stability:

A. Bite Block Exercise: (Bite Block #2 – Bite Block #7)
   1. Place a single Bite Block #2 on the surface of the lower back molars on the left side, extending from the front of the mouth.
   2. Instruct the client to bite and hold
   3. While maintaining the bite, pull forward with isometric resistance (inhibit all compensatory posturing).
   4. Hold the isometric pull for 15 seconds.
   5. Repeat on the right side.
   
   Criteria for Success: 15 seconds per side, 1 time. (Diagnostic)

B. Twin Bite Block Exercise: (Bite Block #2 through Bite Block #7)
   1. Place a single Bite Block #2 on the surface of the lower back molars on each side, extending from the front of the mouth.
   2. While maintaining the bite, pull forward with isometric resistance (inhibit all compensatory posturing).
   3. Hold the isometric pull for 15 seconds.
   
   Criteria for Success: 15 seconds, 1 time. (Diagnostic)

C. Bite Block for Jaw Stability Exercise: (Bite Block #2 through Bite Block #7)
   1. Place a single Bite Block #2 on the surface of the lower teeth extending across midline.
   2. Maintaining the bite, pull forward with isometric resistance (inhibit all compensatory posturing).
   3. Hold the isometric pull for 15 seconds.
   
   Criteria for Success: 15 seconds, 1 time. (Diagnostic)

Repeat the same sequence of exercises: A. Bite Block Exercise, B. Twin Bite Block Exercise, and C. Bite Block for Jaw Stability Exercise, using Bite Blocks #3 through #7 as the Criteria for Success is achieved.

NOTE: The diagnostic assessment is completed as soon as the Criteria for Success is not met at any step in the sequence.
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**Dissociation: TONGUE FROM JAW**

**MUSCLE MOVEMENT**

1. Retraction-Protrusion: **Balance** (Equal range of motion)
2. Retraction-Protrusion: **Imbalance**
   - Gradual increase in retraction
   - Gradual decrease in protrusion
3. Retraction (stability) - Lateralization of tip
   - a. Midline to both sides
   - b. Across midline
4. Retraction - Tip Elevation/Depression
   - (t, d, n, l, s, z, sh, j, k, g)
5. Retraction - Back of Tongue Side Spread
   - (stability for co-articulation, er)

**PHONEME EX.**

- (all sounds except th)

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**Oral Placement Therapy**

**BLADE RETRACTION**

- Lip Protrusion=Tongue Retraction
- Straw Drinking Hierarchy

**Tongue Lateralization:** TalkTools® Tongue-Tip Lateralization Tool
**Prerequisite:** Complete all 3 exercises using Bite Blocks #2 - #5

- Midline to Left
- Midline to Right
- Across Midline

**Criteria for success:** Repeat the appropriate unit 5 times

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**Oral Placement Therapy**

**TONGUE TIP ELEVATION AND/OR DEPRESSION:**

- TalkTools® Tongue-Tip Elevation/Depression Tool
- **Prerequisite:** Complete 3 exercises using Bite Blocks #2 - #7

- Tongue- Tip Elevation Up
- Tongue- Tip Depression Down
- Up and Down

**Criteria for success:** Repeat the appropriate unit 5 times

---
**Phoneme Associations**

**PRODUCTION OF /S/ AND /Z/**

1. Place tip of tongue depressor between closed front teeth
2. Repeat “Up and Down” 5x
3. Say “ts” – freeze your articulators
4. “Where is your tongue tip?”
5. Teach /s/ and /z/ in that position

**What is the Diagnosis?**

**RACHEL: AGE 10 YEARS**

**LATERAL PRODUCTION OF: /s/, /z/, /t/, /d/ and /d/**

1. Speech therapy for 4 years
2. Did not know how to make the /s/ or /z/ sounds when she started
3. Deficits: Asymmetrical Jaw Weakness, Reduced mobility in the lips, Tongue Protrusion
4. Initial Program Plan:
   - Straw #4
   - Spoon Sip
   - Bite-Tube Hierarchy
   - Bubble Bear
   - Horn #7
   - Jaw Grading Bite Block #4
   - Button Fall
   - Tongue Depressor for Lip Closure

*Reference: Rosenfeld-Johnson, 2009: Oral Placement Therapy for /s/ and /z/, TalkTools*
RACHEL: AGE 11 YEARS
LATERAL PRODUCTION OF: 
/s/, /z/, /t/, /d/ and /l/

1. Nine months after Oral Placement Therapy was started
2. Rachel was seen 2 times per month - homework was practiced a minimum of 3 times per week
3. OPT Program Plan Completed:
   - Straw #8, Straw D with pudding texture
   - Bite-Tube Hierarchy - 10 aligned bites on both sides
   - Bubble Bear - 4 feet, 10 times
   - Horn #12, 25 times at 3 second duration
   - Jaw Grading Bite Block #7 - Symmetrical Jaw Skills
   - Tongue-Tip Lateralization Tool
   - Tongue-Tip Elevation/Depression Tool

DEVORAH: AGE 36 YEARS
INTERDENTAL PRODUCTION OF: /l/, /s/ AND /z/

1. Speech therapy on and off from age 3 through age 18
2. Did not know how to make the /s/ or /z/ sounds when she started
3. Deficits: Asymmetrical Jaw Weakness, Reduced Mobility in the Lips, Tongue Protrusion, Limited Abdominal Grading (clavicular)
4. Initial Program Plan:
   - Straw #1
   - Spoon Sharp
   - Bite-Tube Hierarchy
   - Bubble Tube
   - Horn #1
   - Jaw Grading Bite Block #2

Reference: Rosenfeld-Johnson, 2009: Oral Placement Therapy for /s/ and /z/, TalkTools

Final Speech Therapy Session

DEVORAH: AGE 36 YEARS
INTERDENTAL PRODUCTION OF: /l/, /s/ AND /z/

1. Seven months after Oral Placement Therapy was started
2. Devorah was seen 2 times per month - homework was practiced a minimum of 3 times per week
3. OPT Program Plan Completed:
   - Straw #8, Straw D with pudding texture
   - Bite-Tube Hierarchy - 10 aligned bites on both sides
   - Bubble Bear - 4 feet, 10 times
   - Horn #12, 25 times at 3 second duration
   - Jaw Grading Bite Block #7 - Symmetrical Jaw Skills
   - Tongue-Tip Lateralization Tool
   - Tongue-Tip Elevation/Depression Tool

Reference: Rosenfeld-Johnson, 2009: Oral Placement Therapy for /s/ and /z/, TalkTools
## Oral Placement Therapy (OPT) To Improve Speech Clarity and Feeding Skills

<table>
<thead>
<tr>
<th>JAW</th>
<th>ORAL PLACEMENT THERAPY</th>
<th>SPEECH SOUNDS</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIGH</td>
<td>Jaw Grading Bite Blocks using # 2 and # 3 Jaw Bite Tube Set</td>
<td>m, r, vocalic /r/, s, n, z, ñ (sh), b, f, tʃ(ch), dʒ (ʒ), p, t, s, z, ñ</td>
</tr>
<tr>
<td>MEDIUM</td>
<td>Jaw Grading Bite Blocks using # 4 and # 5 Jaw Bite Tube Set</td>
<td>vocalic /r/, t, l, d, ð(th), θ(th), e, ə, o, æ</td>
</tr>
<tr>
<td>LOW</td>
<td>Jaw Grading Bite Blocks using # 6 and # 7 Jaw Bite Tube Set</td>
<td>k, g, ñ, a, æ</td>
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</tbody>
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<table>
<thead>
<tr>
<th>LIPS</th>
<th>ORAL PLACEMENT THERAPY</th>
<th>SPEECH SOUNDS</th>
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<tr>
<td>OPEN TO CLOSED</td>
<td>Sponge-Balsam-Tongue Depressor Single-Sip Cup Drinking Horn Blowing Hierarchy- Horns # 1, 2, 3, 4, 5, &amp; 8 Tongue Depressor for Lip Closure</td>
<td>t, d, L, n, s, z, b, k, d, g, ð, θ, p, ñ, e, ə, ñ, o, ñ, a, æ</td>
</tr>
<tr>
<td>CLOSED TO OPEN</td>
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## Oral Placement Therapy

<table>
<thead>
<tr>
<th>PROTRUSION/ RETRACTION</th>
<th>ORAL PLACEMENT THERAPY</th>
<th>SPEECH SOUNDS</th>
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<tbody>
<tr>
<td>Straw Drinking Hierarchy Horn Blowing Hierarchy- Horns # 3, 6, 7, 9, &amp; 10 OO-EE Button Pull</td>
<td>m, r, vocalic /r/, t, d, L, n, s, z, ñ (sh), b, k, f, g, tʃ, dʒ, p, v, ñ, ə, e, ə, o, ñ, a, æ</td>
<td></td>
</tr>
</tbody>
</table>

## Lower Lip Retraction

- Cheerio for Lower Lip Retraction
- Tongue Depressor with Pennies

## Tongue Retraction

- Horn Blowing Hierarchy- Horns # 9, 10, 11, 12, 13, & 14 Bubble Blowing Hierarchy Straw Drinking Hierarchy Candle Blowing Hierarchy Golf Ball Air Hockey

## Tongue Tip Lateralization Across MIDLINE

- Tongue Tip Lateralization Tool Bite Touch
- Hor, d, L, n, s, z, ʃ, ʒ

## Tongue Tip Elevation

- Tongue Tip Elevation/Depression Tool Cheerio for Tongue Tip Elevation
- s, z, k, g

## Tongue Tip Depression

- Tongue Tip Elevation/Depression Tool Cheerio for Tongue Tip Depression

## Back of Tongue Side Spread

- Horn Blowing Hierarchy- Horn # 14 only Straw Drinking Hierarchy- Straw # 8 and cocktail straw
- r, vocalic /r/, j(sh), ʃ, ð, ñ, u, ñ, o, ñ, a, æ

*Phonetic chart for vowels: e (egg), ʌ (up), ɪ (aim), ə (the), ɔ (own), I (his), a (father), ɔ (off), i (eat), u (to), æ (ask)

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The Speech Disorders Classification System (SDCS; Shriberg, 1993, 1994; Shriberg, Austin, Lewis, McSweeny, & Wilson, 1997) contains a number of subcategories under the subtopic of speech delay. The subtopic of speech delay falls under the overall category of developmental phonological disorders in the SDCS. According to this system, speech delay can result from

- an unknown, possibly genetic, origin,
- otitis media with effusion,
- childhood apraxia of speech,
- developmental psychosocial impairment, or
- craniofacial and sensory-motor impairment in special populations.

These classifications are important diagnostic categories. However, it is unlikely that children within these SDCS diagnostic subcategories fit into homogeneous treatment groups. It is more likely that treatments will vary within each subgroup based on individual needs. This article proposes ideas to further refine and possibly expand the SDCS system to account for this variability. It is hypothesized that at least two treatment subgroups (i.e., children with oral placement disorders and those without) will be found within each SDCS subcategory listed here.

Definition of Speech Oral Placement Disorders

Oral placement disorder (OPD) is a new term suggested by the authors. Children with speech OPDs may have typical or atypical oral structures. The key to the definition of OPD lies in the child’s ability or inability to imitate auditory-visual stimuli and follow verbal oral placement instructions.

Suggested definition: Children with OPD cannot imitate targeted speech sounds using auditory and visual stimuli (i.e., “Look, listen, and say what I say”). They also cannot follow specific instructions to produce targeted speech sounds (e.g., “Put your lips together and say m”).

Although the term OPD is new, the concepts surrounding the term have been discussed by a number of authors and clinicians (Bahr, 2001, in press; DeThorne, Johnson, Walder, & Mahurin-Smith, 2009; Hammer, 2007; Hayden, 2010).

Keywords

speech treatment, speech disorders, motor learning, oral motor treatment, evidence-based practice
Oral Placement Therapy

To Improve Speech Clarity and Feeding Skills


Oral placement disorder does not apply to children with speech delay who can imitate targeted speech sounds using auditory-visual stimuli and can follow specific verbal instructions to produce targeted speech sounds. Yet, some speech-language pathologists (SLPs) use methods developed for these children to treat children with OPDs.

Treatment of Speech OPDs

When a child with an OPD is treated using auditory-visual imitation and verbal instruction alone, clinical improvements in speech production and intelligibility may be extremely limited and progress may be slow. Occupational therapy (OT) and physical therapy (PT) colleagues facilitate movement patterns using the tactile and proprioceptive sensory systems. Because speech is a fine-motor, tactile-proprioceptive act, a number of SLPs also facilitate speech sensory systems. Because speech is a fine-motor, tactile-proprioceptive act, a number of SLPs also facilitate speech movements and placements in children with OPD via tactile-proprioceptive input (Bahr, 2001, in press; Hammer, 2007; Hayden, 2004, 2006; Kaufman, 2005; Marshalla, 2004; Meek, 1994; Ridley, 2008; Rosenfeld-Johnson, 1999, 2009; Strand, et al., 2006).

Using the work of OTs and PTs as a model, SLPs first evaluate the movement and placement of mouth structures for speech production. It is more difficult to observe intraoral than extraoral movements and placements. However, instrumentation such as ultrasound imaging (Sonies, 1998; Ridley, Sonies, Hamlet, & Cohen, 1990, 1991) and palatometry (Fletcher, 2008) will hopefully become increasingly available for this process. Currently, the SLP must infer intraoral movements from a thorough oral mechanism examination (including palpation of the oral structures) and an evaluation of speech production patterns (e.g., fronting, backing, etc.).

Once the SLP identifies and understands the oral movements used in a child’s speech production, tactile-proprioceptive techniques for speech articulator placement can be used. These techniques are found in the work of Diane Bahr (2001, in press), David W. Hammer (2007), Deborah Hayden (2004, 2006), Nancy Kaufman (2005), Pamela Marshalla (2004), Merry Meek (1994), Donna Ridley (2008), Sara Rosenfeld-Johnson (1999, 2009), Edythe Strand (Strand, et al., 2006), and others. The methods represent a paradigm of tactile-proprioceptive treatment, different from traditional auditory-visual approaches. This can be termed oral placement therapy (OPT, Rosenfeld-Johnson, 2009) because tactile-proprioceptive oral placement techniques are used to directly facilitate speech sound production.

Phonetic placement therapy (PPT), as discussed by Van Riper in 1954 (pp. 236–238), has been used historically to improve speech production. Traditional articulation and phonology treatments use auditory-visual cueing and verbal instruction for phonetic placement. OPT uses proprioceptive-tactile input to attain phonetic placement.

Oral placement therapy is combined with other approaches in this paradigm. For example, Diane Bahr (in press) and Nancy Kaufman (2005) also use bottom-up speech approaches (e.g., moving from vowel, consonant-vowel, vowel-consonant, to more complex speech productions) in conjunction with OPT. David W. Hammer (2007) and Deborah Hayden (Hayden & Square, 1994) use hierarchical speech approaches (i.e., building speech from sounds a child can produce) along with OPT. Other therapists combine OPT with more traditional articulatory approaches (i.e., building the use of a targeted speech sound from isolation to carry-over in conversation). Carry-over to standard speech sound production is obtained through repetition and practice incorporated into daily homework assignments in all types of treatment.


1. Facilitate speech movement with assistance of a therapy tool (e.g., bite block) and/or other tactile-proprioceptive facilitation technique (i.e., manipulation of oral structure by therapist);
2. facilitate speech movement without therapy tool and/or other tactile-proprioceptive technique; and
3. immediately transition movement into speech with and without therapy tool and/or other tactile-proprioceptive facilitation technique.

(Note: This will be different based on the individual child. Some children can handle speech work along with sensory-motor facilitation. Other children may need the speech production added once the appropriate movement is established. Information on motor learning theories can assist the SLP in understanding how this may work.)

When a child receives speech OPD remediation, the following sequence may be seen:

1. The child is first assessed to evaluate if he or she can produce speech sound(s) in isolation using auditory-visual cueing and/or verbal instruction.
2. If the child can produce the targeted speech sound(s), then tactile-proprioceptive placement work is not needed and typical speech production work can begin.
3. If the child cannot attain targeted speech sound(s) with auditory-visual input, a thorough assessment of oral sensory and motor function for speech is required.
4. Once abnormal oral placement patterns are identified, a hierarchy of tactile-proprioceptive therapeutic activities is used to teach targeted movements needed for speech. This is hypothesized to teach the “feel” of speech while developing motor plans or gestures for speech. The section on motor learning theories explains these processes. Oral placement is practiced until the child performs the movement and speech sound without a therapy tool and/or other facilitation technique. Tactile-proprioceptive treatment techniques are hypothesized (in schema theory) to establish muscle memory/motor plans so the child can retrieve the oral placement for speech sound production. As soon as placement is attained, it is immediately transitioned into speech. Hayden (2006), Strand, Stoeckel, and Bass (2006), as well as DeThorne et al. (2009) have written about the use of tactile-proprioceptive treatment techniques to facilitate speech production in recent journal literature.

If a traditional articulation treatment approach is used, the speech sound is taught in isolation and then expanded to syllables, words, phrases, sentences, and so on. However, phonological process, bottom-up (e.g., V, CV, VC, CVC, etc.), or other speech treatment approaches may also be combined with OPT.

The goal of OPT is to transition appropriate oral movements into speech during the same therapy session. For example, if a child cannot produce the /m/ sound with auditory-visual cueing and/or verbal instruction, then a thin bite block or tongue depressor may be placed on the inner borders of the lips to attain the appropriate oral movement and speech sound. Once the sound is attained it can be moved immediately into speech work. Another way to facilitate the /m/ sound would be through Prompts for Restructuring Oral Muscular Phonetic Targets (PROMPT) or Moto-kinesthetic, hands-on speech facilitation approaches where the therapist brings the child’s lips together manually.

Speech Oral Placement Therapy (OPT) and Motor Learning Theories

Oral placement therapy may be congruent with current yet somewhat opposing theories of motor learning (i.e., dynamic systems theory and schema theory). Kent (2008) discusses the differences between these theories in his recent article entitled “Theory in the Balance.” According to Kent, dynamic systems theory has not been widely applied in speech-language pathology. Most OPTs appear to be based on the schema theory and motor programming. However, Edythe Strand’s (Strand, et al., 2006) Dynamic Temporal and Tactile Cueing (DTTC) and Deborah Hayden’s (2004, 2006) Prompts for Restructuring Oral Muscular Phonetic Targets approaches appear to have been developed from dynamic systems theory. Both theories may have some value in the discussion of OPT.

Dynamic systems theory (Kent, 1999, p. 60–62) is based on “motor gestures,” which are “abstract representations of movement.” Sensory processing and motor output are intrinsically connected to form synergies that are said to be “softly assembled to create stable but flexible units of action.” A particular synergy is related to a specific movement goal but may accomplish different motor tasks. Kent provides this example: In “oral motor control . . . a synergy based on lip and jaw muscles can be useful in eating and drinking but also in forming the bilabial sounds of speech” (p. 62). The difference between these tasks is in the assembly and tuning of the movements. The child must know which gestures to use, then assemble and tune the gestures for speech. Gestures for speech are tuned and assembled differently than gestures for eating, drinking, or other mouth activities. Oral placement therapy assists the child in developing, assembling, and tuning the oral motor gestures needed for targeted speech sounds. This is qualitatively different from the idea of motor planning for speech production.

Maas et al. (2008, p. 279–280) discuss schema theory (i.e., the work of Schmidt, 1975, 2003, and Schmidt & Lee, 2005). They say, “schema theory . . . assumes that production of rapid discrete movements involves units of action (motor programs) that are retrieved from memory and then adapted to a particular situation.” Motor programs are said to be generalized by capturing the unchanging aspects of a movement. A single generalized motor program (GMP) may govern a general class of movements that is graded for the demands of a particular task. Oral placement therapy appears to help establish oral motor plans that cannot be established by traditional auditory-visual cueing and verbal directions. It uses the concept of the GMP to place those motor plans directly into speech production.

The basic tenants of OPT also align with the research of Moore and his colleagues (Green et al., 1997; Moore & Ruark, 1996; Moore, Smith, & Ringel, 1988; Ruark & Moore, 1997). Their research revealed that motor coordination for speech production is likely controlled by different neural mechanisms than motor coordination for eating, drinking, and other nonspeech tasks, particularly beyond 2 years of age. Oral placement therapy facilitates movements used in speech production only and supports the idea that eating, drinking, speaking, and other oral activities have distinct motor plans.

Oral Placement Therapy in Relationship to Oral Motor Treatment

Until now, there was no term for OPT, so it was frequently filed under the heading of oral motor treatment. Not all
therapy under this umbrella term is the same. Treatments targeting specific movements for speech sound production have unfortunately been categorized with treatments not targeting specific speech sound production. This can be better understood by reviewing Bahr’s research regarding the misunderstanding and confusion surrounding the term oral motor treatment.

Bahr (2008) found some of the first references to the term “oral motor” in 1980s peer-reviewed journal literature describing feeding and motor speech behaviors (e.g., Alexander, 1987; Morris, 1989). However, some recent authors and presenters (Banotai, 2007; Bowen, 2005; Clark, 2005; Flaherty & Bloom, 2007; Insalaco, Mann-Kahris, Bush, & Steger, 2004; Lass, Pannbacker, Carroll, & Fox, 2006; Pannbacker & Lass, 2002, 2003, 2004; Polmanteer & Fields, 2002; Pruett-Hayes, 2005; Ruscello, 2005; Williams, Stephens, & Connery, 2006) appear to narrowly define and equate the term oral motor treatment with nonspeech oral motor exercise and treatment (NSOME/NSOMT). It is important to note that the majority of these articles and presentations did not appear in peer-reviewed journals.

The recent narrow use of the term oral motor treatment has apparently caused significant misunderstanding and confusion within the field of speech-language pathology. According to Bahr (2008), 74% of 500 SLPs surveyed said they had heard the general statement “oral motor treatment does not work” from colleagues, professors/instructors, and other sources. Bahr then looked at how these same therapists defined oral motor treatment. Approximately 70% of SLPs considered feeding/oral phase swallowing, motor speech, oral awareness/discrimination, and oral activities/exercises as part of oral motor treatment. With 74% of therapists hearing the general statement “oral motor treatment does not work,” and approximately 70% of therapists defining oral motor treatment as feeding/oral phase swallowing, motor speech, oral awareness/discrimination, and oral activities/exercises, the confusion and misunderstanding in the field of speech-language pathology regarding the term oral motor treatment is understandable.

Oral placement therapy for speech is a form of oral motor treatment, but it only targets movements used in speech sounds. It can be used with both children and adults who cannot imitate targeted speech sounds (Rosenfeld-Johnson, 2008). OPT for speech does not include activities unrelated to speech sound production such as “tongue wagging” and “cheek puffing” (Lof & Watson, 2008). The concepts of OPT are consistent with information in articles by authors discussing NSOME/NSOMT (e.g., recent articles found in Language Speech and Hearing Services in Schools, 39, July 2008). Only speech movements are targeted in OPT. Movements dissimilar to speech are not used in OPT to facilitate speech. Therefore, OPT for speech is not NSOME/NSOMT.

A number of forms of OPT are listed in Table 1. The approaches seem to have some important common characteristics. Most of them appear to involve task analysis that is systematically and hierarchically applied. Only movements needed for identified speech sounds are targeted. These movements are facilitated in a repeated manner, so appropriate speech movements can be generalized throughout the processes of co-articulated speech. Most of the listed approaches involve hands-on, tactile-propioreceptive facilitation techniques. However, two of the approaches (i.e., palatometry and ultrasound imaging) reflect instrumentation currently unavailable to most SLPs.

Implications for the Field of Speech-Language Pathology

This article is meant to stimulate a clinical exchange among SLPs regarding the appropriate treatment of children with speech delay. It describes a treatment group (i.e., children with OPD) not defined in past literature. It also explores the variety of current treatments for children with OPD (i.e., OPT). The authors suggest the expansion and refinement of the SDCS to address treatment categories because children fitting current SDCS diagnostic categories do not appear to form homogenous treatment groups. The relationships of OPT to current motor learning theories and oral motor treatment are described, so that SLPs can use this information as part of a clinical exchange. It is important for SLPs to understand that OPT is a form of oral motor treatment; however, it is not NSOME/NSOMT. Knowledge of motor learning theories is also crucial for SLPs, because current OPTs are based on these. The clinical exchange is ultimately needed to develop appropriate treatment studies to fulfill the requirements of evidence-based practice.

A Call for Research

Of the clinicians listed in Table 1, Hayden (1994, 2006; Hayden & Square, 1994) and Strand (1995, Strand et al., 2006) have published information in peer-reviewed journal literature relative to OPT. Meta-analysis (Robey & Dalebout, 1998) and randomized controlled trials (e.g., Gillam et al., 2008) comparing the variety of tactile-propioreceptive OPT approaches for speech are needed. An epidemiological study like the one used to develop the SDCS (Shriberg, 1994) is recommended to establish the validity of the proposed subgroups (i.e., children with speech OPDs vs. those without speech OPDs).

Bahr (2008) also recommended that doctoral-level researchers and master’s-level clinicians work together on this process. Doctoral-level researchers with expertise in oral motor function are needed to develop appropriate studies comparing speech OPT approaches. Master’s-level clinicians who use OPT are needed to collect the data for the
### Table 1. Some Current Oral Placement Therapies

<table>
<thead>
<tr>
<th>Therapists</th>
<th>Type of Treatment</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diane Bahr (2001, in press)</td>
<td>Hands-on, tactile-proprrioceptive and bottom-up speech approaches combined</td>
<td>Therapist's gloved hand/fingers placed near/on lips and/or under tongue base/mouth floor to facilitate appropriate speech oral movements while presenting speech production stimuli (e.g., pictures, words, etc.) beginning with vowels and moving toward increasingly complex speech sound combinations (e.g., CVVC, CVC, etc.). Appropriate props (e.g., bite blocks to attain graded jaw height) may also be used.</td>
</tr>
<tr>
<td>Samuel Fletcher (2008)</td>
<td>Palatometry</td>
<td>“Computerized visual-auditory feedback tool that provides an online, dynamic display of the tongue’s contact with the hard palate during speech and swallowing functions.” (Dorais, 2009, p. 1)</td>
</tr>
<tr>
<td>David W. Hammer (personal</td>
<td>Touch cues</td>
<td>“Combined with sign language (e.g., to prompt the final sound in the signed word), touch cues are used on the therapist’s structures as a model or on the child’s structures when needed. Visual prompts are provided to indicate manner of production and to signal when the vowel or consonant is added to the sequence (e.g. moving down string for an /s/ and then when hitting a button at the bottom of the string the ‘ee’ is added for ‘see’; pushing finger away from lips while saying ‘ah’ until finger touches other person’s and then vowel is added like ‘oo’ for ‘shoe’).”</td>
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<td>communication, August 19, 2009)</td>
<td></td>
<td></td>
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<tr>
<td>Pamela Marshalla (2004);</td>
<td>Oral-Motor techniques in articulation &amp; phonological therapy (2004);</td>
<td>“Hands-on” and “hands-off” tactile-proprioceptive stimulation added to traditional articulation and phonological therapy for clients who do not progress with visual and auditory stimuli.</td>
</tr>
<tr>
<td>Merry Meek (1994)</td>
<td>Motokinesthetic Approach [DVDs]</td>
<td>Meek demonstrates hands-on, tactile-proprioceptive manipulation of the oral structures to assist the child in producing specific speech sounds/sound combinations (originally developed by Young &amp; Hawk, 1955).</td>
</tr>
<tr>
<td>Sara Rosenfeld-Johnson (1999,</td>
<td>Oral placement therapy (OPT)</td>
<td>Therapist task analyzes dissociation, grading, and direction of oral and respiratory movements needed for targeted speech sound production and applies appropriate tool(s) with required number of repetitions to teach motor plans similar to standard speech production. Movements and placements are transferred directly into speech production as soon as possible.</td>
</tr>
<tr>
<td>2009)</td>
<td>Ultrasound imaging</td>
<td>Provides auditory and visual feedback regarding tongue shape, movement, and placement during speech production.</td>
</tr>
<tr>
<td>Barbara Sonies (1998);</td>
<td>Dynamic temporal and tactile cueing</td>
<td>When child cannot produce speech target via typical auditory-visual imitation, various levels of cueing systematically added (e.g., unison, oral movement without voice, rate variation, and tactile/gestural cues as appropriate). Based on the work of Rosenbek, Lemme, Ahern, Harris, and Wertz (1973).</td>
</tr>
<tr>
<td>Donna Ridley (Ridley, Sonies,</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eddythe Strand (Strand, Stoeckel, &amp; Baas, 2006)</td>
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</table>
Oral Placement Therapy
To Improve Speech Clarity and Feeding Skills


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References

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Studies. This could be completed with relative ease as there seem to be a significant number of clinicians using these techniques. This type of collegial effort could facilitate more cohesion in the field between doctoral level researchers and master level clinicians.

Here are some important questions to ask with such research:

- Which tactile-propioreceptive OPT techniques (for speech) are most effective?
- Which combination of treatment approaches work best with OPT?
- For whom is OPT most effective?

Feedback obtained and incorporated from colleagues: Heather Clark, PhD, Raymond D. Kent, PhD, Edwin Maas, PhD, and Donna Ridley, MEd.

Declaration of Conflicting Interests

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References


Oral Placement Therapy

To Improve Speech Clarity and Feeding Skills


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The Oral-Motor Myths of Down Syndrome
By Sara Rosenfeld-Johnson, M.S., CCC-SLP
Published in ADVANCE Magazine August 4, 1997

There is a visual impression that each of us holds in our mind when we think of a child or adult with Down syndrome. As a Speech Pathologist in private practice for twenty-five years and as a continuing education instructor for speech and language pathology classes on Oral-Motor Therapy, I have learned that this impression is a powerful teaching aid. When I teach, I ask the participants to tell me what they consider to be the characteristics of a Down syndrome child, or any low-tone child from an oral-motor point of view; without fail, I get the same responses. Their portrayals have become so predictable I have come to refer to them as the "Myths of Down syndrome". This is what these professionals see: a high narrow palatal vault, (Myth #1), tongue protrusion (#2), mild to moderate conductive hearing loss (#3), chronic upper respiratory infections (#4), mouth breathing (#5), habitual open mouth posture (#6), and finally, the impression that the child's tongue is too big for its mouth (#7).

These seven structural/functional disorders have been plausibly associated with Down syndrome, so why label them myths? Because the children my associates and I have worked with over the past fifteen years no longer exhibit these characteristics. The therapeutic community has inadvertently allowed these myths to flourish because we didn't recognize that they could be prevented. These abnormalities emerge in most children by the time they enter early-intervention programs. What has been missing in our treatment that has allowed them to develop? How do we pursue prevention?

A quick review of some oral motor development basics. Children are born with two cranial soft spots. One on the top of the skull at midline and the other under the skull at the midline. Soft spots facilitate the birth process, allowing plates in the skull to overlap, easing the infant's downward progress. After birth, the plates return to original position, eventually joining between 12 and 18 months of age. When the plates meet at the top of the skull, they take the shape of the brain's contour, giving us a round-headed shape. In the Down's population, this closing of plates may not occur until 24 months of age.

The identical closing of plates occurs under the brain in the plates of the hard palate. Just as the brain lends shape to the top of the head, the tongue shapes the palate. During the closing of the palate, if the tongue is not resting habitually inside the mouth, there is nothing to inhibit plate movement toward midline. The result: myth #1, a high, narrow palatal vault.

Can this be prevented? Let's return to the infant at birth. What is not commonly known is that even children with severe low tone at birth, including Down syndrome, are nose breathers. They maintain their tongues in their mouth and upon examination their tongues are not abnormally large. Orally, these children look pretty much like any other infant with the exception that they have a weak suckle. This critical observation draws us to the connection between feeding muscles and muscles of speech.

In quick order, a cascade of events unfolds for these babies with weak suckle. Many mothers tell me they genuinely wanted to breast feed their newborn but were unable because the child had a weak suckle and/or the mother did not produce sufficient milk. Absent a medical problem, the difficulty is often that the child's suckle was not strong enough to stimulate the mammary glands into producing adequate milk flow.

In this scenario mothers are traditionally encouraged by physicians to use a bottle. Bottle feeding is fine, when done therapeutically, but mothers should be given meaningful choices. Further, when bottle feeding is suggested for these infants, the hole in the nipple is often cross-cut or enlarged to make it easier for the infant to suckle. The child is held in the mother's bent elbow and the bottle is held on a diagonal, nipple down. Visualize this - the milk flows easily into the infant's mouth, but what stops the flow, allowing the child to swallow? Tongue protrusion; myth #2. Excessive tongue protrusion is a learned behavior that creates a physical manifestation.

Keep visualizing this infant with low tone/muscle strength. There is a sphincter muscle at the base of the Eustachian tube whose function is to allow air to enter the middle ear. If weak muscle tone reduces the effectiveness of this sphincter muscle,
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then in the described feeding position, milk is able to enter the middle ear. The result: chronic otitis media; a primary causative factor in conductive hearing loss; myth #3

Fluid build-up in the middle ear, and the resulting infection, circumfuses throughout mucous membranes of the respiratory system and frequently becomes the originator of chronic upper respiratory infections; myth #4. The nasal cavity becomes blocked, the child transfers from nose breathing to mouth breathing and we have myth #5. The jaw drops to accommodate the mouth breathing, encouraging a chronic open mouth posture; myth #6. Because the tongue is no longer maintained within the closed mouth, the palatal arches have nothing to stop their movement towards midline and we end up with a high, narrow palatal vault, making full circle back to myth #1. The child's tongue remains flaccid in the open mouth posture, at rest. Lack of a properly retracted tongue position is myth #7. This enlarged appearance of the tongue is therefore not genetically coded, but rather the result of a series of care-provider related responses to the very real problem of weak suckle.

Understanding this scenario provides insight into the characteristics seen in these children when speech and language therapists begin to work on correcting their multiple articulation disorders. Addressing the oral muscles/structure from birth offers a more effective, preventative therapy than the wait-and-see approach taken today. These physical features are not predetermined. Our therapeutic goal should be to normalize the oral-motor system through feeding beginning in infancy.

In infancy, nutrition is of primary concern. Our job is to balance nutrition, successful feeding and therapy. Goal one is to change the position in which the child is being fed. Mouths must always be lower than ears to prevent milk flow into Eustachian tubes. The bottle position is altered to introduce the nipple from below the mouth, vertically encouraging a slight chin tuck. In this position the child draws the milk up the nipple predominately with tongue retraction. This position and retractive action prevents milk from flowing freely into the child's mouth. The child no longer needs strong tongue protrusion to enable swallowing. It is also important not to make the hole in the nipple larger.

Can children with weak suckle draw the milk into their mouths in this position? Yes, if you don't use standard glass bottles. Bottles with the disposable liners, in either 4-ounce or 8-ounce sizes, can be filled with either pumped breastmilk or any variety of formula, and the air can be forced out causing a vacuum. This type of bottle can then be fed to the child in an upright position. If the child has trouble drawing the milk up because of weak suckle, you can facilitate the draw by pushing gently on the liner. When I have used this technique with even the most severely impaired children, it has been successful. After a week or so you will be able to push less as the muscles will begin to get stronger. Facilitation is generally eliminated within 3-6 weeks.

Breastfeeding mothers follow the same principles. Hold the child in a position where its mouth is lower than its ears. Stimulate the mammary glands while the child is suckling to increase milk flow. This also enables the mother's milk to come in stronger. As the child's suckle strength increases, the need for gland stimulation will be eliminated.

A simple change in the position relationship of the child's mouth to the bottle/breast can improve long-term oral-motor skill levels. That one change prevents a series of abnormal compensatory patterns to develop. It is so significant that I have incorporated feeding intervention into the treatment of all my clients with oral-motor issues regardless of age or diagnosis. Even my third-grade "regular" kids who are seeing me for an interdental lisp work on developing muscle strength and tongue retraction through feeding.

If Speech and Language Pathologists accept the premise that normal speech is superimposed on normal oral structures and functions, then the call to provide early therapeutic feeding intervention takes on an importance that we must both acknowledge and affect.
Oral-Motor and Related References


* Contains a comprehensive reference list for “oral-motor” articles.