Early Intervention: Oral Placement Therapy for Children with Down Syndrome

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Author of: Oral Placement Therapy (OPT) for Speech Clarity and Feeding and Assessment and Treatment of the Jaw

What is Oral-Motor Therapy ????

Rodrigo – 3 years old

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Births Per Year

- Down syndrome (DS) occurs in approximately one in 800 live births (National Institute of Child Health & Human Development 2006) or 1.3 per 1000 births (National Down Syndrome Congress 2006).
- About 5000 babies with DS are born in the United States every year.

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Acquired Functional Deficits in Down Syndrome

- Inter-dental tongue posture
- Conductive hearing loss
- Upper respiratory problems
- Open mouth
- Mouth breathing
- Large tongue
- High, narrow palatal vault
### Dissociation: Lips from Jaw

<table>
<thead>
<tr>
<th>Muscle Movement</th>
<th>Phoneme Ex.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Following normal speech development</td>
<td></td>
</tr>
<tr>
<td>1. Open</td>
<td>(ah, uh)</td>
</tr>
<tr>
<td>Closed to Open</td>
<td>(m, p, b)</td>
</tr>
<tr>
<td>Open to Closed</td>
<td></td>
</tr>
<tr>
<td>2. Protrude</td>
<td>(oo, oh, w, ee, ih)</td>
</tr>
<tr>
<td>Retract</td>
<td></td>
</tr>
<tr>
<td>3. Lower Lip Retraction/Tension</td>
<td>(f, v)</td>
</tr>
<tr>
<td>Lower Lip Protrusion/Tension</td>
<td>(sh, ch, j, r, er)</td>
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### Dissociation: Tongue from Jaw

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<tr>
<th>Muscle Movement</th>
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<tr>
<td>Retraction- Protraction Balance (Equal range of motion)</td>
<td></td>
</tr>
<tr>
<td>2. Retraction- Protraction: Imbalance</td>
<td>(all sounds except th)</td>
</tr>
<tr>
<td>Gradual increase in retraction</td>
<td></td>
</tr>
<tr>
<td>Gradual decrease in protrusion</td>
<td></td>
</tr>
<tr>
<td>3. Retraction (stability) – Lateralization of tip</td>
<td></td>
</tr>
<tr>
<td>a. Midline to both sides</td>
<td></td>
</tr>
<tr>
<td>b. Across midline</td>
<td></td>
</tr>
<tr>
<td>4. Retraction - Tip Elevation/Depression</td>
<td>(t, d, n, l, s, z, sh, ch, j, k, g)</td>
</tr>
<tr>
<td>5. Retraction - Back of Tongue Side Spread</td>
<td>(stability for co-articulation, er)</td>
</tr>
</tbody>
</table>
**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

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**Our professional title**

Speech and Language Pathologist

NOT: Speech or Language Pathologist

Combination of:
(1) OPT for feeding and speech and
(2) language therapy
<table>
<thead>
<tr>
<th>Oral Placement Therapy for Speech Clarity and Feeding</th>
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<tbody>
<tr>
<td>1. To increase the awareness of the oral mechanism</td>
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<tr>
<td>2. To normalize oral tactile sensitivity</td>
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<tr>
<td>3. To improve the precision of volitional movements of oral structures for speech production</td>
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<tr>
<td>4. To increase differentiation of oral movements</td>
</tr>
<tr>
<td>a. dissociation: The separation of movement, based on stability and adequate strength, in one or more muscle groups.</td>
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<tr>
<td>b. grading: The controlled segmentation of movement through space based upon dissociation.</td>
</tr>
<tr>
<td>c. fixing: An abnormal posture used to compensate for reduced stability which inhibits mobility.</td>
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<tr>
<td>5. To improve feeding skills and nutritional intake</td>
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<tr>
<td>6. To improve speech sound production to maximize intelligibility</td>
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<th>Stability/Mobility</th>
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<td>Stability in the body will allow for maximum mobility in the mouth.</td>
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</table>
The Tactile System

1. Tactile Hyposensitivity: An under-reaction to tactile input.
2. Tactile Hypersensitivity: An over-reaction to tactile input.
4. Fluctuating Tactile Sensitivity: Responses that change over time.
   • Tactile Defensiveness: A learned tendency to respond negatively or emotionally to tactile input.

A Three-Part Treatment Plan

- Speech
- Feeding
- Oral Placement Therapies

Speech-Like Movements

- Only speech-like movements are targeted for SRJ Oral Placement Therapy.
- Movements that do not imitate speech should not be used and are not useful in the remediation of speech sounds
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
- The Oral-Motor Myths of Down Syndrome
  www.talktools.net

Why is feeding so important?

Spoon feeding: Positioning in conjunction with proper spoon placement in the oral cavity will address the following goals:

Lip Closure/Rounding
Tongue Retraction
Jaw Grading

Why is feeding so important?

Spoon feeding:

Lateral Placement
Front Placement
Spoon Slurp
Why is feeding so important?

**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 Drinking Hierarchy**

Goals: Lip Protrusion, Tongue Blade Retraction/Grading

A. Honey Bear with Straw – to teach straw drinking

B. Straw Drinking Hierarchy for Thin Liquids
   - 8 Straws in the Hierarchy
   - Begin with Straw #1
Why is feeding so important?

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
Jaw Exercises – Birth to 3

a. Gloved Finger
b. Infa-Dent
c. Ark Probe, Z-Vibe
d. Bite-Tube Hierarchy:
   - Chewy Tubes (Red – Yellow)
   - Grabbers (Purple – Green)

4 🔺 Articulation
3 🔺 Resonation
2 🔺 Phonation
1 🔺 Respiration
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
### Articulation - Jaw Activities

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