Oral Hygiene Resistance

Julie Mehrl, MOT, OTR/L

Clinical Services Bureau
Developmental Disabilities Supports Division
New Mexico Department of Health
Oral Hygiene and Aspiration

- Saliva contains many bacteria. Bad oral hygiene and periodontal diseases lead to the proliferation of pathogenic bacteria that can cause aspiration pneumonia.

Oral Hygiene and Aspiration

- Morbidity/mortality of respiratory infections has been directly linked to the overall bacterial load in the oral cavity.

- In a study of 417 nursing home residents, pneumonia, and death from pneumonia decreased significantly in those who received good oral care.

Oral Health and I/DD

Retrospective study of electronic dental records of over 4,700 people with I/DD in Massachusetts.
(61% mild to mod. and 39% severe disability)

- Oral health and adults with I/DD.
  - 32% had untreated cavities
  - 80% had gum disease
  - Over 10% were missing teeth

Oral Health and I/DD

- A 6 month long study with 63 persons with I/DD completed oral sampling and oral examinations, baseline then monthly.
- Participants with high microorganisms at baseline were significantly more likely to develop respiratory infection.
- Those with poor oral hygiene were significantly more likely to develop pneumonia.

Oral Health and Systematic Disease

Research has linked poor oral hygiene to a variety of systematic diseases.

- Cardiovascular disease
- Diabetes
- Low birth weight
- Stroke
- Bacterial Pneumonia

Related OT Research

• Individualized oral care plans more effective in improving oral hygiene than general staff training
  ◦ Altabet, S., Rogers, K., et.al. (2003). Comprehensive approach toward improving oral hygiene at a state residential facility for people with mental retardation. *Mental Retardation, 41*(6), 440-445

• OT intervention improved oral and denture hygiene in dependent and cognitively impaired LTC residents.
Focus – Oral Hygiene Resistance

- For the I/DD population, resistance to oral hygiene is a common barrier to good oral hygiene.
Oral Hygiene Resistance

Resisting tooth brushing is a frequent reason for OT referral

- The mouth is a very vulnerable area.
- The mouth has more tactile nerve endings than any other part of our body.
- Individuals may have had bad experiences in the past.
- Staff or family may be rushed. Tooth brushing may be one of the last activities in a long morning or mealtime routine.
Assessment and Intervention Considerations

Is the person resisting because of pain?

- Chart Review – Dental
- Interview staff/family
- Has person always resisted oral care?
- Did visual oral evaluation reveal possible sources of pain like: redness, swelling, bleeding gums, bad breath that may be related to infection, broken/cracked/or discolored teeth?
- Does tooth brush have soft, quality bristles?
- Has “Sensitive” toothpaste helped in the past?
- Would an electric toothbrush help?
- One trial with “Oral-gel” type product may help with assessment
Assessment and Intervention Considerations

Is the person resisting because of ↓ trust level/ ↑anxiety?

- Interview staff/family: past experiences, new staff, oral hygiene routine.
- Observe the Oral Hygiene Routine. (Staff/family touch, timing, interaction, etc…….)
- Some intervention areas to consider:
  - How much time is allowed for oral hygiene? Can schedule be adjusted?
  - When is oral hygiene done?
  - Is the bathroom the best location for oral care? (fight/flight)
  - Establish a trust and routine
  - Consider environmental factors and cognitive/communication factors. (picture/tactile cues, lighting, music, calming scents, etc…….)
Low Trust and High Anxiety

Models of Intervention to Explore

- “Practice without Pressure” involves: modeling, positive behavioral supports, incremental practice, visual sequence cards, breaks and rewards. Often geared toward those on the autism spectrum.

- Reducing care-resistant behaviors by reducing “Threat Perception”. Involves: non-threatening approach, environmental modification, respectful communication, and one-step commands. Other techniques: priming, cueing, chaining, hand-over-hand, distraction, bridging, and rescuing.

- [www.autismfile.com](http://www.autismfile.com) “Practice without Pressure” is a non-profit training organization in Delaware.
Assessment and Intervention Considerations

Is the person resisting because of inability to swallow secretions safely during oral care?

- For most, head should be properly aligned with slight chin tuck.
- Consider positioning for oral drainage.
- Suction, oral swabs to assist with clearing oral secretions, no toothpaste?
- Make sure to squeeze or shake out any excess moisture from tooth brushes and/or oral swabs.
Assessment and Intervention Considerations

Is the person resisting because of inability to breathe?

- Mouth Breathers need an open airway!
- Clear nasal congestion first
- Give lots of breaks
- Positioning
- Little or No toothpaste
- Smaller size brush head
- Use strategies to decrease anxiety
Is the person resisting because of Oral Sensory Processing Dysfunction?

Many individuals with I/DD have not had “normal” sensory-motor experiences throughout their development.

- Oral sensory input is the foundation for oral motor development.

- The ability to bring hand to mouth or bring objects to the mouth for oral exploration may have been limited.
Oral SPD and Aspiration

A variety of Theoretical Models can guide the therapist in Assessment and Treatment for the Adult I/DD population:

- Bonnie Hanschu “Ready Approach”
- Winnie Dunn “Model of Sensory Processing”
- Wilbarger Approach to Treating Sensory Defensiveness
- Shellenberger and Williams “Alert Program for Self-Regulation”
- Lucy Jane Miller Writings and Research
What does SPD have to do with Aspiration?

**↓ Sensory Threshold**

**Sensory Over-Responsivity (SOR)**

- Decreased ability to tolerate oral care.
- Decreased ability to tolerate oral sensory input/challenges.
- “fight/flight” can trigger abnormal tone that influences positioning and airway protection.
- Contributes to poor oral-motor abilities and dysphagia.

**↑ Sensory Threshold**

**Sensory Under-Responsivity (SUR)**

- Contributes to oral dysphagia.
- ↑ Drooling
- Mouth Stuffing
- Pocketing
- ↑ bolus size
- Can affect tolerance of oral care
## Some Behavioral Indications of Oral SPD and Aspiration

<table>
<thead>
<tr>
<th>Oral Sensory Over-Responsivity</th>
<th>Oral Sensory Under-Responsivity</th>
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<tbody>
<tr>
<td>- Responds negatively to new textures, flavors, temperatures.</td>
<td>- Likes intense flavors</td>
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<tr>
<td>- Gagging</td>
<td>- Messy eater</td>
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<tr>
<td>- Dislikes hygiene activities</td>
<td>- Large bites</td>
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<tr>
<td>- Avoids touching utensils with mouth</td>
<td>- Stuffing Mouth</td>
</tr>
<tr>
<td>- Has signs of general tactile defensiveness</td>
<td>- Pocketing</td>
</tr>
<tr>
<td></td>
<td>- Drooling</td>
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<td></td>
<td>- Likes to mouth objects and seems to crave oral input</td>
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Observe the individual to see what oral sensory input tends to support them or “organize” them. Some general ideas (must be individualized):

**Sensory Over-Responsivity**
- “Safe” input is predictable, slow, rhythmic
- Deep touch not light “tickly” touch
- Start in areas that are less sensitive and progress to more sensitive areas: trunk, arms, hands, face, mouth
- Activities that decrease tone
- Graded “just-right” Challenges

**Sensory Under-Responsivity**
- “Wake-up” input
- More input taste, texture, etc.
- Chewing
- Vibration
- Activities that increase tone and graded, organized movement
Oral SPD Intervention

A General Sensory Processing Support Plan should be considered to support normalization of response to Oral Input.

Sample Sensory Diet Activities

Whole body organization:
• Swimming, exercise
• Pushing on therapy ball
• Deep Pressure Massage
• Weighted or Compression Items
• Pillow “Fights”
• Swinging/Rocking

Sample Mealtime “Sensory Prep or Sensory Processing Strategies”

Oral-Motor organization

• Washing face (firm, elongating strokes toward midline or deep pressure placement)
• Joint Compression through shoulders
• Facial Massage or Vibration
• Lemon Ice
• Sucking, Blowing, Chewing activities
• Sensory Qualities of Food/Liquid Choices
Oral SPD Intervention

Oral Defensiveness

- Consider Environmental Factors
- Type of Tooth Brush
- Sensory Qualities in the Mouth
- Teach staff/family about: firm touch, maintaining contact, using rhythm to help establish expectation and control.
  - Count “1,2,3,4,5…out”. Or … use a song to do this.
- Give the individual control
- Establish communication, “safe” touch, trust and routine.
Additional Considerations

- Does the individual have a Sensory Processing Support Plan that integrates a Sensory Diet to help address overall sensory needs?

- Have you considered the Wilbarger Deep Pressure and Proprioceptive Technique and or Oral Tactile Technique?

- Consider Oral-Motor Treatment to help normalize response to oral input. Consult/Collaborate with SLP as needed.
Focus - Assistive Technology for Oral Care

- Squeezes Toothpaste
- Toothpaste Dispensers
- Touch N Brush

Slide on the Cover.
Assistive Technology for Oral Care

Grasping Toothbrush

- built-up handles
- utensil holder
- wrist support
- weighted cuff
Assistive Technology for Oral Care

- Brushing all surfaces →
  - Plaque Identifying Rinses or Swabs
  - Cueing Cards for Oral Care Routine
  - Timers
Assistive Technology for Oral Care

Toothbrush Options → What to consider → Collaborate (Nursing/Dental) as needed

- Collis-Curve
- Sensitive TB
- Electric TB
- Scuba
- Suction TB
- Timed TB
Assistive Technology for Oral Care

- Bite Reflex → Inhibition techniques, bite blocks, coated/soft TB handles, caution...

- When should you consider use of Bite Blocks?
  - Safety for individual or for staff/family
  - Can’t provide oral care without one and other methods have been considered first
  - Collaborate as needed
Case Study – Oral Hygiene

“Martha”

- In mid-50’s
- Communicates non-verbally.
- Is independently ambulatory, poor balance.
- Diagnosis: I/DD, autism, periodontal disease, osteopenia, GERD, and Hx. of rumination.
- Medications: Zantac, Fosamax, Calcium, Vit. D.
- Tactile Defensiveness, dislikes face washing and oral care.
- Enjoys music (oldies), things she can throw, riding in the car, going for walks, and looking nice.