

**Oral Hygiene Intervention
for Adults with I/DD**

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Robin Leinwand, MOT, OTR/L
New Mexico DOH, Developmental Disabilities Supports Division
Clinical Services Bureau, Statewide OT Consultant
Robin.Leinwand@doh.nm.gov

Session Objectives

- identify the professional role of OT practitioners in facilitating effective oral hygiene for individuals with IDD and their caregivers
- identify possible adaptive equipment or modifications to support increased independence or ease during oral hygiene tasks
- demonstrate at least 2 safe positioning options for completion of oral hygiene tasks
- develop individualized oral hygiene strategies for individuals with IDD and their caregivers

**Background
and
Research**

a very brief overview

Effective Oral Hygiene Routines

General recommendations for everyone

- Use a fluoridated toothpaste accepted by the American Dental Association Council on Dental Therapeutics
- Remove bacterial plaque using a soft manual or mechanical toothbrush and dental floss
- Use fluoridated water for drinking and cooking
- Adopt a healthy diet (minimize carbohydrates between meals)
- Schedule regular professional oral health care (including application of fluoride and sealants)

(Glassman, et al, 2003)



Effective Oral Hygiene Routines

An ideal daily routine includes

- Brush in the morning with fluoride
- Do not rinse (leave the fluoride on to do its job)
- Brush before bed
- Most susceptible time to develop cavities
 - Mouth gets dry, bacteria growth while sleeping
- Floss at least 1x day
- only way to clean between teeth
 - most effective if done before bed
- Mouthwash (optional)
- Not necessary to use a rinse if already use paste and floss

Dr. Keely Chavez, DDS and Dr. Alicia A. Grady, DDS
Special Needs Dentists, NM DDH Special Needs Dental Clinic, Albuquerque, NM



Effective Oral Hygiene Routines

different levels of assistance specific to brush holding
as described by Mac Giolla Phdraig 2020

- Some degree of holding still is used when cleaning teeth (*Holding*)
- A second toothbrush is used to bite on during tooth cleaning (*Two-Toothbrush-Technique*)
- Another person places their hand over the person's hand to improve tooth cleaning (*Hand-on-Hand-Technique*)
- Another person cleans the person's teeth after they clean them (*Brush-after-Brush-Technique*)
- The person is supervised while cleaning teeth and gets reminders/encouragement to clean teeth (together forming category *Remind-Encourage-Supervise*)



What do we know about oral hygiene and I/DD?

poor oral health

- brushing frequency
- flossing frequency
- periodontitis prevalence reported to be ~ triple the rate for adults aged 30-34 ~ double the incidence for adults 65+ years (Ward, 2019)

contributing factors include

- increased difficulty with complex tasks (physical, behavioral, etc.)
- often requires physical assistance or supervision
- certain medications have side effects that increase complexity of care
- impact of food pocketing, rumination, bruxism, on decay

What do we know about oral hygiene and I/DD?

additional considerations

- effective oral hygiene routines demand greater caregiver skill, time, and education than within general adult population
- inconsistent or poor caregiver education and instruction
- an overburdened workforce
- may not be priority for the caregiver or person; yet may result in decreased quality of life

Oral Hygiene Interventions for People with Intellectual Disabilities
Cochrane Review 2019 - Research Highlights

Beneficial

- Superbrush – used by caregivers; reduced gingival inflammation and plaque
- Caregivers' supervision of toothbrushing – reduced gingival inflammation and plaque
- Training people with IDD to brush their own teeth – reduced amount of plaque
- Training caregivers to brush a person's teeth – improved caregiver oral hygiene knowledge

May Be Beneficial

- Toothpaste with a plaque-disclosing agent
- Developing an individualized plan

No Improvement

- Electric vs. Manual – no difference in plaque level or gingival inflammation
- Use of clinical photos showing plaque ID'd by a disclosing agent - no reduction in plaque

(Waldron, 2019)

Additional Research: Highlights of Beneficial Strategies

- multi-surface style toothbrush
- specific strategies/tools
- interdisciplinary roles
- the need for and use of individualized plans

Waldron 2016, Glickman 2017, Ghaheri Ezzam 2022, Mac Giolla Phadraig 2022, Waldron 2012, Waldron 2009, Waldron 2004

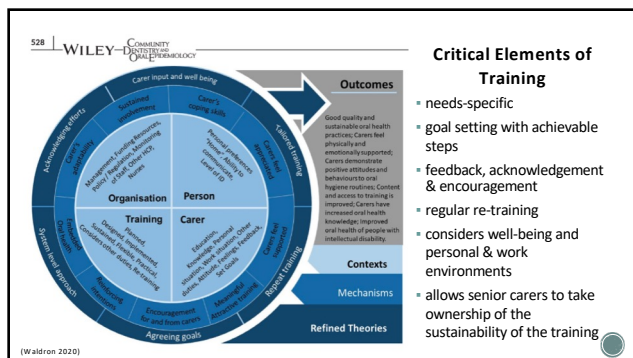


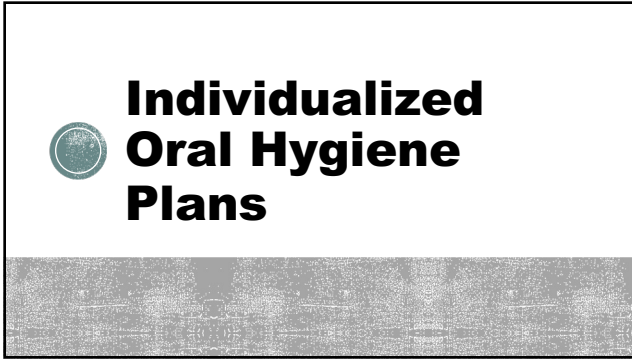
Additional Research Highlights of Beneficial Strategies

caregiver knowledge and training

- Parents and family members assisting with OH need more training and support than paid caregivers (Munihan 2014)
- Greatest barrier is responding to behavioral challenges
- Training and experience positively impacts comfort & self-perception of efficacy - particularly with persons that physically resist oral care (Rizma 2015)
- Education improves knowledge, skills, and compliance in OH (Fickert 2012)
- A train-the-trainer model = improved carryover (Mac Giolla Phadraig 2015)
- Most impactful = intervention paired with demonstration and mentoring for persons and caregivers (Glickman 2008)







Individualized Oral Hygiene Plans

why?

- simple strategy to ensure all provide consistent, meaningful supports sets the person up for success
- facilitates interdisciplinary collaboration
- clear for family and paid caregivers

what is included?


- materials to use for brushing, flossing, and/or rinsing
- how to physically assist the person if needed
- how to recognize and manage aspiration risk during daily oral routines
- what cues/prompts are needed to maximize independence

(Altabet 2003, Binkley 2014, Glassman 2017, Mac Giolla Phadraig 2020)

NM DDSD Comprehensive Aspiration Risk Management Plan (CARMP):

An example of an Individualized Plan for oral hygiene strategies

STRATEGIES	LEAD CONTACTS
G. ORAL HYGIENE STRATEGIES (required) Please check all that apply (for more information see): <input type="checkbox"/> none both self primary <input type="checkbox"/> none both (same setting) <input type="checkbox"/> no both <input type="checkbox"/> none	
1. Complete Oral Care <input type="checkbox"/> times per day	Nurse
2. Identify what oral care should occur	OT
3. Recommended Location for oral care	Nurse, OT, SLP
4. List and describe ALL needed oral hygiene supplies (including those required by the user and physician orders) per the District Oral Hygiene: 4.1. Mouthwash/brushes (e.g. or ABX if ordered) <input type="checkbox"/> 4.2. Toothpaste (e.g. or ABX if ordered) <input type="checkbox"/> 4.3. Floss/brush(es) <input type="checkbox"/> 4.4. Other dental hygiene supplies as needed <input type="checkbox"/>	
5. List all oral hygiene protocols recommended by District Oral Hygiene or identified by the team (include detailed instructions in section Family): 5.1. Brushing time <input type="checkbox"/> 5.2. Flossing <input type="checkbox"/> 5.3. Mouthwash <input type="checkbox"/>	Nurse, OT
6. Positioning of person during oral care <input type="checkbox"/> 7. Positioning of person provider with oral care <input type="checkbox"/>	OT, PT
8. Positioning of person provider with oral care <input type="checkbox"/>	OT, PT
9. Positioning of person provider with oral care <input type="checkbox"/>	OT, SLP, Nurse
10. Specific Oral Care Procedures not covered above, in sequential order, including: (e.g., Behavioral, and Cognitive strategies) 10.1. <input type="checkbox"/> 10.2. <input type="checkbox"/>	NSC/OT, SLP, Nurse
11. Other oral care not previously stated (e.g. medication, etc.) <input type="checkbox"/>	Nurse, SLP, OT, PT
12. Other oral care not previously stated (e.g. medication, etc.) <input type="checkbox"/>	PT
13. Change in appearance of gums or tongue (e.g. dark, broken, loose or missing teeth, bad breath, swelling, lesions) <input type="checkbox"/>	
14. Presence of oral pain, related to eat or drink household food or liquids <input type="checkbox"/>	
15. Any oral care immediately and contact with <input type="checkbox"/>	
16. Positioning of person with oral care <input type="checkbox"/>	PT, OT
17. Minimum brush/floss time (30 seconds must be minimum) <input type="checkbox"/>	



**Patrick's
Individualized
Plan**

Case Study - Example

Individualized Oral Hygiene Plans - Person Factors

Consider

- movement patterns
- level of alertness
- fine motor skills
- breathing patterns
- previous experience with OH
- communication skills
- response to environment
- response to pain
- history of oral defensiveness
- behavioral patterns
- personal preferences (color, shape, characters, etc.)
- response to sensory strategies or tools in place; sensory differences

Individualized Oral Hygiene Plans - More Person Factors

Consider

- Hx of Aspiration
- Difficulty handling/swallowing thin liquids
- Hx of Gastroesophageal Reflux (GERD); erosion of dentition
- Hypersensitive Gag Reflex
- Oral Pocketing and Residue
- Bite Reflex
- Ability to spit out excess saliva or toothpaste
- Number of teeth or edentulous

Individualized Oral Hygiene Plans - Caregiver Factors

- Consider
- communication skills
 - previous experience with own oral hygiene
 - experience assisting others with oral hygiene
 - knowledge and understanding of the person's history and needs
 - comfort, knowledge, and confidence with assisting with oral care tasks



Strategies and Tools for Effective Oral Hygiene Routines

the main event

toothpaste options

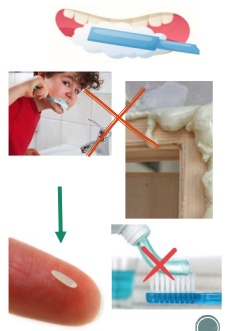
Type

- Gel, Paste, Charcoal (ADA approved)
- Gum detoxify or Foaming
- Flavor and Intensity
- Fluoridated or not

Amount


No toothpaste?

- Use brush moistened with minimal liquid, mouthwash or rinse only
- Use dry brush or gauze only



using toothpaste *adaptations for independence*


- Container - Ease of Use
- Difficulty of squeezing
- Amount that comes out



manual dispenser/
extruder style
- you push the brush
against the lever;
can control the
amount



electric dispenser/sensor
style - auto dispenses a
certain amount



toothbrush options

Type

- manual
- electric
(vibration, spin, pulse, etc.)

Overall size

- adult
- childrens



Dr. Barman's Duopower (electric)

toothbrush options

Texture of bristles

- soft
- extra soft
- 10,000 bristle tapered
- density

Shape of bristles

- depth
- curve



Collis-Curve
Sensitive TB

toothbrush options

Shape of brush head

- number of surfaces
- width
- depth
- consider the impact inside the person's mouth (pressure on cheek, etc.)

Dr. Barman's - Superbrush Special

Superbrush/Dr. Barman's Brush

Scuba or Radius Brush

Three or Multi-head style

toothbrush options

other features to consider

- color
- characters
- lights
- timers
- music

Timed TB

toothbrush options
adaptations for independence

- built-up handles
- utensil holder
- silicone strap
- wrist support
- weighted cuff
- tennis ball
- sugru

Make the toothbrush handle bigger.

Foam tubing

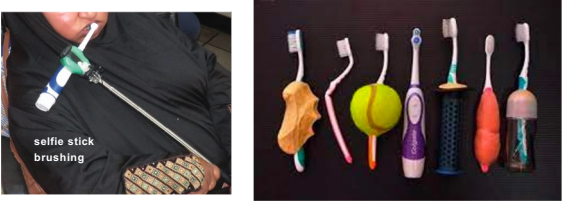
Ergonomic grip

Make the toothbrush easier to hold.

Utensil holder

Rubber band

toothbrush options
adaptations for independence




selfie stick brushing

special note:
about mouth props


Two-toothbrush technique

- Use large handle of one brush to pull back cheeks; allow care recipient to rest teeth on handle.
- Use second toothbrush to brush teeth.



When should you consider use of mouth props or Bite Blocks?

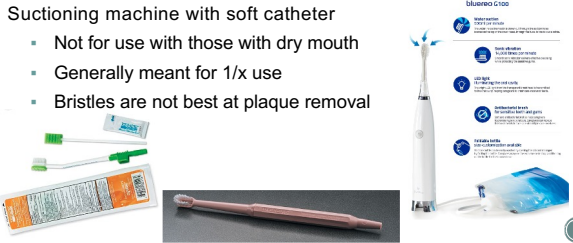
- Safety for person or for staff/family
- Can't provide oral care without one **and** other methods have been considered first
- Discuss with Nursing, SLP, guardian/healthcare decision maker and team



special note:
about suction toothbrushes

Suctioning machine with soft catheter

- Not for use with those with dry mouth
- Generally meant for 1/x use
- Bristles are not best at plaque removal



blueroo C100

- 1. **Preparation:** 20-30 sec
- 2. **Brush selection:** 1-2 sec
- 3. **Brushing:** 1-2 sec
- 4. **Post-brushing:** 1-2 sec
- 5. **Disposal:** 1-2 sec

flossing options

- really the only way to clean between teeth
- at least 1x day
- doesn't matter what kind





'touch and feel' time

short break

mouthwash considerations

Suggested use

- dip brush
- shake off all excess
- apply one quadrant at a time
- re-dip in between

Flavor or Taste
trial to find what person prefers
Parent/caregiver report critical

- notice more saliva?
- any gagging? gurgly voice or sounds?

Fluoridated
important if not using paste
may support sensitivity and/or strengthening of enamel

Medical Issues
Dry mouth: more susceptible to cavities, erosion

- biotene recommended
- high alcohol rinses not recommended

Chlorhexidine prescription (antimicrobial treatment)

- long term use not recommended

Can be used for those that are NPO or edentulous

- collaborate with dental provider, nurse, SLP

mouthwash options
adaptations for technique and independence

Plaque Identifying

- rinses
- swabs
- chews

**positioning options:
assisting with brushing**

- Those assisting need to be comfortable
- Height is an important consideration
- Toothbrush should approach so the individual does not have to extend head/neck
- Preferred: support from the side or behind the person
- Possible: support from in front of the person

Important to trial various positions to see what works best for each individual

**positioning options:
to support independence**

Seated

- with back and/or foot support
- armrests

Standing

- with grab bar or other support
- without support

Consider effort, balance, coordination, and cognitive demand required

What kind of support is needed for successful completion and safety?
Important to trial various positions to see what works best for each person.

positioning for saliva management

- May be the same as recommended during mealtime
- Consider if the position assists with or interferes with removal of excess saliva during and after tooth brushing
- Positioning can be combined with use of oral swabs or suctioning to help remove excess saliva
- Lap-tray or other surface to support the upper extremities might be needed



positioning for saliva management

- Side-lying positions can assist with management of oral secretions
- Trunk forward/head flexed or head flexion position combined with rotation - might be recommended during 'breaks' during and after oral hygiene
- Positioning recommendations must be individualized & coordinated PT/OT



supporting overall readiness for task

Look at daily routine

- Is oral care rushed? Stressful?
- What is happening before and after?
- Where is oral care being completed?
- With whom?

Observe. Ask Questions.

Help caregivers and team members recognize when the person is at an optimal level of alertness and most receptive to participating in oral care.



ideas for preparatory activities

goal: decrease heightened arousal level and/or oral defensiveness

Whole body organization:
(short activity as part of transition time)

- Wiping the table
- Pushing on therapy ball
- Self-massage/isometrics
- Clearing the table
- Pillow fights
- Swinging/Rocking

Oral-Motor organization:
(just before/during)

- Washing face (firm, elongating strokes toward midline or deep pressure placement)
- Joint compression through shoulders
- Mild pressure on top of head
- Weighted or Compression Items
- Sucking, Blowing, Biting activities

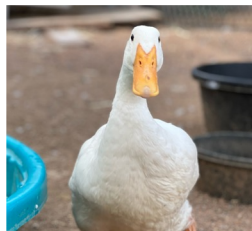
note: consider if eating/meal time itself supports oral sensory prep

other strategies & tools

- visual prompts or sequence pictures (Ballan 2021)
- timers
- apps
- music



Revisit Case Study and Simulation Activity



Patrick's Individualized Plan

Patrick's Individualized Plan Case Study - Revisited

- experienced a stroke
- using a wheelchair
- has a g-tube
- decrease in overall gross and fine motor abilities
- increased risk of aspiration
- GERD

what would you change?

- materials
- positioning
- assistance
- other?

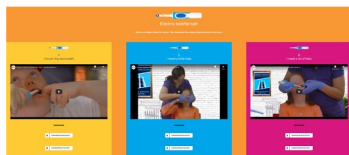
Education and Training for Effective Oral Hygiene Routines

resources & important factors

BrushMyTeeth

<https://brushmyteeth.ie/>

- short videos show use of regular, electric, and multi-sided brushes
- "I brush my own teeth"
- "I need a little help"
- "I need a lot of help"
- follow up activity handouts and mouth care plans



Brush after Brush technique
<https://youtu.be/tHtGMvY0M1A>



Two Toothbrush technique
<https://youtu.be/6o9DpZeiQ>

Home Dental Care for Individuals with Disabilities

<https://youtu.be/4wu8gl5AZkA>

Dr. Brian Martin, DMD

VIDEO COVERS ALL THESE AREAS

- How to Brush Your Teeth
- Tongue, Lips, Mouthwash
- Denture Care
- Assisting Someone Else with Their Dental Care
- Support for Brushing Your Own Teeth/Modified Toothbrushes
- Craniofacial Anomalies
- Gag Reflex



Person-Level Education for Effective Oral Hygiene Routines

Key Questions

- How can we help the person learn more about effective oral care?
- How can we help the person do a better job at their own oral care?

Goal:

- increase knowledge of importance of oral hygiene
- build capacity for completing tasks
- improved effort
- improved technique

Person-Level Education for Effective Oral Hygiene Routines

strategies to consider:

- skills-based focus
- video modeling
- use existing training modules
- visual schedules, cueing cards
- social stories
- reward systems
- disclosing tablets/plaque identifying rinses or swabs
- board game

Caregiver-Level Education for Effective Oral Hygiene Routines

Key Questions

- How can we help caregivers recognize the importance of effective oral care routines?
- What strategies and tools can we offer caregivers?

Goal:

- increase knowledge of importance of oral hygiene
- build skill in using strategies to support person
- recognize impact of context/environment
- build confidence



Caregiver-Level Education for Effective Oral Hygiene Routines



strategies to consider:

- skills-based interventions that train carers how to brush someone's teeth
- use a model to teach and practice, gentle is effective (Binkley 2014)
- handouts and photos to reinforce concepts
- importance of adapting or modifying to meet person specific needs
- purposeful use of rewards for motivation
- apps or video-based content

notes:

- be sure to consider caregivers primary language and learning style
- families or carers' attitudes about oral hygiene practices influence the quality of the person's oral hygiene



Resources

NM Initiative/DDSD Clinical Services Collaboration with Special Needs Dental Clinic
Dr. Keely Chavez, DDS and Dr. Alicia A. Grady, DDS - Special Needs Dentists
NM DOH Special Needs Dental Clinic, Albuquerque, NM (505) 222-4600

Providing Care to Patients With Special Needs - Dimensions
<https://dimensionsofmentalhygiene.com/article/caring-%E2%80%A8for-patients-with-special-needs/>

Oral Health & Aging Information For Caregivers
<https://www.nidcr.nih.gov/sites/default/files/2020-08/oral-health-aging-brushing.pdf>

All About Assisted Brushing <https://colliscurve.com/dentists-and-hygienists/>
Dr. Barmans Super Brush <https://drbarmans.com/> | <https://a.co/d/4OwMz2X> (amazon)

University of Washington Resources for Patients and Health Care Professionals
Fact Sheets for Caregivers/Adults
<https://dental.washington.edu/dept-oral-med/special-needs/patients-with-special-needs/>

Oregon - Oral Health for People with Disabilities
<https://www.ohsu.edu/oregon-office-on-disability-and-health/oral-health-people-disabilities>



NEW MEXICO
Department of Health
Developmental Disabilities Supports Division

**Comprehensive Aspiration
Risk Management Plan
(CARMP)**

**Developed by NM DOH DDSD:
Clinical Services Bureau**

<https://www.nmhealth.org/about/ddsd/pgsv/clinical/cinit/arm/>

Aspiration Risk Management: Essential Information - CARMP

- Complete Template
- Case Study Examples
- Additional information

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