

# BETTER BEHAVIOR AT THE DENTIST

A PRACTICAL AND EVIDENCE  
INFORMED GUIDE

Matthew Tolliver, Ph.D.  
Assistant Professor  
ETSU Pediatrics



[This Photo](#) by Unknown Author is licensed under [CC BY-NC-ND](#)

# DISCLOSURE

- **Neither I nor any members of my immediate family have a financial interest/arrangement or affiliation that could be perceived as a real or apparent conflict of interest related to the content or supporters of this activity.**



Learn the top 4 functions of behavior and how these apply in a dental context.



Review current evidence supported strategies for increasing children's compliance and decreasing dental fear during dental visits



Identify at least two behavior modification strategies you would like to implement in your current practice

# LEARNING OBJECTIVES

# BEHAVIOR MODIFICATION

- “Applied behavior analysis is a branch of psychology that is focused on the analysis and modification of human behavior.”
- ABA has been used to help kids with ASD tolerate medical treatments (e.g., blood draws)

“Behavior guidance is not an application of individual techniques created to deal with children, but rather a comprehensive, continuous method meant to develop and nurture the relationship between the patient and doctor, which ultimately builds trust and allays fear and anxiety.”

(AAPDCAC, 2015, p. 183)

# BEHAVIOR CONCERNS



[This Photo](#) by Unknown Author is licensed under [CC BY](#)

- One of the main reasons for parents to avoid dental appointments is that they believe that their child lacks cooperative ability (56% of parents) (Magoo, et al, 2015).
- Kids with autism (many have sensory concerns) have more oral care challenges and display significantly more uncooperative behaviors during routine dental cleanings compared to typically developing kids (Stein, et al, 2014; Loo, Graham, & Hughes, 2009)

Magoo J, Shetty AK, Chandra P, Anandkrishna L, Kamath PS, Iyengar U. Knowledge, attitude and practice towards oral health care among parents of autism spectrum disorder children. JCRI. 2015;1(4):1-5.

Stein LI, Lane CI, Williams ME, Dawson ME, Polido JC, Cermak SA, physiological and behavioral stress and anxiety in children with autism spectrum disorders during routine oral care. Biomed Res Int. 2014;2014:694876. doi: 10.1155/2014/694876.

# MEDS AND ORAL HEALTH

- Kids with sensory sensitivities or behavioral/developmental concerns may be more likely to be on medications, which can have impacts on oral health.
- Unsure about a particular diagnosis? Refer to tip sheets: <https://thecenterforpediatricdentistry.com/professionals/special-needs-fact-sheets/>

# BEHAVIOR HAPPENS FOR A REASON



Escape



Attention



Tangible  
rewards



Sensory/self-  
reinforcing

# LOOK FOR THEMES

Kevin, 6 years old

## Antecedent

- Mom says “It’s time to go to the dentist!”
- Hygienist puts gloved hand in Kevin’s mouth
- Hygienist attempts to floss Kevin’s teeth

## Behavior

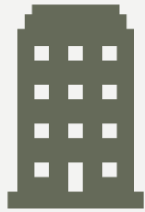
- Kevin screams “no!” and runs in his room
- Kevin screams and pushes Hygienist’s hand away
- Kevin cries, kicks, and tries to hit

## Consequence

- Mom gives him a few minutes alone in his room.
- Hygienist backs off and gives a break
- Mom stops the visit and takes Kevin home



# SETTING EVENTS “SET THE STAGE”



## Environmental

**Physical layout of  
environment**

Noise level

Expectations



## Social

Life changes

Negative social/parental  
interactions



## Physiological

Tired

Hungry

Medication side effects

Pain

sickness

## Setting Events

### Antecedent

- Mom says “It’s time to go to the dentist!”
- Hygienist puts gloved hand in Kevin’s mouth
- Hygienist attempts to floss Kevin’s teeth

### Behavior

- Kevin screams “no!” and runs in his room
- Kevin screams and pushes Hygienist’s hand away
- Kevin cries, kicks, and tries to hit

### Consequence

- Mom gives him a few minutes alone in his room.
- Hygienist backs off and gives a break
- Mom stops the visit and takes Kevin home

# ENVIRONMENTAL SETTING EVENTS

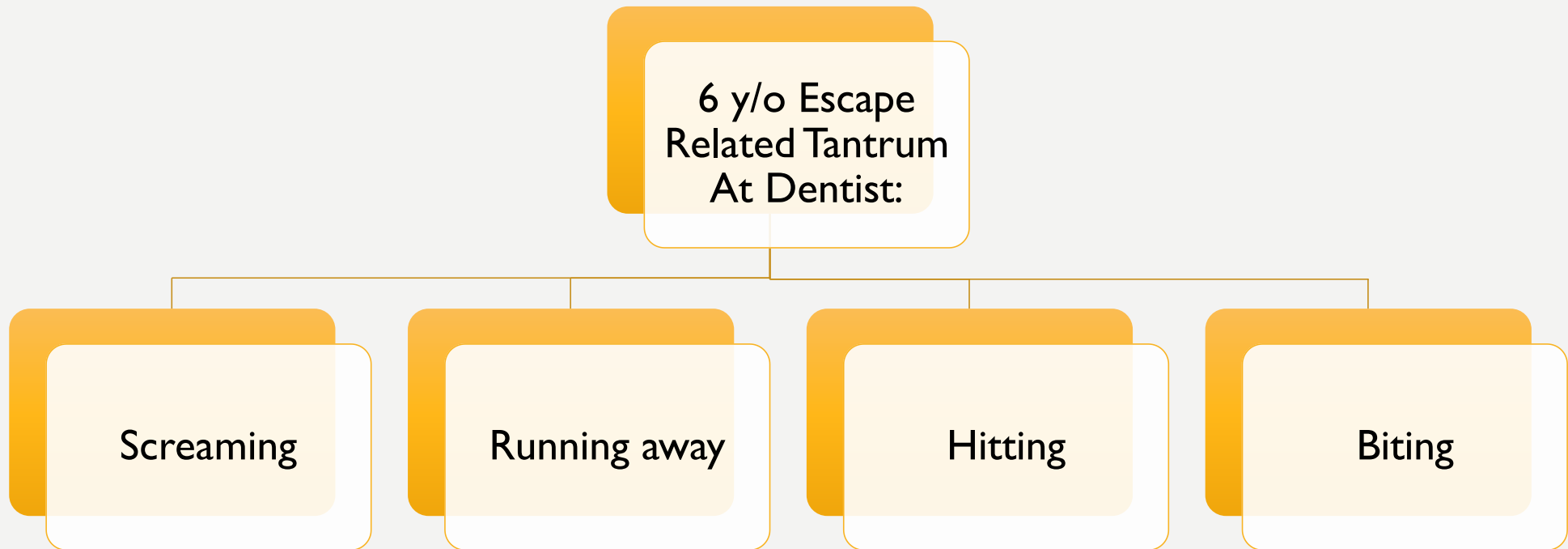
- Motion
  - Fear of dental chair reclining
- Visual
  - Bright lights
  - Fear of hygienist/dentist with faces covered by mask
- Smell/taste
  - Gloves, taste of glove in mouth
  - Paste
  - Perfumes/soaps used by staff
- Sounds
  - Dental equipment (polishing brush, suction)
  - Unexpected noises (beeps, alarms)
- Touch
  - Overreaction to unanticipated touch (face, inside mouth, sensitive areas)
  - Texture/grittiness of polishing paste
  - Feeling of dental tools, gloved fingers in mouth



(Kuhaneck & Chisholm, 2012)

[This Photo](#) by Unknown Author is licensed under [CC BY-ND](#)

# DIFFERENT BEHAVIORS, SAME FUNCTION



# GUIDELINE ON BEHAVIOR GUIDANCE FOR THE PEDIATRIC DENTAL PATIENT

- Predictors of child behaviors
  - **Patient attributes:** dental phobias, developmental delays, communication problems, behavior diagnosis, sensory concerns
  - **Parental influences:** positive attitudes about oral health → more preventative care → early establishment of dental home → less need for invasive procedures.
    - Negative attitudes: transmit anxiety
  - **Social determinants of health**
  - **Orientation to dental environment :** importance of receptionist in setting tone, screening for concerns when initial apt is made, recommending a pre-appointment visit.
    - child friendly reception area (age appropriate toys)

# GUIDELINE ON BEHAVIOR GUIDANCE FOR THE PEDIATRIC DENTAL PATIENT, 2015

- **Patient assessment**
  - Ask about fears, sensory concerns, reaction to strangers, behavior at previous dental/medical visits
- **\*Dental team behaviors\***
  - Attitude, body language, communication skills
  - Clear, specific instructions
  - Empathic communication style
  - Appropriate contact/reassurance
  - Communication behaviors central to patient satisfaction
  - Be in tune with child enough to know when they are in pain
- Provide informed consent: Involve the parent in decision making around behavior management techniques you plan to use.

# PRE-APPOINTMENT VISIT

- Use a pre-visit questionnaire:
  - E.g., <https://thecenterforpediatricdentistry.com/wp-content/uploads/2012/06/Pre-Visit-Parent-Questionnaire1.pdf>
- Have tip sheets/information available for parents on how to prepare their child:
  - <https://thecenterforpediatricdentistry.com/for-professionals/special-needs-fact-sheets/>
- Patient attributes?
- Developmental level? Behavioral/developmental/sensory concerns?
- Hx of painful procedures?
- Ability to perform skills necessary for successful visit?
- Assign homework to practice necessary skills

# BEHAVIOR MANAGEMENT SYSTEM

---

Build positive associations

---

Establish expectations

---

Ask-Tell-Ask

---

Tell-show-feel-do

---

Effective instructions

---

Scheduled breaks

---

Differential reinforcement

---

Exposure

---

Shaping

---

Token systems

---



# BUILD POSITIVE ASSOCIATIONS

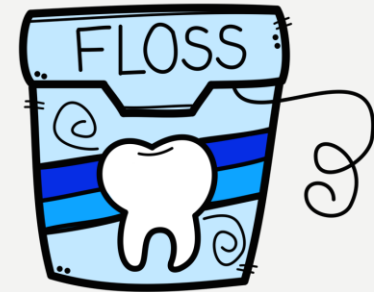
- Example: Positive pre-visit imagery
- Patients shown positive images of dental treatments in waiting room.
- Anything you can do to form positive associations with the clinic, the staff, & you.
- Friendly staff
- Age appropriate toys



Fox C, Newton JT. A controlled trial of the impact of exposure to positive images of dentistry on anticipatory dental fear in children. Community Dent Oral Epidemiol 2006;34(6):455-9.

# ESTABLISH EXPECTATIONS

- Direct observation (allow child to observe cooperative parents or siblings)
- Video social story:  
[https://www.youtube.com/watch?v=3uZ\\_Weiow9k](https://www.youtube.com/watch?v=3uZ_Weiow9k)
- Visual schedules (Muraru, Ciuhodaru, & Iorga, 2017)
- Patients shown video or directly observe another cooperative child getting dental treatment.
- Let's child know what to expect
- Gives child a chance to ask questions



# ASK-TELL-ASK

- **ASK:** about child's feelings toward the visit, child's informational needs, child's level of knowledge and understanding
- **TELL:** explain procedures through demonstrations/non-threatening, developmentally appropriate language
- **ASK:** if child the child understands and ask about how they feel about the treatment



[This Photo](#) by Unknown Author is licensed under [CC BY](#)

# TELL-SHOW-FEEL-DO

- **Tell:** what you are going to do and how it may feel
- **Show:** show any instruments you are going to use
- **Feel:** tell how it is going to feel/let child feel instruments if needed
- **Do:** perform procedure

(Hernandez & Ikkanda, 2011)



[This Photo](#) by Unknown Author is licensed under [CC BY-SA](#)

# EFFECTIVE INSTRUCTIONS

- Reduce distractions before giving a direction
- Say child's name
- Use firm but friendly voice
- Be very clear about what you want the child to do
- State instructions as instructions, not questions (e.g., NOT, “do you want to open your mouth?”) “Abby, I need you to open your mouth so we can check your teeth.”
- Give only one direction at a time
- Praise as soon as child complies
- Keep communicating

# SCHEDULED BREAKS WITH ESTABLISHED SIGNALS

- Break longer procedures into smaller parts when feasible
- Breaks noncontingent
- Count down breaks as needed
- Visual timers (e.g., Children's Countdown Timer)

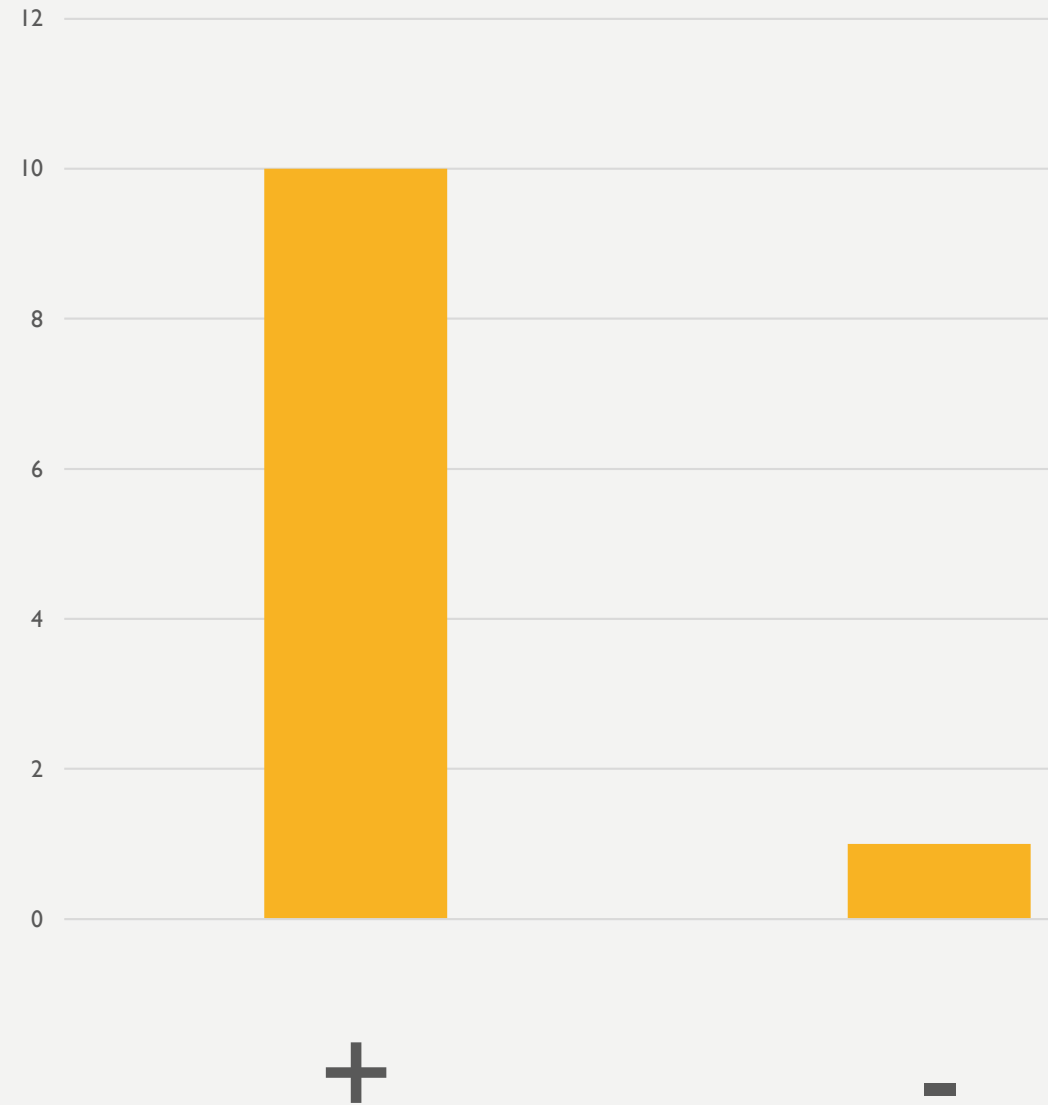


[This Photo](#) by Unknown Author is licensed under [CC BY-SA-NC](#)

Allen, K. D., & Wallace, D. P. (2013). Effectiveness of using noncontingent escape for general behavior management in a pediatric dental clinic. *Journal of Applied Behavior Analysis*, 46(4), 723-737. doi:10.1002/jaba.82

# DEFERENTIAL REINFORCEMENT

- Reinforce, praise behaviors you want to see more of
- Labeled praise
  - “Thank you for lying still!”
  - “Great job keeping your mouth open!”
  - Goal: increase (reinforce) instances of desired behavior
  - Match: positive voice modulation, facial expression, appropriate physical demonstrations of affection
- Lower reaction to behaviors you want to see less of



# VIDEO

- <https://www.youtube.com/watch?v=iQi2F9nhuU4>
- What did she do well? What would you have done differently?



# ***IN VIVO* EXPOSURE FOR SPECIFIC PHOBIAS**

Gold standard for phobias/fears:

- The American Psychological Association has classified exposure therapy as a well established treatment with strong research support

<https://www.div12.org/treatment/exposure-therapies-for-specific-phobias/>

Koegel, Openden, & Koegel (2004) used systemic desensitization to treat auditory hypersensitivity in 3 children with ASD.

# SKILLS NECESSARY FOR SUCCESS

- 1: Calm voice and body while driving to dentist/sitting in waiting room for 15 min**
- 2: Follows simple directions at the dentist**
- 3: Lies back in a dental chair for 15 minutes**
- 4: Tolerates looking at adult with mask on for 5 minutes**
- 5: Tolerates light near/on face for 5 min**
- 6: Opens mouth wide for 20 seconds when asked to**
- 7: Allows gloved finger in mouth without closing for 15 seconds**
- 8: Allows mouth mirror/dental probe in mouth for 15 seconds**
- 9: Allows teeth to be cleaned during dental visit for 30 sec at a time**



Situation	Anxiety (0-10)
*Lay in dentist chair 100% reclined for 15 min	
*Lay in dentist chair 100% reclined for 10 min	
*Lay in dentist chair 100% reclined for 5 min	
*Lay in dentist chair 100% reclined for 60 seconds	
*Lay in dentist chair 75% reclined for 30 seconds	
*Lay in dentist chair 50% reclined for 30 seconds	
*Lay in dentist chair 25% reclined for 30 seconds	
*Sit in dentist chair 0% reclined for 1 min.	
Lay in a recliner chair 100% reclined for 15 minutes	
Lay in a recliner chair 100% reclined for 10 minutes	
Lay in a recliner chair 100% reclined for 5 minutes	
Lay in a recliner chair 100% reclined for 1 minute	
Lay in a recliner chair 75% reclined for 5 minutes	
Lay in a recliner chair 75% reclined for 1 minute	
Lay in a recliner chair 50% reclined for 5 minutes	
Lay in a recliner chair 50% reclined for 1 minute	
Lay in a recliner chair 25% reclined for 5 minutes	
Lay in a recliner chair 25% reclined for 1 minute	
Watch a YouTube video about what to expect at the dentist	
Read a social story about going to the dentist and explain its purpose.	
Sit in a recliner chair 0% reclined for 15 minutes	
Sit in a recliner chair 0% reclined 10 minutes	
Sit in a recliner chair 0% reclined for 5 minutes	
Sit in a recliner chair 0% reclined for 3 minutes	
Sit in a recliner chair 0% reclined for 60 seconds	
Sit in a recliner chair 0% reclined for 30 seconds	

**My Goal:  
Lay back in a  
dental chair  
for 15  
minutes**

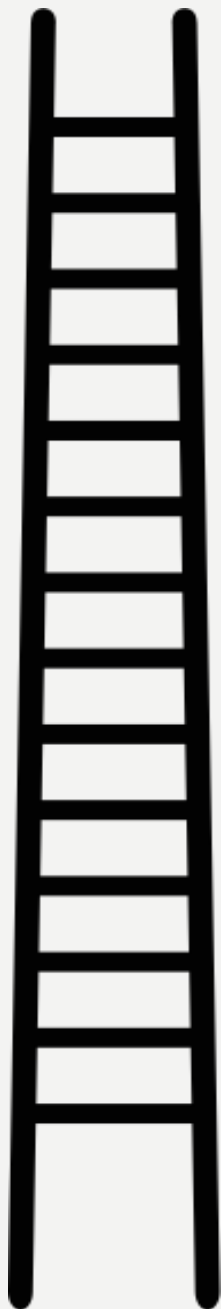
What can the child  
do NOW?



Situation	Anxiety (0-10)
*Lay in dentist chair 100% reclined for 15 min	10
*Lay in dentist chair 100% reclined for 10 min	10
*Lay in dentist chair 100% reclined for 5 min	10
*Lay in dentist chair 100% reclined for 60 seconds	10
*Lay in dentist chair 75% reclined for 30 seconds	10
*Lay in dentist chair 50% reclined for 30 seconds	9
*Lay in dentist chair 25% reclined for 30 seconds	9
*Sit in dentist chair 0% reclined for 1 min.	8
Lay in a recliner chair 100% reclined for 15 minutes	7
Lay in a recliner chair 100% reclined for 10 minutes	7
Lay in a recliner chair 100% reclined for 5 minutes	6
Lay in a recliner chair 100% reclined for 1 minute	6
Lay in a recliner chair 75% reclined for 5 minutes	5
Lay in a recliner chair 75% reclined for 1 minute	5
Lay in a recliner chair 50% reclined for 5 minutes	4
Lay in a recliner chair 50% reclined for 1 minute	4
Lay in a recliner chair 25% reclined for 5 minutes	3
Lay in a recliner chair 25% reclined for 1 minute	3
Watch a YouTube video about what to expect at the dentist	2
Read a social story about going to the dentist and explain its purpose.	2
Sit in a recliner chair 0% reclined for 15 minutes	2
Sit in a recliner chair 0% reclined 10 minutes	2
Sit in a recliner chair 0% reclined for 5 minutes	1
Sit in a recliner chair 0% reclined for 3 minutes	1
Sit in a recliner chair 0% reclined for 60 seconds	0
Sit in a recliner chair 0% reclined for 30 seconds	0

**My Goal:  
Lay back in a  
dental chair  
for 15  
minutes**

What can the child  
do NOW?



Situation	Anxiety (0-10)	1 week later
*Lay in dentist chair 100% reclined for 15 min	10	8
*Lay in dentist chair 100% reclined for 10 min	10	8
*Lay in dentist chair 100% reclined for 5 min	10	8
*Lay in dentist chair 100% reclined for 60 seconds	10	7
*Lay in dentist chair 75% reclined for 30 seconds	10	7
*Lay in dentist chair 50% reclined for 30 seconds	9	6
*Lay in dentist chair 25% reclined for 30 seconds	9	5
*Sit in dentist chair 0% reclined for 1 min.	8	5
Lay in a recliner chair 100% reclined for 15 minutes	7	4
Lay in a recliner chair 100% reclined for 10 minutes	7	4
Lay in a recliner chair 100% reclined for 5 minutes	6	3
Lay in a recliner chair 100% reclined for 1 minute	6	3
Lay in a recliner chair 75% reclined for 5 minutes	5	3
Lay in a recliner chair 75% reclined for 1 minute	5	2
Lay in a recliner chair 50% reclined for 5 minutes	4	2
Lay in a recliner chair 50% reclined for 1 minute	4	2
Lay in a recliner chair 25% reclined for 5 minutes	3	1
Lay in a recliner chair 25% reclined for 1 minute	3	1
Watch a YouTube video about what to expect at the dentist	2	0
Read a social story about going to the dentist and explain its purpose.	2	0
Sit in a recliner chair 0% reclined for 15 minutes	2	0
Sit in a recliner chair 0% reclined 10 minutes	2	0
Sit in a recliner chair 0% reclined for 5 minutes	1	0
Sit in a recliner chair 0% reclined for 3 minutes	1	0
Sit in a recliner chair 0% reclined for 60 seconds	0	0
Sit in a recliner chair 0% reclined for 30 seconds	0	0

Situation	Anxiety (0-10)
*Drive to dental office, play in waiting room 15 min, tour dental office, including seeing dental chair, instruments	
Drive to dental office, play in waiting room 5 min	
Drive to dental office, walk in the waiting room and say hi to the receptionist	
Drive to dental office, park in the parking lot for 5 min, then leave	
Drive by the dental office	
Watch a YouTube video about what to expect at the dentist: <a href="https://www.youtube.com/watch?v=iQi2F9nhuU4">https://www.youtube.com/watch?v=iQi2F9nhuU4</a>	
Look at pictures of the dental office online	
Read a social story about going to the dentist and explain why it is important. Review visual schedule of steps of dental visit.	

My Goal: Have a calm voice and body while driving to dentist and sitting in waiting room for 15 minutes

# YOUR TURN...

**My Goal:**Allows teeth to be cleaned during dental visit for 30 sec at a time

**Where child is now:** Can brush teeth, but doesn't like electric toothbrush

Situation	Anxiety (0-10)

## Situation

\*Hygienist cleans teeth during dental visit at 30 second intervals

Electric toothbrush in mouth turned on, brushing teeth on lowest/gentlest setting, for 60 seconds

Electric toothbrush in mouth turned on, brushing teeth on lowest/gentlest setting, for 30 seconds

Electric toothbrush in mouth turned on, brushing teeth on lowest/gentlest setting, for 10 seconds

Electric toothbrush in mouth turned on, brushing teeth on lowest/gentlest setting, for 5 seconds

Electric toothbrush in mouth turned on, brushing teeth on lowest/gentlest setting, for 2 seconds

Electric toothbrush in mouth turned off, brushing teeth manually, for 30 seconds

Electric toothbrush in mouth turned off, brushing teeth manually, for 20 seconds

Electric toothbrush in mouth turned off, brushing teeth manually, for 10 seconds

Place electric toothbrush in mouth turned off, for 10 seconds

Hold electric toothbrush while on for 20 seconds

Hold electric toothbrush while off for 20 seconds

Watch a YouTube video about what to expect at the dentist

Look at pictures of dental staff cleaning a child's teeth

Read a social story about brushing teeth and going to the dentist and explain why it is important



# SHAPING

- Rewarding successive approximations of a desired behavior
- A child may have difficulty with performing the skills necessary for a successful dental visit (e.g., sitting in dental chair), even if they are not anxious.
- The same exposure hierarchies (example above) can be used to help children practice these skills in a step-by-step manner where they are reinforced for getting approximations of the end goal.

# TOKEN SYSTEMS

- Use token systems in your office to encourage good behavior. Have a prize box in your office with inexpensive prizes. Decorate the box so kids will be excited by it.
  - *Choose behaviors to reward:* clear, observable, established ahead of time, appropriate for developmental level.
  - *Give tokens:* give tangible tokens consistently and immediately after target behavior is performed
  - *Cash in tokens for rewards:* having a visual rewards menu can help
- Detailed handouts for parents to set up token systems at home

# EXAMPLE CHART FOR HOME

Target Behavior (clear, observable)	When checked?	Bravery Bucks
<b>Complete “dental bravery challenge”</b>	Right after challenge completed	1
	DAILY TOTAL:	10 tokens

DAILY

Reward	Bravery Bucks

MEDIUM/WEEKLY

Reward	Bravery Bucks

LARGE

Reward	Bravery Bucks

## Pre-apt consult

- Use a pre-visit questionnaire
- Pertinent child history
- Triggers?
- Reinforcers?
- Review list of skills necessary for successful dental visit
- Assign home teaching of relevant skills

## Home practice

- Social stories
- Visual schedules
- Exposure hierarchies
- Shaping procedures
- Token systems

## Dental visit

- Establish expectations
- Visual schedule
- ASK-TELL-ASK
- Tell-Show-Fell-Do
- Effective instructions
- Scheduled breaks
- Differential reinforcement
- In clinic token system
- Shaping and exposure as needed
- Sensory Adapted Dental Environment (SADE) recommendations
- Break visit into multiple smaller visits



# QUESTIONS?