

## Video Demonstration



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## Research paper



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## For more information regarding Comfort Soft



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**Dental Hygiene c/o 2023**

# Comfort Soft

## Universal Retractor



# What is Comfort Soft?

Comfort Soft is a soft tissue retractor used to retract the cheeks, lips, and tongue. This product can be used in different settings such as a dental office, at home, or on the go.

## Why?

Compared to traditional dental instruments and oral hygiene aids, the silicone material does not cause **sensory sensitivity**. Increase individual **compliance** during tooth brushing, and flossing with a floss holder or floss pik.

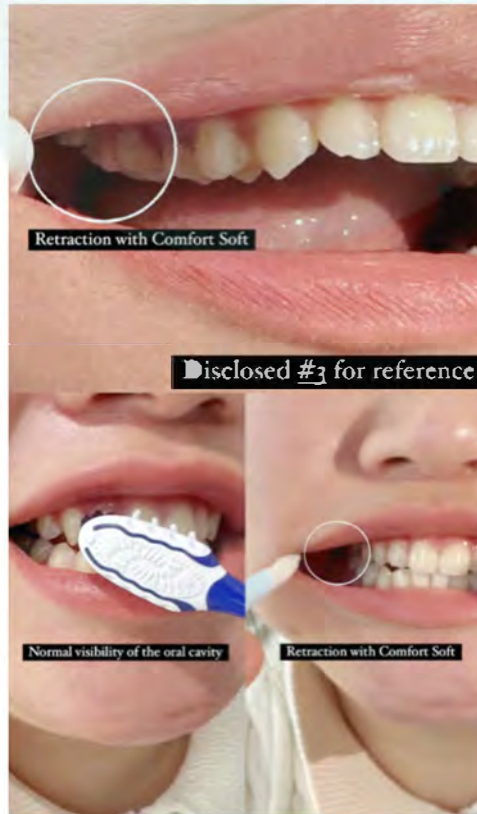
- increase **visibility** and **access** to the oral cavity
- **adaptation** to the working area
- better **control** with the thick handle and rubber tip that is spoon-like

	Mirror/ Tongue depressor	Comfort Soft
Bendable		X
Reusable		X
Grip		X



# What is plaque?

Everyone has dental plaque. This sticky film that coats the teeth and contains bacteria is mixed with saliva and the foods we eat. If we don't brush properly, it will harden and become difficult to remove. Over time, this will contribute to gum disease and tooth decay.



## How to use it?

Bend the angle of the retraction head to adapt to the soft tissue area. Enter the oral cavity like a "spoon" slowly scooping the soft tissue and applying light pressure to retract.



Self retraction



Assisted retraction



Tongue retraction



### How to clean?

Clean with water.



### How to store?

Air dry and store on a clean countertop for easy access.

# The Effects of Oral Health Home-Care Education on Plaque Control in Patients with Special Healthcare Needs

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## OBJECTIVE

As one of the more underserved populations in dentistry, patients with special healthcare needs often suffer from lack of preventive dental care. Poor oral hygiene can lead to inflammation and rapid progression of periodontal disease. Many patients struggle with dental care due to previous negative experiences resulting in fear of future appointments and possible poor oral health care at home. Traditionally, due to limited appointment time, patients often do not gain knowledge from dental professionals to improve their oral routine or receive customized recommendations. As a result, it can lead to poor patient compliance and the process of delivering oral hygiene instruction becomes extremely difficult. Patients with special healthcare needs including fearful patients may benefit from anxiety management such as desensitization. Clinicians should have a higher level of understanding, good interpersonal skills and an empathetic treatment approach to be successful. In addition to management, clinicians and caretakers can also use soft tissue retractors to increase patient comfortability. Using management techniques and improved oral home education can result in improved oral health outcomes and plaque reduction.

## METHODS

This review aims to evaluate the challenges and effectiveness of oral home care education on plaque control in patients with special healthcare needs by way of literature review.

## RESULTS

High dental fear commonly affects many patients and especially in patients with special healthcare needs in the dental setting. In a survey conducted by University of Washington, 43.2% of participants in the study reported some level of fear from the special healthcare needs clinical program (Martin, et al., 2002). After an event of negative experiences in the dental office, patients try to avoid dental care until they experience pain. The treatment for decayed teeth is often painful, creating another negative experience. This vicious cycle of dental fear causes patients to avoid dental care until it is too late. Clinicians should be knowledgeable in patient-management, desensitization techniques (Figure 1) to help patients feel at ease and new sciences in dental materials. Sensory sensitivity decreases a patient's motivation and compliance with the given oral hygiene instruction. Alternative approaches and utilization of different products will help increase a patient's motivation to execute routine brushing and flossing.

## Steps to Desensitization:

- 1st visit: Introduce the patient to the dental environment (10 minutes)
- 2nd visit: Introduce suction and dental chair (15 minutes)
- 3rd visit: Start assessment with finger retraction (15-30 minutes, depending on patient comfort level)
- 4th visit: Mirror retraction and start treatment (1 hour)
- 5th visit: Introduce Comfort Soft

\*Oral hygiene instruction is given at every visit.

Figure 1.

Oral health education and promotion are important in improving gingival health, responding to caries, and improvement in quality of life. Patients with special healthcare needs are impacted by limited intellectual functions and adaptive behaviors. However, they can improve their oral health by education provided by clinicians. In addition to performing oral hygiene, parents and caregivers' positive attitude in participating during home care have shown to reduce obstacles to good oral health (Ferreira et al., 2016). Family is a significant factor in the health of patients with special healthcare needs and can have an impact on their oral health through societal variables, parents' perspective, and oral hygiene behaviors (Anwar et al., 2022).

Although there are many oral aids that can be used, toothbrushing has been proven to be the most effective in plaque removal. Both professional treatment and rigorous home oral hygiene routine are key elements to control of periodontal disease. Some patients use special manual toothbrushes such as a Superbrush, improving access to the oral cavity (Waldron et al., 2019). Plaque removal has shown to reduce disease and help slow the regression towards periodontal disease.

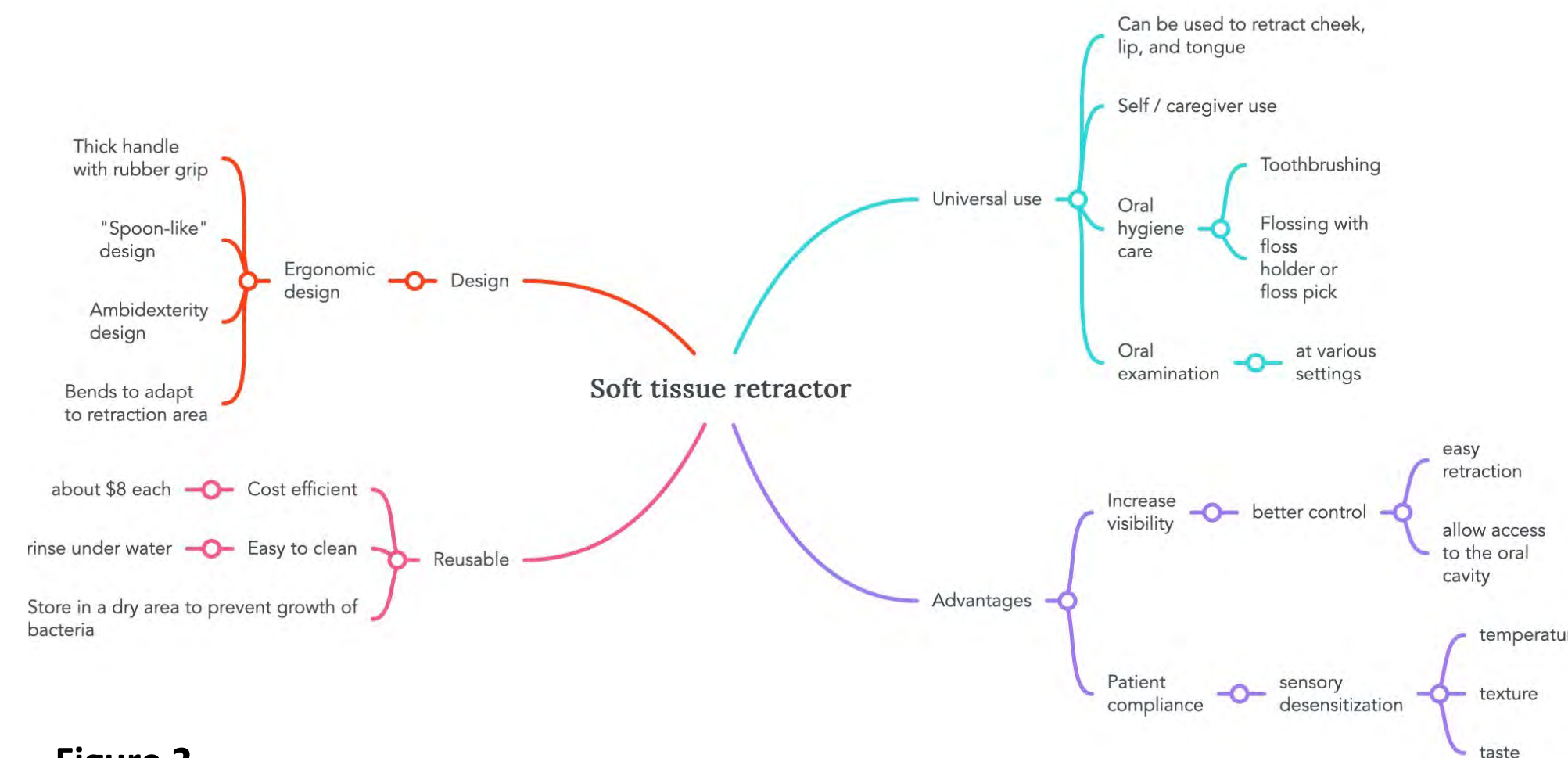
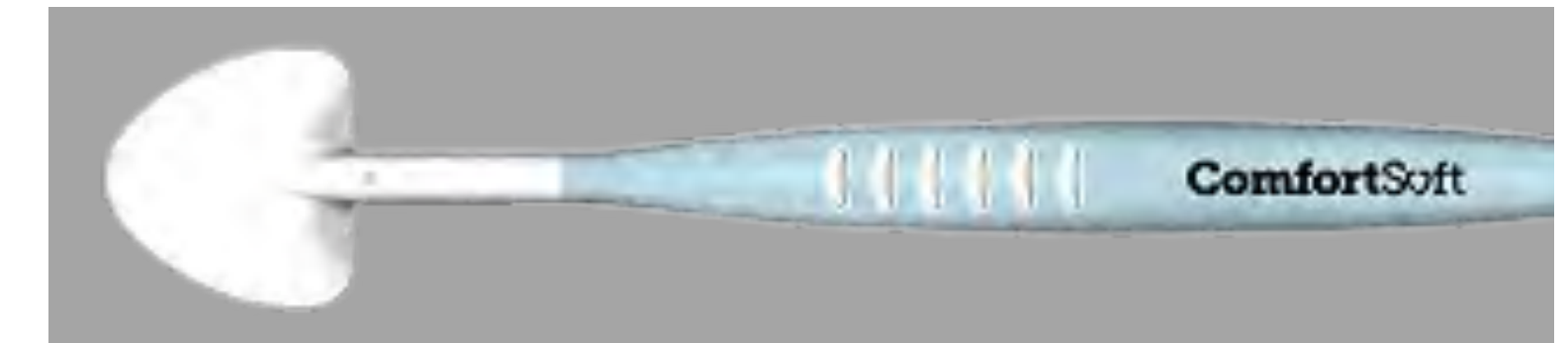


Figure 2.



## CONCLUSION

With any patient, recognition and proper management of needs is the most important for successful appointments and oral health care at home. Clinician should be conscious of the tone, sensory triggers and working closely with the caregiver to formulate a comprehensive treatment plan that is best fitted for the patient. Oral hygiene instruction is important for patients with special healthcare needs and caregivers to maintain optimal plaque control and decrease risk of periodontal disease. Using alternative oral hygiene aids such as a soft tissue retractor (Figure 2.) can allow the care provider to have more visibility, easier retraction, sensory desensitization and increase in patient compliance. Oral health education with alternative delivery methods such as video, habit tracker, brochure and tell-show-do will increase patient and caregiver's understanding on how to perform proper oral hygiene outside of a dental setting. Further research is needed to evaluate the correlation between oral health education and plaque control. There is limited research on the effectiveness of oral hygiene instruction for patients with special healthcare needs. Many of the articles reviewed were not reporting bias and the sample size measured was not big enough to show statistically significant.

## Acknowledgement

The completion of this project could not have been possible without the participation and assistance of Dr. Allen Wong, DDS, EdD, DABSCD. We thank him for his guidance and support for this project.

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Waldron, C., Nunn, J., Mac Giolla Phadraig, C., Comiskey, C., Guerin, S., van Harten, M. T., Donnelly-Swift, E., & Clarke, M. J. (2019). Oral hygiene interventions for people with intellectual disabilities. *The Cochrane database of systematic reviews*, 5(5), CD012628. <https://doi.org/10.1002/14651858.CD012628.pub2>

**The Effects of Oral Health Home-Care Education on Plaque Control in Patients with  
Special Healthcare Needs.**

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April 19<sup>th</sup>, 2023

### **Abstract**

One of the biggest barriers to care in providing oral health care is the fear of dentists from the public. Patients with special healthcare needs may have sensory triggers, anatomical abnormalities, and face other barriers when seeking dental care. When dental needs are unmet, the periodontal condition worsen, and could lead to unwanted tooth decay. Early intervention and maintenance care is important to ensure the patient's oral health is in good condition. Intervention such as sensory desensitization, caregiver education, removing the barriers to seek care, and utilization of alternative tools such as a universal retractor will help increase patient compliance.

Keywords: fearful patient, patients with special healthcare needs, plaque control, Oral health, home care techniques

## **Background**

As one of the more underserved populations in dentistry, patients with special healthcare needs often suffer from lack of preventive dental care. Poor oral hygiene can lead to inflammation and rapid progression of periodontal disease. Many patients struggle with dental care due to previous negative experiences resulting in fear of future appointments and possible poor oral health care at home. Traditionally, due to limited appointment time, patients often do not gain knowledge from dental professionals to improve their oral routine or receive customized recommendations. As a result, it can lead to poor patient compliance and the process of delivering oral hygiene instruction becomes extremely difficult. Patients with special healthcare needs including fearful patients may benefit from anxiety management such as desensitization. Clinicians should have a higher level of understanding, good interpersonal skills and an empathetic treatment approach to be successful. In addition to management, clinicians and caretakers can also use soft tissue retractors to increase patient comfortability. Using management techniques and improved oral home education can result in improved oral health outcomes and plaque reduction.

## **Method**

This review aims to evaluate the challenges and effectiveness of oral home care education on plaque control in patients with special healthcare needs by way of literature review.

## **Discussion**

High dental fear commonly affects many patients and especially in patients with special healthcare needs in the dental setting. Clinicians who can manage fearful patients correctly will

be successful in helping each patient improve their oral routine at home. In a survey conducted by University of Washington, 43.2% of participants in the study reported some level of fear from the special healthcare needs clinical program (Martin, et al., 2002). After an event of negative experiences in the dental office, patients try to avoid dental care until they experience pain. The treatment for decayed teeth is often painful, creating another negative experience. This vicious cycle of dental fear causes patients to avoid dental care until it is too late. Clinicians should be knowledgeable in patient management, desensitization techniques (Figure 1) to help patients feel at ease and new sciences in dental materials.

### **Steps to Desensitization:**

**1st visit:** Introduce the patient to the dental environment (10 minutes)

**2nd visit:** Introduce suction and dental chair (15 minutes)

**3rd visit:** Start assessment with finger retraction (15-30 minutes, depending on patient comfort level)

**4th visit:** Mirror retraction and start treatment (1 hour)

**5th visit:** Introduce Comfort Soft

**\*Oral hygiene instruction is given at every visit.**

Figure 1. These are the steps to desensitization for patients for special healthcare needs. Scheduling short appointments and introducing one stimulant at a time.

The first thing to address is the etiology to their fear. Due to patients needing to be reclined for care, this position can cause them to feel vulnerable and powerless (Armfield, et al., 2013). Patients with special healthcare needs may have sensory overload making dental care challenging. They are more likely to return and seek additional care if clinicians are aware of the cause of dental anxiety. Management of individuals with special healthcare needs in a dental setting requires a combination of behavior management and removal of sensory stimuli. To

combat the fear of dentists, systematic desensitization through communication can result in positive patient experiences (Armfield, et al., 2013). For example, some patients are sensitive to the texture of a toothbrush and may result in increased caries risk due to avoidance of oral care. In a dental setting, a management strategy such as reduction in sudden changes and stimuli can be helpful for the patient. In addition, rapport and trust built with the patient can help with their anxiety and fear. Patients can provide feedback on how the clinician can implement new communication skills and management strategies for future visits.

Many studies have been provided to show multiple approaches to managing patients in an office or at home. The three ways to help providers manage fearful patients are tell-show-do, systematic desensitization, and management of the environment. Tell-show-do is an effective technique that allows patients to feel in control by reducing uncertainty and helps increase predictability (Armfield et al., 2013). Patients with dental anxiety often respond well when reassurance and clarification is provided during all steps of a procedure. The provider shows the patient what instruments will be used and the steps for various treatments. Patients may benefit from systematic desensitization by increasing exposure to dental equipment. If a patient had a negative experience with a metal mirror, providers can try to desensitize the patient to the soft tissue retractor instead. Positive motivation on a long-term basis and making the patient feel involved in the care process can significantly help reduce their dental fear/anxiety because they feel included and in control of what is going to happen.

A study from the *International Journal of Pediatric Dentistry* provided insight on parents who are struggling at home to provide oral care. Parents reported difficulties performing oral care at home, patients disliked the texture of toothpaste, and the feeling of the toothbrush in their mouths (Stein Duker et al., 2022). Sensory sensitivity decreases a patient's motivation and



compliance with the given oral hygiene instruction. Alternative approaches and utilization of different products will help increase a patient's motivation to execute routine brushing and flossing. In research done in Brazil, data was collected through questionnaires from 67 participants between 2-6 years old with multiple types of disability. Children that brush their teeth by themselves (33.3%) have a high DMFT index when compared to those that receive help from adults to do it (23.9%) (Anwar, et al., 2022). This shows a strong association between dental caries and family influence. By being intentional with the environment, providers can help patients feel at ease while in a vulnerable position. This can often be just a reduction in sound, removing instruments from the patients view, or introducing equipment slowly. Although these methods have been proven to be effective, it is important to know each patient is different and providers should manage patients on individual needs.

Oral health education and promotion are important in improving gingival health, responding to caries, and improvement in quality of life. Patients with special healthcare needs are impacted by limited intellectual functions and adaptive behaviors. However, they are capable of improving their oral health by education provided by clinicians. In addition to performing oral hygiene, parents and caregivers' positive attitude in participating during home care have shown to reduce obstacles to good oral health (Ferreira et al., 2016). Family is a significant factor in the health of patients with special healthcare needs and can have an impact on their oral health through societal variables, parents' perspective, and oral hygiene behaviors (Anwar et al., 2022). For this reason, oral health education is important for the family and caretaker.

Improvement in oral health care routine is another way providers can educate caretakers and parents. Although there are many oral aids that can be used, toothbrushing has been proven to be the most effective in plaque removal. Both professional treatment and rigorous home oral

hygiene routine are key elements to control of periodontal disease. Some patients use special manual toothbrushes such as a Superbrush, improving access to the oral cavity (Waldron et al., 2019). Plaque removal has shown to reduce disease and help slow the regression towards periodontal disease.

Utilization of a universal soft tissue retractor such as Comfort Soft may be a solution to help caretakers or patients when performing tasks such as brushing and examination. The retractor can help caretakers reach posterior regions while toothbrushing. Patients may dislike the texture of the toothbrush because caretakers are unable to see the back of the oral cavity. With a soft tissue retractor, caretakers can have more visibility to disrupt and remove plaque biofilm. Providers play an important role in providing education to improve oral health care and introduce beneficial tools to help with plaque removal. It allows for more visibility, easy retraction, ergonomic design, and can be bent easily to adapt to the retraction area. Simply just enter the oral cavity like a spoon, and use it to retract cheek, lip, or the tongue. If the product becomes hard to bend, run it under warm water and it will make it easy to bend. Because the product is made from silicone-like material, it does not have temperature like metals, increasing patient compliance. Decreasing sensory stimuli that might be a trigger for some when performing oral hygiene care. The universal design makes it easy for caregivers to retract the working area without harsh pull such as finger retraction. Making assisted hygiene easier and without a hassle because of the ergonomic design, thick handle and rubber grip. Slowly and systematically introducing the retractor to the patient can help reduce anxiety.

## **Conclusion**

With any patient, recognition and proper management of needs is the most important for successful appointments and oral health care at home. Oral hygiene instruction is important for

patients with special healthcare needs and increase in visibility will help with patient comfort and improved plaque control. Oral health education will help both parents and caretakers understand the oral implication of disease and how we can help patients lower their risk of periodontal disease. Lastly, systematic desensitization for fearful patients will be very helpful when introducing the soft tissue retractor for plaque removal. Providers play an important role in providing education and promoting better oral health care. Because every patient is different, providers should adapt towards the patient's needs, not their disability.

Educating the caregivers on how to provide oral hygiene regimen for patients with special healthcare needs at home is important for periodontal health. However, there are also obstacles and challenges caregivers are facing when providing care such as difficulty retracting the cheek, limited visibility, uncomfortable positioning, and hard to access posterior teeth. Using alternative oral hygiene aids such as a soft tissue retractor can allow the care provider to have more visibility, easier retraction, sensory desensitization and increase in patient compliance. Oral health education with alternative delivery methods such as video, habit tracker, brochure and tell-show-do will increase patient and caregiver's understanding on how to perform proper oral hygiene outside of a dental setting.

When working with individuals with special healthcare needs, clinician should be conscious of the tone, sensory triggers and working closely with the caregiver to formulate a comprehensive treatment plan that is best fitted for the patient. Scheduling short, multiple morning appointments have been shown to have greater patient compliance. Educating the dental staff on how to approach and manage patients with special healthcare needs. Making the dental office more accessible and welcoming so patients with special healthcare needs are more likely

to return and continue future care. Further research is needed to evaluate the correlation between oral health education and plaque control. As for limitation, there is limited research on the effectiveness of oral hygiene instruction for patients with special healthcare needs. Many of the articles reviewed were not reporting bias and the sample size measured was not big enough to show statistically significant.

### **Acknowledgement**

The completion of this project could not have been possible without the participation and assistance of Dr. Allen Wong, DDS, EdD, DABSCD. We thank him for his guidance and support for this project.

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## OKU Sutro Excellence Day Project Cover Sheet

(ONE Cover Sheet per project)

The Effects of Oral Health Home-Care Education on Plaque Control in Patients with Special Healthcare Needs

Project Title: \_\_\_\_\_

Award Category: Dental Hygiene - Research

List names of all contributors to this project:

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One of the biggest barriers to care in providing oral health care is the fear of dentists from the public. Patients with special healthcare needs may have sensory triggers, anatomical abnormalities, and face other barriers when seeking dental care. When dental needs are unmet, the periodontal condition worsen and could lead to unwanted tooth decay. Early intervention and maintenance care are important to ensure the patient's oral health is in good condition. Interventions such as sensory desensitization, caregiver education, removing the barriers to seeking care, and utilization of alternative tools such as a universal retractor will help increase patient compliance. Oral health education with alternative delivery methods such a brochure and tell-show-do will increase patient and caregiver's understanding on how to perform proper oral hygiene outside of a dental setting. When working with individuals with special health care needs, clinicians should be conscious of the tone, sensory triggers and work closely with the caregiver to formulate a comprehensive treatment plan that is best fitted for the patient. Using alternative oral hygiene aids such as a soft tissue retractor can allow the care provider to have more visibility, easier retraction, sensory desensitization, and an increase in patient compliance. When compliance increases, oral hygiene routine should be enforced to help manage and control periodontal health status and plaque control. The completion of this project could not have been possible without the participation and assistance of Dr. Allen Wong, DDS, EdD, DABSCD. We thank him for his guidance and support for this project.

Thank you for filling out the OKU Sutro Excellence Day Project Cover Sheet! Please merge this Cover Sheet with your Final Project Materials (ie, research poster, clinical case, paper, or other creative production) before uploading to the Final Project Submission Form.