

Combination of Basic Behavior Guidance for Children During Dental Impressions

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ABSTRACT

Background: Taking impressions of dental working models is a crucial step in creating space maintainers. However, this procedure is often challenging for pediatric patients because it can cause anxiety, uncooperativeness, and a gag reflex, potentially affecting the quality of the impressions. Therefore, an effective behavioral management approach is needed to increase patient cooperation during the procedure. **Purpose:** The primary objective of this case report is to determine the effectiveness of using a combination of child behavioral management techniques, including Tell-Show-Do, Enhanced Control, and Positive Reinforcement, during the procedure of impressions of dental working models for space maintainers. **Case:** A 7-year-old girl presented to Department of Pediatric Dentistry at Soelastri Dental and Oral Hospital with her mother complaining of empty spaces in her lower jaw after extractions several months ago. Her parents were concerned that the adjacent teeth would shift and cause misalignment of the permanent teeth. **Case Management:** Making dental impressions using a combination of child behavior management techniques using Tell-Show-Do, Enhanced Control, and Positive Reinforcement. **Conclusion:** The combination of Tell-Show-Do, Enhanced Control, and Positive Reinforcement effectively improved the child's cooperation, reduced anxiety and gag reflex, and facilitated successful dental impressions for space maintainer fabrication.

Keywords: basic behavior management, pediatric dentistry, tell-show-do, enhance control, positive reinforcement

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INTRODUCTION

A space maintainer (SM) is a preventive orthodontic appliance that maintains the resultant space in the case of primary dentition tooth loss¹. One of the procedures for space maintainer treatment involves taking impressions of the teeth, which are used as study models and working models². Successful dental treatment for children depends not only on mastering basic treatment techniques but also on managing the child's behavior³.

In pediatric patients, anxiety and fear of medical procedures often present serious challenges⁴. Some factors that influence fear and anxiety in children are dental, parental, and individual child. Effective behavioral management can help address anxiety and build patient confidence, allowing dental procedures to proceed more smoothly and comfortably^{4,5}.

Behavior management in pediatric dentistry is a psychological and communication approach used to address dental anxiety. The goal is to create a cooperative atmosphere that ensures smooth, safe dental care and fosters a positive perception of the dentist in children⁵. Frankl classified children's behavior during dental treatment into 4 categories, namely rating 1 definitely

negative; rating 2 negative; rating 3 positive; and rating 4 definitely positive⁶. According to Wright, children's behavior can be classified into 3 categories, namely 1) cooperative children; 2) children who lack cooperative abilities; 3) children who have the potential to be cooperative³.

In pediatric dentistry, behavioral management is generally divided into two, namely basic behavior guidance technique and advanced behavior guidance technique⁶. Basic behavior guidance techniques primarily rely on educational methods (e.g., tell-show-do), communication-based approaches (e.g., counseling skills that foster trust and rapport, as well as nonverbal communication), and fundamental psychological and behavioral mechanisms (e.g., modeling, positive reinforcement, and distraction). More advanced forms of basic behavior guidance involve the application of complex psychological and behavioral interventions, such as desensitization, memory reconstruction, and sensory-adapted dental settings^{7,10}.

Advanced behavior guidance encompasses both physical management techniques, such as protective stabilization, and pharmacological interventions, including sedation and general anesthesia. In addition, advanced nonpharmacological

strategies may involve cognitive behavioral therapy or specific components of this therapeutic approach. Across the entire behavior guidance continuum, the primary objective is to facilitate the delivery of safe, effective, and efficient dental care while maximizing the quality of patients' dental experiences⁸.

A combined approach to child behavior management is carried out to alleviate anxiety in child patients with the aim of maintaining a positive attitude and achieving maximum dental treatment results⁹.

This case report explains the child behavior management approach by combining tell-show-do, enhance control, and positive reinforcement techniques.

CASE

A 7-year-old girl presented to Department of Pediatric Dentistry at Soelastri Dental and Oral Hospital with her mother complaining of empty spaces in her lower jaw after extractions several months ago. Her parents were concerned that the adjacent teeth would shift and cause misalignment of the permanent teeth. The patient reported no pain, no swelling, a good medical history, and no history of systemic disease.

On intraoral examination, tooth loss was found in teeth 74 and 84. The gingiva in the edentulous area appeared healthy, pink, and there was no inflammation. The abutment teeth to be used were in good condition, not loose, and without extensive caries. Oral hygiene was adequate.

Radiographic examinations revealed that the permanent replacement tooth buds were still present and at an age-appropriate developmental stage. Based on the clinical and radiographic examinations, the patient was indicated for space maintainer implantation. Prior to the implantation, impressions of the upper and lower jaws were taken using alginate impression material to obtain working models.

In terms of behavior, the patient appeared calm during the examination procedure and was assessed as a child with a Frankl category 3 level of cooperation, namely quite cooperative but showing mild anxiety.



Figure 1: a. Maxilla, b. Mandibula



Figure 2: Radiographic before tooth extraction 84

CASE MANAGERMENTS

During the impression procedure, a child behavior management approach is employed to increase patient cooperation and reduce anxiety during treatment. Prior to treatment, the operator employs a tell-show-do technique by explaining and demonstrating the instruments, including the impression tray and mouth mirror, and then performing a simple demonstration before the procedure.

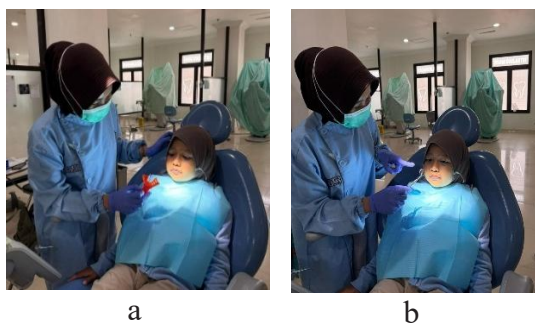


Figure 3: a.b. Example of Tell-Show-Do Technique

Enhanced control techniques are also crucial if the patient has a gag reflex and is uncomfortable due to excessive pressure on the tray. To address this, the operator instructs the patient to raise their left hand to signal discomfort.



Figure 4: Example of Enhance Control Technique

After the impression procedure is complete, the operator provides verbal praise and shows the impression to the patient. The patient is appreciated for their cooperative behavior throughout the treatment, which resulted in a successful impression.

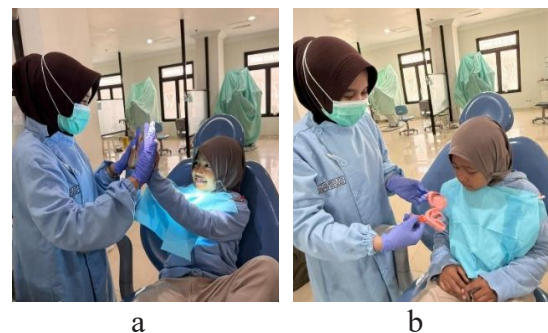


Figure 5: a.b. Example of Positive Reinforcement

DISCUSSION

The tell-show-do technique is a behavior guidance method that begins with explaining dental procedures using language tailored to the patient's age and developmental level (tell). This is followed by demonstrating the visual, auditory, olfactory, and tactile components of the

procedure in a structured and nonthreatening environment (show). Subsequently, the procedure is carried out in a manner consistent with the prior explanation and demonstration (do). The effectiveness of this technique relies on both verbal and nonverbal communication skills, as well as the use of positive reinforcement^{10,12}.

The objectives of tell-show-do are to teach the patient important aspects of the dental visit and familiarize the patient with the dental setting and armamentarium; and shape the patient's response to procedures through desensitization and well-described expectations. Use with any patient⁸.

Enhance control is a technique that used by dentist if the patient becomes uncomfortable or needs to briefly interrupt care (eg, raising a left hand). During dental impression procedures, patients tend to have a gag reflex, which can cause discomfort. When the patient employs the signal during dental procedures, the dentist should quickly respond with a pause in treatment and acknowledge the patient's concern. Enhancing control has been shown to be effective in reducing intraoperative pain⁸.

The objective is to allow a patient to have some measure of control during treatment in order to contain emotions and

deter disruptive behaviors. Use with patients who can communicate, but if used prematurely, fear may increase due to an implied concern about the impending procedure.

Positive reinforcement is the process of shaping a child's behavior by providing appropriate reinforcement (verbal reinforcement, gifts, or social reinforcement), such as praise, toys, and emoticon pins. Social reinforcement includes positive voice modulation, facial expressions, verbal praise, and celebratory gestures (e.g., high-fives, fist bumps) by the operator. This method is indicated for all patients and is the most commonly used^{11,14}.

Based on the case report, the combination of child behavior management techniques in the form of tell-show-do, enhance control, and positive reinforcement in the working model molding procedure can increase the cooperation of pediatric patients during treatment. This approach is effective in reducing anxiety, controlling the gag reflex, increasing patient confidence, and supporting the success of molding so that optimal results are obtained to support the creation of a space maintainer.

CONCLUSION

The combination of Tell-Show-Do, Engaged Control, and Positive Reinforcement proved to be an effective basic behavior guidance approach during dental impression procedures in pediatric patients. This approach enhanced patient cooperation, reduced anxiety and gag reflex, increased the child's confidence, and contributed to successful impression making for space maintainer fabrication. Therefore, combining these behavior guidance techniques can be considered an effective strategy for improving the quality of pediatric dental treatment.

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