



The Ace™ Bandage approach to digit-sucking habits

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Abstract

This article describes an at-home program to assist children with nocturnal digit-sucking habits. Children with such habits are candidates for this program if they wish to discontinue their habits and have no psychological contraindications for habit cessation. The program involves nightly use of an elastic bandage wrapped across the elbow. Pressure exerted by the bandage removes the digit from the mouth as the child tires and falls asleep. Careful patient selection and parent education can lead to a success rate that makes the program worth attempting prior to instituting appliance therapy. (Pediatr Dent 21:451-454, 1999)

Non-nutritive digit-sucking habits are common among preschool children^{1,2}, and the habit is sometimes retained into the school-age years³. The effects on the dentition and associated structures have been well documented, and include anterior open bite, increased overjet, development of posterior crossbite, and increased risk of trauma to the maxillary incisors⁴. These effects are dependent on the duration of the habit, the frequency with which it is engaged during the day, the “intensity” of the habit (duration of each habit indulgence period), the manner of thumb/finger placement in the oral cavity, and perhaps the age of discontinuation.^{5,6}

In addition to the physical effects of digit-sucking, Friman and colleagues⁷ have shown that first grade children consider their peers with digit-sucking habits to be less intelligent, less happy, less attractive, and less desirable as friends.

Traisman and Traisman¹ noted that digit-sucking habits that persist beyond six months to seven months of age become difficult to extinguish. Authorities agree that non-nutritive sucking habits should be stopped between four years of age and the eruption of the maxillary permanent incisors.^{8,9} Treatment approaches for habit cessation fall into one of three categories.⁸ Reminder therapy can be effective for children who wish to discontinue their habits. Reward systems involve the parents, the dentist, and a willing child who is rewarded for success. Reminder therapy and reward systems can be combined to improve the likelihood of success. Appliance therapy is generally employed when other approaches have failed, although it is the most expensive of the three approaches.

The Ace™ Bandage approach combines features of a reminder therapy and a reward system that the author found helpful in assisting some school-age children who wished to discontinue a digit sucking habit. While the author's success rate with this approach is not 100%, it has enabled some children to end their habits without having to resort to lengthy and expensive appliance therapy. (Note: Though persistent digit-sucking habits may occur in males, and may involve any

digit, the most common persistent habit is thumb-sucking in females. The remainder of this paper will assume this case.)

Description of Clinical Technique

Patient Selection

The most important requirement for success of this program is a child who expresses a desire to discontinue a digit-sucking habit. At the very least, the child must be willing to undergo this approach. Children with no interest in habit cessation are not candidates for this program. In addition, habit cessation programs should be postponed for children who have suffered a recent emotional upset (e.g., divorce of parents, loss of pet, change of school). Second, the approach is most effective on habits that are primarily nocturnal, though some success has been gained with children who indulged in their habits while watching television or while passively engaged in other activities.

Parents should be recruited as partners who are willing to allow the program to succeed or fail on the basis of the child's interest and initiative. While the parents may remind the child of the program for the first couple of nights, they should refrain from doing so after that point.

Supplies and Rewards

The parents should purchase a two-inch or three-inch Ace™ Bandage (Becton Dickinson, Franklin Lake, NJ), costing about \$5-6. The bandage is to be given to the child to keep in her bedroom. She will also need a calendar covering at least six weeks, and some gummed stars, colored pencils, or crayons.

The parents will need to provide small rewards to the child throughout the program, no more frequently than weekly. A maximum of six small rewards will suffice. A larger reward will be required at the end of the program if the child has been successful in breaking the habit. The rewards must be determined by the parents based on family circumstances and the child's interests. The practitioner should suggest to the parents that they not purchase all the rewards, especially the larger reward, at the beginning of the program.

The dentist or a member of the office staff must be available for brief telephone calls to the child on a weekly basis to discuss the child's progress.

The Program

Parents of children who engage in digit-sucking during the day are counseled not to reinforce the habit by commenting on it, even in a negative fashion. Instead, they are instructed to positively reinforce the child with praise whenever she is not sucking the thumb. After the child brushes her teeth and dresses for

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Fig 1. Ace™ Bandage wrapped from mid-arm to mid-forearm.



Fig 2. Child falling asleep while sucking thumb with Ace™ Bandage in place.

bed, she is to bring the Ace™ Bandage to a parent without prompting (except for the first night or two). The bandage is wrapped snugly, but not too tightly, from mid-arm to mid-forearm on the side used for the habit (Fig 1). The hand is not covered, and the bandage does not impede blood flow in the arm.

Once in bed, the child will find that she can place the thumb/finger in the mouth, though increased effort will be required (Fig 2). As she tires, however, the elasticity of the Ace™ Bandage will bring the hand away from the mouth, allowing her to fall asleep without sucking the thumb (Fig 3). The next morning, the child enters a star or a check mark on the calendar if she remembered to use the bandage the previous night. A second star or mark is entered if she believes that she slept through the night without sucking her thumb.

Small rewards are to be given after every 14 stars/marks, which would represent one week of successful Ace™ Bandage use. Some children will require longer than a week to achieve 14 marks. Encourage parents to continue with the program until all six small rewards have been given. This will require at least six weeks; some children will take longer to finish. Consider a one-month program the minimum length for success.

A member of the dental staff should call the child at a prearranged time weekly throughout the program to express interest in her progress, offer support and encouragement, and answer any questions that she may have. The call is specifically for the child; discussions with parents, if necessary, are reserved for separate calls. The call need not be long, but it is an important aspect in a successful program.

The parents must be the final arbiters of success. They should monitor the child for a week as she is falling asleep, and

again after she has been asleep for a while. If they are satisfied that the habit has been extinguished, then the final reward may be bestowed.

Discussion

Success Rate

The author's records indicate a success rate of about 60% with this program. The success rate was lower (about 35%) before the use of more stringent patient selection criteria. The success rate increased further when the recommended program length increased from four to six weeks, and again when calls from the office to the child were incorporated. The author has had no reports from parents that the use of the Ace™ Bandage was associated with any adverse effects, such as discomfort, enuresis, nightmares, or other negative psychologic changes.

Advantages and Disadvantages

The primary advantage of the program is that it allows some children to discontinue the habit without having to wear an intraoral appliance. In addition to being more expensive, appliances such as palatal cribs are not always successful, and they present risks of poorer oral hygiene, decalcification and caries around bands, retarded eruption of banded teeth, and soft tissue damage. Also, by being (in charge) of the program, this approach gives the child a sense of control that an appliance may not afford.

The major disadvantage of the program is its lower success rate compared to appliance therapy. This must be made clear to the parents prior to beginning the Ace™ Bandage approach so that their expectations are not unrealistically high. When presented properly, most parents of persistent digit suckers have been willing to try the program, even though it may require more oversight on their part than would an appliance. It is helpful to provide written information about the program that parents can take home and read before deciding whether to proceed.

The program also requires some office staff time to make the weekly telephone calls. If these calls are made at a previously agreed upon time each week, little time is required. If several children in the practice are undergoing the program, these calls can often be planned at about the same time so that the dental team member can place them over a period of just several minutes. It may be helpful to have a script for the team member to follow while conducting the telephone call.



Fig 3. Pressure from Ace™ Bandage brings thumb out of mouth as child begins to sleep.

It is appropriate to consider a modest fee to recover the expenses of conducting the program. These include the dentist's or staff member's time to explain the program, the staff time required to telephone the patient, printing/duplicating costs, and other overhead expenses. Parents should be made aware of that this fee will likely not be covered by third-party payers.

Conclusion

The Ace™ Bandage approach is an alternative to habit appliance therapy in school-age children who are interested, or at least willing, to extinguish a nocturnal digit-sucking habit. It affords the child a sense of responsibility and control over the habit cessation program. If unsuccessful, habit appliance therapy should be presented as another aid to habit cessation and not as punishment for failure. Even with a modest fee to recover the costs of administering the program, the Ace™ Bandage approach is attractive to many parents.

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Use of nickel-titanium rotary files for root canal preparation in primary teeth

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Abstract

This article reviews the use of nickel-titanium rotary files for root canal instrumentation in primary teeth. The pulpectomy technique is described and the advantages and disadvantages of using rotary files are discussed. Specific recommendations for the selection of materials and devices are made. (Pediatr Dent 21:453-454, 1999)

The pulpectomy procedure for restorable primary teeth is the preferred treatment of infected pulpal tissue in single rooted teeth and in molars with signs of radicular involvement. Prior to the placement of pulpectomy paste, the root canals of primary teeth are shaped and cleansed. This has traditionally been done with endodontic broaches and hand files.

Recently, nickel-titanium rotary files (NT; ProFile .04 ISO Rotary Instruments, Dentsply/Tulsa, Tulsa, OK) have been developed for use in endodontics. The flexibility and the instrument design allows the files to closely follow the original root canal path. Studies have consistently shown that root canal preparation in permanent teeth with NT is efficient and effective.¹⁻³ The same principles of canal debridement and

dentin shaping using NT can be applied to primary teeth. The tortuous and irregular canal walls of primary molars are effectively cleaned with NT since the clockwise motion of the rotary files pulls pulpal tissue and dentin out of the canal as the files are engaged.

NT produces the predefined tapered shape that is built into the instrument design. ProFile rotary instruments have a .04 taper which is twice that of traditional .02 tapered hand files. This results in a smooth funnel-form preparation that easily accepts pulpectomy paste. Other nickel-titanium rotary instruments with differing flute designs and rates of taper are available for use in adult endodontics. However, the authors suggest that the novice clinician begin by using the .04 rotary tapers since they are efficient without undue aggressiveness. An educational videotape is available from Dentsply/Tulsa that describes the technical use of these rotary files. Although specific to permanent teeth, the same principles apply to the primary dentition.

Nickel-titanium rotary files must be driven by a low-speed constant-torque handpiece. The ideal rotational speed is 150–300 rpm. This is too slow for use in a conventional slow-speed

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