

The Thumbguard Appliance: Pilot Research

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Approaches to eliminate finger habits in children are legion! Behavioral approaches use reward systems to discourage children from the habit. Over-the-counter remedies rely on poor taste to work, and crib appliances are often the expensive last resort. A recent development, the Bluegrass appliance, has found favor with some children.

These various approaches can be lumped into three major categories: aversive, the crib and taste approaches; behavioral; and mechanical. This last category would include those devices or appliances that try to prevent the sucking phenomenon by keeping the finger from the mouth or by breaking the suction which appears to be the soothing factor for many children. The sock over the hand and the ace bandage around the elbow are examples of mechanical deterrents.

A habit abatement device that reappears every few years is that which encircles the thumb with a loosely fitting tube so that the lips cannot form a tight seal and generate suction. This approach was recently marketed by a major dental manufacturer, then discontinued. The latest version of this device, still in testing, the Thumb-guard (Med et al Development, Stanley, NC) was evaluated in a pilot study for parental acceptance.

A number of pediatric dental practices in the Midwest and Northeast agreed to try the device with patients who had trouble eliminating the thumb habit. These dentists were provided with the devices and supplies and instructed in proper use. Parents filled out a questionnaire about their child's habit and their opinions after using the device to try to eliminate the habit.

Twenty-two parent questions were partially or completely filled out and returned for evaluation. Table 1 shows the type of child who was managed with Thumbguard. These children tended to be older, having a mean age of 8.2 years. These children resorted to the habit mainly during or when falling asleep, or when tired.

Most were eager to stop, but several were described as ambivalent. Most parents had tried reminding their children and had used other behavioral approaches. Of interest to us is the fact that all but three families sought help because of obvious dental abnormalities and most parents sought help from pediatric dentist, first.

Parents' responses to Thumbguard were excellent, with most considering it very successful and recommending its use. In spite of its apparent complex attachment, most felt Thumbguard was easy to use, but some parents noted problems, such as chapping of the thumb and chafing from friction. Others noted that older children could remove it easily if they wanted to.

From this initial study, it appears that this device has a place in thumbsucking abatement. Most parents had tried non-invasive approaches and were seeking help from the problem. The device provided a low-cost option before fixed appliance therapy needed to be tried. As with most therapies, there are pros and cons. The pros are low cost, safety and ease of use. The cons include the need for child cooperation, some hygiene maintenance, and the problem of fit for some larger children. Parents were pleased with the device and the instructions they received--Thumbguard comes with an instructional video, as well as written instruction.

You can find out more about this device by contacting Med et al Development

REFERENCES

- Heitler S.M. David decides about thumbsucking. *Denver Reading Matters*, 1985.
Haskell, B.S., Mink, J.R. An aid to stop thumbsucking: the bluegrass appliance. *Ped Dent*. 13:83-5. 1991

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Table 1: Characteristics of Children Treated with Thumbguard

Age (years)	
Mean = 8.2	
Range = 5 to 14	
When does your child thumbsuck?	
Stress times	6
When tired	10
When falling asleep	13
Throughout sleep	9
When bored	8
All the time	1
What is your child's desire to stop?	
Eager to stop	8
Could care less	2
Ambivalent	5
Doesn't want to stop	3
What are associated problems you've noticed?	
Speech	2
Tooth abnormalities	16
Tongue thrust	3
Thumbnail infection	2
What have you tried to reduce or eliminate the habit?	
Reminding child	15
Topical agents	6
Mechanical devices	2
Behavioral modification	12
Who have you sought help from for this problem?	
Friends	5
Physician	1
Dentist	9

Totals include partial questionnaires and multiple responses, so totals do not reflect sample size of 22 parents

Table 2: Parent Opinions Regarding Thumbguard

Did you feel the device was successful in stopping your child's habit?	
Very	11
Somewhat	5
Neutral	0
Minimally	1
Not	3
Were instructions and information useful to you?	
Very	13
Somewhat	8
Neutral	1
Minimally	0
Not	0
How easy was the device to use?	
Very	14
Somewhat	7
Neutral	0
Minimally	1
Not	0
Would you recommend this technique?	
Very	17
Somewhat	2
Neutral	2
Minimally	0
Not	1

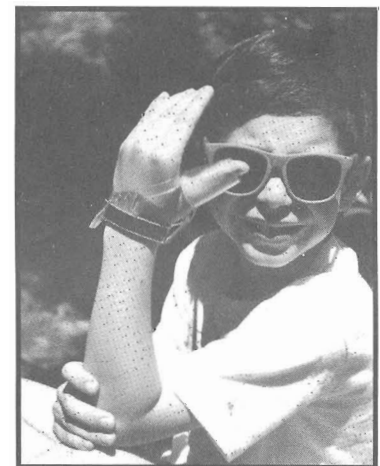


Figure showing Thumbguard appliance in place