THE BLUEGRASS APPLIANCE:

How it works, why it works, and in-office fabrication

Tad R. Mabry, DDS, MS
Department of Pediatric Dentistry
University of Iowa College of Dentistry
OBJECTIVES

- Understand the psychology associated with the appliance
- Understand the key to successful use
- Demonstrate a simplified in-office fabrication technique
HARMFUL ORAL HABITS

- Nail-biting
- Lip habits
  - Licking
  - Sucking
- Bruxism
- Self-mutilation
- Non-nutritive sucking
NON-NUTRITIVE SUCKING

- Pacifier
- Digit sucking
  - Finger sucking
  - Thumb sucking

Photo: http://www.nuk-usa.com
THEORIES

- Learning
- Psychoanalytic

Photo: http://www.flickr.com/photos/partick/4234868/
LEARNING

An adaptive response.
Transfer of a pleasurable feeling to an available object.

Aggressive treatment not detrimental.

Palermo, D.S., 1956
Humans possess a biologic sucking drive.

“Rooting and placing”

Extinguishing abruptly - behavior substitution

Benjamin, L.S., 1967
“Behavior Substitution”

- Lip sucking habit
- Extinguished abruptly with surgical intervention
- Nail biting habit developed
Clinical Studies

1991 Introduction
- 24 subjects
  - Age 7-13
- Tx time of 6 months
- 100% success

2003 Retrospective Study
- 30 subjects
  - Age 4-20
- 93% success
- Average until cessation: 12.3 wks
- Average until removal: 30.3 wks

Greenleaf S, Mink J: Ped Dent 2003
NON-NUTRITIVE SUCKING APPLIANCES
“Appliances will not prevent his sucking his thumb but rather remind him when he is going to do it, so that he may stop himself.”

Littlefield, 1955
Photo left:  http://www.perrinorthodontics.com/types_appliances.php
Photo center:  http://heltonortholab.com/bluegrass-appliance/
Photo right:  http://www.austinorthodontics.com/bluegrass.php
A Single Appliance for the Correction of Digit-sucking, Tongue-thrust, and Posterior Crossbite

Gajanan V. Kakani, BDS, MSc; D Ped Dent, PhD, FRCD(C) • D. Lau, BDS, MSc
Appliance for chronic drooling in cerebral palsy patients

Charlie J. Inga DDS  Anil K. Reddy DDS, MPH  Stanley A. Richardson LBIST  Brian Sanders DDS, MS
Thank you

Photo: http://www.metro.co.uk/news/869036-cute-alert-rhesus-monkey-sucks-thumb-after-stinging-nettle-encounter