



## Introduction to a novel extraction forcep

Kevin J Donly DDS, MS Joseph Castellano DDS

*Dr. Donly is professor and postdoctoral program director, and Dr. Castellano is a pediatric dentistry resident, Department of Pediatric Dentistry, Dental School, University of Texas Health Science Center at San Antonio. Correspond with Dr. Donly at donly@uthscsa.edu*

Severe caries in the primary dentition continues to be problematic, as noted in the recent Surgeon General's Report on Oral Health.<sup>1</sup> Unfortunately, nursing caries (often referred to as Baby Bottle Tooth Decay) frequently is so severe that extraction of the affected teeth is necessary. The extraction of teeth in young children can be quite difficult, with child behavior, tooth isolation, and the anatomy of primary teeth all being contributing factors.

Extraction forceps, which are available for the extraction of primary teeth, are fabricated to adapt to primary teeth more favorably than extraction forceps available for permanent teeth; however, loss of the primary tooth from the forceps during and following the extraction procedure remains a concern. Although precautions are taken to prevent accidental swallowing or aspiration of extracted teeth, any forcep design that could enhance the prevention of tooth dislodgment from the forcep would be beneficial to both dental practitioners and their patients. The purpose of this article is to present a newly developed forcep for the extraction of primary anterior teeth.

### Case report

A three year old male presented to the University of Texas Health Science Center at San Antonio Pediatric Dentistry Clinic. Initial examination revealed severely decayed primary anterior teeth, including radiographic evidence of periapical pathological resorption, which were scheduled to be extracted according to the treatment plan. The treatment plan was presented to the parent and subsequent informed consent was obtained.

Due to the child's age and behavior during the initial examination, cooperation during the tooth extraction was not anticipated. Consent was obtained from the parent to restrain the child and utilize a mouth prop, if necessary.



Fig 1. The forcep in place on the tooth.



Fig 2. The tooth being extracted.



Fig 3. The extracted tooth being retained within the head of the capture forceps.

When the patient arrived to receive dental care, he was escorted with the mother to the dental operatory. Typical desensitization procedures, as well as positive and negative reinforcement, were utilized. The child was very active in the dental chair and was unable to sit adequately for treatment without restraint. As had been previously discussed and consented to by the mother, a papoose board was used.

Local anesthesia was given to the patient and teeth D, E, F and G were extracted using a newly developed forcep (Capture Forceps - North American Dental Corporation, Oklahoma City, OK, USA), for the extraction of primary anterior teeth.

The forcep has short beaks that adapt very well to the crown/root of the tooth. As pressure is placed on the forceps, the beaks of the forceps move apically and the tooth moves incisally into a chamber fabricated within the forcep design (Figures 1 and 2). The tooth remains in the chamber as the forcep is removed from the oral cavity (Fig 3).

### Discussion

This forcep is very favorable for use in our Pediatric Dentistry Clinic. In every instance it has been utilized, the tooth has come out easily, being retained within the fabricated chamber of the forceps. These forceps are particularly advantageous in children

where cooperation is difficult to obtain. Discussions with the company have encouraged the development of a posterior forcep that could function in a similar manner.

### Reference

1. U.S. Department of Health and Human Services. *Oral Health in America: A Report of the Surgeon General*. Rockville, MD: U.S. Department of Health and Human Services, National Institute of Dental and Craniofacial Research, National Institutes of Health, 2000.

## ABSTRACT OF THE SCIENTIFIC LITERATURE



### Maternal Use of Xylitol Chewing Gum and Dental Decay in Children

Studies have shown that prevention of mutans streptococci (MS) colonization in early childhood can lead to prevention of dental decay. In a previous study, this group demonstrated that regular maternal use of xylitol chewing gum by mothers with high MS levels led to reduction in MS colonization in their 2 year old children even when compared to mothers who received fluoride and chlorhexidine varnish treatment. In the present study, the investigators examine caries experience in these children (dmf) up to age five years. The children were examined annually by experienced clinicians who did not know whether the children were colonized by MS. They found that dentinal caries was reduced by 70% in children from the xylitol chewing gum maternal prevention group as compared to children whose mothers received fluoride varnish or chlorhexidine varnish treatments. The authors conclude that maternal use of xylitol chewing gum can prevent dental caries by inhibiting transmission of MS from mother to child.

**Comments:** Although the influence of the timing of MS colonization on caries experience in the primary dentition has been the subject of several studies, this study demonstrates a practical method of delaying MS colonization and reducing caries experience in a potentially high risk (high maternal MS levels) population. CH

*Address Correspondence to:* P. Alanen, Institute of Dentistry, University of Turku, FIN-20520, Turku, Finland.

**Occurrence of Dental Decay in Children after Maternal Consumption of Xylitol Chewing Gum, a Follow-up from 0 to 5 Years of Age.** Isokangas P, Soderling E, Pienihakkinen K, and Alanen P. *J Dent Res* 2000. 79 (11): 1885-1889.