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Editorial

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Prevention of Dental Caries (Tooth Decay): Should we be Content With Our Progress?

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Some of us may remember the prevalence of dental caries from the 1950's, 1960's and during my dental career infancy, the 1970's. Caries free individuals, child or adult, may well have qualified as an endangered species. Early television advertising toothpastes portrayed children gleefully boasting only "having two cavities this check-up." The premise that one could conceivably experience a lifetime without decay might have at best been considered fantasy if not merely ludicrous. Neither dentists nor patients readily believed rumblings of a soon to be available vaccine to virtually eliminate caries would materialize. The true skeptics lamented that even if a vaccine was developed and found effective, much of the population probably wouldn't make use of one.

Many parents and children in 2015, not only carry the expectation of no decay, they demand it, and become outraged if not greatly disappointed when their current hygiene efforts fall short of their intended mark. For these fortunate Americans, oral health awareness has reached an all-time high.

The benefits of topical fluorides and varnishes through dental and medical office applications, school rinse programs, systemic fluorides through optimal water fluoridation and appropriate dietary supplementation, the essential nature of parental tooth brushing of infants and small children's teeth and sound oral hygiene practices, reasonable dietary habits to reduce refined carbohydrate exposure, and the effective use of anti-microbial rinses have all played key roles in reducing our nation's decay experience.

Enhanced public relation campaigns between organized dentistry and other health care providers, in collaboration with various local, state, and national societies and governmental agencies have generated effective oral health policies which emphasize early diagnosis and interception of dental disease. Joint efforts of the Center for Disease Control and Prevention (CDC), the National Institute of Health and its dental subsidiary, NIDR, the American Dental Association (ADA) Council on Community Health, the American Academies of Pediatric Dentistry (AAPD) and Pediatrics, and numerous others are aggressively supporting the development of legislation which proclaims that health per se without regard to oral health is incomplete and unacceptable.

Despite these immense successes, should we be content with our progress?

Regrettably, progress toward making optimal care available inclusive of the reduction and eventual elimination of dental decay for all our population is seriously short of universal. Many Americans encounter obstacles through no fault of their own. Access to care remains a nationwide problem for the poor. In the US and most other countries, dental decay is largely untreated in children under age Three.[1] The Center for Disease Control and Prevention (CDC) has reported that Early Childhood Caries continues to occur in all racial and socioeconomic groups; however, it appears far more prevalent in children of low-income families where it oc-

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curs in epidemic proportions.[2]

Those children with caries experience have been shown to have high numbers of teeth affected. Consequences of high decay experience include a high risk of new cavities,[3,4] increased treatment costs and time,[5] risk for delayed physical growth and development,[6-8] loss of school days, diminished ability to learn,[9] diminished oral health related quality of life,[10] and hospitalizations and emergency room visits.[11,12]

Many simply cannot afford current costs for care; some do not qualify for either insurance benefits or entitlements because they earn too much to qualify for general assistance but still fall within what would be considered poverty levels. Many states funding for general assistance either becomes exhausted early in the fiscal year, or inadequate to sustain reimbursement for continued dentist and institutional participation. Closings of dental teaching institutions, which served as essential sources of low-cost yet quality care providers has further complicated the plight of dentally-disadvantaged families. Also disconcerting are scientifically unsupportable restrictions imposed by third party and managed care programs which limit how often proven prevention measures are covered; for example, coverage limited to only annual fluoride applications; denial of coverage for dental sealants, demands for the lowest percentage of success cost treatment options (extraction *vs.* pulpal/restorative therapy procedures), and barriers to specialist services are among the most common problems.

Annual conservative estimates report, in the Chicago area alone, thousands of infants and children under three years of age unnecessarily experience Early Childhood Caries (aliases: Bottle Mouth Syndrome, Nursing mouth decay). Despite how much we know about how to stop this preventable phenomenon, it appears efforts to do so have been largely unsuccessful in getting the message out to those who clearly need it the most. For many of these pre-cooperative infants and children, safe management can only occur in a hospital and surgical center environment; some may receive treatment in office settings using sedation or general anesthesia. In either case, both risk and cost remain high for what is otherwise preventable from the outset. Additional complicating factors emerge when dental procedures are not deemed "medically necessary" by medical and dental insurance carriers. This problem is not limited to Illinois.

Why does this occur and what can collectively be done about it?

We need to work harder to get the message out. We need to blitz the public through the media. We need to promote prevention strategies as rigorously as manufacturers promote brighter and whiter smiles. We need to involve those within and outside the field of dentistry what can be done to promote optimal dental health. We need to build bridges with our pediatric medical colleagues. Because pediatricians, pediatric nurses and nurse practitioners and other physician extenders are far more likely to encounter future parents during pregnancy and infants before dentists, it is essential they be made aware of the infectious pathophysiology and associated risk factors of early childhood caries to make effective recommendations and decisions regarding timely and effective intervention. Because of the etiology of dental caries and its course, steps to prevent it should be initiated prenatally to educate pregnant women and be reinforced from the time of the eruption of the first tooth.

Because dental decay can be well advanced by three years of age, urgency exists to bring obstetricians, pediatricians, family practitioners and pediatric nurses to perform caries risk assessment on all children at or prior to one year of age. In the absence of time for such in the medical environment, referral to dental personnel is warranted. It is the responsibility of all health care professionals who have contact with infants and new parents to become involved in efforts to reduce and prevent early dental caries.

As a profession, we need to continue to move from a reactive to proactive role. While great strides have been made toward prevention, our involvement need leave no one behind. We can ill-afford to permit outside interest groups to determine the timing and quality of services to those in need. Opportunity to help children and adults to enjoy good oral and dental health from the outset is within grasp. Dental caries can be made an "endangered species."

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