

# To *Your* HEALTH *Fresno County*

Bringing you public health issues and ways to improve personal, family, neighborhood and community health



## **The Public Health Aspects of Dental Care**

March 1, 2016

We've all heard advertisements for dental care that tell us that a healthy mouth is more than an attractive smile. The fact is oral health is an issue of huge significance to our personal and public health. Not only is our mouth the portal to our digestive system, it serves a key role in our personal interactions and socialization, and is a major point of introduction of infection and chronic inflammation.

Poor oral health, in the primary forms of dental caries (tooth decay or cavities) and periodontitis (gum disease) can affect our individual and collective well-being in an astounding variety of ways.

Dental caries is a communicable disease to which all ages are susceptible. Dental caries occur when bacteria residing in plaque, which has developed on tooth surfaces, convert carbohydrates to acidic by-products. The result is a lower local pH which causes, over extended periods, the leeching of important minerals from the tooth and subsequent collapse of the enamel substructure known as cavities.

Periodontal disease occurs when infection in the gums surrounding teeth results in inflammation of the gums and bone that surround and support the teeth. It progresses from gingivitis in its early stage, where the gums are swollen and red (and may bleed) to periodontitis where the gums can pull away from the tooth, bone can be lost, and the teeth can become loose and fall out.

Together, dental caries and periodontal disease are the 4<sup>th</sup> most expensive diseases to treat in the industrialized world. These diseases account for 5 to 10% of public health expenditures.<sup>1, 2</sup>

Dental caries have been identified as the most common chronic childhood disease in the U.S. (more common than asthma or hay fever).<sup>3</sup> By kindergarten, 50% of California children have experienced tooth decay, and by third grade that percentage is greater than 70%.<sup>3</sup> It is estimated that half a million California children missed school in the previous 12 months due to dental caries.<sup>3</sup> In the U.S. 117,000 hours of school is lost per 100,000 children each year due to dental caries.<sup>4</sup>

With regard to periodontitis, almost half of American adults (64.7 million) have mild, moderate, or severe disease. In adults 65 and older this percentage is 70.1. “We now know that periodontal disease is one of the most prevalent non-communicable chronic diseases in our population...”<sup>5</sup>

Dental caries cause pain and discomfort that affect nutrition, communication, socialization, and sleeping, all of which affect our overall health and well-being. Additionally, dental caries can result in absence from work and school leading to reduced income and lower academic performance. In children, particularly, caries can lead to psychological, learning, and self-esteem difficulties which severely impact their social development. Finally, dental caries can lead to infection and abscess formation that can be life threatening.

The inflammation from periodontitis, in addition to the nutrition, communication, and socialization problems that come with loss of teeth, can cause problems in the rest of the body.<sup>6</sup> Gum disease is associated with other chronic inflammation diseases such as diabetes, cardiovascular disease, and rheumatoid arthritis.<sup>7</sup> In a recent study, individuals with serious gum disease were 40% more likely to have another chronic medical condition as well.<sup>6</sup> There is also a possible association between periodontitis and bacterial pneumonia, stroke, preterm birth and low birth weight, and pancreatic cancer.<sup>8-9</sup>

Risk factors for dental caries<sup>10</sup> include:

- Tooth location
- Dietary habits (eating foods that stick to teeth, frequent snacking, and bedtime infant feedings)
- Inadequate tooth brushing
- Insufficient fluoride
- Age
- Dry mouth (due to medications or other causes)
- Worn fillings or dental devices
- Acid reflux disease
- Tobacco
- Excess alcohol use

Risk factors for periodontal disease<sup>11</sup> include:

- Smoking
- Diabetes
- Poor oral hygiene (insufficient brushing and flossing)
- Stress
- Heredity
- Crooked teeth
- Immuno-deficiencies
- Defective fillings
- Improperly fitting bridges
- Dry mouth
- Female hormonal changes

Despite major public health successes with the implementation of evidence-based interventions of fluoride and pit and fissure sealants to prevent tooth decay, lack of access to dental care for all ages remains a public health challenge, and [disparities](#) exist. “Inequalities in periodontal health mirror those patterns in other chronic diseases and share common determinants...”<sup>2</sup>

"The determinants of oral diseases ... are the risk factors common to a number of chronic diseases: diet..., smoking, alcohol, risky behaviors causing injuries, and stress – and effective public health methods are available to prevent [these] diseases."<sup>4</sup> "Because oral and other chronic diseases have determinants in common, more emphasis should be on the common risk factor approach."<sup>4</sup>

Our eight Pillars of Public Health can, together, support the structure that is good oral / dental health, and thereby add to the health and well-being of Fresno County.

**Individuals** and **families** should begin lifelong healthy dental habits early. (Decay can develop as soon as the first tooth comes in.)

For babies<sup>12</sup> this includes:

- Taking care of your oral health during your pregnancy
- From birth to 12 months – wipe gums with a clean washcloth and after teeth appear gently brush with a minute smear of fluoride toothpaste everyday
- From 12 to 36 months – brush teeth twice a day for 2 minutes (after breakfast and before bed)
- Never put an infant to bed with a bottle or food
- Don't use sippy cups or bottles for pacifiers
- Check your water for fluoride and consider a fluoride supplement with your medical or dental provider
- Teach your child to drink from a cup at age 12 to 15 months
- Limit sweet and sticky foods
- Serve juice only at meals, if at all (and diluted with water)
- See a dentist before age one

For older children and adults, brush at least twice a day and floss at least once. It's important, also, to make regular visits to a dental provider for cleaning and examination (at least once a year).

**Retailers** should limit marketing of heavily sugared foods and beverages and make affordable alternatives readily available.

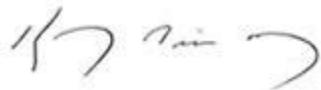
**Educators** and **employers** should ensure that students and employees understand the importance and value of good oral health and should make information and resources readily available.

**Medical providers** must offer every preventive intervention available and ensure their patients are aware of these.

**Community leaders** and **public officials** must work together to ensure easy and affordable access to oral/dental health care.

"Taking good care of your teeth and gums can really help you live well longer."<sup>13</sup> "You cannot be healthy with an unhealthy mouth any more than one [sic] can be healthy with an infected foot."<sup>14</sup>

Here's to your health!

A handwritten signature in blue ink, appearing to read "L. C. ...".

Dr. Ken Bird, Fresno County Health Officer

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Citations:

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