

Key Vitamins and Minerals: A Quick Reference for Dentists

Vitamin/Mineral/ Nutrient	Oral Problem Due to Deficiency	Oral Problem Due to Excess	Food Sources
Vitamin D	Incomplete calcification of teeth and alveolar bone, enamel hypoplasia	Pulp calcification, enamel hypoplasia	Egg yolks, cheddar cheese, salmon, trout, mushrooms, fortified products (milk, orange juice)
Vitamin K	Increased risk of bleeding and candidiasis		Green leafy vegetables (collard greens, spinach and kale), broccoli, soybeans, pumpkin, pine nuts, blueberries
Vitamin A	Taste sensitivity, xerostomia, disturbed enamel development leading to poor or absent calcification and hypoplasia in mature teeth, increased caries risk	Impaired cell differentiation and epithelialization resulting in delayed and impaired healing of oral tissues	Sweet potatoes, spinach, pumpkins, carrots, dairy products, cantaloupes, mangos, red peppers
B2 Riboflavin	Angular cheilitis/cheilosis, shiny and red lips, sore tongue that changes color and shape		Yogurt, milk, chicken, beef, mushrooms, cheese, chicken, eggs, quinoa, fortified breakfast cereals
B3 Niacin	Angular cheilitis/cheilosis, mucositis, stomatitis, oral pain, swollen tongue, ulcerative gingivitis		Chicken, turkey, salmon, tuna, beef, brown and white rice, peanuts, potatoes, fortified breakfast cereal
Folic acid	Angular cheilitis/cheilosis, mucositis, stomatitis, sore or burning mouth, inflamed gingiva, glossitis tongue		Spinach, asparagus, Brussels sprouts, white rice, avocados, fortified breakfast cereals
B6 Pyridoxine	Angular cheilitis/cheilosis, sore or burning mouth, glossitis, glossodynia		Chickpeas, tuna, salmon, chicken, turkey, bananas, potatoes, fortified breakfast cereals
B12 Cyanocobalamin	Angular cheilitis/cheilosis, sore or burning mouth, mucositis/stomatitis, hemorrhagic gingiva, halitosis, glossitis, delayed wound healing, xerostomia		Clams, tuna, salmon, beef, yogurt, milk, cheese, nutritional yeast, fortified breakfast cereals
Calcium	Incomplete calcification of teeth, increased risk for caries		Dairy products, tofu, salmon, beans, kale, broccoli, fortified breakfast cereals and orange juice
Phosphorus	Incomplete calcification of teeth, increased risk of caries if present during tooth development, increased susceptibility to periodontal disease via effects on alveolar bone		Dairy products, beef, salmon, chicken, lentils, potatoes, rice

Table provided by Jillian Kaye, MS, RDN

Sources:

Palmer, Carole A., and Linda D. Boyd. *Diet and Nutrition in Oral Health*. Pearson Prentice Hall, 2016.

"Dietary Supplement Fact Sheets." *NIH Office of Dietary Supplements*, U.S. Department of Health and Human Services, ods.od.nih.gov/factsheets/list-all/. Accessed 1 March 2022.

obstructive sleep apnea or a sleep-related breathing disorder, Nosti explained.

Nosti pointed to the well-established association between heart disease and periodontal disease, as well as links connecting

obesity, heart disease and obstructive sleep apnea, as evidence for dentists to incorporate nutritional counseling as part of a whole-body approach to dental care.

"It is unequivocally necessary for

dentists to be able to discuss these things with patients," Nosti said. "We are accustomed to discussing nutrition for avoidance of caries, but this should be extended into these other areas."