

System	Nutrient or condition	Sign
Mouth	Deficiencies of riboflavin, niacin, biotin, vitamin B ₆ , vitamin B ₁₂ , folate, iron, and zinc	Glossitis
	Deficiencies of riboflavin, niacin, biotin, vitamin B ₆ , iron	Angular stomatitis, cheilosis
	Vitamin C deficiency	Gingivitis and gingival bleeding
	Bulimia nervosa	Parotid hyperplasia, dental erosions
Eyes	Deficiency of vitamin A	Xerophthalmia: night blindness, photophobia, xerosis, Bitot's spots, corneal ulceration, scarring
	Toxicity of vitamin A	Diplopia
	Thiamin deficiency	Nystagmus, deficit of lateral gaze
	Vitamin B ₁₂ deficiency	Optic nerve atrophy, blindness
	Vitamin E deficiency	Retinitis pigmentosa, visual deficits
Skin	Copper toxicity	Kayser-Fleischer ring, sunflower cataract
	Deficiencies of vitamin B ₆ , zinc	Seborrheic-like dermatitis
	Deficiencies of vitamin C, zinc	Impaired wound healing
	Niacin deficiency	Erythematous or scaly rash, sun exposed areas arms, legs, neck (Casal's necklace)
	Vitamin C deficiency	Perifollicular petichiae, hemorrhage
	Vitamin K deficiency	Easy bruising
	Essential fatty acid deficiency	Dry flaky skin
	Protein-energy malnutrition	Depigmentation
	Carotinoid excess	Yellow or orange discoloration
	Deficiencies of iron, vitamin B ₁₂ , folate	Pallor (due to anemia)
Nails	Iron deficiency	Koilonychia (spoon-shaped nails)
	Selenium toxicity	Discolored or thickened nails
Hair	Vitamin C deficiency	Swan-neck deformity
	Protein-energy malnutrition	Discoloration, dullness, easy pluckability
	Biotin deficiency	Alopecia
	Vitamin A toxicity	Alopecia
Cardio-vascular	Thiamin deficiency	Congestive heart failure, rapid heart rate
	Selenium deficiency	Cardiomyopathy, heart failure
Gastro-intestinal	Niacin deficiency	Stomatitis, proctitis, esophagitis
Musculo-skeletal	Vitamin D deficiency	Generalized or proximal weakness, bone tenderness, fracture
Neurologic	Hypophosphatemia, hypokalemia, protein-energy malnutrition, hypomagnesemia	Weakness
	Protein-energy malnutrition	Muscle wasting
	Hypocalcemia	Carpedal spasm
	Deficiencies of vitamin B ₆ , E, thiamin; excess vitamin B ₆	Peripheral neuropathy
	Vitamin B ₁₂ deficiency	Sensory neuropathy
	Deficiencies of thiamin, vitamin B ₆ , B ₁₂ , niacin, biotin, hypophosphatemia, hypermagnesemia	Mental state changes, delirium
	Deficiencies of B ₁₂ , thiamin, niacin	Dementia

Table 26.3: Signs of nutrient deficiency and excess. From Saltzman and Mogensen (2001). Physical assessment. In: Coulston AM, Rock CL, Monsen ER (eds.) Nutrition in the Prevention and Treatment of Disease. © with permission from Elsevier.