

## Vitamin Deficiency & Overdose Chart:

Vitamin	Chemical Names	Deficiency disease	Overdose disease
A	Retinol, retinal, and 4 carotenoids (e.g. beta carotene)	<b>Night-blindness</b> , poor immunity (e.g. measles morbidity)	<b>Hypervitaminosis A</b> (birth defects, liver toxicity, angular cheilitis, hair loss, ICH)
B <sub>1</sub>	Thiamine	<b>Beriberi</b> (weakness, edema, CHF); Wernicke syndrome (confusion, ataxia, ophthalmoplegia)	Drowsiness or muscle relaxation
B <sub>2</sub>	Riboflavin	Ariboflavinosis (angular cheilitis, mouth ulcers, scrotal dermatitis)	
B <sub>3</sub>	Niacin, niacinamide	<b>Pellagra</b> (4Ds = Diarrhea, Dermatitis, Dementia, Death)	Liver damage; skin flushing; eczema; maculopathy
B <sub>5</sub>	Pantothenic acid	Paresthesia	Diarrhea; nausea & heartburn
B <sub>6</sub>	Pyridoxine, pyridoxamine, pyridoxal	Seborrheic dermatitis, atrophic glossitis; <b>peripheral neuropathy</b>	Impairment of proprioception, nerve damage
B <sub>7</sub>	Biotin	Dermatitis, enteritis	
B <sub>9</sub>	Folic acid, folinic acid	Megaloblastic anemia; <b>neural tube defects</b>	May mask symptoms of vitamin B <sub>12</sub> deficiency
B <sub>12</sub>	Cyanocobalamin, hydroxycobalamin, methylcobalamin	<b>Megaloblastic (pernicious) anemia</b> , neurologic & GI sx's	Acne-like rash
C	Ascorbic acid	<b>Scurvy</b> (lethargy, myalgia, easy-bruising, gum disease, psych Δs)	<b>Vit C megadosage</b> (diarrhea, kidney stones, iron overload)
D	Cholecalciferol	<b>Rickets</b> and Osteomalacia	<b>Hypervitaminosis D</b> → hyperCa <sup>2+</sup> (groans, moans, stones, bones, psych overtones)
E	Tocopherols, tocotrienols	Rare; <b>mild hemolytic anemia</b> in newborns; spinocerebellar ataxia	Fatigue, diarrhea, headache
K	phylloquinone, menaquinones	<b>Bleeding diathesis</b> (e.g. HDN)	Increases coagulation in patients taking warfarin.