Recommended Daily Intakes and Upper Limits for Nutrients

https://www.consumerlab.com/resources/RDA_AI_UL_vitamins_minerals/recommended_intakes/

What is the right amount of a vitamin or mineral to get each day? To help you, below are recommended intake levels for selected nutrients based on RDAs (Recommended Dietary Allowances) from the Institute of Medicine (IOM) of the National Academy of Sciences. In cases where no RDA is established, the IOM has developed AIs (Adequate Intake) levels, which are shown.

Is it possible to get too much of nutrient? Yes. For this reason, ULs (Upper Tolerable Intake Levels) are also set by the IOM and are provided below. There is an increased risk of an adverse event when exceeding the UL - although sometimes these risks are acceptable when the nutrient is used in medical treatment.

Why do DV (Daily Value) figures on food and supplement labels not coincide with the RDAs and AIs? The DVs are set by the FDA, while the RDAs are set by the IOM (as mentioned above). From 1968 until July 2016, the DVs often did not necessarily reflect the latest intake recommendations from the IOM, nor did they carefully distinguish needs by age and gender. In July 2016, the FDA updated many of the DVs, more closely reflecting the RDAs and adding DVs specifically for infants, children 1 to 3 years of age, and pregnant/lactating women. The DVs are shown in green at the bottom of each table below. (Note: The FDA gave large manufacturers until July 2018 and small manufacturers until July 2019 to update their labels with the new DVs. Until then, the old DVs may still appear. I have not included FDA's DVs in this table.)

ConsumerLab.com has full reports on each of these nutrients which include independent tests and reviews of brands of vitamin and supplement products. Also, see our reports on Multivitamins, Probiotics, and other nutrients and popular supplements.

Adult Nutrient Requirements (not including the gov't FDA DVs)

RDA: Recommended Daily Dietary Allowances UL: Upper Tolerable Intake Levels

	Nutrients: Vitamins	adult female RDA	adult male RDA		ULs: Upper Tolerable Intake Levels
1	Vitamin A	2300 IU	3000 IU	2	10,000 IU
	B-Vitamin B-6	1.3-1.5 mg	1.3-1.7 mg		100 mg
3	B-Vitamin B-9 Folate	400 – 600 mcg (DFE)[7]		4	1000 mcg (DFE)[7]
	B-Vitamin B-12	2.4 mcg	2.4 mcg		UL not established
3	B-Vit Biotin	30 mcg	30 mcg		UL not established
3	B-Vit Choline	425 mg	550 mg		3.5 g
8	B-Vit Niacin	14 mg	16 mg		35 mg
3	B-Vit Pantothenic Acid	5 mg	5 mg		UL not established
	B-Vit Riboflavin	1.1 mg	1.3 mg	6	UL not established
	B-Vit Thiamin	1.1 mg	1.2 mg		UL not established
	Vitamin C	75 mg	90 mg		2000 mg
5	Vitamin D	600 IU (51-70 yrs), 800 IU (71+)			4000 IU
	Vitamin E	33 IU (synthetic) 22 IU (natural)			1100 IU (s), 1500 IU (n)
3	Vitamin K	90 mcg	120 mcg		UL not established
	Nutrients: Minerals	**female**	**male**		**ULs: Maximum dosage**
	Calcium	1200 mg 50+ yrs	1000 <70		2500 mg - 2000 mg 50+ years
3	Chromium	20 mcg 50+ yrs	30 mcg 50+		UL not established
	Copper	900 mcg	900 mcg		10,000 mcg
3	Flouride	3 mg	4 mg		10 mg
	Iodine	150 mcg	150 mcg		1100 mcg
	Iron	8 mg 51+ yrs	8 mg		45 mg
	Magnesium	320 mg 30+	420 mg 30+	2	350 mg
3	Manganese	1.8 mg	2.3 mg		11 mg
	Molybdenum	45 mcg	45 mcg		2000 mcg
	Phosphorus	700 mcg	700 mcg		4000 mg (3000 mg 70+)
3	Potassium	4700 mg (4.7 g)	4700 mg		UL not established
	Selenium	55 mcg	55 mcg		400 mcg
	Zinc	8 mg	11 mg		40 mg

Sources: recommended intake levels for selected nutrients are based on RDAs (Recommended Dietary Allowances) from the Institute of Medicine (IOM) of the National Academy of Sciences. In cases where no RDA is established, the IOM has developed AIs (Adequate Intake) levels.

Abbreviations: 1 g (gram) = 1000 mg (milligram) = 1,000,000 mcg (micrograms)
mg (milligram) - 1000 milligrams = 1 gram
mcg (microgram) - 1000 micrograms = 1 milligram

Notes:

1 Figures for vitamin A or E may also be expressed in mcg rather than IU (International Units). The mcg equivalent of one IU of vitamin A depends on the form, such as retinol, retinyl acetate, or retinyl palmitate. Most labels show value in IU (International Units). For I.U. to mg equivalents per source (ingredients) of vitamins, see http://www.rfaregulatoryaffairs.com/images/pdfs/vitamin_conversion.pdf

Vitamin B12: Because 10% to 30% of older people may malabsorb food bound vitamin B-12, it is advisable for those older than 50 years to meet their RDA mainly by consuming foods with vitamin B12 or a supplement containing vitamin B12.

2 UL for vitamin A applies only to retinol forms, not beta-carotene.

UL for vitamin E, niacin, and folate apply to synthetic forms obtained from supplements, fortified foods, or a combination of the two.

UL for magnesium represent intake from a pharmacologic agent only and do not include intake from food and water.

3 RDA not established. Figures based on AI.

Folate from supplements and fortified foods is absorbed about twice as well as from regular food if taken on an empty stomach and about 170% as well if taken with food. If using supplements or fortified foods containing synthetic folate (such as folic acid) as your source, then only half the listed amount is required -- unless already labeled in DFE (Dietary Folate Equivalent).

4 UL for folate applies only to supplements and fortified foods, not regular foods.

5 Figures may also be expressed in IU (International Units). (1 mcg =40 IU) but labels are now required to show values as mcg.

6 RAE = Retinol activity equivalents; 1 microgram RAE = 1 microgram retinol, 2 microgram supplemental β- carotene, 12 micrograms β-carotene, or 24 micrograms α-carotene, or 24 micrograms β-cryptoxanthin(FDA 2016)

7 DFE = Dietary Folate Equivalent; 1 DFE = 1 mcg naturally-occurring folate = 0.6 mcg folic acid taken with food = 0.5 mcg folic acid taken on an empty stomach. Until all labels are updated to reflect the latest rules (which may be as late as 2019), be aware that a product listing 400 mcg of synthetic folate, such as folic acid, actually provides about 667 mcg to 800 mcg DFE, or around twice the adult requirement and close to the adult upper limit (UL). Old labeling will show this to be "100%" of the DV, while it is actually closer to 167% to 200% of the DV. (The FDA folate DV is also 400 mcg.)