Recommended Daily Intakes and Upper Limits for Nutrients

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 do not necessarily reflect the latest intake recommendations from the IOM, nor do they carefully distinguish needs by age and gender. Although FDA has noted its intention to update the DVs, it has not done so since 1968.

ConsumerLab.com has full reports on each of these nutrients which include independent tests and reviews of brands of vitamin and supplement products. You can access these ConsumerLab.com (CL) reports using the links below. Also, see our reports on Multivitamins, and reports on other nutrients and popular supplements.

Click on a Nutrient

Vitamins	B Vitamins	B Vitamins (cont'd)	Minerals	Minerals (cont'd)	Minerals (cont'd)
Vitamin A	Biotin	Riboflavin	Calcium	Iron	Potassium
Vitamin C	Choline	Thiamin	Chromium	Magnesium	Selenium
Vitamin D	Folic Acid	Vitamin B-6	Copper	Molybdenum	Zinc
Vitamin E	Niacin	Vitamin B-12	Fluoride	Manganese	
Vitamin K	Pantothenic Acid		Iodine	Phosphorus	

Recommended Daily Intakes and Upper Limits for Common Nutrients

Age	Vitamin A See Report		Folic Acid (Vitamin B-9) See Report		Vitamin C See Report		Vitamin D See Report		Calcium See Report		Iron See Report	
	RDA[1]	Upper Limit[2]	RDA[3]	Upper Limit[4]	RDA	Upper Limit	RDA[5]	Upper Limit	RDA	Upper Limit	RDA	Upper Limit
1 - 3	1,000 IU	2,000 IU	150 mcg	300 mcg	15 mg	400 mg	600 IU	2,500 IU	700 mg	2,500 mg	7 mg	40 mg
4 - 8	1,300 IU	3,000 IU	200 mcg	400 mcg	25 mg	650 mg	600 IU	3,000 IU	1,000 mg	2,500 mg	10 mg	40 mg
9 - 13	2,000 IU	5,666 IU	300 mcg	600 mcg	45 mg	1,200 mg	600 IU	4,000 IU	1,300 mg	2,500 mg	8 mg	40 mg
14 - 18	1,000 IU	9,333 IU	400 mcg	800 mcg	75 mg (m) 65 mg (f) 80 mg (preg) 115 mg (lact)	1,800 mg	600 IU	4,000 IU	1,300 mg	2,500 mg	11 mg (m) 15 mg (f) 27 mg (preg) 10 mg (lact)	45 mg
Adult	3,000 IU (m) 2,300 IU (f)	10,000 IU	400 mcg 600 mcg (preg)/ 500 mcg (lact)	1,000 mcg	90 (m) 75 mg (f) 85 mg (preg) 120 (lact)	2,000 mg	600 IU (51-70 years) 800 IU (71+ years)	4,000 IU	1,000 mg (to 50 years) 1,200 mg (51+ years)	2,500 mg	8 mg (m) 18 mg (f 19 to 50 years) 8 mg (f 51+ years) 27 mg (preg) 9 mg (lact)	45 mg

Source: Dietary Reference Intakes Tables and Application from Institute of Medicine of the National Academy of Sciences, November 30 2010 (Figures for infants also available.)
Abbreviations: f - female; lact – lactating (breast feeding) female; m – male; preg – pregnant female; mg – milligram (1,000 milligrams = 1 gram); mcg – microgram (1,000 micrograms = 1 milligram)
Notes:
[1] Figures for vitamin A 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).

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

[3] Folic acid from supplements and fortified foods is absorbed twice as well as from regular food. If using supplements or fortified foods as your source, then only half the listed amount is required.

[4] UL for folic applies only to supplements and fortified foods, not regular foods.

[5] Figures may also be expressed in mcg (1 mcg =40 IU) but most labels show value in IU (International Units).

Recommended Daily Intakes and Upper Limits for Additional Nutrients (Continued)

Age	Vitamin E See Report		Vitamin K See Report		Thiamin See Report		Riboflavin See Report		Niacin See Report		Vitamin B6 See Report	
	RDA[1] S = Synthetic N = Natural	Upper Limit[2]	Ade-quate Intake[3]	Upper Limit[4]	RDA	Upper Limit[5]	RDA	Upper Limit[6]	RDA	Upper Limit	RDA	Upper Limit
1 - 3	13 IU (S) 9 IU (N)	220 IU (S) 300 IU (N)	30 mcg	NE	0.5 mg	NE	0.5 mg	NE	6 mg	10 mg	0.5 mg	30 mg
4 - 8	16 IU (S) 10 IU (N)	330 IU (S) 450 IU (N)	55 mcg	NE	0.6 mg	NE	0.6 mg	NE	8 mg	15 mg	0.6 mg	40 mg
9 - 13	24 IU (S) 16 IU (N)	660 IU (S) 900 IU (N)	60 mcg	NE	0.9 mg	NE	0.9 mg	NE	12 mg	20 mg	1.0 mg	60 mg
14 - 18	33 IU (S) 22 IU (N)	880 IU (S) 1,200 IU (N)	75 mcg	NE	1.2 mg (m) 1 mg (f)	NE	1.3 mg (m) 1 mg (f)	NE	16 mg (m) 14 mg (f)	30 mg	1.3 mg (m) 1.2 mg (f)	80 mg
Adult	33 IU (S) 22 IU (N)	1,100 IU (S) 1,500 IU (N)	120 mcg (m) 90 mcg (f)	NE	1.2 mg (m) 1.1 mg (f) 1.4 mg (preg and lact)	NE	1.3 mg (m) 1.1 mg (f) 1.4 mg (preg) 1.6 mg (lact)	NE	16 mg (m) 14 mg (f) 18 mg (preg) 17 mg (lact)	35 mg	1.3 mg (m 19 to 50 years) 1.7 mg (m 51+ years) 1.3 mg (f 19 to 50 years) 1.5 mg (f 51+ years) 1.9 mg (preg) 2.0 mg (lact)	100 mg

Source: Dietary Reference Intakes Tables and Application from Institute of Medicine of the National Academy of Sciences, November 30 2010 (Figures for infants also available.)

Abbreviations: NE – not established; f - female; lact – lactating (breast feeding) female; m – male; preg – pregnant female; mg – milligram (1,000 milligrams = 1 gram); mcg – microgram (1,000 micrograms = 1 milligram)

Notes:

[1] Vitamin E amounts may also be expressed in milligrams (mg). For those amounts, see the Vitamin E Report.

[2] The ULs for vitamin E, niacin, and folate apply to synthetic forms obtained from supplements, fortified foods, or a combination of the two.

[3] RDA not established for vitamin K. Figures based on AI.

[4] ULs are not established for vitamin K.

[5] ULs are not established for thiamin.

[6] ULs are not established for riboflavin.

Recommended Daily Intakes and Upper Limits for Additional Nutrients (Continued)

Age	Vitamin B-12 See Report		Pantothenic Acid See Report		Biotin See Report		Choline		Chromium See Report		Copper	
	RDA	Upper Limit[2]	Ade-quate Intake[3]	Upper Limit[4]	Ade-quate Intake[5]	Upper Limit[6]	Ade-quate Intake[7]	Upper Limit	Ade-quate Intake[8]	Upper Limit[9]	RDA	Upper Limit
1 - 3	0.9 mcg	NE	2 mg	NE	8 mcg	NE	200 mg	1 g	11 mcg	NE	340 mcg	1,000 mcg
4 - 8	1.2 mcg	NE	3 mg	NE	12 mcg	NE	250 mg	1 g	15 mcg	NE	440 mcg	3,000 mcg
9 - 13	1.8 mcg	NE	4 mg	NE	20 mcg	NE	375 mg	2 g	25 mcg (m) 21 mcg (f)	NE	700 mcg	5,000 mcg
14 - 18	2.4 mcg	NE	5 mg	NE	25 mcg	NE	550 mg (m) 400 mg (f)	3 g	35 mcg (m) 24 mcg (f) 29 mcg (preg) 44 mcg (lact)	NE	890 mcg 1,000 mcg (preg) 1,300 mcg	8,000 mcg

											(lact)	
Adult	2.4 mcg[1] 2.6 mcg (preg) 2.8 mcg(lact)	NE	5 mg 6 mg (preg) 7 mg (lact)	NE	30 mcg 35 mcg (lact)	NE	550 mg (m) 425 mg (f) 450 mg (preg) 550 mg (lact)	3.5 g	35 mcg (m 19 to 50 years) 25 mcg (f 19 to 50 years) 30 mcg (m 50+ years) 20 mcg (f 50+ years) 30 mcg (preg) 45 mcg (lact)	NE	900 mcg 1,000 mcg (preg) 1,300 mcg (lact)	10,000 mcg

Source: Dietary Reference Intakes Tables and Application from Institute of Medicine of the National Academy of Sciences, November 30 2010 (Figures for infants also available.)
Abbreviations: NE – not established; f - female; lact – lactating (breast feeding) female; m – male; preg – pregnant female; mg – milligram (1,000 milligrams = 1 gram); mcg – microgram (1,000 micrograms = 1 milligram)
Notes:
[1] 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] ULs are not established for vitamin B-12.
[3] RDA not established for pantothenic acid
[4] ULs are not established for pantothenic acid.
[5] RDA not established for biotin
[6] ULs not established for biotin.
[7] RDA not established for choline. Choline is technically not a vitamin, but is often listed with B vitamins.
[8] RDA not established for chromium.
[9] ULs not established for chromium.

Recommended Daily Intakes and Upper Limits for Additional Nutrients (Continued)

Age	Fluoride		Iodine		Magnesium See Report		Manganese		Molybdenum		Phosphorus	
	Ade-quate Intake[1]	Upper Limit	RDA	Upper Limit	RDA	Upper Limit[2]	Ade-quate Intake[3]	Upper Limit	RDA	Upper Limit	RDA	Upper Limit
1 - 3	0.7 mg	1.3 mg	90 mcg	200 mcg	80 mg	65 mg	1.2 mg	2 mg	17 mcg	300 mcg	460 mg	3 g
4 - 8	1 mg	2.2 mg	90 mcg	300 mcg	130 mg	110 mg	1.5 mg	3 mg	22 mcg	600 mcg	500 mg	3 g
9 - 13	2 mg	10 mg	120 mcg	600 mcg	240 mg	350 mg	1.9 mg (m) 1.6 mg (f)	6 mg	34 mcg	1,100 mcg	1,250 mg	4 g
14 - 18	3 mg	10 mg	150 mcg	900 mcg	410 mg (m) 360 mg (f) 400 mg (preg) 360 mg (lact)	350 mg	2.2 mg (m) 1.6 mg (f)	9 mg	43 mcg	1,700 mcg	1,250 mg	4 g 3.5 g (preg) 4 g (lact)
Adult	4 mg (m) 3 mg (f)	10 mg	150 mcg 220 mcg (preg) 290 mcg (lact)	1,100 mcg	400 mg (m 19 to 30 years) 420 mg (m 30+ years) 310 mg (f 19 to 30 years) 350 mg (preg 19 to 30 years) 310 mg (lact 19 to 30 years) 320 mg (f 30+ years) 360 mg (preg 30+ years) 320 mg (lact 30+ years)	350 mg	2.3 mg (m) 1.8 mg (f) 2 mg (preg) 2.6 mg (lact)	11 mg	45 mcg 50 mcg (preg and lact)	2,000 mcg	700 mg	4 g (19 to 70 years) 3 g (70+ years)

Source: Dietary Reference Intakes Tables and Application from Institute of Medicine of the National Academy of Sciences, November 30 2010 (Figures for infants also available.)
Abbreviations: f - female; lact – lactating (breast feeding) female; m – male; preg – pregnant female; mg – milligram (1,000 milligrams = 1 gram); mcg – microgram (1,000 micrograms = 1 milligram)
Notes:
[1] RDA not established for fluoride
[2] The UL's for magnesium represent intake from a pharmacologic agent only and do not include intake from food and water.
[3] RDA not established for manganese.

Recommended Daily Intakes and Upper Limits for Additional Nutrients (Continued)

Age	Potassium See Report		Selenium See Report		Zinc See Report	
	Adequate Intake[1]	Upper Limit[2]	RDA	Upper Limit	RDA	Upper Limit
1 - 3	3.0 g	NE	20 mcg	90 mcg	3 mg	7 mg
4 - 8	3.8 g	NE	30 mcg	150 mcg	5 mg	12 mg
9 - 13	4.5 g	NE	40 mcg	280 mcg	8 mg	23 mg
14 - 18	4.7 g	NE	55 mcg	400 mcg	11 mg (m) 9 mg (f) 12 mg (preg) 13 mg (lact)	34 mg
Adult	4.7 g 5.1 g (lact)	NE	55 mcg 60 mcg (preg) 70 mcg (lact)	400 mcg	11 mg (m) 8 mg (f) 11 mg (preg) 12 mg (lact)	40 mg

Source: Dietary Reference Intakes Tables and Application from Institute of Medicine of the National Academy of Sciences, November 30 2010 (Figures for infants also available.)
Abbreviations: NE – not established; f - female; lact – lactating (breast feeding) female; m – male; preg – pregnant female; mg – milligram (1,000 milligrams = 1 gram); mcg – microgram (1,000 micrograms = 1 milligram)
Notes:
[1] RDA not established for potassium.
[2] ULs are not established for potassium.