

FOOD AND NUTRITION BOARD, INSTITUTE OF MEDICINE—  
 NATIONAL ACADEMY OF SCIENCES  
 DIETARY REFERENCE INTAKES:  
 RECOMMENDED INTAKES FOR INDIVIDUALS

Life Stage Group	Calcium (mg/d)	Phosphorus (mg/d)	Magnesium (mg/d)	Vitamin D (µg/d) <sup>a,b</sup>	Fluoride (mg/d)	Thiamin (mg/d)
Infants						
0–6 mo	210*	100*	30*	5*	0.01*	0.2*
7–12 mo	270*	275*	75*	5*	0.5*	0.3*
Children						
1–3 y	500*	460	80	5*	0.7*	0.5
4–8 y	800*	500	130	5*	1*	0.6
Males						
9–13 y	1,300*	1,250	240	5*	2*	0.9
14–18 y	1,300*	1,250	410	5*	3*	1.2
19–30 y	1,000*	700	400	5*	4*	1.2
31–50 y	1,000*	700	420	5*	4*	1.2
51–70 y	1,200*	700	420	10*	4*	1.2
> 70 y	1,200*	700	420	15*	4*	1.2
Females						
9–13 y	1,300*	1,250	240	5*	2*	0.9
14–18 y	1,300*	1,250	360	5*	3*	1.0
19–30 y	1,000*	700	310	5*	3*	1.1
31–50 y	1,000*	700	320	5*	3*	1.1
51–70 y	1,200*	700	320	10*	3*	1.1
> 70 y	1,200*	700	320	15*	3*	1.1
Pregnancy						
≤ 18 y	1,300*	1,250	400	5*	3*	1.4
19–30 y	1,000*	700	350	5*	3*	1.4
31–50 y	1,000*	700	360	5*	3*	1.4
Lactation						
≤ 18 y	1,300*	1,250	360	5*	3*	1.4
19–30 y	1,000*	700	310	5*	3*	1.4
31–50 y	1,000*	700	320	5*	3*	1.4

NOTE: This table presents Recommended Dietary Allowances (RDAs) in **bold type** and Adequate Intakes (AIs) in ordinary type followed by an asterisk (\*). RDAs and AIs may both be used as goals for individual intake. RDAs are set to meet the needs of almost all (97 to 98 percent) individuals in a group. For healthy breastfed infants, the AI is the mean intake. The AI for other life-stage and gender groups is believed to cover needs of all individuals in the group, but lack of data or uncertainty in the data prevent being able to specify with confidence the percentage of individuals covered by this intake.

<sup>a</sup> As calciferol. 1 µg calciferol = 40 IU vitamin D.

<sup>b</sup> In the absence of adequate exposure to sunlight.

<sup>c</sup> As niacin equivalents (NE). 1 mg of niacin = 60 mg of tryptophan; 0–6 months = preformed niacin (not NE).

Riboflavin (mg/d)	Niacin (mg/d) <sup>c</sup>	Vitamin B <sub>6</sub> (mg/d)	Folate (µg/d) <sup>d</sup>	Vitamin B <sub>12</sub> (µg/d)	Pantothenic Acid (mg/d)	Biotin (µg/d)
0.3*	2*	0.1*	65*	0.4*	1.7*	5*
0.4*	4*	0.3*	80*	0.5*	1.8*	6*
0.5	6	0.5	150	0.9	2*	8*
0.6	8	0.6	200	1.2	3*	12*
0.9	12	1.0	300	1.8	4*	20*
1.3	16	1.3	400	2.4	5*	25*
1.3	16	1.3	400	2.4	5*	30*
1.3	16	1.3	400	2.4	5*	30*
1.3	16	1.7	400	2.4 <sup>g</sup>	5*	30*
1.3	16	1.7	400	2.4 <sup>g</sup>	5*	30*
0.9	12	1.0	300	1.8	4*	20*
1.0	14	1.2	400 <sup>h</sup>	2.4	5*	25*
1.1	14	1.3	400 <sup>h</sup>	2.4	5*	30*
1.1	14	1.3	400 <sup>h</sup>	2.4	5*	30*
1.1	14	1.5	400	2.4 <sup>g</sup>	5*	30*
1.1	14	1.5	400	2.4 <sup>g</sup>	5*	30*
1.4	18	1.9	600 <sup>i</sup>	2.6	6*	30*
1.4	18	1.9	600 <sup>i</sup>	2.6	6*	30*
1.4	18	1.9	600 <sup>i</sup>	2.6	6*	30*
1.6	17	2.0	500	2.8	7*	35*
1.6	17	2.0	500	2.8	7*	35*
1.6	17	2.0	500	2.8	7*	35*

<sup>d</sup> As dietary folate equivalents (DFE). 1 DFE = 1 µg food folate = 0.6 µg of folic acid from fortified food or as a supplement consumed with food = 0.5 µg of a supplement taken on an empty stomach.

<sup>e</sup> Although AIs have been set for choline, there are few data to assess whether a dietary supply of choline is needed at all stages of the life cycle, and it may be that the choline requirement can be met by endogenous synthesis at some of these stages.

<sup>f</sup> As α-tocopherol. α-Tocopherol includes *RRR*-α-tocopherol, the only form of α-tocopherol that occurs naturally in foods, and the *2R*-stereoisomeric forms of α-tocopherol (*RRR*-, *RSR*-, *RRS*-, and *RSS*-α-tocopherol) that occur in fortified foods and supplements. It does not include the *2S*-stereoisomeric forms of α-tocopherol (*SRR*-, *SSR*-, *SRS*-, and *SSS*-α-tocopherol), also found in fortified foods and supplements.

Choline <sup>e</sup> (mg/d)	Vitamin C (mg/d)	Vitamin E <sup>f</sup> (mg/d)	Selenium (µg/d)	Life Stage Group
125*	40*	4*	15*	Infants
150*	50*	5*	20*	0–6 mo
				7–12 mo
200*	15	6	20	Children
250*	25	7	30	1–3 y
				4–8 y
				Males
375*	45	11	40	9–13 y
550*	75	15	55	14–18 y
550*	90	15	55	19–30 y
550*	90	15	55	31–50 y
550*	90	15	55	51–70 y
550*	90	15	55	> 70 y
				Females
375*	45	11	40	9–13 y
400*	65	15	55	14–18 y
425*	75	15	55	19–30 y
425*	75	15	55	31–50 y
425*	75	15	55	51–70 y
425*	75	15	55	> 70 y
				Pregnancy
450*	80	15	60	≤ 18 y
450*	85	15	60	19–30 y
450*	85	15	60	31–50 y
				Lactation
550*	115	19	70	≤ 18 y
550*	120	19	70	19–30 y
550*	120	19	70	31–50 y

<sup>g</sup> Because 10 to 30 percent of older people may malabsorb food-bound B<sub>12</sub>, it is advisable for those older than 50 years to meet their RDA mainly by consuming foods fortified with B<sub>12</sub> or a supplement containing B<sub>12</sub>.

<sup>h</sup> In view of evidence linking folate intake with neural tube defects in the fetus, it is recommended that all women capable of becoming pregnant consume 400 µg from supplements or fortified foods in addition to intake of food folate from a varied diet.

<sup>i</sup> It is assumed that women will continue consuming 400 µg from supplements or fortified food until their pregnancy is confirmed and they enter prenatal care, which ordinarily occurs after the end of the periconceptual period—the critical time for formation of the neural tube.