Every Vitamin Page (.pdf version)

All Vitamins and Pseudo-Vitamins

http://www.lifeinyouryears.net/everyvitamin.html

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Vitamin A
Chemical Names- Retinol, Beta Carotene (pro-vitamin A)
Deficiency- Night blindness
RDA- 5,000 IU
Optimal intake- 2,000-5,000 IU
Good Sources- Liver, carrots, spinach
Discussion- Vitamin A is fat soluble, and therefore can be toxic in large amounts. Taking over 25,000 IU of Retinol a day can lead to toxic buildup. Beta-Carotene is an antioxidant, and non-toxic. Synthetic Beta-Carotene (the kind sold in supplement stores) has been shown ineffective in preventing cancer in humans, and seems to be harmful to smokers. Consuming over the RDA of Vitamin A is associated with a shorter lifespan.

Vitamin B1
Chemical Names- Thiamine
Deficiency- Beriberi
RDA- 1.5 mg
Optimal Intake- 5-15 mg
Good Sources- Brewer's yeast, peanuts, milk, rice
Discussion- Thiamine is relatively safe.

Vitamin B2
Chemical Names- Riboflavin
Deficiency- Lesions on mouth, lips, skin, etc.
RDA- 1.7 mg
Optimal Intake- 5-20 mg
Good Sources- Milk, cheese, leafy vegetables
Discussion- Riboflavin is a mild antioxidant. Its bright yellow color colors urine after it is taken. Also known as Vitamin G

Vitamin B3
Chemical Names- Niacin, Niacinamide, Nicotinic Acid
Deficiency- Pellagra
RDA- 20 mg
Optimal Intake- 50-500 mg
Good Sources- Lean meat, whole wheat, brewer's yeast
Discussion- Niacin in higher doses results in a "flush" reaction, while Niacinamide is flush-free. Niacinamide does not have anti-cholesterol properties though. Also known as Vitamin PP for "pellagra-preventative"
**Vitamin B4**
**Chemical Names** - Adenine
**Deficiency** - Muscular weakness (in rats and chicks)
**Good Sources** - Widespread in animal and plant tissues
**Discussion** - Adenine is a purine base of nucleic acids. Its status as a human vitamin is doubtful.

**Vitamin B5**
**Chemical Names** - Pantothenic Acid, Panthenol, Pantethine, (Calcium) Pantothenate
**Deficiency** - Hypoglycemia, ulcers, skin disorders.
**RDA** - 10 mg
**Optimal Intake** - 15-500 mg
**Good Sources** - Meat, whole grains, leafy vegetables
**Discussion** - Studies with rats by Dr. Roger Williams showed that Pantothenic Acid may be highly beneficial in fighting the effects of stress.

**Vitamin B6**
**Chemical Names** - Pyridoxine
**Deficiency** - Anemia, dermatitis, glossitis
**RDA** - 2 mg
**Optimal Intake** - 10-100 mg
**Good Sources** - Brewer's yeast, soy beans, wheat germ
**Discussion** - As a methylating agent, B6 has potential to reduce blood levels of homocysteine, possibly reducing the risk of heart disease. Amounts in excess of 200 mg/day might lead to toxicity, expressed in nerve problems.

**Vitamin B7**
**Deficiency** - Digestive disorders in pigeons.
**Good Sources** - Rice polish
**Discussion** - Also known as Vitamin I. See also Biotin which some have called "Vitamin B7."

**Vitamin B8**
**Chemical Names** - 5'-Adenylic Acid, Ergadenylic Acid, Adenosine Monophosphate
**Deficiency** - Decreases RNA, ADP, and ATP synthesis, inhibits breakdown of food into energy, reduces hormone function.
**Good Sources** - Yeast
**Discussion** - This nucleotide is still listed as a "Nutrient" by the Merck Index. Many sources now claim this substance is indeed an essential vitamin.

**Vitamin B9**
**Chemical Names** - Mixture of multiple B Vitamins
**Discussion** - See Folic Acid. Some later researchers used Vitamin B9 to classify Folic Acid
**Vitamin B10**
Chemical Names- Pteroylmonoglutamic acid mixed with other B vitamins
Deficiency- Depressed growth and feathering in chicks.
Discussion- Also known as Vitamin R and "Factor R."

**Vitamin B11**
Chemical Names- Pteryl-hepta-glutamic acid (?)
Deficiency- Depressed growth and feathering in chicks
Discussion- Also called Vitamin S and "Factor S."

**Vitamin B12**
Chemical Names- Cobalamin, Cyanocobalamin, Methylcobalamin
Deficiency- Pernicious Anemia
RDA- 6 mcg
Optimal Intake- 100-1,000 mcg
Good Sources- Meat products, cheese
Discussion- B12 reduces homocysteine levels in the blood, thus it possibly has a role in heart disease prevention. B12 needs "intrinsic factor" to be absorbed, and some stomachs do not produce enough, hence the need for injections or sublingual absorption.

**Vitamin B13**
Chemical Names- Orotic Acid, Pyrimidinecarboxylic Acid
Deficiency- Possibly Multiple Sclerosis
Good Sources- Whey, root vegetables
Discussion- Orotic Acid, as a "mineral transporter" is available in the form of Calcium Orotate, Magnesium Orotate, etc. Its vitamin status is unlikely. By association, Aspartic Acid, and Colamine Phosphate (Calcium AEP) are in the same class of "mineral transporters," and might have some claim as "B13."

**Vitamin B14**
Deficiency- Anemia
Good Sources- Yeast, grains, legumes, organ meats, wine.
Discussion- Little is known about this; it might be similar to B10 and B11. Perhaps a substance isolated from wine that prevents cancer.

**Vitamin B15**
Chemical Names- Pangamic Acid, Pangametin, Calcium Pangamate; Some B15 tablets contain either Dimethylglycine, diisopropylamine dichloroacetate, or other chemicals
Optimal Intake- 50-150 mg
Good Sources- Yeast, apricot seeds, corn
Discussion- The chemical identity of B15, Pangamic Acid, is disputed. It is believed to be Dimethylglycine (DMG) and Gluconic Acid, although other B15 mixtures vary. If DMG is responsible for the benefits often attributed to Pangamic Acid, then Trimethylglycine may be considered to have "B15" activity. Both DMG and TMG act as methylators and reduce homocysteine in the blood. Vitamin status is unlikely. "Discovered" along with laetrile, by Ernst Krebs, Sr., MD and Ernst Krebs, Jr.
Vitamin B16*
Discussion: Perhaps studied in Russia, but vitamin status never fully developed.

Vitamin B17*
Chemical Names: Amygdalin, Prunasin (d-mandelonitrile glucoside), Dhurrin, Linamarin, Lotaustralin, Sambunigrin (l-mandelonitrile glucoside), Prulaurasin (dl-mandelonitrile glucoside), Triglochinin, Linustatin, Neolinustatin, Laetrile, oratrile.
Deficiency: Possible increased incidence of cancer
Optimal Intake: 25-100 mg
Good Sources: Apricot seeds, buckwheat, millet, lima beans, flax
Discussion: Supposed anti-cancer substances, Vitamin B17 is a group of cyanide producing sugars known as "cyanogenic glycosides" or "nitrilosides" that release cyanide when acted upon by the enzyme beta-glucosidase (emulsion). Often taken in concentrated form of amygdalin, one particular glycoside, but soon after mixed with water, the chemical is subject to ephemerization, so quality is poor when stored in water. Laetrile is a patented formula that contains amygdalin, and is no longer available commercially. Rodent research suggests anti-metastatic effect at high injectable doses. Is an unproven therapy for cancer. Vitamin status unlikely.

Vitamin B22*
Discussion: Listed in Linda Clark's “Know Your Nutrition.” Otherwise, unknown. Aloe Vera is a possible source.

Vitamin Bc: See Folic Acid

Vitamin Bh: See Inositol

Vitamin Bp: See Choline

Vitamin Bt*
Chemical Names: L-Carnitine, Acetyl L-Carnitine
Optimal Intake: 500 mg
Good Sources: Chicken, red meats, fish
Discussion: L-Carnitine is an amino acid, and not essential as a protein or vitamin. It has been promoted as a treatment for heart disease. Its acetylated form has been promoted as good for brain health.

Vitamin Bx: See PABA

Vitamin Bw: See Biotin
**Folic Acid**
Chemical Names- Folacin, Pteroylglutamic Acid, Folate, Folinic Acid
Deficiency- Nutritional macrocytic anemia
RDA- 400 mcg
Optimal Intake- 400-1,000 mcg
Good Sources- Green leafy vegetables, soy beans, oranges
Discussion- Folic Acid has potential to lower blood levels of homocysteine, perhaps having a role in reducing heart disease. Folic Acid is also a key factor in the prevention of many birth defects. Also known as **Vitamin M**

**Biotin**
Deficiency- Eczema, improper fat metabolism
RDA- 300 mcg
Optimal Intake- 300-10,000 mcg
Good Sources- Brewer's yeast, soy beans, egg yolk
Discussion- A Biotin deficiency is rare. Unless raw egg whites are eaten often (they contain a substance that binds Biotin), we get ample Biotin. Recently high-dose Biotin has been found to benefit Diabetes. Also known as Coenzyme R, Factor W, Factor S, Factor H, Factor X, and **Vitamin H**

**Choline**
Deficiency- Liver problems
AI (Adequate Intake)- 425 to 550 mg
Optimal Intake- 100-1000 mg
Good Sources- Brewer's yeast, lecithin, wheat germ
Discussion- Choline is a vitamin, defined strictly, because it can be made by the human body. However, Choline is considered an essential nutrient because it is often needed in amounts greater than the body is able to synthesize. Choline does not have an RDA, but the Institute of Medicine established an "adequate intake" for it.

**Inositol**
Deficiency- possibly Eczema
Optimal Intake- 100-1,000 mg
Good Sources- Brewer's yeast, grapefruits, lecithin, peanuts
Discussion- Inositol is present in many B-Complex formulas, and is probably best thought of as a B-Complex "factor," appearing with the B vitamins in many foods and supplements, rather than an actual vitamin. It is a component of Lecithin with Choline.

**PABA**
Chemical Names- Para-Aminobenzoic Acid
Deficiency- Graying of hair, eczema in animals
Optimal Intake- 10-100 mg
Good Sources- Brewer's yeast, wheat germ, sunflower seeds
Discussion- PABA has been used topically as a sunscreen, although it is rarely used now. Like Choline and Inositol, it still appears in B-Complex formulas, despite not actually being essential for humans. It is an essential nutrient for some bacteria.
**PQQ***
Chemical Names- Pyrroloquinoline Quinone  
Deficiency- fertility issues in mice  
Optimal intake- unknown  
Good Sources- Natto, parsley, green tea, green peppers, papaya, and kiwi  
Discussion- Some Japanese researchers at the Institute of Physical and Chemical Research in Tokyo believe that PQQ (discovered in 1979) may actually be a vitamin, within the B-Complex. If so, it is the first new vitamin to be discovered in over 55 years!

**Vitamin C**
Chemical Names- Ascorbic Acid, Ascorbyl Palmitate  
Deficiency- Scurvy  
RDA- 60 mg  
Optimal Intake- 250-1,000 mg  
Good Sources- Citrus fruits, strawberries, broccoli  
Discussion- Vitamin C is an antioxidant, and it is claimed to have a positive effect against cancer, infections, and other health disorders. It is generally non-toxic.

**Vitamin D**
Chemical Names- Ergocalciferol, Calciferol, Cholecalciferol  
Deficiency- Rickets  
RDA- 400 IU  
Optimal Intake- 400-1000 IU  
Good Sources- Milk, fatty fish, sunlight  
Discussion- Vitamin D is essential for bone health, and shows promise in the prevention and treatment of cancer and multiple sclerosis. Taking amounts over the RDA may lead to calcium deposits in the brain; generally doses up to 10,000 IU per day are deemed safe.

**Vitamin E**
Chemical Names- α-tocopherol, α-tocopheryl  
Deficiency- possibly infertility  
RDA- 30 IU  
Optimal Intake- 100-300 IU  
Good Sources- Sunflower seeds, wheat germ  
Discussion- Vitamin E is an antioxidant; α-tocopherol is a vitamin, although other tocopherols, e.g. γ-tocopherol exist in nature, and might be beneficial. Consuming 400 IU/day has been linked to increased mortality. Supplements sold with "d-α-tocopherol" contain the natural, more potent, form of vitamin E, while "dl-α-tocopherol," is synthetic.

**Vitamin F***
Chemical Names- Linoleic Acid, Linolenic Acid, Arachadonic Acid  
Deficiency- Similar to those associated with lack of fat in diet  
RDA- None established  
Good Sources- Vegetable oils  
Discussion- Vitamin F is a term for the macronutrients known as Essential Fatty Acids. They are essential, but not vitamins.
Vitamin G - See Vitamin B2

Vitamin H - See Biotin

Vitamin I* - See Vitamin B7

Vitamin J*
Chemical Names - Catechol, Flavin
Good Sources - Higher woody plants
Discussion - Catechol is a flavonoid. Vitamin J has also been applied to Choline

Vitamin K
Chemical Names - Menadione, Phytomenadione, Phylloquinone, Menaquinone
Deficiency - Hemorrhage
RDA - 80 mcg
Optimal Intake - 100-150 mcg
Good Sources - Green leafy vegetables, many cheeses
Discussion - Essential for blood clotting; is now recognized as a key factor in bone health.

Vitamin L1*
Chemical Names - Ortho-Aminobenzoic Acid, Anthranilic Acid
Good Sources - bovine liver
Deficiency - Lactation problems in animals. Anthranilic Acid is an amino acid.

Vitamin L2*
Chemical Names - Adenyl Thiomethylpentose
Good Sources - Yeast
Deficiency - Lactation problems in animals

Vitamin M - See Folic Acid

Vitamin N*
Chemical Names - Thioctic Acid, α-lipoic acid
Deficiency - Lack of growth in protozoa and bacteria.
Optimal Intake - 50-100 mg
Discussion - α-Lipoic Acid has been used to regulate blood sugar, and is a universal antioxidant, i.e. the chemical is fat and water soluble. It is not a vitamin, strictly defined.

Vitamin P*
Chemical Names - Rutin, Hesperidin, Quercetin, Citrus Bioflavonoids
Deficiency - Capillary fragility
Optimal Intake - 100-1,000 mg
Good Sources - Citrus fruits, onions, vegetables
Discussion - While not vitamins, Bioflavonoids are beneficial nutrients. Often associated with Vitamin C, many refer to Vitamin P as the "C-Complex." There are over 1000 chemicals that can be classified as Bioflavonoids.
Vitamin PP - see Vitamin B3

Vitamin Q*
**Deficiency** - Inability of blood to clot in patients with telangiectasia
**Good Sources** - Soybeans, clover, alfalfa
**Discussion** - Named after Dr. Armand James Quick, who believed he had found a substance in soybeans that could prevent bleeding in people with telangiectasia. According to Quick, Vitamin Q is only essential in patients with that rare blood disorder. Quick apparently references Vitamin Q in his book *Bleeding, Drugs, Vitamins: Their Impact on History*. Occasionally, Co-Enzyme Q10 is called "Vitamin Q."

Vitamin R*
**Discussion** - Old name for Vitamin B10. Also on "The Simpsons" the vitamin in the "malk" drink, the kids drank at lunch during a budget crisis!

Vitamin S*
**Deficiency** - Sterility
**Good Sources** - kelp
**Discussion** - I found one reference to this in a book a long time ago. Kelp is known for its many nutrients, so it's likely that this substance is some other vitamin or mineral.

Vitamin B11 was also called Vitamin S for awhile.

Vitamin T*
**Chemical Names** - Tegotin, Termitin, Torutilin
**Deficiency** - Anemia, lack of growth
**Good Sources** - Yeast, termites, fungi, sesame seeds
**Discussion** - Vitamin T has been used as a name for growth-promoting substances in termites, yeast, and fungi. However, many sources list it as a blood health factor in sesame seeds. It is likely that these are two separate chemicals and the factor in termites is distinct from that in sesame seeds. This happens because different researchers discover nutrients and call them by the same name, not knowing another person has already used the designation.

Vitamin U*
**Chemical Names** - Methylmethioninesulfonium Chloride, Cabagin-U, S-Methylmethionine
**Deficiency** - Ulcers
**Good Sources** - Cabbage, alfalfa, green leafy vegetables, egg yolks
**Discussion** - Cabbage Juice often heals ulcers in a week or two, so Dr. Garnett Cheney of Stanford, whose research backed up this assertion, proposed it was a vitamin. However, while beneficial for treating ulcers, it is likely not a vitamin. It is possible that S-Methylmethionine, identified by Dr. Cheney, is not even the factor responsible for the "vitamin U" activity of cabbage. Another possible factor responsible might be Allantoin or possibly the amino acid Glutamine. Dr. Cheney believed that whatever factor was responsible, it was destroyed by cooking.
**Vitamin V***
Chemical Names- Nicotinamide Adenine Dinucleotide, NAD
Deficiency- Developmental problems in chicks
Discussion- Vitamin V was also used of **PABA**

**Vitamin W***
Discussion- Possibly **Biotin**

**Vitamin X***
Deficiency- Aging
Good Sources- Hydrocotyle Asiatica Minor (an herb)
Discussion- A proposed vitamin by certain researchers, I read about in Worldwide Secrets For Staying Young by Paavo Airola. Ultimately "Vitamin X" is used to describe any unknown vitamin, including PABA before it was isolated.

**Vitamin Y***
Discussion- Perhaps **Vitamin B6**.

* (asterisk) – vitamin status unlikely