What is Choline?

Choline is one of the B complex vitamins and also an essential fatty acid (phospholipid). Choline is water-soluble (can dissolve in water) and can be manufactured in the body from the amino acids (the building blocks which make proteins) methionine and serine using vitamin B12 and folic acid.

Why is Choline important and what does it do in the body?

Choline helps make cell membranes. It forms part of sphingomyelin (a fat molecule found in cell membranes especially in the nerve sheath surrounding nerve cells) and phosphatidyl-choline (another fat molecule also found in cell membranes). It is vital in the formation of the neurotransmitter acetyl choline. A neurotransmitter is a chemical that allows nerve cells to communicate with other cells.

It is also required for the metabolism of fats. It works with betaine, inositol (another of the vitamin B complex) vitamin B12, folic acid and the amino acid carnitine, to utilize fats and cholesterol. It does this by helping to emulsify cholesterol, which makes it easier to absorb into the lymphatic system. It is transported from this to the blood stream.

It is a vital liver support and aids in the detoxification of toxins and drugs from the liver and supports the removal of fat from the liver.

Choline is necessary for memory and also supports sensory input signals and muscular control. Research on rats, at Duke University Medical Center, has shown that the administration of choline during pregnancy increases brain function in the offspring, which demonstrate greater learning ability and better recall. It may therefore be important to give choline supplements during pregnancy together with vitamin B5 and manganese.

A form of choline is being studied in the treatment of some types of cancer and to reduce pain and fever. The role of choline and vitamin B12 in the prevention and treatment of cancer is also being studied.

Choline decreases estrogen activity and may ease the symptoms of menstrual cramps and lower the risk of developing breast lumps and breast cancer.

Choline increases the synthesis of the stress hormone adrenalin and supports sleep.

How much Choline do you need each day?

Choline is often sold as phosphatidyl-choline or phosphatidyl-inositol and even though no absolute daily allowance has been reported, 50-1,000mg per day is often used.
The DRI (Daily Recommended Intake) / RDA (Recommended Daily Allowance) of dietary Choline are listed below:

**Recommended Daily Allowance**
None established

**Optimal Daily Allowance**
50mg/Day

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**Nutrient Deficiency Symptoms and Conditions**

**What are possible Choline deficiency conditions and symptoms?**
- Alzheimer’s disease
- Arteriosclerosis
- Cirrhosis
- Fatty liver
- Gallstones
- Gastric ulcers
- High blood pressure (hypertension)
- High Cholesterol
- High homocysteine
- Intolerance to fats
- Kidney impairment
- Memory Loss
- Nerve/muscle diseases such as myasthenia gravis and tardive dyskinesia

**What steals Choline from the body?**
- Estrogen
- Antibiotics
- Alcohol
- Sulfur drugs
- Food processing

**What tests can be used to assess Choline levels?**
Blood levels - choline in plasma <1-12g indicates deficiency.

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There are no known side effects or toxicity symptoms associated with the administration of choline. It may be advisable to also supplement calcium to maintain phosphorus levels, as phosphorus levels commonly increase with choline supplementation. If large doses of choline are taken, it is advisable to take additional Vitamin B6 because choline may deplete Vitamin B6 levels with prolonged use.
What foods contain the highest amounts of Choline?

**TOP 10 CHOLINE (PHOSPHATIDYL CHOLINE) RICH FOODS ARE:**

1. **Egg yolk**  
   820mg/100g

2. **Caviar**  
   490mg/100g

3. **Liver**  
   426mg/100g

4. **Salmon**  
   231mg/100g

5. **Shitake mushrooms**  
   202mg/100g

6. **Pork tenderloin**  
   194mg/100g

7. **Turkey**  
   156mg/100g

8. **Veal**  
   128mg/100g

9. **Molluscs**  
   107mg/100g

10. **Peanuts**  
    55.3mg/100g

What are the best Choline products?

Choline is commonly sold as phosphatidyl-choline or phosphatidyl-inositol

REFERENCES

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All the statements, including product labels, supporting literature and/or product manufacturers websites have not been evaluated by FDA. These products are not intended to diagnose, treat, cure or prevent any disease.
Choline (Phosphatidyl Choline)

What are the very best Choline products to buy?

Klaire VitaSpectrum
Powdered multiple vitamin/mineral supplement for children with Autism Spectrum Disorders. Natural berry-pomegranate flavor. This comprehensive multiple vitamin/mineral supplement contains 28 highly bioavailable …

ProThera MultiThera 3
Iron- and copper-free multiple formula. Both iron and copper have been eliminated from this version of MultiThera® to address the needs of patients who may have elevated tissue identical in all other respects to MultiThera® 1 …

Pure Caps Womens Pure Pack
Women's Supplement to Support Bone and Heart Health. Now With Metafolin® L-5-MTHF. Sizes Available 30 packets. Each packet contains 6 different supplements, including …

Pure Caps Mens Pure Pack
Regardless of your walk of life, all men need to ensure that they get enough of an array of important nutrients. However, who wants to spend their time picking out supplements for a daily …