

# ACETYLCHOLINE



Acetylcholine is a neurotransmitter that plays an important role in regulating memory, attention, and muscle movement.

When acetylcholine levels are healthy, you may experience better memory, focus, and muscle control.

There is also some evidence to suggest that acetylcholine may have a role in maintaining bone mass and reducing fracture risk.



## Possible Physical Signs of Acetylcholine Deficiency

- crave high fat comfort foods for instant boost
- frequent urination and bowel movements
- sexual dysfunction
- dry skin
- dry mouth

## Possible Mental Signs of Acetylcholine Deficiency

- memory lapses
- attention issues
- increased paranoia
- avoiding contact with others
- difficulty managing daily schedule
- obsessive thoughts
- little initiative
- easily offended
- inflexible
- needing approval
- worrying about everyone but self



## Foods That May Deplete Acetylcholine Levels

- large amounts of saturated fats (solid at room temp, like butter)
- large amounts of trans fats (hydrogenated and partially hydrogenated)



## Natural Ways to Support Acetylcholine Production

- Foods high in Choline such as plant oils like olive oil, safflower oil, fish oil, lean meats, fish, salmon, shrimp, dairy products, eggs, nuts, almonds, hazelnuts, peanuts, peanut butter, soybeans, tofu, seeds, avocados, blueberries, broccoli, cabbage, cauliflower, celery, fava beans, lettuce, oranges, flax, wheat germ, coffee
- High Calcium foods such as plain yogurt, sardines, soymilk, blackstrap molasses, collard greens spinach, tofu, almonds (blanched), brazil nuts, soy nuts; Calcium helps to regulate metabolism and reduce belly fat.
- Foods high in Lecithin like cauliflower, egg yolks, liver, milk, peanuts, soybeans, wheat germ; Lecithin supports the cardiovascular system, promoting healthy hair, skin, liver function, memory, joints and fat metabolism - make sure to get at least 1 serving a day.
- Spices that boost Acetylcholine levels are allspice, basil, cumin, peppermint, sage, thyme, turmeric
- Increase intellectual stimulation by mastering mental and physical skills and doing exercises that challenge the brain

## Supplements That May Support Acetylcholine Production

- Acetyl-L-carnitine: 500-5000mg/day; aids in burning fat, improves athletic performance and memory function
- Choline: 200-3000mg/day; helps eliminate cravings, protects the liver from fat accumulation, improves brain function and physical performance
- Fish oils: 500-3000mg (3-6 grams)/day; healthy source of fat, decreases appetite, helps to burn calories, increases metabolism and provides energy
- Piracetam (a derivative of GABA): 2000-5000mg/day; may reduce fatigue
- Arginine Vasopressin: must be prescribed; very important hormone used to inhibit or repair memory loss

\*The supplement doses will depend on the amounts you are getting through your diet. It's best to get as much as possible through foods, but supplementation can be a quicker way to get your Acetylcholine levels back on track. Again, make sure to check with your healthcare provider for the best dosage for you.