

VitaCholine

Essential for
Every Body™



BALCHEM
VitaCholine®

Choline's Benefits are Ageless

We are well aware of the essential need for proper amounts of choline in the diets of infants and children to contribute to proper development. It is now clear that Choline is essential for every body. Studies now show that 90% of us don't get enough choline in our diets. Inadequate choline intake is a key issue particularly for those overworked and over stressed – and these days that means pretty much everyone.

As we age further we add the frustrations of memory lapses and seemingly reduced memory capacity. Are those frustrations inevitable? Maybe, but maybe not. Cause and effect studies are ongoing and there are no definitive answers, but depending on the individual, insufficient dietary choline may play a part.

Too Little **Choline**? There are Measurable Symptoms

The body needs choline to function on a variety of levels, and when there isn't enough choline available the body will scavenge from subordinate cells to maintain the proper function of organs further up in the hierarchy, the brain for example. Symptoms of insufficient choline vary by the relative deficit, but include less-than-optimal muscle function, fat deposition in the liver, memory issues, increased levels of homocysteine in the blood, and more.

Most of us mistakenly write much of this off to age, not enough rest, and to poor eating habits. While true to a degree, we now understand that choline, or more accurately the lack of choline, can be one of the underlying causes. Choline is an essential nutritional building block, satisfying very specific requirements on its own, as well as enhancing and supporting the function and efficiency of other nutrients including betaine, omega 3, carnitine, creatine, and b-vitamins. Is choline a magic bullet? Soon we may be saying yes, but right now nutritional science has demonstrated that it is essential and that without the foundation choline lends to most every process, efforts intended to promote good health and well-being may fall short.

Choline Helps Build and Maintain Cellular Health

The majority of the benefits of choline begin at the cellular level. Stronger, more efficient cells are essential to the body's function and well being, and choline works to continually build and rebuild cell health in a number of important ways. By maintaining the proper fluid balance in cells, choline promotes proper osmotic metabolic balance on the cellular level with benefits found across every organ and system. It works closely with b-vitamins to limit



homocysteine and support heart and brain health. Choline is a regulator, a traffic cop, a transporter moving nutrients through the body, a housekeeper that, for example, forms an envelope of sorts around fat molecules and moves them away from the liver.

Choline Supports Performance

Ergogenic nutrients improve the body's performance. While most individual ergogenics are quite specific in the areas in which they work, choline is unique in that it offers ergogenic benefits across a wide spectrum of diverse biochemical roles. Choline has positive effects on the intensity and duration of physical activity, as well as the ability to rebound rapidly. It controls the deposition of fat, used as a source of energy during activity and reduces homocysteine, a by-product that can negatively impact the action of nitric oxide in the body.



The Right Amount of **Choline** Supports Body and Brain, Lifestyle and Lifespan

Choline is an essential precursor to neurotransmitters on the molecular level, as well as substances that insulate neurons. Too little choline diminishes nerve communication between organs and centers of the brain, and the overall function of the central and peripheral nervous system. No matter if one's lifestyle is active or sedentary, choline helps the body adapt efficiently to a wide range of energy requirements and usage.

The right amount of choline in the body will facilitate nervous system function and communication. The better our nerves communicate, the more precise are our muscle movements. The benefits of proper choline nutrition go all the way to the top. The brain is one of the most important users of choline, essential for the communication between neurons in the brain. And, like the body itself, the more active the brain is the more choline it needs. Choline helps to develop the memory center of the brain in infants, facilitates brain function in adults, and may counteract certain effects of age-related memory loss.

“ From infants to athletes to seniors,
Choline is essential to total body health. ”



Help Build Better Bodies by Adding Balchem's **VitaCholine** to Your Product

The quality of Balchem's water-soluble VitaCholine salts has been recognized over time, and so has been used as an important component of a wide range of foods and supplements with specialized applications. Currently, however, the clear, valuable and universal benefits of choline are becoming more widely known, with notice taken by researchers, doctors, nutritionists, and consumers across every stratum, especially those with the need or desire to maintain an active lifestyle. Here's a look at the particular advantages of making Balchem's VitaCholine part of your product...

- Flavorless at appropriate dosage levels
- Stable through processing operations
- Highly bioavailable
- Compatible with other nutrients
- Broad regulatory acceptance worldwide
- Impressive and supportable label claims allowed in many markets
- Easily added to any processed food product, liquid, tablet, or capsule



VitaCholine from Balchem: Essential for Every Body

From infants to adults to seniors, choline is essential to total body health. While choline is one of nature's hardest working nutrients, and is found in common foods and synthesized by the liver, studies have found that nowadays only one in ten individuals is getting enough choline to meet their body's needs. Supporting virtually every vital system, the standing levels of choline in the body determine how well our nervous system communicates, how well and how much we remember, how precisely our muscles respond and restore, and how well energy is used and stored. What's more, it counteracts inflammation and the production of homocysteine – both enemies of the cardiovascular system.

The Benefits of **Choline**

- Continually builds and rebuilds cell health
- Facilitates nervous system function and communication
- Helps maintain proper metabolic balance on the cellular level
- Controls the deposition of fat
- Develops the memory center of the brain in infants
- Facilitates brain function in adults
- May counteract effects of age-related memory loss
- Creates positive effects on the intensity and duration of physical activity, as well as the ability to rebound rapidly



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