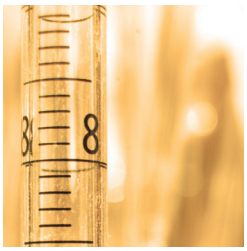

PS (PHOSPHATIDYLSERINE)

Boost brain power with PS

You just misplaced your glasses, again. You were introduced to someone only yesterday and now you can't recall his name. It seems to be getting harder to concentrate these days. Sound familiar? The sobering truth is that as we age, we can lose over half of our ability to perform tasks related to memory, learning and concentration. This process in cognitive decline can already begin as we hit our forties.

Phosphatidylserine or PS is a nutrient that shows much promise in improving cognitive function in most people, but especially as we age.

WHAT IS PHOSPHATIDYLSERINE?

PS belongs to a unique class of fat-soluble nutrients called phospholipids and is most highly concentrated in brain cells.

In the past, commercial sources of this nutrient came from animal sources. Sophisticated technology has enabled the development of a plant-based source of PS, derived from soy phospholipids that have proven effective in clinical studies.

HOW IT AFFECTS OUR ABILITY TO THINK

The membrane is a major action centre in every cell: it regulates what goes in and out, how cells talk to one another and numerous other vital actions. As we age our cell membranes become less efficient. Phosphatidylserine increases cell membrane efficiency and revitalizes membrane function. In the brain, PS has a profound effect on the function of neurotransmitters and synapses, the connections that make up the brain circuits. Not only does PS give brain nerve cells renewed vigour, "it gets into the mem- branes of each nerve cell's mitochondria, where it can facilitate energy generation across the entire cell." (Kidd)

PHOSPHATIDYLSERINE AND MOOD

PS can affect our mood as well. A double-blind study on elderly women showed that PS helped their memory and their behaviour. (Maggioni, *et al.*) Other researchers showed that PS improves mood in elderly men. (Grindin, *et al.*) Sengupta and his team of researchers verified that subjects with clinical depression also had lowered PS levels in the membranes of platelets and red cells. (Sengupta, *et al.*)

SOME KEY STUDIES

Dr. Crook and his researchers at the Memory Assessment Clinics in Bethesda, MD, Vanderbilt University School of Medicine, Stanford University School of Medicine and Fidia Pharmaceutical in Italy, conducted two important studies on PS.

In 1991, they studied the effect of PS on 149 people, aged 50-75. PS was given at 300 mg per day (100 mg three times per day) versus a placebo. The subjects were assessed at the beginning of the study and at three-week intervals.

A subset of people with greater memory impairment seemed to benefit the most from PS. Their telephone number recall, misplaced objects recall, paragraph recall and ability to concentrate while reading or talking all improved and stayed that way for approximately 4 weeks after PS supplementation ended. One test involved learning names and faces. The test subjects went from the cognitive age of 64 (equivalent to a person 64 years old) at the beginning of the study, to a cognitive test age of 52 years. They actually had a 12-year recovery in cognitive function! (Crook, *et al.*)

A second double-blind, randomized study on 51 subjects was carried out by a similar team in 1992. With assessments occurring every three weeks, at week 12 the PS treated subjects showed statistical improvement in recall of names of familiar persons, locations of frequently misplaced objects, recall of previous day events and details from events the previous week. Again, the cluster group with mild cognitive impairment benefited the most from PS. They improved in other areas of assessment as well, including the ability to maintain concentration. (Crook, *et al.*)

European studies on PS show similar results. The largest and longest-running study on PS involved 425 people, aged 65-93 years and 23 institutions in northern Italy. All participants had moderate to severe cognitive impairment. They were given 300 mg per day of PS versus placebo and were assessed at the start of the study, at three months and at six months. The PS group improved in their social interaction and communication skills and they were less withdrawn and apathetic. Significant improvement was shown in memory and learning scores in the four areas assessed: total recall, long-term storage, long-term retrieval and consistent long-term retrieval. (Cenacchi, *et al.*)

"When this key trial is evaluated together with the other double-blind trials conducted with PS, it becomes clear that in mature adults PS can help maintain cognition, concentration and related mental functions. Thus... PS may help individuals maintain mental fitness in order to meet the challenges of daily life." (Kidd)

CAN CHILDREN BENEFIT FROM PS?

Children with cognitive and mood problems may also benefit from PS. "C.A. Ryser, MD, recruited 27 ADHD children 3 to 19 years old, with their parents informed consent. She individualised their ADHD regimens with nutrients and pharmaceuticals, as per her usual practice, then added soy PS to their treatment plans. Each received 200 mg or 300 mg PS daily, depending on body size, for four months. PS improved attention, concentration, learning, behaviour and academic performance, seemingly extending their level of benefit once they had "plateaued" on fish oil and other nutritional supplements. Those prescribed methylphenidate (Ritalin) or other pharmaceuticals also seemed to derive additional benefit from PS which also benefited the depression and anxiety commonly seen in these children." (Kidd) There were no adverse events from PS supplementation, which is consistent with studies that show it to be safe and effective.

CHECK THE LABEL

To avoid disappointing results, it pays to read the fine print on labels to determine the actual amount of PS in a product. Some labels may deceptively list "PS 100 mg", but an examination of the small print will show that the 100 mg is the complex, which only delivers about 20 mg of pure PS. The sad part is that these people will take 3 capsules a day imagining that they are getting 300 mg where in reality they will be getting only 60 mg of pure PS which is totally ineffective. To benefit from PS, a minimum dosage of 100 mg of pure PS a day is required. Therefore, to avoid any deception, Natural Factors labels show the actual amount of pure PS delivered in each softgel. If our label states 100 mg, you have the assurance that you will be getting 100 mg of pure PS. Only then will it work.

DOSAGE

If taking higher dosages, start with 100 mg a day and gradually increase by 100 mg a day until recommended dosage level is achieved. A large initial dose (600 mg) could delay sleep in some persons. It is preferable to take PS with meals for best results.

"A reasonable supplementation strategy with PS is to begin at a higher level of intake (300 to 600 mg per day with meals) for a month or two, which should saturate the cell membranes, then to go into a maintenance mode at a lower level of intake (100 to 200 mg daily). There is no indication of potential problems from long-term supplementation with PS."(Kidd)

Adults: For optimum results take 300 mg per day with meals for the first month, then 1 capsule (100 mg PS) per day thereafter. Some may require higher dosages of between 300 to 600 mg daily for better initial results, as directed by a health care practitioner.

Athletes: Generally use between 300 to 500 mg daily.

Children: While most children benefit from 100 mg daily, some with extreme ADHD have had better results using 300 mg daily, cutting down to 100 mg a day for maintenance.

Pregnancy and Lactation: Although no adverse effects are expected, the effects of PS during pregnancy and lactation have not been sufficiently evaluated, so should be used during these times only if specifically recommended by a health care practitioner.

SAFETY

PS is one of those very safe nutrients because it is already found in every cell in our body. Supplemental PS is derived from soy phospholipids that have a long history of safe use as dietary supplements. Clinical studies on humans verify its safety. One study with 425 subjects reported so few adverse effects that they were considered clinically unimportant.

WHAT ELSE CAN WE DO?

Age-related cognitive decline is not inevitable. Phosphatidylserine is a powerful nutrient that may delay or even roll back cognitive decline as we age. But lifestyle also plays a critical role. Excessive free radicals formed from smoking, alcohol abuse, environmental pollution and chronic emotional stress have a cumulative negative effect on brain cells and hasten deterioration. New threats to brain cells and their functions are making the news. Excitatory chemicals in food, in particular monosodium glutamate (MSG) and the chemical sweetener aspartame (NutraSweet), can cause damaging over-stimulation to brain cells, as can microwave radiation when using cell phones. Use PS daily to protect yourself and as a damage control nutrient. Attention to good nutrition – including a diet rich in fruits and vegetables, B vitamins, antioxidants – is vital. Strive for less emotional stress and include a moderate exercise regime. It will also help us feel better and best of all, think more clearly. Remember, to boost your brainpower, supplement with phosphatidylserine (PS) each day.

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