

# VITAL XP™

## Formulated for Optimal Mental and Physical Performance

*By Chris D. Meletis, ND and Steven A. Armentrout, MD*

Optimal personal performance occurs when both the mind and the body have been fueled with complete nourishment and proper hydration. True energy or “being in the zone” takes place only when a number of synergistic physiological steps take place at the same time in your mind and your body, and these are maintained for a period of time.

Achieving optimal performance can mean:

- running faster or further
- hitting a ball straighter, further or harder
- greater muscular strength
- more stamina and endurance
- more responsive reflexes
- greater focus and clarity
- enhanced mood and memory
- enhanced sexual experience
- faster recovery from exercise

### VITAL XP is designed for Optimal Mind and Body Connection and Enhancement

VITAL XP is designed to deliver a complementary blend of performance and hydration supportive nourishment through a solid dosing of electrolytes, amino acids, vitamins, minerals and nutrients in one complete formula, to provide a comprehensive biochemical and physiological impact on the body. The formulators of this revolutionary product started with a passion to create a natural product that actually delivered on the promise of making a significant difference in how mental and physical performance is peaked, while at the same time, nourishing the body for enhanced wellness and real vitality.

### VITAL XP Delivers Real Results

VITAL XP was formulated to deliver an immediate and lasting impression.

It has a bright citrus flavor that is both delicious and refreshing, without any added sugar or aftertaste.

The heightened mental function also empowers the physical spirit in just ten to fifteen minutes.

The increased energy, strength, endurance, mental focus and clarity lasts for a solid three to six hours – and sometimes longer. And users have reported that they do not feel any sudden ‘spike’ or ‘crash’ with the well-balanced formula. That is because the formula works in harmony with the finely tuned biochemical processes within your body.

VITAL XP works synergistically with the brain and creates a cascading effect throughout the body, enhancing

the mind and body connection – essential to every aspect of our daily lives and especially critical to support peak performance.

Convenience and portability are very important to our modern lives. VITAL XP is packaged in single serving packets to be where we need it and when we need it. Simply mix one packet of VITAL XP into 12 to 16 ounces of drinking water and shake vigorously for 10 to 20 seconds. Drink the entire solution in minutes for optimal results.

VITAL XP is generally safe for older teens, diabetics or other medical conditions, however we recommend these people consult with their physician first. Since VITAL XP is so potent, it is not recommended for pregnant or nursing mothers. VITAL XP contains a low dose of caffeine, as found in about 8 oz of brewed coffee, 16 oz of cola, or two cups of black or green tea to assist in the delivery of the nutrients into the bloodstream.

For maximum results, VITAL XP should be taken on an empty stomach, twenty minutes before eating or two hours after a meal. Individuals may take up to two doses daily, at least three hours apart.

VITAL XP may also help those on a diet, by increasing energy and alertness, helping to maintain blood sugar levels and hormone levels, plus controlling appetite and helping to reduce carbohydrate cravings.

Women report that VITAL XP may also help equalize hormonal balances associated with PMS.

Ingredients in VITAL XP are also known to help offset and relieve some of the effects of physical and mental stress, a leading cause of many health issues.

VITAL XP heightens mental clarity, inner energy and well-being, where virtually anything seems achievable.

### Real Nutrition Designed for Real Results

VITAL XP is designed as the definitive extreme nutrition drink for heightened mental and physical performance as based on scientific studies and real results.

VITAL XP was formulated by a well-recognized leader in the field of sports nutrition, together with a nationally renowned Medical Doctor / Clinical Chemist. The expert flavoring was completed by one of the world’s most respected natural ingredients producers.

Each of the scientifically validated natural ingredients that are synergistically blended in VITAL XP has also been shown to help achieve and maintain a younger mental and physical “vital age”.

## Clinical Ingredient Highlights:

### Balanced Electrolyte Blend

A finely-balanced blend of critical electrolytes have been strategically formulated to support the cellular energy needs of your muscles, tissues and nervous system.

### Magnesium

Magnesium is the second most plentiful positively charged mineral within the body, following calcium, and is involved with more than 300 enzyme systems. The availability of magnesium for proper muscle and overall energy within all the cells of the body is critical. Indeed the body has created a reserve system of magnesium to help maintain stable levels of magnesium with a full third of skeletal magnesium being on the surface of the bone and acts as a reservoir to maintain the extra-cellular magnesium concentration.<sup>i ii</sup>

Magnesium is important for normal bone structure, and plays an essential role in more than 300 cellular reactions.<sup>iii</sup> Magnesium is critical to both maintaining nerve and muscle electrical potentials and transmitting impulses across neuromuscular junctions thus allowing us to walk, run and play. Important Note: Magnesium deficiency is not uncommon in the US. Low intake and impaired absorption of magnesium have also been associated with the development of various disease states such as osteoporosis, hypertension, atherosclerotic vascular disease, cardiomyopathy, diabetes, and stroke.

Low magnesium (Hypomagnesemia) is usually asymptomatic. Indeed your blood magnesium levels may appear normal, for the serum magnesium level is the most commonly used test to assess magnesium status. However, it is also known that the serum magnesium level is depressed only in cases of severe magnesium deficiency and that it poorly correlates with true body magnesium levels.<sup>iv</sup>

The body preserves serum magnesium at the expense of magnesium in cells and bone, so serum levels may appear normal in magnesium deficiency.<sup>v</sup> Symptoms of severe magnesium deficiency include convulsions, confusion, muscle weakness, abnormal muscle movements, and others.<sup>vi</sup> However no one wants to or should wait for muscle weakness, cramps (charlie horse) before looking at their magnesium levels. After all, we all know to live a healthier more vital life, we must take a proactive role in protecting and building our wellness.

There is growing evidence that magnesium is important in regulating blood pressure.<sup>vii viii</sup> There is also evidence that patients with high blood pressure with low magnesium levels usually require more antihypertensive medications than hypertensive patients with normal magnesium levels.

In patients with congestive heart failure, researchers have shown that magnesium reduces coronary vascular resistance, increases coronary artery blood flow, has anti-arrhythmic effects, and improves cardiac indexes.<sup>ix</sup>

Important Note: Magnesium can play a role in diseases such as CHF, however it plays an equally important and potentially a more important role in maintaining cardiac health.

What is the full therapeutic power of magnesium? With over one million Americans now being diagnosed each year with diabetes, it is important to note that low magnesium levels can play a role in blood sugar regulation and diabetes.<sup>x xi</sup>

Magnesium deficiency leads to impairment of osteoblast (bone-building cells) function. There's also evidence that magnesium deficiency increases the formation and activity of osteoclasts (bone resorbing cells). Since magnesium is an essential nutrient, the body may sacrifice bone in times of deficiency as a magnesium source to maintain a balance.

Low magnesium levels have been associated with: premenstrual syndrome (PMS), exacerbation of asthma, increased pain sensation, migraine headaches, postoperative pain, kidney stones, nerve pain, Raynaud's Phenomenon, and numerous cardiac and pain syndromes.<sup>xii</sup>

### Potassium

The potassium mineral plays a role in many body functions including acid-base balance, and overall electrolyte balance. Proper levels of potassium are essential for daily function and athletic performance alike. Potassium is needed for: nerve impulse transmission; cardiac, and skeletal muscle contraction; gastric secretion; renal function; tissue synthesis; and carbohydrate synthesis.<sup>xiii</sup> Inadequate dietary intake of potassium might play a role in the development of hypertension, stroke, and cardiovascular disease. Potassium works together with other nutrients to produce beneficial physiological effects<sup>xiv xv</sup>

### Acetyl-L-carnitine (ALC)

Acetyl-L-carnitine is structurally related to acetylcholine and serves a pivotal role in the creation of acetylcholine a key brain and memory neurotransmitter.<sup>xvi</sup> ALC also promote acetylcholine release<sup>xvii</sup> and has been studied for its effects on memory protection and enhancement. Researchers have also demonstrated that ALC can help protect the brain from free radical damage and prevent oxidative damage in the brain.<sup>xviii</sup>

With an estimated 20 million diabetics in the USA and Canada, it is important to note that carnitine levels are lower in people with diabetes.<sup>xix</sup> Acetyl-L-carnitine appears to slow neuronal degeneration and help in the regeneration and repair of nerves. Acetyl-L-carnitine might improve peripheral as well as autonomic neuropathy.<sup>xx,v</sup> Preliminary clinical research suggests that acetyl-L-carnitine might also improve glucose utilization within the body.<sup>xxi</sup> This is important for athletic performance and daily optimized wellness.

## Alpha Lipoic Acid

Alpha-lipoic acid was isolated 50 years ago.<sup>xxii</sup> Within the body alpha-lipoic acid is involved in carbohydrate metabolism and production of cellular energy (ATP). Alpha-lipoic acid also serve as potent antioxidants protecting the 50-100 trillion cells that comprise the human body.<sup>viii</sup> The unique properties of alpha-lipoic acid allows it function as both water and fat soluble antioxidants while increasing the body's glutathione levels<sup>xxiii x, xi</sup> There is evidence pointing to the fact that taking alpha-lipoic acid can help those seeking to decrease the decline in cognitive function associated with aging.<sup>xxiv</sup>

## Glutamine Peptide

Glutamine is the most abundant free amino acid in the body.<sup>xxv</sup> Glutamine peptide is a form of glutamine that can be much more efficiently used by the body for building and reconstructing protein, such as muscle tissue. Additional benefits of the glutamine peptide are to deliver glutamine in a high absorbable form while further augmenting nitrogen stores, while supporting a healthy acid-base pH. It is produced primarily in skeletal muscle and then released into the circulation. Having sufficient glutamine is essential for achieving and maintaining peak athletic performance and also a healthy intestinal tract.

Tissues that require glutamine such as the immune system, gastrointestinal tract, kidneys, and liver obtain glutamine as needed from the blood assuming there are adequate supplies to sustain and maintain health.<sup>xxvi xxvii</sup> Though classified as a non-essential amino acid, glutamine is essential for maintaining intestinal function, immune response, and amino acid homeostasis during times of severe stress, suggesting that it is more appropriately called a conditionally essential amino acid<sup>xxviii xxix</sup> Simply put the more performance you expect and demand from your body the higher your need for glutamine. It is critical not to allow glutamine to serve as one of your rate limiting factors when it comes to your wellness and performance goals.

Following surgery or accidental injury, about one third of the nitrogen mobilized for wound repair and vital organ function is from glutamine.<sup>xxx</sup> During physical stress the body consumes more glutamine than the skeletal muscle can produce.. Inadequate glutamine levels leads to muscle wasting and the breakdown of muscles.<sup>xxxi</sup>

When it comes to the immune system, it has been shown that during healing, decreased glutamine levels prevent and slows white blood cell (neutrophils and monocytes) function.<sup>xxxii</sup> Though the body has the ability to synthesize glutamine it cannot keep up with the body's needs during severe times of stress<sup>xxxiii</sup>. The gastrointestinal tract is one of the largest utilizers of glutamine in the body<sup>xxxiv</sup> Insufficient glutamine levels decrease athletic performance and muscle healing and can also lead to significant damage and even ulceration of the gastrointestinal tract.<sup>xxxv</sup>

## Taurine

Taurine is involved in retinal photoreceptor activity, white blood cell antioxidant activity, central nervous system regulation, blood stickiness, cardiac contractility, sperm motility, insulin activity critical for proper sugar metabolism.<sup>xxxvi</sup> Taurine also helps ensure proper cardiac functioning that is essential for athletic performance and protection of the heart.<sup>xxxvii xxxviii</sup> Taurine might also improve heart failure because it seems to lower blood pressure and can help the body regulate nervous system activity that otherwise can lead to high blood pressure and even congestive heart failure.<sup>xxxix xl</sup> It is crucial to remember that a healthy heart serves as the pivot for successful accomplishment of routine daily activities and athletic performance. Additional cardiac protective properties of taurine include: Cholesterol-lowering effect; antioxidant and free radical scavenging activity; decreased platelet stickiness/aggregation.<sup>xxiv</sup>

## Tyrosine

The amino acid tyrosine is incorporated into all proteins. Tyrosine is a precursor for thyroid hormone and melanin (skin pigment)<sup>xli</sup>; it is also a precursor for the synthesis brain neurotransmitters, including: norepinephrine, epinephrine (adrenaline) and dopamine<sup>xlii</sup>.

Some scientists think that the brain may not be able to synthesize enough tyrosine from phenylalanine under stressful conditions. Since there is not a single human being that doesn't experience ongoing stress, these critical brain chemicals (epinephrine, norepinephrine, and dopamine) become depleted during stress. As a result of research in this field there is evidence in animals and humans that supplemental tyrosine might improve performance, memory, and learning, under extreme environmental conditions, intense exercise, or psychological stress<sup>xxxviii</sup>

## Choline

The production and maintenance of the 50 to 100 trillion living cells that comprise your body requires the full amount of choline produced by the body and an additional supplemental amount from external sources.<sup>xliii</sup> Indeed the very synthesis of each and every cell membrane within your body needs choline for the production of phospholipids building blocks.<sup>xliiv</sup> Additionally the control of homocysteine levels within the body, an independent risk factor for heart disease requires the choline metabolite betaine during the processing of homocysteine to form methionine.

Choline concentrates in nervous tissue and is 100 percent critical for the functioning of your nervous system. From the months prior to your birth to the last thought you ever have, choline is center stage when it comes to your brain and nervous system function.

Researchers have observed that supplemental choline during pregnancy and lactation probably affects the birth,

death, and migration of cells in the hippocampus during fetal brain development and possibly changes the distribution and structural integrity of neurons responsible for memory function in the brain<sup>xxix</sup>. Additionally choline is considered important as an ingredient called lipotropic for use within the liver that is responsible for the healthy processing of toxins, drugs and environmental chemicals.

## Glycine

In the central nervous system (CNS) glycine acts as a promoter of the brain chemical activity of N-methyl-D-aspartate (NMDA). The significance is that this simple action of glycine has been shown to directly affect NMDA receptors that are associated with negative and positive symptoms of schizophrenia<sup>xlv</sup>. Thus clarity and healthy brain function is glycine dependent when seeking to attain peak mental performance. Indeed NMDA receptors also appear associated with memory and learning processes<sup>xlvi</sup>. The concentration of glycine in the brain needs to remain adequate and stable and the addition of supplemental glycine has been shown to increase CNS concentrations of glycine.<sup>xlvii</sup>

## B Complex

The family of B vitamins when taken together are called B complex and they include B1 through B12 and folic acid. Vitamin B6 is essential for neurological health and proper brain chemistry and the regulation of a minimum of 60 biochemical pathways within the body. Vitamin B6 when combined with the amino acid tyrosine serves as the catalyst for the production of the brain chemicals epinephrine, norepinephrine and dopamine all essential for emotional stability and the coordinated motion of our body during daily activity and athletic pursuit. Inadequate B6 alone can lead to increased reactions to MSG (the food additive), poor hormonal regulation and signs and symptoms of nerve damage including painful nerves called neuropathy and contributes to the progression of carpal tunnel.

B12 in turn is needed for DNA production with the body and frequently diminishes with the aging process and is

linked to decline in mental function. Folic acid is essential for the reproduction of every cell within the body from your intestinal tract to the skin on the very top of your head. Literally a book can be written on the scientific evidence supporting the importance of each B vitamin. Together they are frequently referred to as “stress B vitamins” for they are crucial for the maintenance of health and optimization of performance during times of stress that in today’s world is a daily event.

## Caffeine

Caffeine supports enhanced metabolism and rapid nutrient delivery. It also provides stimulation to the gastrointestinal performance and function. It is 100% bio-available after oral administration and takes 6 hours to be broken down by 50% (half-life).<sup>xlviii</sup> Caffeine stimulates the central nervous system (CNS), heart and muscles.

Caffeine enjoys a long history as a mental stimulant and researchers have identified some of its mechanisms of action, including blocking adenosine receptors, caffeine to increases the release of neurotransmitters such as dopamine<sup>xlix</sup>. Caffeine also decreases airway resistance and stimulates respiration. Caffeine stimulates increase of plasma nerve conduction chemicals and brain chemicals heightening performance. Caffeine is often combined with analgesics. Caffeine seems to increase the efficacy and onset of analgesic activity by about 40% and caffeine itself might also have a mild analgesic effect.

Caffeine's CNS stimulant effects are thought to improve vigilance and psychomotor performance.<sup>l</sup> <sup>li</sup> For improving athletic performance, caffeine has been shown to decrease perceived levels of exertion, which enables the athlete to feel less tired and increase their performance.<sup>lii</sup> Caffeine enhances muscle metabolism and increases time to exhaustion and oxygen deficit, which may lead to better performance.<sup>liii</sup> Caffeine is often used for weight loss and seems to have additive effects with other natural substances.<sup>liv</sup>

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**Note: These statements have not been evaluated by the Food and Drug Administration.  
This product is not intended to diagnose, treat, cure, or prevent any disease.**