

## Greetings!

The Woodlands Institute for Health and Wellness is a family focused medical practice bridging the gap between traditional and holistic medicine, offering personal plans for lifelong solutions to good health.

## IN THIS ISSUE

- SUPPLEMENT OF THE MONTH: L-Glutamine
- WED SEPT 10TH WELLNESS NIGHT OUT: Learning RX
- HIGHWAY TO HEALTH
- SPECIAL ENGAGEMENT at EGG & I TUES, Sept 9th
- FIT FACT: Get Into the Swim of Things
- RECIPE OF THE MONTH: Kim's Raspberry Dressing
- Got Allergies?
- Spa White Teeth Whitening
- The Truth About Soy and Its Harmful Effects!

## WED SEPT 10TH WELLNESS NIGHT OUT: Learning RX



**The Woodlands Institute for Health & Wellness will be hosting Wellness Night Out. This event is free and open to the public (RSVP requested). We are excited about this monthly event which takes place the 2nd Wednesday of every month. Each month we feature a different topic with guest speakers and/or screenings to offer.**

**Our next Wellness Night Out will be Sept 10th,**

## SUPPLEMENT OF THE MONTH: L-Glutamine

### BENEFITS OF THE AMINO ACID L-GLUTAMINE

- Physicians with an allopathic approach generally have their favorite armamentarium of medicines with which they are comfortable & achieving predictable results. Likewise holistic physicians have their favorite supplements which work to achieve desired benefits.
- In my medical practice, L-Glutamine is one of the most frequently prescribed supplements. This is not surprising since the importance of Glutamine is demonstrated by the fact that it is the most abundant amino acid in circulation. The total body Glutamine levels are in the range of 100,000 mg. In a healthy person, the concentration of Glutamine in the blood is 3-4 times

**6:00 pm - 8:00 pm, and this month we've invited the Buzbee family, TWIHW patients (featured in Review It and Living magazines for September 08), and owners of Learning RX, to speak.**

America's education system is in a state of crisis. A new approach to learning is essential in today's knowledge economy.

- Use of ADHD drugs grew 23% among young adults who spent 40% more on these prescriptions than before (2005 Drug Trend Report)
- Spending on ADHD medication has quadrupled in four years to \$3.1 billion annually
- 30 to 50% of the population has undiagnosed learning disabilities (National Institute for Literacy)
- Nearly two out of five children in the United States can barely read (Nation's Report Card)
- Nearly half of all college students must take remedial courses in math and reading (U.S. Department of Education)

**LearningRx was developed to train and enhance cognitive learning skills.** It is what many affectionately refer to as a workout for the brain. To train cognitive learning skills, LearningRx applies the most recent scientific research on learning and makes sure it is applied in practical ways **to help people of all ages.**

LearningRx was founded and is directed by a group of professionals from a variety of disciplines whose common interest is helping people learn more easily and efficiently. Included are psychologists (in the areas of neuropsychology, cognitive psychology, and clinical psychology), specialists in vision and auditory processing, and educators.

LearningRx takes a different approach to solving learning problems than most other systems such as tutoring. Most seek to manage the symptoms while LearningRx works to eliminate symptoms at their core. LearningRx does not assume that all learning problems are the result of poor cognitive processing skills, or that everyone needs cognitive training. Instead, LearningRx uses skill tests that probe different areas of the individual's cognitive skills to see if there are any deficiencies that can be addressed.

**During the September Wellness Night Out, staff members of The Woodlands LearningRx will provide information and conduct several cognitive training procedure demonstrations. You will have the opportunity to participate and witness first-hand a few of the procedures that help children and adults reach their full potential. Those attending the wellness night seminar will receive a \$50 off coupon for an initial cognitive skills assessment.**

ALSO AT WELLNESS NIGHT OUT IN SEPT, WE ARE OFFERING DEXA BONE DENSITY SCANS \$75 FOR PATIENTS AND \$100

greater than all other amino acids. It is actively transported & metabolized in nearly all tissue. Glutamine is a major fuel source & therefor energy source for the entire body. It is particularly concentrated in the brain, skeletal muscles, gut lining, lungs, heart, kidneys, & liver where it has multiple & critical functions.

- During years of ordering blood tests to determine amino acid status, Glutamine is one of the amino acids most usually below normal. In fact in my patient population of those with either chronic illness or mood & cognitive symptoms it is rare to see normal levels.

#### **WHERE CAN YOU GET L-GLUTAMINE?**

- We primarily obtain Glutamine from the conversion of Glutamic Acid from food. The average amount of Glutamine ingested daily in a health diet is from 5,000-8,000 mg. Those foods with the highest content are pork, poultry, eggs, & dairy proteins,

## FOR NON-PATIENTS

This may be the last month to get a bone density test at these prices, as we will be experiencing a price increase soon!

Call 281-298-6742 or email [admin@TWIHW.com](mailto:admin@TWIHW.com) to schedule for Wednesday, September 10th, between 5 and 8pm. LIMITED AVAILABILITY!

## HIGHWAY TO HEALTH

Are you still trying to figure out how to eat right for life? Are you having trouble staying on track? Is it hard to navigate the grocery store today and know if you are making the right choices? Do you understand the magnitude of the impact your diet has on your health and well-being?



We have a solution and we are excited to introduce my new book, **Highway to Health: A Nutritional Roadmap**, and the corresponding **Highway to Health Nutrition Workshop**.

**We've had countless requests for such a program and it's finally arrived.** Topics included in the book and workshop include organic requirements, genetically modified foods, Dangers of Soy, lists of Carbohydrates, Fats and Proteins all identified as Ideal, Good, Limit or Avoid. We do the same thing with sweeteners, beverages, seasonings and other additives. We also cover aspects of food including acid-alkaline balance, inflammatory vs. anti-inflammatory foods, allergies and sensitivities and the latest news on digestive enzymes, and calorie counting.

We are offering an **INTRODUCTORY RATE of \$99** to our current patients for our group workshop (regular price is \$149). In addition, if you'd like to bring a friend or family member, we'll extend the same offer to your loved ones. Here are the details:

- **3.5 hour group workshop (\$99 introductory offer)**
  - Thursdays at 9am. Saturday and Evening Workshops also available.
  - You'll receive your own copy of Highway to Health: A Nutritional Roadmap
  - A healthy snack and plenty of water will be provided
- **Private Grocery store tour or in-home 1-on-1 session\*\***

wheat germ, oats & avocados. Or you can get it as a free form amino acid supplement.

- Much of the dietary Glutamine is derived from the salt form of Glutamic Acid ( Glutamate). This converts to Glutamine with the action of the enzyme Glutamine Synthetase. Proper functioning of this enzyme requires adequate presence of pyridoxal-5-phosphate ( the active form of vitamin B6), manganese, & other vitamin/mineral co-factors. If these are not present in sufficient quantities there can be a Glutamine deficiency even in the presence of adequate dietary protein. Glutamate also converts to GABA. Glutamine can conversely convert back to Glutamate & to GABA with the help of the enzyme Glutaminase. They all can convert among themselves as needed & depending upon the presence of adequate enzymes & co- factors.

**GLUTAMINE  
IMPROVES BRAIN  
FUNCTIONING**

- You must complete workshop to be eligible for this session
- \$149 for 1.5 hour appointment
- In Home review of existing food products in the house with recommendations for adjustments and improvements; OR
- Grocery Store of patient's choice, with aisle by aisle review of ideal and good foods

• **Premium Nutrition Program\*\***

- Private 3 hour session to review your Highway to Health manual which is included.
- Private in-home OR grocery store session (your choice)
- \$299 introductory offer (regular price \$399)

• **Book purchase only**

- Highway to Health: A Nutritional Roadmap is available separately for \$24.99
- This book would make a great gift for anyone!

• **Food allergy testing**

- Requires a finger stick (done at our office)
- Tests for 96 different food sensitivities
- Can be added to any of the above services for \$199

**\*\* Additional travel surcharge may apply. Call 281-298-6742 for information.**

**Take care of yourself and your family. Start eating to love the way you feel instead of simply eating what you love. Get on a solid foundation for a lifetime of good nutrition and good health. Call today to schedule your workshop and receive your copy of Highway to Health: A Nutritional Roadmap. Bring someone with you that you really care about. It is one of the most important steps you can take to begin the journey towards better health.**

**SPECIAL ENGAGEMENT at EGG & I  
TUES, Sept 9th**

The Woodlands Institute for Health & Wellness cordially invites you to meet its founder, Dr. Mila McManus, and enjoy a complimentary healthy breakfast. Dr. McManus will be discussing safe, natural and effective solutions to many common health problems.

**Tuesday, Sept 9th, 2008 (and again Oct 21st)  
Location: The Egg & I**

- Glutamine, Glutamate, & GABA are all neurotransmitters which means they are chemical messengers in the brain without which the brain could not function. GABA is a calming neurotransmitter, Glutamate is a stimulating neurotransmitter, while Glutamine is a modulator of the inhibitory & excitatory activity of the other two.
- Glutamine is highly concentrated in the brain, being 10-15 times more concentrated in the cerebro-spinal fluid than in the blood. It is an important fuel for the brain, & can provide adequate energy in the absence of glucose (the other major brain fuel). For this reason it is helpful with focus, concentration, memory, intellectual performance, alertness, attentiveness, improving mood, & eliminating brain fog & cloudiness. It is one of the first nutrients I prescribe when any of these symptoms are present.
- In animal studies an inhibitor of the synthesis of Glutamine produced

**1644 Research Forest Dr, St 100  
The Woodlands, TX 77380**

Reception begins at 8:00 am. Dr. McManus will speak from 8:30-9:30, followed by a question and answer session.

Reserve your seat today by calling (281) 298-6742 or email [admin@TWIHW.com](mailto:admin@TWIHW.com). Seating is limited. If you are ready to get healthy and change your life, this is for you!

**FIT FACT: Get Into the Swim of Things**

Are you ready to take the plunge and try a new fitness activity? How about water exercise?

Water exercise is one of the best non-impact fitness activities around and just about anybody can participate. Pregnant women, the elderly or overweight, individuals with arthritis or those recovering from an injury can all benefit from the wide variety of aquatics classes currently available.



**Get into the swim of things** Here are the facts: The buoyancy of water reduces the "weight" of a person by about 90 percent. This means that the stress on weight-bearing joints, bones and muscles is similarly reduced. For this reason, it is unlikely that a water workout will result in injury or leave you with sore muscles. That's why the pool is such a great place for people with arthritis or back problems to exercise, and for those who are new to exercise. But don't get the idea that just because it doesn't hurt, you can't get a great workout in the pool. Water exercise can encompass all of the components of fitness: cardiovascular fitness, muscular strength and endurance, and flexibility. And, when done regularly, water exercise can help reduce body fat.

**Water works your heart** Aerobic workouts in the pool are perfect for those who find the same movements on land too jarring or painful: running, striding, kicking, leaping and even dancing. Keep in mind that in the water, heart rate will be reduced by as much as 17 beats per minute when compared to land exercise. That's why it's so important to pay attention to how you feel. Your heart rate might indicate that your intensity is too low when you are actually exercising quite strenuously.

**Water adds resistance** The resistance of water is perfect for a strength-training workout - instead of weights, the water itself provides the resistance. One of the easiest ways to create resistance in the water is to cup your hands and push or pull the water away from you. Other devices, such as hand-held paddles and water

convulsions, & Alzheimer's or senile dementia-type changes in the brain.

- Research suggests Glutamine may protect the brain cells in situations of decreased oxygen supply. It also helps in the brain to detoxify ammonia.
- Those prone to mania need to be careful with high doses of Glutamine for it can trigger mania, as can any antidepressant substance.

**STABILIZES BLOOD SUGAR & DECREASES ALCOHOL CRAVINGS**

- Glutamine does this by several mechanisms. When the blood sugar is low, Glutamine suppresses insulin to stop the further decline of the sugar levels. It also stimulates glycogen (a stored form of glucose) to be released to help increase the blood sugar to normal levels.
- Further, Glutamine is a glycogenic amino acid which means it can convert to sugar for energy production, a process called gluconeogenesis. It is the most important such substance. These blood sugar stabilizing effects

chutes can increase the resistance to provide a more intense workout.

**The flexible benefits of water** One of the greatest benefits of water exercise is its effect on flexibility. Water is a welcomed environment for performing stretches that might otherwise be difficult on land. Because the effects of gravity are lessened, you can move your joints through a wider range of motion and achieve long-term flexibility.

**Aquatics 101** Once you've decided to take the plunge, it's simply a matter of finding the right class for you. Check with your health club or YMCA to see if they offer aquatics classes and drop in on one or two to see if they are right for your fitness level. A good class should include a good warm up, a period of cardiovascular and muscle conditioning that gradually increases and then decreases in intensity, and a cool down. The cool down should include plenty of flexibility exercises for the entire body. If you have a preference for music, find a class that suits your taste. Don't be afraid to ask about instructor qualifications and safety precautions. Your instructor should be certified and may also have special training in aquatic exercise. The pool is a fun place to feel like a kid again and get a great workout. In fact, instead of feeling out of breath or exhausted, a water class can leave you feeling surprisingly calm, yet energetic. So, even if you're a dip-your-toe-in-the-water type of person, don't be afraid to take the plunge into water fitness.

Article obtained from [acefitness.org](http://acefitness.org)

## RECIPE OF THE MONTH: Kim's Raspberry Dressing

- 1/2 Cup Polaner All Fruit, Seedless Raspberry Spread
- 1/3 Cup Water
- 2 Tablespoons Lime Juice
- 4-8 frozen, unsweetened Raspberries
- 1 tsp Cilantro
- Salt and Pepper to taste
- 1/4-1/3 cup Grapeseed Oil



Combine first 6 ingredients in a blender or with a whisk until blended. Add Oil and blend. Chill and Serve over cole slaw, spinach salad or fresh fruit.

## Got Allergies?

may partially explain why it decreases alcohol cravings, as well as sugar cravings. In studies with alcoholics, 2000-3000 mg 3 times daily decreased the desire to drink, decreased anxiety, & improved sleep. It works best given between meals. Has been used for this purpose in daily doses from 6000-15,000 mg in 3 divided doses. Use upon arising, mid-morning & mid-afternoon between meals.

- Giving Glutamine to rats decreased their voluntary alcohol consumption by 34%. When the Glutamine was stopped, their alcohol consumption returned to baseline levels.

## MAINTAINS HEALTH /FUNCTIONING OF THE LINING OF THE GUT

- Glutamine increases the growth & absorptive capacity & is the main fuel source for the cells lining the intestinal tract. It is critical for the maintenance of proper gut metabolism, structure & function. The cells

If you are tired of taking over-the-counter



drugs like Claritin or making trips to the doctor's office for allergy treatment through painful injections, give us a call.

TWIHW offers testing for inhalent and food allergies. The best part is that we treat your allergies through the use of sublingual drop therapy, which is a safe, natural, and effective solution.

If you are interested in more information, please call 281-298-6742 or [visit our website](#)

## Spa White Teeth Whitening

**Brighten your smile in 15 minutes!**

Spa White treatments combine a number of innovations to bring you fast, comfortable and effective smile

rejuvenation without the hefty price tag associated with other professional whitening systems. Using narrow bandwidth light and a number of patented technologies, Spa White is the ideal way to boost the brilliance of your smile in 15 to 30 minutes.



\$159 for 15 minute treatment \$259 for 30 minute treatment

**Current patients now pay only \$99 for 15 minute treatment and \$189 for 30 minute treatment!**

White Ice is specifically designed to keep teeth white, and get white teeth even brighter. It's packaged in a convenient, easy-to-use lipstick tube that has its own built-in mirror. \$59 (will last 1 to 3 months) **Current patients pay only \$49!**

Make you appointment today by calling (281) 298-6742 or email [admin@TWIHW.com](mailto:admin@TWIHW.com).

lining the small intestines consume Glutamine at a voracious rate, using up to 30% of the circulatory pool. Glutamine deficiency results in hypoplasia of the intestinal absorptive lining & dysfunction of the intestinal immune system. It helps maintain normal Secretory IgA, an immune substance in the gut.

- Studies show that Glutamine helps promote healing of impaired gut mucosa , such as with ulcers, ulcerative colitis, & Crohn's Disease. It enhances bowel function when there has been partial removal of the intestines & improves overall survival in gut-originated severe infection.

### **IMPORTANT FOR MUSCLE FUNCTION & METABOLISM**

- The intracellular concentration of Glutamine in muscle is a regulator of muscle protein synthesis or muscle building & supports muscle glycogen accumulation. When there is Glutamine depletion, there is a breakdown in muscle. Studies

## The Truth About Soy and Its Harmful Effects!

(NaturalNews) With vegetarianism gaining increasing popularity from the 1970's, reaching its peak in the 1990's, soy has emerged as a 'near perfect' food, with supporters claiming it can provide an ideal source of protein, lower cholesterol, protect against cancer and heart disease, reduce menopausal symptoms, and prevent osteoporosis - among many other things. It seems like a good thing - or is it really? How did such a 'healthy food' emerge from a product that in 1913 was listed in the U.S. Department of Agriculture (USDA) handbook not as a food but as an industrial product?

According to lipid specialist and nutritionist Mary Enig, PhD, "The reason there's so much soy in America is because the soy industry started to plant soy to extract the oil from it and soy oil became a very large industry." There was a lot of soy oil and with it came a lot of soy protein residue as a left over by-product, and since they couldn't feed it to the animals, except in small amounts, they had to find another big market which, of course, was human consumption.

This excess soy production and its protein residue was the motivation for the multi-million dollars spent on advertising and intense lobbying of the Food and Drug Administration (FDA), which resulted in about 74 percent of U.S. consumers believing that soy products are healthy. Australia has traditionally prided itself as being a dairy consuming nation, due to the fact that they have such an abundant supply of cattle. However, lactose intolerance is becoming a health concern recognized by the medical profession; accordingly, soy is becoming very popular as an alternative to dairy, following in the footsteps of US consumers in believing that all soy-based products have health benefits. **In reality, the research that has concluded that all soy products are healthy is far from accurate, and very much skewed by economic motives.**

**Let's examine why soy products are far from healthy:** For greater clarity, soy products are classified into two main groups: fermented and unfermented. There are also another two sub-groups: organic and genetically modified (GM). The GM soy is to be avoided at all costs, as the hazards of GM are some of the worst innovations of modern day bio-technology. Not only are all GM products unhealthy to humans and animals but also to the normal plants that grow in the surrounding areas, due to the natural process of winds causing cross-pollination, resulting in mutated species of what were once natural variations of plants. This topic is too vast to cover in this article but for more research, visit (<http://www.non-gm-farmers.com>) The unfermented soy category is a most problematic one. It includes soy products, such as tofu, bean curd, all soy milks, soy infant formulae, soy protein powders and soy meat alternatives, such as soy sausages/veggie burgers, made from hydrolyzed soy powder.

indicate Glutamine counteracts steroid-induced muscle atrophy.

- Skeletal muscle is the largest organ in the body accounting for approximately 30-40% of total body mass. A 150 pound male would ideally have about 60,000 mg of Glutamine in these muscles. Free stores of Glutamine in muscles exceed those of any other amino acids (alanine & glycine are the other major muscle amino acids).
- Surgical & injury trauma, infections, burns, stress, cancer, acidosis, & most major illnesses dramatically deplete & alter the production & interorgan flow of Glutamine causing movement of Glutamine out of the muscle, altering intestinal Glutamine metabolism, & also decreasing Glutamine blood levels. Under these circumstances the net Glutamine consumption exceeds the production & there is a decrease in muscle protein synthesis. This contributes to the muscle wasting in severe illness & trauma. Research has shown a

**So what is wrong with unfermented soy products?** Soy belongs to the family of legumes. Other members of the legume family include beans - such as adzuki, red kidney, navy, barlotti, etc., as well as chickpeas. Peanuts are included as well, as they are technically not a nut but a legume. All legumes and whole- grains - such as rice, barley, oats, wheat and rye- contain amounts of phytic acid. Being a legume, soy contains a high amount of phytic acid. So, what's wrong with phytic acid? A number of things - yet, in some cases, phytic acid can also be beneficial. Phytic acid's structure gives it the ability to bind minerals, proteins and starch, and results in lower absorption of these substances. Hence, phytic acid, in large amounts, can block the uptake of essential minerals, like calcium, magnesium, copper, iron , and especially zinc in the intestinal tract. **Soy also inhibits the uptake of one of the most important mineral needed for growth and metabolism, iodine, which is used by the thyroid gland in the production of thyroid hormones.** However, for non-vegetarian men, phytic acid may prove to be quite helpful due to its binding/chelating ability with minerals. Since a large percentage of non- vegetarian adult males have excess iron, phytic acid would be helpful to them by binding the excess iron. But we need to bear in mind phytic acid will simultaneously bind other minerals, such as calcium, magnesium and zinc. In the case of children and menstruating women, the phytic acid in soy can be a serious negative, as women and children need iron. In women, iron is needed to replace the loss during their menses and in children iron is required for growth and development.

Apart from the phytic acid-related phenomena, there are additional factors that make soy an unhealthy choice.

- Contributes to thyroid disorder, especially in women
- Promotes kidney stones
- Weakens the immune system
- Contributes to food allergies and digestive intolerance

**Perhaps the most disturbing of soy's ill effects on health has to do with its phytoestrogens, which can mimic the effects of the female hormone, estrogen.** These phytoestrogens have been found to have adverse effects on various human tissues, and **drinking only two glasses of soy milk daily for one month has enough of the chemical to alter a woman's menstrual cycle.**

Soy is particularly problematic for infants and it would be very wise to avoid giving them soy-derived products, since **it has been estimated that infants who are exclusively fed soy formula receive the equivalent of five birth control pills worth of estrogen every day.** Check out ([www.westonaprice.org](http://www.westonaprice.org)) to find some alarming research and statistics on what can go wrong when infants and children are regularly fed soy formula.

In order to derive some benefit from soy, consuming only fermented soy products - such as organic miso (mugi barley and genmai miso are the best), organic tempeh, soy sauce or tamari and natto - is the

statistically significant correlation between survival in severely infected patients & the muscle intracellular Glutamine concentration. Supplying Glutamine helps the metabolic processes associated with recovery.

#### **HELPS WITH WOUND HEALING**

- The cells of connective tissue in the body use Glutamine for protein & nucleic acid synthesis & also for 30% of energy needs. These cells are called fibroblasts . Glutamine is required for their proliferation & is therefore critical in wound metabolism & healing.

#### **HELPS MAINTAIN ACID/ALKALINE BALANCE**

- This is done by the production & metabolism of Glutamine in the kidneys. The more severe the acidosis is as in uncontrolled diabetes, starvation, kidneys disorders, decreased oxygen in the body, fluid & electrolyte loss , the

way to do it. This is because the phytic acid, which is inherent in soy beans, has been neutralized in the process of fermentation. Consuming fermented soy is very beneficial in recolonizing the friendly bacteria in the large intestines, which neutralizes the 'unfriendly' bacteria and allows for greater general assimilation of foods and nutrients.

So, organic fermented soy is of benefit and unfermented soy is not. It is not only soy that needs to be fermented but whole-grains as well. In fact, grains (apart from millet, buckwheat and couscous) and legumes are best consumed after soaking them for 48-72 hours prior to cooking, which allows fermentation to take place. The soaking of grains and beans is also advocated in the principles of macrobiotics, which is very popular amongst vegetarians. Yet many vegetarian restaurants do not have time or forget to incorporate this very important process in their vegetarian cooking and thus people who regularly eat out at vegetarian restaurants might develop severe mineral deficiencies due to the large consumption of phytic acid in their diet.

Another common fallacy is that soy foods couldn't possibly have a downside because Asian cultures eat large quantities of soy every day and consequently remain free of most western diseases. In reality, the people of China, Japan and other Asian countries eat very little soy. The soy industry's own figures show that soy consumption in China, Indonesia, Korea, Japan and Taiwan ranges from 10-90 grams per day. That is grams of soy food, not grams of soy protein along. Compare this with a cup of tofu (250 grams) or soy milk (240 grams). Many Americans and Australians today would be consuming a cup of tofu and a couple of glasses of soy milk every day. They might also add veggie burgers to this, thinking they are getting their much needed protein intake. Infants on soy formula are probably the most disadvantaged, as that is their main source of nutrition and they ingest large amounts of soy relative to their body weight. Often the side effects are not noticed but, as they are growing up, runny noses, frequent colds, irritability, severe sugar cravings and food intolerance develop.

**The summary below outlines the adverse effects of unfermented soy products:**

- **Trypsin inhibitors in soy interfere with protein digestion and may cause pancreatic disorders. In test animals soy containing trypsin inhibitors caused stunted growth.**
- **Soy phytoestrogens disrupt endocrine function and have the potential to cause infertility and to promote breast cancer in adult women.**
- **Soy phytoestrogens are potent anti-thyroid agents that cause hypothyroidism and may cause thyroid cancer. In infants, consumption of soy formula has been linked to autoimmune thyroid disease. Vitamin B12 analogs in soy are not absorbed and actually increase the body's requirement for B12. Soy foods increase the body's requirement for**

greater the rate of Glutamine metabolism in the kidneys. When controlling acidosis the kidneys consume enormous amounts of Glutamine & deplete muscle & other stores. In acidotic conditions there is low Glutamine, low alanine & an increased production of ammonia.

- In studies 2000 mg Glutamine produced a quick increase in plasma bicarbonate (which elevates alkaline reserve) & an increase in growth hormone.

### **IS CRITICAL IN PROTEIN METABOLISM**

- Glutamine is used in the liver & kidney to make urea & ammonia which are normal breakdown products of protein, which are then excreted. Glutamine participates in the detoxification of ammonia.
- Excessive Glutamine can elevate rather than decrease ammonia levels, as it should. Such excessive dose would be in the range of 40,000 mg for a 150 pound person-way above

#### **Vitamin D.**

- **Fragile proteins are denatured during high temperature processing to make soy protein isolate and textured vegetable protein.**
- **Free glutamic acid or MSG, a potent neurotoxin, is formed during soy food processing and additional amounts are added to many soy foods.**
- **Soy foods contain high levels of aluminum which is toxic to the nervous system and the kidneys.**  
**Source: (www.westonaprice.org)**

**In contrast, consuming organic fermented soy products can be quite beneficial. Consuming even small amounts of unfermented soy on a regular basis could cause some adverse effects in our body. Next time you consider drinking soy milk; perhaps instead consider oat milk, coconut milk or goats's milk. Some people who are allergic to dairy can tolerate goat milk and goat cheeses products in small quantities. Replacing soy and regular milk with these alternatives allow us to enjoy our beverages and cereals without harming our health.**

Author of [The Whole Soy Story](#): The Dark Side of America's Favorite Health Food by Kaayla Daniel. You may purchase her book on [amazon.com](http://amazon.com)

any recommended amount.

#### **GLUTAMINE & CANCER**

- In the area of tumor growth, the evidence is unclear. Glutamine is highly used by rapidly dividing cells such as blood cells, & those in the GI Tract & cancer cells. It provides the nitrogen precursor for the synthesis of purines & pyrimidines essential to cell reproduction & division. So whether Glutamine enrichment in amounts required to maintain normal metabolic balance will accelerate tumor growth is not well known.
- Research has provided varying information. One research report suggested Glutamine aggravated muscle tumor( sarcoma) but this was not found in research on fibrosarcoma. Other reports indicated Glutamine not only was beneficial for the patient with the tumor, but did not stimulate tumor growth. It may very well depend upon the type of the tumor.
- The fear is that

since the immune cells require Glutamine for proper functioning & since an illness such as cancer depletes the body of Glutamine, such depletion will impair immune function & interfere with the body fighting the cancer & associated infections-if Glutamine is not given.

- Cancer bearing rats were able to maintain normal immune function when given Alanine-Glutamine enriched nutrition without increasing tumor size. According to Rifat Latifi M.D. in "Amino Acids In Critical Care & Cancer" the general consensus is that "an increased uptake of Glutamine by tumor cells does not necessarily result in an increase in tumor size & the absence of accelerated tumor growth may have been due to the maintenance of cell mediated immune reactions of the host"
- As if this weren't definitive enough, animal studies showed Glutamine enhanced the selectivity of antitumor drugs. It did so by helping to protect normal

cells from the chemotherapy while making the tumor cells more sensitive to the chemo. Further, when Glutamine was given to patients undergoing abdominal or pelvic radiation therapy it protected the intestinal mucosa from injury, accelerated the healing of the radiated bowel & modulated the long term consequences of radiation.

- So if you have cancer consult with your doctor whether or not Glutamine supplementation would be wise in your type of cancer.

#### **MISCELLANEOUS BENEFITS**

- Glutamine is important for the synthesis of glutathione( an essential anti-oxidant) in the liver.
- Adequate Glutamine helps to protect the lungs from toxic insult.
- Glutamine is needed for RNA (Genetic messenger material) synthesis.
- Essential for the synthesis of Vitamin B3.

#### **TOXICITY**

- Studies using high dose Glutamine have failed to demonstrate toxicity. However Glutamine should be avoided in cases of acute liver failure & kidney failure.

### **DOSAGE**

- As with any free form amino acid, Glutamine should always be taken with pyridoxal-5-phosphate which regulates the absorption, metabolism & conversion of all amino acids. The usual dose recommended in my practice is 4000-5000 mg anywhere from 1-3 times daily between meals & not later than 3pm.

Priscilla Slagle M.D

### Quick Links...

[Learn about Glyconutrients](#)

[Test Yourself for Hormonal Imbalance](#)

[JUICE PLUS](#)

[Visit Our Website](#)

[NutraMetrix Supplements](#)

## Our Sponsors

[Avante Laser & Medispa](#)

[Brochure Builders](#)  
[Woodlands Mailing & Fulfillment](#)

[Roger Sutter Photography](#)  
[Sedona Fitness for Women](#)

[Vino 100](#)  
[Core Fitness](#)

**Join our mailing list!**

Join

email: [mmcmanus@twihw.com](mailto:mmcmanus@twihw.com)

phone: 281-298-6742

web: <http://www.twihw.com>