

**THE AFIB REPORT**  
**Your Premier Information Resource for Lone Atrial Fibrillation**  
**Publisher: Hans R. Larsen MSc ChE**

## **VIRTUAL LAF CONFERENCE**

Proceedings of 22nd Session  
January 17<sup>th</sup>, 2004 – January 19<sup>th</sup>

### **SUBJECT: What about Taurine?**

Okay – here it is – Sorry it's so long.

#### **BACKGROUND**

In one of my many posts reporting my success with magnesium glycinate (MgG) in eliminating breakthrough arrhythmia while on Flecainide, I mentioned my interest and use of magnesium taurate (MgT). Some discussion ensued as to our true need of supplementing with taurine – and another comment was quoted from the magnesium pages of Cold.cure.com indicating MgG tended to unbalance taurine stores if used long term.

This was of concern, since I'm an enthusiastic advocate of MgG, so I set out to prove or disprove the "unbalancing" statement. I was unable to find any documented statement that either expressly stated that fact or implied it, other than on the Coldcure site.

I corresponded with the Web author, George Eby, to learn his reference source. It seems it is his personal hypothesis based on his dramatic and very successful cure of his depression and arrhythmia – first with MgG and later refined with MgT.

His reasoning is based on rat studies (and his own experience) showing glycine suppresses hepatic taurine content, but not in other taurine-rich organs (brain, heart or kidney.) As glycine goes up, taurine goes down and bile production is impaired with intestinal absorption of magnesium, impaired to a greater extent.

He speculates that in people sensitive to this reaction, MgG would be contraindicated and MgT would be helpful. He also speculates his arrhythmias and PAC's (ectopy) are caused by too much glycine and by switching to the taurine form, they are prevented. It also corrected his bowel intolerance reaction.

My Metagenics contact, consulted with Metagenics Research at headquarters and was told that there was no foundation to the unbalancing or depleting theory. Rather, they recommended taurine along with magnesium glycinate because they potentiate each other.

I found no evidence that the amino acid, glycine, another major inhibitory neurotransmitter that calms the body, is pathogenic. (However, my search was only cursory for this initial investigation.) Glycine is extremely abundant in the body and is as common as glucose. The average daily adult intake of glycine in the US is 3 to 5 grams.

It is speculated that under some conditions, glycine might become essential in humans. Glycine has been shown to be an effective carrier for minerals that facilitate absorption in the intestinal tract. Glycine is used by the body to form

collagen, a key protein in cartilage and connective tissue.

This research endeavor was fortuitous for me, because after reading extensively, I am strongly convinced we need to examine and understand taurine more closely...not only for its potential impact on afib.

My intention was to post a formally written and referenced research paper, but ran out of time so rather than delay the information, I'm summarizing the highlights and providing references at the end. I have either directly quoted or paraphrased. Everything can be substantiated from the resources. My comments are in the brackets [ ] since this is an informal report, I'm posing some questions for consideration.

References to magnesium's role and importance is also mentioned since this search focus was on magnesium glycinate's effect on taurine stores...and the basic hypothesis for using supplemental is to correct magnesium deficiency from which, most assuredly, all afibbers suffer.

The importance of additional magnesium in afibbers is a given, in light of the commonly recognized magnesium depleters...#1 being stress of all types, followed by too much sugar, too much calcium, antibiotics, large amounts of protein, chemotherapy, refined flour, diuretics, alcohol, sodium-softened water either municipal tap or in-home, fluoride and high fat foods along with foods high in oxalic acid.

Magnesium glycinate was patented by Metagenics to provide maximum bioavailability without the typical side effects of bowel intolerance to elevated (therapeutic) doses needed to overcome magnesium deficiency. Obviously, it does no good to consume supplemental Mg if it doesn't remain in the small intestine long enough for nutrient absorption.

The question posed by this report is....Is it time to embrace the use of magnesium taurate rather than magnesium glycinate? Perhaps there is a need for both forms.

I'm using three capsules/tablets of each form and getting a little almost 700 mg. magnesium daily from divided doses. I'd like to think the bioavailability factor from the MgG form assists the majority of the magnesium into the cells where it belongs.

At the end of this report, I've listed resources for the MgT and plain taurine.

## REFERENCES

My resource references are listed at the end, but the majority of my findings came from two sources: the book, "The Healing Nutrients Within" (originally published in 1987 and revised in 2003) by Eric R. Braverman, MD, who is an integrative physician and Director of the Place for Achieving Total Health in NYC and a paper published by one of Dr. Braverman's co-authors, Richard Smayda, D.O., Director of Primary Care Medicine at Cape Cod Hospital, Brewster, MA. Taurine metabolism is Dr. Smayda's area of expertise. There several other references as well.

Taurine was dubbed The Miracle Substance back in 1993, by the late Donald J. Carrow, MD who was one of the early pioneers in alternative medicine. After this research, I agree.

Now, to Taurine (T)—the miracle substance —while you read the properties or attributes of taurine, keep thinking ....do I have enough (T) to perform all these important functions? And remember as well, the reason we are boosting the magnesium glycinate intake is to replenish magnesium stores that have become depleted and therefore, have allowed conditions such as afib to flourish

I hypothesize that the synergy between MgG and T are responsible for calming heart cells and eliminating afib...based on my own success. You may conclude that taking magnesium and taurine in a complexed form in addition to MgG (or in place of) makes a good deal of sense.

The following (T) highlights are not presented in order of importance. Some of the BB readers will recognize the excerpt from an exceptionally fine article written by Patrick Chambers, MD, known on the board as PC...entitled: Magnesium and Potassium in LAF. Everyone with afib should call up that article, print it out, and go over it paragraph

by paragraph to understand the story PC lays out for us. Don't miss it if you haven't read it.

#### TAURINE PROPERTIES - (A FEW OF MANY)

- Is a lesser-known essential amino acid and is the most abundant source of sulfur available from an amino-containing compound in the body.
- Is found in every cell and in great quantity throughout the body.
- Regulates the most basic of cell functions – genetic transcription.
- The body can make its own from amino acids, methionine and cysteine in the presence of Vitamin B6, but prefers to obtain it directly from food sources.
- The body normally makes all it needs, but under certain conditions, such as disease, injury or physical exertion and high periods of stress (both physical and mental), the supply may not meet the demand. Deficiencies have been documented in vegans and diabetics.
- Cellular depletion of (T) has been linked to developmental defects, retinal damage, immunodeficiency, impaired cellular growth and the development of cardiomyopathy.
- Is most concentrated in, and plays a major role in the central nervous system (CNS), heart, white blood cells, muscle and retina.
- Is inhibitory and suppresses the release of excitatory neurotransmitters like norepinephrine and acetylcholine.
- Most important function is to facilitate the passage of sodium, potassium (possibly calcium and magnesium) ions in and out of cells and to electrically stabilize cell membranes.....or said another way:
  - Is necessary for the proper functioning of the sodium/potassium ATPase pump which regulates the ion balance between cells and the extracellular fluid that surrounds them.
  - Is found in high concentrations in white blood cells. Enhances the immune system by stimulating the release of macrophages and increasing neutrophil activity.
- Critical in preterm and newborns for growth and development
- Relieves angina, normalizes blood pressure, corrects cardiac arrhythmia.
- Normalizes blood sugar levels in diabetics.
- Decreases carbohydrate cravings and aids in the release of insulin.
- Alleviates liver disturbances due to poor fat metabolism.
- Is vital to adrenal gland, liver and gallbladder function.
- Improves nerve impulse transmission and eye physiology.
- Regenerates damaged retinal cells.
- Is depleted by MSG
- Prevents glutamate excitotoxicity through regulation of calcium and mitochondrial energy metabolism.
- Lowers elevated blood pressure

- Retards cholesterol-induced atherogenesis
  - Lowers cholesterol, triglycerides, suppresses VLDL , elevates HDL
  - Stabilizes platelets, preserves erythrocytes
  - Increases cholesterol excretion in the bile (rat studies)
  - Is useful in some cases of mitral valve prolapse, cardiomyopathy, congestive heart failure and epilepsy
  - Can neutralize toxic effects of known internally-produced substances and xenobiotics (environmental agents) and can act as a direct or indirect detoxifying agent since it has both acid and alkaline activity.
  - Is a weak chelator and a powerful antioxidant. As an antioxidant, can block the damaging effect of both ionizing (gamma x-ray) and non-ionizing (electricity ) particles as well as block lipid peroxidation ...which may have implications in the aging process and degenerative disease processes.
  - The effects of taurine are greatly enhanced by cations such as magnesium and zinc.
- [ Since 80% of the population is magnesium deficient, we can assume, taurine's job performance is also deficient.]

#### TAURINE'S CONNECTION TO HEART FUNCTION & ARRHYTHMIA

- Taurine is a powerful cell membrane stabilizer
- A deficiency of vitamin B6 suppresses the activity of taurine.
- Taurine, along with Vitamin B6, acts as a natural diuretic for salt and water retention.
- Taurine increases in the heart during chronic stress as part of the adaptive response.
- Following ischemia, taurine levels drop to as low as 1/3 of normal.
- Low levels of taurine are observed in patients following heart attacks and is frequently recommended as a supplement for promoting "heart health"
- Taurine appears to offer potential in the treatment of arrhythmia and reducing blood pressure at relatively high doses....(2 – 6 grams a day) and has been used in studies of heart function at levels up to 6 grams a day.
- Taurine works hand-in-hand with magnesium in controlling calcium in the heart. Heart tissue contains over 100 times more taurine than is found in the blood, making it a critical nutrient for the heart since it affects the heart muscle's ability to contract.
- Protects the heart from oxidative stress.

It is relevant to read PC's report – but go specifically to the Magnesium section and note some of these passages. If I pulled out all the important portions, I'd have to copy the whole report. PC provides a logical connection between magnesium's function, magnesium deficiency, the detrimental role of excess calcium, and stress hormones....and the importance of keeping magnesium and potassium in the cells.

- Revisiting this from PC's report.....

"If there is insufficient Mg for adequate ATP, then the primarily extracellular cations sodium (Na) and calcium (Ca) tend to leak into the cells and the primarily intracellular cations potassium (K) and Mg tend to leak out.

However, membrane leakiness in magnesium deficiency depends less on ATP related activity and more on the membrane stabilizing effects of magnesium phospholipid complexes(12).

This leakiness disrupts proper gradients and cellular function. In addition Mg is an antioxidant and Mg deficiency allows accelerated free radical damage to cell membranes (lipid peroxidation), further compromising cellular cation (positive ion) homeostasis(3,24,32,60,61).

[ Jackie asks: Might we not also conclude that the ion-stabilizing property of taurine is also involved here and if K is allowed to leak out, taurine is more a factor of arrhythmia than perhaps even the magnesium?]

Again – PC's report--- go to this report and review these key points...

.....starting with “ Unfortunately, the deleterious effects of aldosterone ..... (watch for reference #41 and continue through references 80, 81).

Be sure you note he was addressing taurine long ago. The connection is certainly plausible. Taurine is the powerful membrane stabilizer. We need K and Mg in the cells to avoid afib along with appropriate calcium and sodium regulation.

#### A CONTEMPORARY REVIEW OF THERAPEUTIC BENEFITS OF THE AMINO ACID TAURINE” ....by Richard Smayda, D.O. (An excerpt from the “Heart” Subtitle)

“During ischemia, hypoxia, and heart failure, the heart is subjected to a series of adverse changes. Taurine level is depleted in the failing heart. Taurine acts with a number of electrophysiological actions on cardiac cells by modulating the ion channels.

Calcium homeostasis is critical to stable myocardial contractile function. Taurine prolongs the action potential duration of calcium at high intracellular levels and shortens it at low levels.

Changes in the intracellular taurine pool modulate calcium transport, and regardless of whether calcium is elevated or depressed, taurine exerts a cardioprotective action. Through the sodium-calcium transport exchanger in cardiomyocytes (heart cells), taurine permits the entry of sodium which favors a co-transport of calcium. It also modulates the activity of calcium channels to promote sodium influx. Within the area of the sarcoplasmic reticulum, changes in the intracellular taurine concentration modulate calcium transport by promoting calcium release and inhibiting an enzyme that triggers loss of calcium.

In these regards, taurine has an essential function in ensuring stable calcium levels, which thereby promotes proper contractile function of the heart tissue. Likewise, potassium is also an important ion in heart cells. Taurine directly modulates the potassium ion current by increasing the current's action potential duration.

In ischemia, arrhythmia may be induced. Irregular heartbeat patterns are caused by abnormal extracellular calcium concentration in heart cells. With both low and high calcium, the number of beating cells, the beating rate, and the number of arrhythmic cells are adversely affected. In a research study, the addition of taurine attenuated this response of myocytes to varying calcium concentrations. Taurine's effect was quite specific, as analogs (including glycine) were not effective substitutes (20). The incidence of premature beats and tachycardia of the ventricles is notably decreased by taurine treatment.

Taurine is valuable in its role to protect the heart from oxidative stress and post-ischemic injury. It reduces lipo-peroxidation (free radical damage). In patients undergoing coronary artery bypasses who were pretreated with taurine, heart cell mitochondria (the cellular powerhouses) were subjected to far less extensive damage.

The ability to scavenge free radicals is a potent cardioprotective role. When taurine is administered to people recovering from ischemia, the rate of the heart's action is notably different than non-treated counterparts.

Both the quantity of lactate (a marker of ischemic challenge) and quantity of glutathione (a marker of oxidative stress) are attenuated with taurine. ATP levels (denoting cellular energy production) are also suppressed in ischemia. Through the modulation of lactate, glutathione, and ATP, taurine influences the ability and extent of recovery (21-22).

Thrombosis, the formation of a clot (thrombus) in the cardiovascular system, may result in myocardial infarction (heart attack). In this condition, serum endothelin concentration is markedly higher within the first several hours of onset.

When taurine is administered with urokinase, a plasminogen activator (an enzyme that hydrolyzes arginine and lysine), serum endothelin levels decreased after eight hours post-infarction and stayed suppressed for several days. This suggests that taurine can beneficially affect serum endothelin levels and thus be a valuable adjunct to thrombolytic treatment (23).

Angiotensin is a hormone that the kidneys secrete to cause changes in blood pressure, either directly or by altering the sodium content of the blood. It is suspected that incorrect instructions from the angiotensin system are involved in producing hypertension.

Researchers notice that in spontaneously hypertensive rats, minute amounts of angiotensin II cause increase in mean arterial pressure and heart rate, accompanied by increased release of glutamate (24). These changes were partially blocked by using an antagonist of glutamate -- taurine, glycine, or GABA. This research suggests that amino acid neurotransmitters may mediate, as well as contribute to, the cardiovascular effects of angiotensin.

Angiotensin II increases the rate of protein synthesis in heart cells. It also promotes a rise in intracellular calcium. In a particular type of heart cell (non-myocyte), angiotensin II promotes hyperplastic and hypertrophic growth, resulting in an increase in bulk.

Taurine reduces the responsiveness of heart cells to these actions of angiotensin II, largely by altering calcium ion flux across cell membranes. It thereby may benefit cases of heart failure by suppressing undesirable cellular activities.

Angiotensin also activates the sodium-calcium transport exchanger, over which taurine exerts control. Taurine depletion causes an impairment of myocardial relaxation; angiotensin counters this effect. Taurine deficit adversely affects heart contractile ability and ion transport, effects that are ameliorated by angiotensin II.

Taurine lowers arterial pressure by promoting diuresis and vasodilation (opening of the vessels). A depletion of taurine in the heart leads to a decrease of plasma atrial natriuretic peptide (ANP) in the vascular system, causing additional alteration of arterial pressure. ANP secretion caused by increased blood sodium levels is depressed by taurine depletion, leading to a state of diuretic imbalance: excess salt in the absence of taurine leads to an increase of arterial pressure.

Taurine makes up nearly 50% of the free amino acids in the heart cells. It has a dramatic effect on the success of recovery from life-threatening cardiac conditions. Researchers conducted a six-week comparative study of oral supplementation of taurine versus Coenzyme Q-10 in patients with congestive heart failure attributed to cardiomyopathy (including ischemia) and exhibiting a grossly compromised ejection fraction (the ability of the heart to pump blood) (25).

The results were surprising: the taurine-treated group exhibited significant treatment effect on systolic left ventricular function, with no observable effect in the Co Q-10 group. Additionally, its role in blood pressure, caused by its interaction with substances that modulate diuresis, attests to taurine deficiency as a major factor in the hypertensive state.

When treated with taurine, an increase in survival rate and reduction of elevated calcium content in aortic and myocardial tissue is found in mice, which suggests that taurine's regulation of calcium flux may prevent the progression of arteriosclerosis (26).

Additionally, taurine's modulation of calcium yields a stabilizing action on systemic arterial pressure and prevents arrhythmia or ectopy in the hypertensive heart."

[Please be sure to read Dr. Smayda's full report – see references for web page.]

#### TAURINE AND TONICITY (or Osmolarity)

Also important: read Dr. Smayda's section on tonicity and taurine's role. He says, "Cell volume affects the most basic processes of cell function, and as such, it exerts an important role in the onset, severity, and outcome of disease."

#### SIGNS OF TAURINE DEFICIENCY

Epilepsy, anxiety, hyperactivity and impaired brain function. Taurine deficiency symptoms are the same symptoms of MSG reaction – particularly a racing heart.

#### MAGNESIUM TAURATE

Elson M. Haas, MD writes, " I have found that magnesium taurate, an unusual form of magnesium in which magnesium is chemically combined with the amino acid derivative taurine is particularly well-utilized and beneficial. This is because some of the same effects that one hopes to get from magnesium, such as the calming effect on the nervous system, and the strengthening effect on heart muscle, is also gotten with taurine. So, the two are synergistic together. I use it in all form of cardiac and nervous system disorders."

#### TAURINE DOSAGE

Robert Crayhon, author of "The Carnitine Miracle" (p 174) when talking about Carnitine as a valuable nutrient in the control of arrhythmia, says:..... " but the most valuable nutrients are taurine, magnesium, and fish oils, which together have successfully eliminated every case of arrhythmias that I have seen in my practice. (Limiting sugars and caffeine and getting adequate protein is also important.)"

He suggests:

Taurine 1,000 - 3,000 mg  
Magnesium 500 - 1,000 mg  
EPA/DHA 1,000 mg  
Carnitine 1,000 - 4,000 mg  
Vitamin C 1,000 mg  
Vitamin E 400 IU  
Selenium 200 mcg

Dr. Braverman says taurine is a well-absorbed amino acid with a low rate of side effects. Only patients with a tendency to increased stomach acidity have difficulty. Taking taurine with food, milk or milk of magnesia will alleviate the problem. Taurine should never be taken with aspirin. Although rare, taurine excess may cause depression.

500 mg. of taurine daily will elevate plasma taurine to one and one half times normal, which may be therapeutic in some diseases.

Those seeking natural remedies for blood pressure, diabetes, arteriosclerosis, atherosclerosis, neuropathy and anxiety can easily use 1 to 5 grams daily without significant documented risk. Doses up to 20 grams have been used IV.

#### FOOD SOURCES OF TAURINE

It is interesting that Dr. Braverman says (T) is not available in significant quantities in foods (mainly organ meats) and since we now think these can be toxic, are not recommended. He says food stores alone will not be sufficient in deficiency states and supplementation is necessary.

An estimated minimum requirement for the sulfur-containing group of amino acids is 13 mg/kg/day or 910 mg of these amino acids daily for the average 150 lb adult male. Some reports estimate requirements to be as high as 1400

mg/day.

On the other hand (and perhaps with newer research data).....Dr. Smyada lists a variety of foods containing taurine which include cheese, cottage cheese, granola, wild game, oatmeal, whole milk, chocolate, yogurt eggs and more... see article for complete list and values. Most notable is cottage cheese – low in calcium and very high (1700 mg) in taurine.

#### SOURCES FOR SUPPLEMENTAL MAGNESIUM TAURATE & TAURINE

CardioVascular Research Ltd. offers a scientifically designed amino acid-mineral complex which insures maximal bioavailability of magnesium. Magnesium Taurate is a fully reacted complex and not simply a blend of two materials. (from the label). Magnesium taurate 125 mg. 60 capsules.

Vitamin Shoppe has it online for just under \$10.00.  
<http://www.vitaminshoppe.com>

Douglas Labs Magnesium Taurate, 400 mg (120 tablets) (Mfr: Douglas Laboratories) (Professional quality product)  
Four tablets contain: 400 mg Magnesium (from 5000 mg magnesium taurate complex-fully reacted)  
<http://www.gaines.com/store/Douglas/DLB83071info.html>

NEEDS dial -800.634.1380 and ask the price of Douglas Labs product....since they don't publish it online  
<http://www.needs.com/> - Nutritional information and shopping site for the health conscious and environmentally sensitive person

TAURINE POWDER, Source Naturals, 3.53 oz (100 grams) for \$7.00 1/4 teaspoon = 675 mg. Pure powder (crystals) no fillers. <http://www.iherb.com>

#### REFERENCES

The Healing Nutrients Within  
Eric R. Braverman, MD, et.al.  
Basic Health Publications  
North Bergen, NJ  
Revised and Third edition, 2003

Contemporary Review of Therapeutic Benefits of the Amino Acid Taurine  
Richard Smayda, D.O. – 31 pages, 112 references. <http://www.mgwater.com/taurine.shtml#why>

Magnesium and Potassium in LAF, Patrick Chambers, MD  
<http://www.afibbers.org/conference/PCMagnesium.pdf>

Elson M. Haas M.D.  
(Excerpted from Staying Healthy with Nutrition:  
The Complete Guide to Diet and Nutritional Medicine)  
The Importance of Magnesium to Human Nutrition  
© Michael Schachter M.D., F.A.C.A.M.  
<http://www.healthy.net/asp/templates/article.asp?PageType=Article&ID=541>

Magnesium: the Stress Reliever <http://www.healthy.net/asp/templates/column.asp?PageType=column&ID=74>

<http://www.coldcure.com>  
<http://MSGtruth.org>

Functions of Magnesium <http://www.health-marketplace.com/P-Cardiovascular-Disease-9.htm>

Here's to Your Health,Donald J. Carrow, MD, October 1993,Taurine, The Miracle Substance

Taurine: <http://www.supplementwatch.com/supatoz/supplement.asp?supplementId=274>

Taurine Research Summary <http://www.diabetestea.com/p31shortoyster.html>

Disclaimer: I am not a physician and am providing this information only as reference material to increase awareness. I have no affiliation with any of the web sites, products, or references listed.

### **Jackie**

---

Thanks for posting this Jackie. Lots to digest here.

A question regarding not taking taurine with aspirin--I have checked on the Internet and, so far, have not found any interaction between taurine and aspirin. Since I'm on aspirin therapy rather than Coumadin this is a concern. Or maybe this is meant to be interpreted as not to take the aspirin and taurine supplement together. Any further information about this?

### **Laura**

---

Take a while to digest all this, Jackie, but i am working on it. I am curious about the aspirin and taurine problem too, as i take aspirin for the lame old knees. Actually i have been taking naproxen instead for the last couple of months, but when this flareup subsides i want to go back to aspirin. What bad effect does this have?

About the blood pressure lowering effect, how long does it take for that to appear? I have been taking taurine for at least 2 months and have not seen it as yet.

Thanks for all the research you have done.

### **Peggy**

---

I have been waiting eagerly for your posting, Jackie, and really appreciate your hard work and enthusiasm. My husband, the lone AFIBBER, started taking the Cardiovascular Mag. Taurate in early October and went two months without a break through of AFIB (after months of every two week bouts). In December, he is now having break throughs every 5-7 days, despite continued diet regulation, no MSG, etc. He takes 3-4 tabs a day and liquid Mag. before he runs, which often helps him get into sinus rhythm quickly. How many tabs would he need to have enough? He had been taking good chelated mag. before and I wonder if the mixture was better than just Mag. Taurate? His AFIB is MUCH gentler and he has fewer PAC's/palpitations since being on Mag. Taurate but now his heart may be too slowed down or efficient or something? We are starting to panic as the incidents collapse so any advice would be great. My role in all this is to support him and to find options so ablation can be postponed as long as possible. I cope by researching.

### **Karin**

---

Jackie,

What a most excellent post. Lots of work involved. Thank you so much for taking the time and effort to put this together. Again this BB is in your debt.

I think you're elevating the role of taurine (or lack of it) in LAF to its proper place on a par with magnesium. Magnesium has been out there awhile, but no one seems to appreciate the importance of taurine.

Dr. Durlach and only a handful of clinicians like Dr. Crayhon.

Your article has so much to digest that I want to read it over carefully. Needless to say, I've already copied and pasted it.

**PC**

---

Great job Jackie!

Thanks so much for your effort in presenting so much interesting, important information! I, too, am interested in whether aspirin can be taken as long as it isn't at the same time of day as the taurine. Also, you mention that taurine helps regulate the blood sugar levels with diabetes, so can I assume it would also do so for hypoglycemia or does it just lower the blood sugar levels?

Thanks again.

**Lorraine**

---

Jackie,

What a great post!! It's late, and I would like to re-read, but I'm most intrigued by what Robert Crayhon had to say about eliminating every case of arrhythmia he had treated. That's profound, to say the least. I've been taking 1000mg of taurine per day (2 caps of free form crystalline from Jomar labs), but I'm going to up the dose to between 4-6000mg per day gradually. Before I had my first urine amino test, I was taking 2000mg of taurine per day. The results of the urine showed high levels of taurine, so I know I was passing a lot via urine. The possible reasons are: 1) I wasn't taking enough B6 to assist its absorption, 2) the body can only absorb so much, or 3) there's a defect in the pathway. I'm taking more B-6 now, than I was before, (130mg P5P and pyridoxine) so I think I'm alright with that therapeutic dose. I sure make yellow snow.

Thank you so much, Jackie, for all the time you spent researching and posting this excellent article.

**Richard**

---

Jackie,

Thanks for all the hard work and the interesting read. I've always (perhaps incorrectly it seems) considered that I got 'enough' T from eating quite a lot of protein. Last week I ordered MgT so I'll see how I get on with that as regards hopefully reducing ectopy (where MgG seemed to increase it....).

My only concern is a potential problem with extra T and stomach over-acidity..... and I don't do well at all with dairy. I'll just have to watch that one - be careful to take extra T with meals only and see how I go. I'm hoping that the over-acidity complication is only a relatively mild potential problem.

I just knew Richard would LOVE your post and I kinda figured he'd really like the fact that T is the most S-containing amino of 'em all. I'm also intrigued by the statement as regards Robert Crahon eliminating all arrhythmias with his protocol..... Also, and notably in the light of Richard's comments, Crahon does not advocate Vit B to assist with the absorption on the T....

Thanks again Jackie (and PC),

**Mike F.**

---

Laura, Peggy and Mike F - About aspirin and taurine

Dr. Braverman says:

"Ulcers: Early studies found that taurine and glycine enhanced the ulcerogenic effect of aspirin and other salicylic acid derivatives such as magnesium salicylate. However, a more recent study by Kimura and colleagues showed that taurine protects the stomach and liver from aspirin-induced irritation under some circumstances. (p. 140)" he goes on to say....

" Taurine may elevate stomach acid and increase risk of ulcers, but only in individuals with a tendency toward increased stomach acid. Taking taurine with food, milk, or milk of magnesia will alleviate this problem. Taurine should never be taken with aspirin. p. 141."  
(Healing nutrients Within.)

Go the referenced report by Dr. Smayda - and check the heading Gastroenterology....(around page 17)... He says:

..."In some people, pain relievers classified as non-steroidal anti-inflammatory drugs (NSAIDs) such as aspirin and ibuprofen, can cause gastric ulceration.

Taurine exerts a protective effect on this GI insult through its antioxidant properties. By inhibiting neutrophil (white blood cell) activation and lipid peroxidation, taurine is able to prevent the adhesion of neutrophils to the gastric lining (46). "

[note from Jackie: I have a tendency toward stomach acidity, now very well controlled with the additional doses of magnesium, and have been taking bulk taurine powder since July 1 of last year with no adverse stomach irritation...but I always take it when I'm finished with a meal.]

Peggy - regarding blood pressure effects..... I mentioned previously that if you have essential hypertension, very often no amount of natural type intervention will bring about a control of hypertension. You could be one of those people. Of course, many other factors of lifestyle and health status are involved with hypertension.

Braverman says that taurine can suppress renin and thus act to break the renin-angiotensin feedback loop, which is believed to be one mechanism of hypertension. .... you could Google that Peggy to see if it sheds any light on your situation.

Richard - I can't put my "eyes" on the section that addresses taurine and urine content - but when I find it, I'll post it. Most likely it is in Smayda's report.... I'm just a bit blurry eyed and can't seem to locate that particular topic. I will.... unless you find it first. I do know that Braverman says he measures taurine with serum samples rather than urine.

Lorraine - Good point - ..... Braverman says (p. 137) - "In insulin-dependent diabetes, taurine is thought to improve utilization of glucose and potentiate the action of insulin... Note; because insulin can have hypoglycemic effects, taurine should be given with caution to patients with blood sugar problems"... end quote.

So, Lorraine, as we have talked about your hypoglycemia, perhaps you should back down in the amount of taurine you are taking to reduce the calcium.

If you go to the Smayda report - check under the heading Diabetes for more details about insulin, etc. (about page 20)

Jackie says:

As a cautionary note:

I don't think anyone should rush out and begin consuming 6 grams of taurine just because that is mentioned as

therapy.

I do think a little with the magnesium one is already taking is a good thing. If nothing else, it helps control the bowel tolerance issue.

As I mentioned - I'm very comfortable with half of the MgG and half of the MgT for a daily dose of about 675 from supplements at surely another couple of hundred from food.

Thanks for all your kind comments. Checking out taurine was a lot of work but very enlightening and seemingly, important for afibbers.

**Jackie**

---

Jackie,

Thank you very much for the first rate synthesis of information on Taurine. You are an angel.

I am changing my regimen slightly by adding more taurine and including selenium. Haven't seen that mentioned before for afib.

I am also working hard at getting more vegetables and fruit into my diet. I am really focusing on that at every meal. My goal is to eventually get off the supplements and do as Fran does with super healthy eating. (No matter how difficult life becomes with Afib, a PVA is not in my thinking right now; nor are drugs) I am also exercising more at the gym. It is hard to walk outside right now with all the snow and ice.

I have gone TWO WEEKS with only one bad afib night! That is a milestone for me! I feel rested for the first time in a long time and look and feel ten years younger. For me the worst part of afib is the lack of sleep.

Again, thank you for your wonderful help.

**Carol**

---

Hi Carol - what a wonderful way to plan your new year.... diet changes are always good. I love eating with vegetables the main focus...sometimes I just make a huge vegetable stir fry and add 1/2 cup brown rice and about 15 almonds for protein..... The one thing I do is be sure to have some protein at every meal though, because I have the hypoglycemia tendency, but I use protein as a garnish to the meal rather than the main event.

I think you are on the right path by using Fran as your role model.... we should all try to remember Fran when we make out the grocery list!

Good luck. So glad to learn your events are lessened...hopefully fading off into the sunset.

Keep up the good work.

Best,

**Jackie**

---

Thanks for the clarification about aspirin and taurine. As I also am careful to take both aspirin and supplements on top of food only, it seems that will not be a problem. I won't hold my breath waiting for my bp to drop, either.

One more question: so far it seems that taurine has only good qualities. Have you found any harm that can come from taking it? I am actually taking 6g a day of it, in hopes that it will cause my cholesterol to go down so my doctor will quit hassling me about taking statins. I found a study where the subjects took this amount, and had no bad effects, and lowered their cholesterol. Unfortunately I have lost the bookmarks where I had that study stored, so I can't quote it to

you. They were stored at bookmarks.org, and that site has vanished as though it had never existed.

Thanks again for all the research you are doing. I wish i could do as much for you as you have done for me.

## Peggy

---

Jackie,

There I go again. Thinking out loud via the BB, and maybe leading people to believe they need 6grams of taurine. Just to let everyone know; I'm in guinea pig mode. So, when I say I'm going to up my dose of something to more therapeutic levels, I am experimenting. On the other hand, I do believe that we are all suffering deficiencies in the sulfur groups of the amino acids, methionine, cysteine, glutathione, and taurine. I'm going to repeat why I believe this, and remember Dr. Jonathan Wise, the microbiologist, thinks we are all lacking methionine, as well:

Our forefathers had it right to a certain degree. They ate good, unadulterated proteins, farm fresh eggs, and raw dairy with no hormones or antibiotics, and they breathed fresh, clean, unpolluted air. If they fished, their catch didn't contain mercury or other industrial contaminants. The only problem I see to their longevity problems were lack of more vegetables and fruits, due to only having available to them what was local to their area. If and when they did eat vegetables and fruits, they weren't laden with pesticides, and their soils were not depleted of important nutrients, however. Their meals were probably more based on the meat and potato concept. This is more my opinion, and take on the situation.

Modern day man now breathes pollution from industrial toxins, auto pollution, and who knows what else. He eats pesticides on his vegetables, steroids and antibiotics in his meats, mercury and other contaminants in his fish, sulfites and free glutamate in his processed, dead foods, and drinks water with fluoridation and chlorine. The body is under constant assault. Sulfur is seeking electrons from all these free radicals, and the free radicals are willing to give up these electrons. Once this donation is made, the free radical is calmed and can then be carried from the body. On the other hand all the animals are also fighting the assaults of what has been put upon them, so are their stores of sulfur at suboptimal levels? I believe so, which further makes it difficult for us to get the amount needed.

Anyway, on to my point of this post. I had been saving a couple of posts to present when Jackie posted, so here's a bit more on taurine.

### Biochemistry and Metabolism

Although frequently referred to as an amino acid, it should be noted that the taurine molecule contains a sulfonic acid group, rather than the carboxylic acid moiety found in other amino acids. Unlike true amino acids, taurine is not incorporated into proteins, and is one of the most abundant free amino acids in many tissues, including skeletal and cardiac muscle, and the brain.<sup>5</sup>

In the body, taurine is synthesized from the essential amino acid methionine and its related non-essential amino acid cysteine (see Figure 2). There are three known pathways for the synthesis of taurine from cysteine. All three pathways require pyridoxal-5'-phosphate (P5P), the active coenzyme form of vitamin B6, as a cofactor. A vitamin B6 deficiency has been shown to impair taurine synthesis.<sup>6</sup>

The activity of cysteine sulfenic acid decarboxylase (CSAD), the enzyme which converts both cysteine sulfenic acid into hypotaurine, and cysteic acid into taurine, is thought to reflect the capacity for taurine synthesis.<sup>7</sup> Compared to other mammals, humans have relatively low CSAD activity, and therefore possibly lower capacity for taurine synthesis.<sup>8</sup> Much of the published research on taurine has involved studies done on cats, which do not synthesize taurine, but must consume it in their diet.<sup>5</sup> Therefore, since humans have the capacity to synthesize at least some taurine, it is unclear to what extent feline studies can be extrapolated to humans.

### Cardiovascular effects in part.

A double-blind, placebo-controlled crossover study suggested, "taurine is an effective agent for the treatment of heart failure without any adverse effects." 22 Fourteen patients (9 men and 5 women) with CHF were evaluated initially and baseline data were obtained. Patients were assigned a "heart-failure score" based on the degree of dyspnea, pulmonary sounds, signs of right-heart failure, and chest film abnormalities. All patients were continued on digitalis with diuretics and/or vasodilators throughout the study period. Patients received 6 grams per day in divided doses of either taurine or placebo for four weeks, followed by a 2-week "wash-out" period. Prior to the cross-over period, baseline data were obtained for the following study period, in which patients received placebo or taurine, whichever was not taken during the first study period. Heart-failure scores fell from  $5.8 \pm 0.7$  before taurine administration to  $3.7 \pm 0.5$  after taurine ( $p < 0.001$ ); the score did not change significantly during the placebo period. A "favorable response was observed in 79 percent (11/14 patients) during the taurine-treated period and in 21 percent (3/14 patients) during the placebo-treated period; 4 patients worsened during the placebo period, whereas none did during the taurine period ( $p$  less than 0.05)."<sup>22</sup>

### Bile Acid Conjugation and Cholesterol Excretion

The liver forms a 2-4 gram bile acid pool that has approximately ten enterohepatic cycles per day, with the terminal ileum serving as the main absorption site for the enterohepatic recycling of approximately 80 percent of these acids. Bile acids function as a detergent for emulsification and absorption of lipids and fat-soluble vitamins. Critical to this function of bile are the bile salts which, because of their lipophilic and hydrophilic components, can lower surface tension and form micelles. Two major bile acids are derived from hepatic cholesterol metabolism: cholic acid and chenodeoxycholic acid. From these primary bile acids, intestinal bacteria form the secondary bile acids deoxycholic acid and lithocholic acid, respectively. For these bile acids to be solubilized at physiological pH, it is essential they be conjugated through peptide linkages with either glycine or taurine; these amino acid conjugates are referred to as bile salts.

Taurine conjugation of bile acids has a significant effect on the solubility of cholesterol, increasing its excretion, and administration of taurine has been shown to reduce serum cholesterol levels in human subjects. In a single-blind, placebo-controlled study, 22 healthy male volunteers, aged 18-29 years, were randomly placed in one of two groups and fed a high fat/high cholesterol diet, designed to raise serum cholesterol levels, for three weeks. The experimental group received 6 grams of taurine daily. At the end of the test period, the control group had significantly higher total cholesterol and LDL-cholesterol levels than the group receiving taurine.<sup>24</sup>

### Detoxification

Due to its ability to neutralize hypochlorous acid, a potent oxidizing substance, taurine is able to attenuate DNA damage caused by aromatic amine compounds *in vitro*.<sup>27</sup> Because of taurine's unique structure, containing a sulfonic acid moiety rather than carboxylic acid, it does not form an aldehyde from hypochlorous acid, forming instead a relatively stable chloroamine compound. Hence, taurine is an antioxidant that specifically mediates the chloride ion and hypochlorous acid concentration, and protects the body from potentially toxic effects of aldehyde release.

Taurine has also been reported to protect against carbon tetrachloride-induced toxicity.<sup>28-31</sup> In rats exposed to carbon tetrachloride (CCl<sub>4</sub>), hepatic taurine content decreased significantly 12 and 24 hours after CCl<sub>4</sub> administration. However, oral administration of taurine to CCl<sub>4</sub>-exposed rats was able to protect these animals from hepatic taurine depletion, suggesting that hepatic taurine may play a critical role in the protection of hepatocytes against hepatotoxins such as CCl<sub>4</sub>.<sup>28</sup>

Exposure to bacterial endotoxins has been suggested as one factor which can augment the magnitude of individual responses to xenobiotics.<sup>32</sup> Circulating endotoxins of intestinal origin have been found to create a positive feedback on endotoxin translocation from the gut, stimulating increases in serum endo-toxin levels. In experimental animals, taurine was found to significantly inhibit intestinal translocation and to protect the animals from endotoxemic injury.<sup>33</sup> Therefore, it is possible taurine might be able to modify factors underlying susceptibility to toxic chemicals.

### Hepatic Disorders

Two groups of patients with acute hepatitis, all with serum bilirubin levels above 3 mg/dl, were studied in a double-blind, randomized protocol. Subjects in the treatment group received 4 grams of taurine three times daily. Bilirubin,

total bile acids, and biliary glycine:taurine ratio all decreased significantly in the taurine group within one week as compared to controls.<sup>34</sup>

## Diabetes

Both plasma and platelet taurine levels have been found to be depressed in insulin-dependent diabetic patients; however, these levels were raised to normal with oral taurine supplementation. In addition, the amount of arachidonic acid needed to induce platelet aggregation was lower in these patients than in healthy subjects. Taurine supplementation reversed this effect as well, reducing platelet aggregation. In vitro experiments demonstrated that taurine reduced platelet aggregation in diabetic patients in a dose-dependent manner, while having no effect on the aggregation of platelets from healthy subjects.

<http://www.thorne.com/altmedrev/fulltext/taurine3-2.html>

### Title

Lecithin protects against plasma membrane disruption by bile salts.

### Author

Narain PK; DeMaria EJ; Heuman DM

### Source

J Surg Res, 1998 Aug, 78:2, 131-6

### Abstract

**INTRODUCTION:** Detergent disruption of epithelial plasma membranes by bile salts may contribute to pathogenesis of cholestasis and gastroesophageal reflux disease. Bile, despite containing high concentrations of bile salts, normally is not toxic to biliary or intestinal epithelia. We hypothesize that lecithin in bile may protect cell membranes from disruption by bile salts. **METHODS:** We studied the interactions of taurine conjugates of ursodeoxycholate (TUDCA), cholate (TCA), chenodeoxycholate (TCDDCA), and deoxycholate (TDCA) with erythrocyte plasma membranes with or without large unilamellar egg lecithin vesicles for various times at 23 degreesC. Release of hemoglobin was quantified spectrophotometrically. The concentration of bile salt monomers and simple micelles in the intermixed micellar aqueous phase (IMMC) was determined by centrifugal ultrafiltration. **RESULTS:** The degree of hemolysis depended on the hydrophobicity of the bile salts and was progressive over time. Addition of lecithin reduced the hemolytic effects of 20 mM TCA or 2 mM TDCA in a concentration-dependent manner at both 30 min and 4h. Increasing the concentration of lecithin progressively reduced the IMMC of TDCA. Hemolysis following addition of lecithin to 2 mM TDCA was comparable to hemolysis produced by lecithin-free TDCA solutions when diluted to similar IMMC values.

**CONCLUSION:** We conclude that lecithin reduces plasma membrane disruption by hydrophobic bile salts. This protection may be attributable to association of bile salts with vesicles and mixed micelles, reducing the concentration of bile salt monomers and simple micelles available to interact with cell membranes. Lecithin may play a key role in preventing bile salt injury of biliary and gastrointestinal epithelia.

There's a few more studies at this site.

<http://www.cfsn.com/taurine5.html>

Don't quote me on this, as I'm going by memory, but cattle have estradiol implants put under their skin. I'm not sure why this is done, but it must help the cattle grow faster. It has to be for "\$more money\$" reasons. In the book "Amino Acids in Therapy" by Leon Chaitow he states taurine is needed more by women, because the female hormone estradiol depresses the formation of taurine and if additional estradiol is taken by way of medication, then this would further the inhibition.

Taurine has also been shown to normalize the balance of other amino acids.

I found this of interest. Dosage is suggested at one gram, not more, followed by daily doses of not more than 500mg. and reducing to 50mg and 100mg a day. High doses are not as effective as low doses, repeated infrequently, since taurine accumulates rapidly and is only slowly metabolized. Full spectrum light exposure results in increased levels of taurine being concentrated in the pineal gland and pituitary glands. Continued exposure to artificial lighting might cause this concentration to be reversed.

Although I was taking taurine upon having an urine amino acid test, and attributed this to my high urine levels, this book goes onto to say that high urine taurine levels are indicators of cardiac arrhythmia and gastro-intestinal pain. Huxtable, R. and Pasante-Morales, H., Taurine in Nutritional and Neurology, Plenum Press, 1982.

A little off the subject, but this followed the above, is that carnitine, another good amino for the heart is converted rapidly by lysine as well as methionine. This process is dependent on adequate Vit C. The supply of carnitine is especially enhanced by lysine ingestion.

More to follow from the book "Laboratory Evaluations in Molecular Medicine".

### **Richard**

---

Thank you, Jackie, for the time and effort you put into your research. You always break things down so I can understand it. You also take time to back it up with sources so it can be verified if questions pop up.

I just started taking Mag GI and am up to 3 tabs a day of the KAL brand. I think I'll increase with the Mag T. I haven't noticed any difference yet.

I appreciate your help here and yours as well, Richard. Thanks for the info you added here.

If a cure for Afib is not found, it won't be from lack of trying on the part of the contributors to this BB

### **Elaine**

---

Peggy - In the very first part of Dr. Smyada's report, he says this:

...."Barring inborn errors of metabolism, oral supplementation replenishes decreased plasma taurine levels.

Therapeutic dosing ranges from 1 to 3 grams daily and should be administrated with the advice of a qualified healthcare provider.

In those individuals who develop stomach ulcers with aspirin, for instance, taurine is contraindicated. "

On the topic of lowering cholesterol - have you considered the policosanol? Do a Google and read about it....it's safe and as effective as statins - in some cases a bit less and in others, a bit more.

I wrote before that the type to buy is made from Cuban sugar cane so be sure you know the source before buying. Again, I use a Metagenics product but there are others out there.

Many health writers and holistic practitioners say that cholesterol is not the bad guy....the other markers for heart disease are much more deadly.

### **Jackie**

---

Thanks, Elaine, for your kind words. You are right - if we can't find a cure, it won't be because we didn't try.

How much of the mag glycinate are you getting in a day? You may need to go higher than 600 mg. I found sustained relief at the 800 level. I maintained that for about a month and then backed down to 600 where I maintain today. I think that once the cells became saturated, and the afib stopped, it didn't make sense to keep taking the elevated doses.

Reaching the saturation point and eliminating the magnesium deficiency can take time. Some people will not be able to keep afib at bay on lower doses because their daily needs keep depleting the stores so that the deficiency state

remains a constant.

The taurine portion of supplementation, seems to keep magnesium in the body longer since it counteracts the loose stool effect many people get when they reach saturation. This is a tricky balance and one really has to "know their body" to get this saturation point fixed and constant.

Keep on trying.

**Jackie**

---

Karen - you are a sweetheart to be so supportive. That means a lot... you have no idea how much it means to the fibber to know that someone really cares about what is happening.

My suggestion would be to use only the MgT and go up to at least 800 mg a day. I would also begin supplementing with potassium....look up the food content of potassium (K) and try to push as much as you can with that. Try having him drink low sodium V8 or one of the vegetable juices like that.... lots of K in those and easy to drink. Just watch the sodium since too much will displace the potassium....

If and when he runs - load up even more with the magnesium blend...since heavy exercise like running quickly depletes magnesium and taurine....as well as the other important electrolytes.

There are some powdered mineral supplements that can be used as well.

Additionally, I use a product called Emer' gen C (tm) by the Alacer Corp. [www.alacerCorp.com](http://www.alacerCorp.com) that contains vitamin C and minerals for balancing electrolytes. I take this little sealed plastic packet on the golf course with me on hot days and when I feel drained, I put it in water and it truly refreshes me....

Also - it fizzes when I add it to water. There are various combinations of this product - the one I have right now is Instant Lemon-Lime High Potassium - 1000 mg vitamin c as "Mine'real ascorbates" ... and contains 32 mineral complexes for electrolyte balance.

It tastes great; extremely convenient and portable. Comes with MSM and other variations... I would think the web site describes them. I get it in a health store or online at the Vitamin Shoppe. I haven't checked iherb.com to see if they carry it. It's usually around \$10 for 36 packets. Also - NOW brand has a similar product in little packets.

No stirring needed - it dissolves instantly.

You might want to try this when he runs.

But --- I must caution - he should try everything long before an important run.... no sense getting surprised if something doesn't agree with him.

Wish I could help more.

**Jackie**

---

Richard - thanks for your contribution.... If you just go to the Article by Dr. Smayda on Taurine that I reference at the end of my report....you will find the whole article - 30 pages of it and over 100 footnotes.... all about taurine and just about what you are posting here.

I just didn't want to tie up the BB by reproducing the whole report and decided to just list the highlights. here are many, many other facets to taurine and many that Dr. Smayda believes should be tested for potential therapeutic use.

To be sure Taurine is an important and interesting amino acid...but certainly not the only one. That it is implicated in arrhythmia is what is relevant here and I do believe there is a connection between intractable magnesium deficiency and a taurine deficiency that comes together in some manner to set the scene for afib.

**Jackie**

---

Jackie,

We have copied your thoughtful posting and will check out the many options you offered. Happily, he went into sinus today about an hour after working out and taking this Cardiovascular Research LTD. Magnesium Solution 18%, which is Mg Chloride-Mg Acetate in Double Distilled Water. Several times he has stopped an outbreak if he can get this in his system fast as his naturopathic doctor said it is absorbed very quickly. Three times he was able to get into rhythm with about 30 minutes of running/walking--nothing too strenuous and it has to be after about 5-6 hours of being in AFIB--not too soon, not too long. What a balancing act!

Just your writing back makes us both feel supported, especially in the face of dealing with his MD and NP who are unsympathetic with the havoc AFIB plays in our family's life. You have to know what it is like to really sympathize and hearing the touching stories on this bulletin board really let's us all know how brave everyone is in their pursuit of answers and positive change.

Go girl, as we say in the south!

**Karin**

---

Jackie

I'm taking KAL Magnesium Glycinate 400. 2 Tablets equal the 400 daily recommendation on the bottle. I started in Dec with the 2 tablets and have been taking 3 for about a week. I figure in 2 weeks I'll add a Magnesium with Taurine & a complex B vitamin and see what happens. I have not yet had the symptoms of Magnesium saturation. Since it can't hurt I figure that's the first thing to try.

In the meantime I want to try Fran's suggestion of following a Paleo diet for 3 days and see what happens. I am giving myself this year to experiment with what I am learning here. I want to find out how much I can help myself b4 taking too much meds. Right now I take only 2mg Warfarin.

Thanks

**Elaine**

---

In regards to the Taurine and aspirin and possible stomach ulcers - I am on aspirin therapy plus have GERD and take Nexium to control stomach acid and reflux. Would taking Taurine interfere with this medication do you think, or put me at any higher risk for more gastric problems?? Are there any contraindications for using Taurine that you have run across for other conditions??

I am in awe at the amount of information on this forum and am ecstatic to have found it - thanks everyone!!

**LeAnn**

---

Karin - Could you type for the BB the contents of the label if it gives a breakdown as to how much magnesium, etc. This product could be extremely helpful to others. Please share the details.

Thanks.

***Jackie***

---

LeAnn - I would not want to be responsible for telling you that taurine was not harmful to your situation. Both Drs. Braverman and Smayda seem to indicate it has protective properties, but if you have a known propensity toward stomach ulcers, I'd say it is not worth the risk to consider taurine. I presume you have medical instructions regarding aspirin and Nexium?

I have not seen any other side effects or contraindications for taurine - so far...I'll continue to look since that is an important issue. I've copy-typed what Dr. Braverman says in his book about contraindications. The stomach ulcer issue and in rare cases, depression were the only two listed.

Glad to have you on the forum. I agree. It is the best!

***Jackie***

---

I started on Acidophilus twice a day per a recommendation from another poster (Mary in Seattle). I have tried Protonix, Pepcid, and Prevacid for GERD without a lot of success. After taking acidophilus (two weeks now) things have really gotten better with my stomach and GERD and am even having less episodes of afib/flutter.

Just a suggestion that may help.

***Debbi***

---

Debbi,

That's great news about the probiotics. I hope it continues to work.

LeAnn,

You may want to do a search at the top of this page and enter GERD in the field, then make sure you change the dates to "all dates". There's a lot to read. You could even go to the archived bulletin board and do the same.

I'm pretty sure that by using Prevacid for a number of years, that is what caused my flutter, but also the use of Tums (calcium) for years before that. I've explained my thoughts on that in previous posts. I now am on the Paleo diet, and use digestive enzymes and probiotics, with the latter coming later. My GERD disappeared the second day of the Paleo diet, but I had already quit Prevacid and was on enzymes when making this change. The enzymes helped, but the diet was the miracle. Also, you may want to make sure you're on a good B complex, as acid reducers stop your body from absorbing B12, as it is dependent on the acid production for absorption. Maybe a sublingual B12 would serve you well, coupled with B complex.

***Richard***

---

Debbie - Yes! to Probiotics! I'm thrilled you find relief. I think everyone should take probiotics daily. It can only help. A healthy gut is the most important issue since without it, we don't get the nutrients we need.

Good job. Debbi

***Jackie***

---

## **Taurine Research**

For anyone interested in delving further, the LEF site has about 40 pages (99 abstracts)

Scientific Abstracts: Comprehensive Nutrient Review: Taurine Research Abstracts

[http://www.lef.org/abstracts/codex/taurine\\_abstracts.htm](http://www.lef.org/abstracts/codex/taurine_abstracts.htm)

Most are animal studies.

**Jackie**

---