

Here is a summary of my June appt. with Dr. Cheney as requested. I had previously compiled one for my Long Beach, CA CFS group so I'll just pass it

on to you in total. It includes the Hg detox previously sent. I think I'll

be preaching to the choir here with this summary, considering how knowledgeable members of this egroup are.

Introduction

I became ill with CFS in 7.93. I had several dental amalgams removed in 1996. I first saw Dr. Cheney in 4.98. I had an infected root canal yanked in 1999.

The tests ordered here were based of my initial workup with Dr. Cheney, as well as current symptoms. Further information about Dr. Cheney's practice and CFS in general can be found at the following websites, among others:

www.fnmedcenter.com/ccis (Dr. Cheney's site), www.virtualhometown.com/dfwcfids/medical (the very informative Dallas-Fort Worth CFS support group website), www.immunesupport.com/library and at www.folkarts.com/idef.

Tests

1. Immune System Activation of Coagulation (ISAC) Panel. Hemex Labs, (800) 999-CLOT, www.hemex.com.
2. Natural Killer Cell Function Assay. E.M. Papper Laboratory of Clinical Immunology and Molecular Biology, University of Miami School of Medicine, (305) 243-6288.
3. Fecal Toxics, Hair Elements. Doctors Data, (630) 377-8139, www.doctorsdata.com.
4. Cheney Lymphocyte Enumeration. AAL Reference Labs, (800) 522-2611.
5. MRS Scan: Multislice Brain Proton Magnetic Resonance Spectroscopic Imaging (H MRSI) per Shungu/Cheney protocol. The Columbia Presbyterian Medical Center, New York City, Dikoma Shungu, Ph.D., (212) 305-0989.
6. Bicycle Stress Test for Growth Hormone Deficiency per Dr. Cheney protocol. Harbor-UCLA Medical Center Respiratory Physiology Lab, Dr. Sietsema, (310) 222-2345.

Discussion

The ISAC panel measure help determine hypercoagulable states. This condition may be induced by immune activation of the coagulation (IAC) system. This in turn may be a factor in CFS. See www.hemex.com/poster-cfsfm.htm ("Is CFS/FM Due to an Undefined Hypercoagulable State..."). Dr. Cheney feels it important to resolve this condition early on before other therapies, if I remember correctly. My results showed a slight activation suggesting the possibility of a fibrinolytic defect. It is possibly immune activated, as I have no family history of strokes or heart attacks. Dr. Cheney wondered if it was due to GH deficiency. I will take heparin for 90 days, which incidentally he also utilizes as an immune modulator. He also recommended turmeric, bromelain

and digestive enzymes indefinitely for this condition.

The lymphocyte panel and natural killer cell assay help determine if the immune system is activated. Dr. Cheney considers it important to balance the immune system before beginning GH injections, if indicated. For very detailed discussion by Dr. Cheney about immune system activation and CFS see

www.immunesupport.com/library/print.cfm?ID=2911 (“Dr. Paul Cheney Discusses

Th1, TH2, the Immune System and Chronic Fatigue Syndrome Part 1”) and www.immunesupport.com/library/print.cfm?ID=2925 (“Dr. Paul Cheney Discusses

Th1, TH2, the Immune System and CFS - Part 2”). As it was, my immune system was activated but not enough to concern Dr. Cheney. There is discussion of six immune modulators he uses in the articles listed above. It also discusses how to order the Natural Killer Cell Function Assay. The fecal toxics and hair elements tests measures heavy metal loads. Subsequent chelation therapy proved problematic, indicating sensitivity to mercury. Dr. Cheney wanted to know my current load. He is excited about Metal-Free, a safer and more efficacious chelator than pharmaceuticals I had

previously used. It is a microfermented green algae cell wall extract that

acts as a powerful mercury chelator. Other chelators bind to mercury but lose that connection 40-60% of the time before the mercury is excreted.

That creates additional exposure to, and problems from, mercury.

Apparently, Metal-Free’s success rate is close to 100%. See

www.metal-free.com. However, it should not be used unless dental amalgams have been removed. Liquid selenium, zinc picolinate and whey protein concentrate were also recommended for protection against further mercury-induced binding.

Most CFS patients have at least a 50% reduction in GH. Dr. Cheney suspects

it’s more profound the longer you are ill. The standard IgF-1 test has been

proven not to be a reliable measurement of GH. A bicycle stress test with hormone response is the safest and most accurate test. I recently took a bicycle stress test here locally at Harbor-UCLA and results are not in yet.

[My results were borderline deficient]. They will dictate if GH therapy is

indicated. He is excited about the potential of GH and growth factor therapies in repairing brain injury and in potentially increasing the benefit from other therapies.

Dr. Cheney considers the MRS scan both an important diagnostic tool and disability document. It measures potential spikes in chemicals or substances of the hypothalamus and the cerebrospinal fluid in the left ventricle of the brain. It helps document brain damage as well as brain repair, if GH therapy is subsequently undertaken. For discussion by Dr. Cheney about GH deficiency, GH therapy and the MRS scan see

www.virtualhometown.com/dfwcfids/medical/advances.html (“Growth Hormone

and

Bovine Growth Factors”), www.virtualhometown.com/dfwcfids/medical/new.htm (“Exciting New CFS Treatment”), www.immunesupport.com/library/print.cfm?ID=2918 (“Dr. Cheney on Growth Hormone”), www.immunesupport.com/library/print.cfm?ID=2924 (“Cheney on GH

Summary”) and www.immunesupport.com/library/print.cfm?ID=2966 (“Dr. Paul Cheney on Mitochondrial Myopathy, MRS Brain Scans and Chronic Fatigue Syndrome”). My MRS showed brain damage, not surprisingly.

Dr. Cheney spent a lot of time discussing mitochondria myopathy.

Unfortunately, the audiotapes I made of the session were indecipherable. I am on shaky ground here because these comments are based solely on some of his handwritten notes and my faulty memory. Again see

www.immunesupport.com/library/print.cfm?ID=2966. Apparently, viruses, toxins (like mercury and arsenic), low GH and xenobiotics (internal toxins created by a dysbiotic GI tract, for example) can cause mitochondrial dysfunction. Corrective measures include addressing the problems listed above. Supplements recommended by Dr. Cheney to help resuscitate mitochondria include CoQ10, alpha lipoic acid, selenium, taurine, undenatured whey protein and ozonated oil.

Apparently, ozone is a counter-intuitive tool. I think it has a probiotic benefit only up to a certain point. I believe ozonated oil and hydrogen peroxide IV’s have similar properties. But Dr. Cheney much prefers ozonated

oil because you set the dose. It is dose dependant for each individual.

He

feels hydrogen peroxide IV’s are heavy-handed. His protocol for ozonated oil is called a challenge. You ramp up the dose gradually to the maximum, being on the lookout for relapses at any time. See

www.gaines.com/html/product_info/ARG/ARG73400info.html for more information.

Dr. Cheney highly recommends undenatured whey. It addresses the glutathione

deficiency that is the virtually universal in CFS patients. This deficiency

has two major implications: detox failure and viral/microbial activation.

This is also dose dependant, based on what your body can tolerate. For further information about it see

www.virtualhometown.com/dfwcfids/medical/whey.htm (“Dr. Cheney on Undenatured Whey”), www.folkarts.com/idef/glutathione.htm (“Glutathione”), www.folkarts.com/idef/cheney_whey.htm (“Cheney whey”) and www.immunepro.com/immunoglobulins.htm (“Immunoglobulins and How the Body Utilizes IgG”).

Insomnia

Take in order, as necessary, until insomnia is relieved:

1. Klonopin (Clonazepam): 1-2 mg/HS (bedtime).
2. Doxepin: 2 drops-1/2 cc (= 5 mg)/HS.
3. 1/2 cc Magnesium Sulfate/1 1/2 cc Taurine injection IM HS.

4. Neurontin: 300-400 mg capsules, 1-3 HS, up to 2400 mg/night.
5. GABA, 500 mg, 1-3 HS.
6. Melatonin: 1-3 mg HS.

Therapeutic Summary

1. Protect from further mercury damage:
 - ? Liquid selenium: ? tsp/day, swish, gargle and swallow.
 - ? Zinc picolinate: 25 mg daily.
 - ? Undenatured whey protein (Immune Pro Rx): 5-10g/day, as tolerated.
2. Antioxidants:
 - ? CoQ10: 200 mg/day, oil-based or sublingual.
 - ? Alpha lipoic acid: 333 mg/day.
 - ? Melatonin: 1-3 mg HS.
 - ? Taurine: 2 g/day.
3. Neuroprotection:
 - ? Klonopin: 1-2 mg/night.
 - ? Magnesium glycinate: 200-400 mg/day.
 - ? Doxepin (H2 blocker): 2-4 drops/day HS.
4. Metal-Free: 1-8 sprays/day, as tolerated, 4-5 days/week.
5. Immune Prime (ozonated oil challenge): 1-9 drops/day, as tolerated.
6. Growth Hormone: 0.2 mg IM Q/week.

Supplements

The following are supplements Dr. Cheney recommends. The brands he prefers are listed as well. I found NEEDS to have the best prices, except where noted.

NEEDS, (800) 634-1380, www.needs4you.com

1. Turmeric, (60), 100mg, \$6.40, DOU-5277, 1 between meals
2. Bromelain, (60), 5,000 MCU, \$7.60, DOU-5100, 1 between meals, 2x/day
3. CoQ10 softgel, (200), 100mg, \$122.40, NUT-7855, 2 w/breakfast
4. Taurine, (100), 1,000mg, \$9.38, JAR-5096, 1 between meals, 2x/day
5. Sodium Selenite Liquid, 8oz, \$7.55, NUT-5066, ? tsp daily, swish and gargle twice, swallow
6. Nutrient 950, w/o copper and iron, (180), \$22.25, PUE-5034, 1-2 w/each meal
7. Zinc Picolinate, (60), 25mg, \$8.55, NUT-5215, 1 between meals
8. Natural E-400, w/ 80/20 tocopherols, (100), 400IU, \$13.60, DOU-5152, 1 w/breakfast
9. Immune Pro Rx, 300g, \$32.95, WPS-5000, Up to 5g on empty stomach, 1-2 times/day as tolerated
10. Magnesium Glycinate Forte, (60), \$20.00, DOU-5182, 2 w/meals
11. P-5-P Plus, (100), \$16.43, KLA-5034, 2 w/ breakfast
12. Melatonin, sublingual, (100), 1mg, \$5.61, SEZ-602, 1-3 at bedtime
13. GABA, (60), 500mg, \$10.86, DOU-5016, 1-3 at bedtime
14. Alpha Lipoic Acid, (60), 100mg, Pure Encapsulations, 1 w/each meal
15. Planti-Oxidants, (60), \$18.32, THO-5132, 1 w/breakfast and dinner
16. Metal-Free, (30 ml), \$169.00,

www.longevityplus.com.net/Metal-Free.html,

(800) 580-7587. Days 1-3: 1 spray sublingually/day, hold 3 minutes.

Next

3 days: 4 sprays s.l./day. Next 3 days: 8 sprays s.l./day. Take 4-5days/week. Beware of energy relapse at any dose. Maintain tolerated dose.

17. Immune-Prime, (10 ml), \$79.00, www.gaines.com, (800) 830-7139. Day 1:

1 drop sublingually, hold 5 minutes. Day 2: 3 drops s.l. Day 3: 3 drops

s.l., 2x/daily. Day 4: 3 drops s.l., 3x/day. Beware of energy relapse at

any dose. Maintain tolerated dose.

18. Digestive enzymes, (90), \$22.00, OxyFresh (800) 333-7374 (cost w/distributorship; 1st year is free, \$24/year thereafter), 2 between meals, twice daily

Conclusion

I was on this new protocol four weeks when I got my best therapeutic response to date over 8 years. I believe it came from the Heparin therapy,

though it was hard to tell. I started several new therapies at the same time. Unfortunately, I lost that boost when I undertook an informal work trial with extra work around the house.

I started GH injections at 0.2mg later. The first week was fine but every week after produced adverse reactions in the form of fatigue and exhaustion.

This trend continued, albeit with less severe reactions, even as I reduced

my dose. I got to the point where reducing it further would not have been therapeutic. I am stopping GH therapy for 1 month, per instructions from Dr. Cheney. GH can exacerbate viral infections but apparently at doses over

0.2mg. But Dr. Cheney didn't think my labs indicated any viral infections at the time.

I believe I am on the right track to clear out the heavy metals and support

the liver. I hope that will help resuscitate the mitochondria somewhere down the road.

Dr. Cheney's discussion of what he considers to be the 3 phases of CFS at www.virtualhometown.com/dfwcfids/medivel/phases.html ("The Three Phases of CFS: Dr. Paul Cheney's Theory") may also be of interest. There are other articles at these websites by Dr. Cheney and others about the different aspects of, and therapies for, CFS.

Below is some more information from Dr. Cheney.

I went to a 3 hour seminar with Dr. Cheney here in Dallas yesterday for patients and medical professionals. He went over every recommendation he

has. They made a video of it.

Regarding the supplement MSM (Methylsulfonylmethane), Dr. Cheney stated "I really like it. It's wonderful stuff." He recommended the book *The Miracle of MSM: The Natural Solution for Pain*

<<http://virtualhometown.com/dfwcfids/books/index.html>> by Stanley Jacob, William Regelson & Martin Zucker. He said, "Great book. Everything you'd ever want to know about MSM, written by a physician who's used it for 30 years in his patient population."

Dr. Cheney described five benefits of MSM.

(1) "MSM itself has the toxicity of water - it's non-toxic. But it's a very potent detoxifier. If you take too much MSM, you can mobilize too many toxins too quickly. It can even mobilize heavy metals, so you have to be cautious about the dose. Start low and go slow - work up gradually to the therapeutic dose, which is 6 to 9 grams a day. Most CFIDS patients can work up to 6 gms a day, but from there it can be a rocky road."

(2) "MSM is a very potent anti-yeast medication. It causes yeast to blow up. Well, basically they melt. Their cell walls are destroyed. Again, you see herxheimer reactions if the dose is too high."

(3) "Pain relief from MSM can be significant, particularly at 6 to 9 gms a day. This applies to most any pain, because most pain is toxicity related. Some of the pain relief accounts are pretty impressive. It's typical to hear at 6 gms, nothing, 8 gms, no relief, then suddenly at 10 gms the pain is gone. There seems to be a threshold you have to reach and then boom. The threshold will vary from person to person. I encourage patients to work gradually up to 9 gms. If the pain still has not resolved, I may try to push some patients to 12 gms. I always get a little bit concerned though, when they get to 12 gms because of one patient's experience, which I'll tell you about."

(4) "MSM also helps allergies. The mucous barrier is a sulfur barrier, and the sulfur binds to allergens and keeps them away from your nasal and sinus mucosa so you don't get allergies."

(5) "Another reason for CFIDS patients to take MSM is that if you measure sulfur levels in their blood and urine, most patients are usually very low. Patients get sulfur depletion very quickly trying to cope with the toxicity of this illness."

Dr. Cheney had one patient who decided on his own to start with 12 grams of MSM a day. About a week into the treatment he had what Cheney called "sudden spontaneous detox". He was extremely ill with diarrhea, vomiting and flu-like symptoms. He also experienced what Cheney referred to as "suicidal ideation" - he wanted to kill himself. The episode lasted almost 12 hours and then abruptly stopped. The patient then felt much better. Cheney believes that the suicidal urges were the result of toxins that had been mobilized by the MSM and carried to the brain before being eliminated. The toxins destabilized him psychologically for a time. Obviously, this is very dangerous and definitely to be avoided. Start with a low dose and advance slowly. Cheney has never had a patient who gradually worked up to 12 grams experience an episode like this, but he warns patients to be very cautious with the higher doses.

Cheney stressed the importance of buying a pharmaceutical grade MSM. As

already mentioned, sulfur binds to toxins, which makes it a very potent and effective detoxifier. However, it also means that if manufactured in a non-sterile environment, it will pick up whatever is in the environment. Think of it as a sponge for toxins. If it's made in a garage in Mexico, it will absorb the toxins in the garage. MSM can be among the most toxic supplements on the market if it's exposed to toxic materials during production. Buy a quality product. Both NEEDS (needs.com, 1-800-634-1380) and ProHealth (immunesupport.com, 1-800-366-6056) carry MSM.

=====

When Dr. Cheney reviewed the results of my CDSA (Comprehensive Digestive Stool Analysis) from Great Smokies Laboratories (<<http://www.gsdl.com/>>), he noted indications of "proteolytic problems" - trouble digesting proteins. First he confirmed many people are taking digestive enzymes, which he believes are essential for all CFIDS patients.

Cheney then suggested the supplement betaine. Most CFIDS patients do not have enough stomach acid, and betaine HCL (hydrochloric acid) is stomach acid. (One knowledgeable patient recently theorized that the amount of acid might not be the problem. He believes the pH of our stomach acid is not acidic enough, therefore it can not do the job. Supplementing with betaine would address this.)

Stomach acid is a paradoxical substance: too little can actually make you think you have too much. Many people think they have acid reflux or GERD, and they take Prilosec or other antacids to reduce the amount of stomach acid. In actuality, they may not have enough acid in their stomach to trigger the opening of a valve at its base. When food begins to fill the stomach, acid is released to assist with digestion. When enough acid is detected, the valve opens, releasing the food into the small intestine. If there isn't enough acid, the valve doesn't open. The food, mixed with what little acid is present, is forced back up the esophagus, creating a burning sensation. Paradoxically, the answer to the burning sensation is more acid, not less. Antacids can create a vicious cycle in these cases.

Cheney said stomach acid does at least four important things:

(1) It creates an acid trap to kill bacteria in food. A lack of stomach acid allows bacterial overgrowths to develop, particularly in the small intestine. A UCLA study of 52 FM/CFS patients found bacterial overgrowths in 90%! Antibiotics were given to wipe out all bacteria (good and bad). Pain, fatigue, and cognition improved. Cheney strongly recommends betaine instead of antibiotics.

(2) According to Cheney, betaine "clips proteins", part of the process of digesting proteins. The enzymes (natural or supplemented) that break down protein need acid in order to work. You may take lots of enzymes, but if you don't have enough acid, they won't be effective. (Plant-based digestive enzymes are the exception. They don't need acid, though we still need the acid for all the other reasons listed here.)

(3) Betaine helps extract minerals from food. Stomach acid is required for the body to absorb minerals. Without enough stomach acid, mineral depletion results.

(4) When the "acid chyme" (partially digested food mixed with acid) is released from the stomach, it enters the duodenum (first part of the small intestine). If enough acid is present, the pancreas will release pancreatic enzymes and the liver will release bile. These are essential for good digestion and absorption. Without enough acid, these enzymes are not released, compromising digestion and absorption.

Most CFS/FM patients need to be taking supplemental betaine. Cheney recommends "Betaine Plus" made by Douglas Labs. It is available from NEEDS, <[1-800-634-1380,1-800-634-1380](http://www.needs.com)<http://www.needs.com>>,1-800-634-1380,1-800-634-1380. Each capsule contains 500 mg of betaine.

Regarding dosage, take as much as you can tolerate. Most patients take one or two caps per meal. A few can tolerate only 1/2 cap. A few take much more, up to 7 caps a meal. As with so many things, the dose is very individualized. If you take too little, you will have that paradoxical burning sensation from the food/acid mixture coming back up the esophagus, because there isn't enough acid to trigger the release of food into the small intestine. If you take more, but still not quite enough, the food/acid mixture will still come back up the esophagus. However, now it will burn even worse because it has more acid in it - just not enough to open the valve at the bottom of the stomach. If you take too much, you will experience "dumping", as Cheney calls it, usually diarrhea or a general "yucky" feeling.

One patient began taking Betaine a couple of months ago and has finally escaped from the horrible pain and discomfort after meals that has plagued her for the past 5 years.

Try taking betaine to improve your digestion, absorption, and kill off bacterial overgrowths!

[Back to Top of Page](#)

=====

Cheney recommends the following to help shift the immune system from one mode to another. They are called "right to left shifters". Three of them are published, or near publication.

1) Kutapressin (published, prescription) Kutapressin is an immune modulator and a broad spectrum anti-viral. Dr. Cheney has found that it is most effective when the dose is varied or "pulsed". The dose should vary from 1 to 4 cc daily; see the section on Isoprinosine for this theory. Dr. Cheney strongly suspects Ampligen is a right-to-left shifter also. He has said in the past that Kutapressin is rather like a weak form of Ampligen.

2) Isoprinosine (published, prescription) Published for use in CFIDS, this anti-viral enhances NK function. Dr. Cheney believes it would also be good against intracellular bacteria since it is a Th2 - Th1 shifter.

It appears to raise IL-12 and lower IL-10, which turns off Th2 and turns on Th1.

It is also called Imunovir and is very nontoxic, very safe. It has been approved in Europe and Canada for just about any viral infection for 18 years. It is not approved in the US (for political reasons not safety concerns) but is easy to get from Ireland with a prescription. Contact Newport Pharmaceuticals at 353-1-890-3011, fax them at 353-1-890-3016 or email them at info@newport-pharma.com <<mailto:info@newport-pharma.com>> Week one, take 6 tablets a day, Monday through Friday, and none on the weekend. Week two, take 2 tablets a day, Monday through Friday, and none on the weekend. Repeat this cycle. But do not treat every month. Do two months on and then one month off of this "pulsing" dose. This medicine works best when you do not treat regularly. If you treat continuously at the same dose, it stops working. It is an immune modulator, and Dr. Cheney suspects all immuno-modulators are like this. If taken continuously they stop working. The dose must vary so the immune system never knows what to expect.

3) Pine Cone Extract (supplement, www.pinextra.com <<http://www.pinextra.com/>>) Cheney said, "They make a tea from this in Southern Japan and they have significantly reduced cancer rates. It's thought to work at the gene level in lymphocytes, where it turns on IL-12. It also shuts down IL-10 at the gene level, and that causes a shift towards Th1. Pine Cone extract is expensive, but at just 10 drops a day (in the morning), of all the possibilities, it's probably the cheapest per day." It is called PineExtra, and 1 oz is about \$60, but it lasts a long time.

4) Earth Dragon Peptides (supplement, <<http://www.nutricology.com>>, <<http://www.needs.com>>) Earth Dragon is round worm peptides. It causes a shift to the left, and is believed to be very similar to IL-12. There has been a huge surge in the use of ED peptides to treat Inflammatory Bowel Disease, specifically Crohn's Disease. One professor at UNC treats all his Crohn's Disease patients with Earth Dragon. It is very non-toxic and safe. This is a good choice for those who want to balance their immune system and also have bowel problems. Earth Dragon is about \$36 for 150 caps. The dose is two a day.

5) Heparin (prescription) Heparin is a Th2 - Th1 shifter. One advantage for many patients is that it is also an anticoagulant. Dr. Cheney only recommends this if a patient has a coagulopathy. About half of his patients do, according to the ISAC test. (See <<http://www.hemex.com>> or "Blood Related Disorders in CFS/FM" in our October 2000 <<http://members.nbc.com/dfwnews/cfs1099.pdf>> newsletter on the website.)

6) Formula 560 Transfer Factor (to be published, supplement, <<http://www.immunitytoday.com>>) Formula 560 is an immune modulator. Dr. Cheney likes this product. It reportedly works against HHV6 and Lyme Disease, as well as other problems. It costs about \$585 for the first three months, then the dose drops one-third. It averages out to about \$130 a month for the first six months, and \$65 thereafter. (The cost of this product has reported dropped since this was first published.) Which should you use? Cheney recommends that you pick one and see what it

does to your NK function. It is a question of whether it will work and how much it costs. NK levels will rise if there is a shift from Th2 towards Th1. Before beginning one of these products it is best to get a baseline on NK function. Then test again after having been on the product for one to three months. Dr. Cheney uses the lab of Mary Ann Fletcher, an NK specialist and colleague of renowned researcher Nancy Klimas, at the University of Miami. Her lab is no more expensive than commercial labs, and is top quality. Cheney emphasizes that you must have a quality lab do this test: do not use just any lab. For test information, phone 305-243-6288 or fax 305-243-4674. The test is called "Natural Killer Cell Function Assay" and costs \$350.

=====
A year ago Dr. Cheney was prescribing oxygen (with a partial rebreather mask) to increase oxygen transport from the blood into the cells. The benefits were many, but most people found it expensive and difficult to arrange. Dr. Cheney also discovered that the treatment had one flaw: it didn't address the underlying problem of low 2,3 DPG.

2,3 DPG triggers the release of oxygen from the hemoglobin and allows it to enter our tissues. Without enough 2,3 DPG the oxygen cannot release from the hemoglobin into the cells. This oxygen deprivation causes the body to switch over to anaerobic metabolism, which produces tissue acidosis, which is painful. If 2,3 DPG levels can be increased, then more oxygen is transported from the blood into the tissues.

What are the benefits of increased oxygen? They include more energy at the cellular level, suppression of yeast and other pathogens, and prevention of the swelling of the brain due to decreased oxygen.

Dr. Cheney says this swelling of the brain is somewhat common and is the connection between Chiari I and CFIDS. He stated, "Chiari I is a compression phenomenon due to lack of sufficient space at the base of the skull, while CFIDS is a compression phenomenon due to anoxic cerebral edema." (Brain swelling due to lack of oxygen.)

Dr. Cheney asked, "Do you know why Kenyans always win the Boston marathon? They live and train at a high altitude. They run like fiends at 12,000 feet. To compensate for the lack of oxygen at higher altitudes, their bodies make a physiological adjustment-raising 2,3 DPG levels so more oxygen is released. Then the Kenyans go to Boston, which is at sea level, and run their race. However, their bodies are still set for high altitude, so they end up with more oxygen transported into their tissues than other runners. They are super-oxygenated."

Dr. Cheney's goal is to trick our bodies into thinking that we live at a higher altitude, thus raising our 2,3 DPG levels, thereby transporting more oxygen. How? By Dr. Andrew Weil's favorite breathing technique-regulated breath holding.

Inhale through your nose for four seconds, hold your breath for seven seconds, then exhale through tightly pursed lips, creating "back pressure," for eight seconds. Do this eight times, twice a day, everyday. That's all it takes to make your body think it lives in Denver instead of Dallas.

You must do this regularly for it to work, and it takes weeks for the body to adjust the 2,3 DPG levels. But your oxygen transport will get

better and better over time. This method is 3,000 years old, and has 30 years of clinical experience behind it. Dr. Weil believes it is the most powerful way to treat chronic illness. Compared to the rebreather, this is easier, cheaper, more effective, and you cannot overcorrect and get too much O2.

=====

Many CFS patients are taking Immunocal, ImuPlus, or ImmunePro, based on the recommendation of nationally known CFS specialist Paul Cheney, MD, PhD. These are all "undenatured" whey products, which are processed at lower temperatures than typical powdered whey protein. This requires a meticulous filtering process to maintain purity. The lower temperature preserves the fragile, but powerful, biologically active proteins, lactoferrin, and immunoglobulins in whey.

What are the benefits of undenatured whey? It can address the glutathione deficiency that is virtually universal in CFS patients. Deficits in glutathione functionality show up as elevated lipid peroxide levels on the Great Smokies Oxidative Stress Test (www.gsdl.com) <<http://www.gsdl.com>>, and also as elevated citrate and alpha ketoglutaric levels on the Great Plains Organic Acids Test, 913-341-8949.

Glutathione deficiency has two major implications: detox failure and viral/microbial activation. Glutathione plays a major role in detoxification pathways. This deficiency impairs the body's ability to get rid of toxins, whether environmental or by-products of cellular metabolism. CFS patients slowly become toxic, storing away poisons in fatty tissue, muscles, organs and the brain. This cellular detox failure can make CFS patients "canaries to their environment". Detox programs that have been successful in other conditions can actually put some CFS patients in the hospital if their glutathione deficiency is not first addressed.

Glutathione is also a powerful antiviral and anti-microbial weapon. Glutathione deficiency not only compromises antiviral and anti-microbial defenses, it also has a potent pro-viral effect. While the presence of glutathione inhibits viruses and intracellular organisms, its absence stimulates them. Glutathione deficiency actually augments viral replication.

Anthony Falci, the top HIV researcher at the NIH, has shown that HIV growth can be completely stopped by raising glutathione levels in-vitro in cell cultures. If glutathione levels can be raised, the replication of almost any pathogen inside the cells can be stopped. Given the widespread reactivation in CFS of viruses like EBV, CMV, and HHV6, and the activation of microbes like myco-plasma, chlamydia pneumoniae and candida, finding a way to raise glutathione levels inside the cells has been a top priority of the Cheney Clinic. No treatment prior to the whey seemed to successfully address this deficiency. Supplementation, injections, and other interventions failed to significantly affect the glutathione levels inside the cells, where 90% of the body's glutathione is needed.

Cheney found undenatured whey protein was the best way to increase glutathione levels and function. The clinic conducted a six-month study of the first patented bioactive whey product (Immunocal), and discovered it significantly improved glutathione function. Though it was a small study (eight patients), the results were consistent with the feedback from Cheney's patient population as a whole. Seven of the eight study participants finished the study. They all began by taking two packs a day. At the three-month point, half the group was switched to one pack a day. One patient had received so much benefit from two packs a day that he refused to take the lower dose and dropped out of the study.

Five of the seven patients who finished the study had positive responses. The two who felt no benefit were the least ill to begin with. Cheney speculates that their healthier digestive systems might have more fully digested the whey, making it less effective. It's very important that all whey products be taken on a completely empty stomach so that no acid or digestive enzymes are present to break it down. Some patients even take an antacid 30 minutes before taking whey to reduce that possibility. Patients in the study were allowed to choose which tests would be run, since they were paying for them. Each patient who tested positive for mycoplasma and chlamydia pneumoniae at the beginning of the study tested negative six months after treatment, regardless of whether they finished the study with one or two packs a day. This suggests one pack a day will wipe out intracellular bacteria.

Three patients were tested for HHV6. Two were positive. The patient who stayed on two packs a day the entire six months was negative at the end of the study. The patient who dropped to one pack a day remained positive. This suggests that at least two packs a day are needed to neutralize viruses.

There is a "dose response" issue with both Immunocal and ImuPlus. Some who did not respond at two packs a day noticed real benefits at three. A few patients have even gone to five or six to reach maximum benefit. However, Cheney's recommended starting dose for Immunocal and ImuPlus is two packs a day. Increase the dose only if minimal or no benefit is seen, and give it a six-month trial. Each packet contains 10 gm, or 1.75 Tbsp. ImmunePro appeared on the market in late 1999. It has a different production process than the other two whey products. Independent testing revealed that it contains two to six times more of each bioactive ingredient. It appears to be a much more powerful product than the other two undenatured whey proteins, but also more problematic.

Cheney tested ImmunePro on approximately nine patients. Only two or three had positive outcomes. Those who responded well, did so at lower doses than required with Immunocal or ImuPlus. Five grams twice a day is Cheney's recommended dose. He has seen no added benefit from higher doses. Some patients need to begin with much smaller doses and gradually work up.

It is speculated that ImmunePro's greater potency causes it to mobilize more toxins more quickly - often more toxins than the body can handle. On the other hand, Cheney also believes that it may have benefits the others do not have - if you can tolerate it. Some patients take a small amount of ImmunePro along with normal doses of one of the other whey products.

Which whey product should you choose, and where can you get it? Immunocal is the best documented, has the original patents, and is the most expensive. It is available at nutritionadvisor.com (1-800-378-1578) and immunesupport.com (1-800-366-6056). A special purchase program called the Numed-Tech Buyers Club is available for those who have no insurance coverage for Immunocal, make less than \$25,000 a year, and have not purchased Immunocal from another source in the last six months. The cost is \$40 a box with a prescription. (A box contains 30 packets and usually sells for \$60 to \$100.) Contact pharmacist Charlie Green at 209-948-3174, fax 209-465-1398.

Though Cheney has not officially tested ImuPlus, reportedly it's very similar to Immunocal. It is available from immunesupport.com <<http://immunesupport.com>> and needs.com <(1-800-634-1380" <http://needs.com>>(1-800-634-1380). It's less expensive than Immunocal and contains 60 packets per box.

ImmunePro is certainly the best choice economically. It's more potent, but more problematic for some. A canister of 300 gms (60 servings) is available at immunesupport.com <<http://immunesupport.com>> and needs.com <<http://needs.com>>.

As with all products, individual responses vary. Ideally you could try each product for several months to see which works best for you. Most lactose intolerant individuals can take Immunocal and ImuPlus, but ImmunePro does contain lactose.