**A [Not so] Concise Guide to Freddd's Protocol June 2014**


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"**Deadlock Quartet":**
**Methylfolate**
**MethylB12**
**AdenoB12**
**L-Carnitine Fumarate**

forums.phoenixrising.me/index.php

**Freddd's Protocol – Getting Started... as I understand it and in my own words. 9/27/13**

[QUOTE]Assuming you already have the basics like Vitamin B Complex, C, D, calcium, magnesium, zinc and omega 3s in your supplements routine, start by testing:

1. 1 capsule of L-carnitine fumarate on an empty stomach (available in about 400 – 800 mg capsules)
If there are no new negative start up symptoms (like feeling super hyped & wired) keep taking it every day.

If there are new negative start up symptoms (like feeling super hyped & wired), you'll need to titrate up gradually until you're comfortable with 1 capsule/day. That may mean taking 1/10 of a capsule. As your body gets use to having this long missing nutrient, you'll gradually increase (titrate up) your daily amount to 1/5 capsule, then 1/2 a capsule etc. until you're doing 1 capsule daily. You can take days or weeks to do this titrating. Don't rush your body. When your body is use to 1 capsule of L-carnitine fumerate per day, continue that and start:

2. 1 Enzymatic Therapy B12 Infusion (1,000 mcg MeB12) after breakfast, placing the tablet

between upper lip and gum, for as long as it takes to dissolve. When your body is settled with this, start:

3. 1 Solgar Folate (800 mcg Metafolin) with breakfast  If there are no new start up symptoms (new headaches, rashes, irritabilities, anxieties, depressions, joint pains, muscle pains, insomnia, continue with this amount daily.

If there are new negative start up symptoms (new headaches, rashes, irritabilities, anxieties, depressions, joint pains, muscle pains, insomnia) you'll need to titrate up gradually until you're comfortable with 1 capsule/day.

Then continue the Folate and start:

4. [Country Life Active B-12 Dibencozide] [no longer preferred brand; instead, Anabol Naturals....] (3,000 mcg AdB12), after breakfast, 3 X week, placing partial tablet between upper lip and gum, for as long as it takes to dissolve. Can be at same time as other B12.

5. Potassium (99 mg tablets) [You may need more K+; Potassium Gluconate powder allows you to easily take higher doses. Tablets are only allowed to be 99mg to avoid stomach problems] taken with a glass of water, as needed, anytime during the introduction of the previous 4 supplements, if new nausea, itching, heart palpitations, weakness, muscle spasms or cramps start happening. For some, several potassium tablets may be needed, several times a day.
[/QUOTE]

*All quotes, unless otherwise noted, are Freddd's comments.

**Brands and Dosages**

http://forums.phoenixrising.me/index.php?threads/which-symptoms-methylation-made-disappear-for-you.27968/#post-427560

Jan2014, Freddd: Right now I am testing the Country Life and trying to find the most effective amount and mix.

Country Life Methyl B12 - 90-120mg
Enzymatic Therapy B12 infusion - 10-20mg
Anabol Naturals Dibencoplex (capsules currently sublingual) - 10-20 mg
Metafolin - 8-12 mg
Drs. Best LCF - 1000mg (2 capsules)
NatureMade SAM-e 800-mg

**When to Add things:**

http://forums.phoenixrising.me/index.php?threads/how-to-titrate-to-get-out-of-donut-hole-insufficiency.22614/page-2#post-345537
[QUOTE]Following the newer version of the titration pattern then the steps look like this.

1 - Titrate AdoCbl/MeCbl combo to approximately 100mcg absorbed where healing can "turn on" with 200-800mcg of l-methylfolate. 200mcg will not be enough and will immediately (3 days) give

“detox” symptoms composed of low potassium and donut hole folate insufficiency. If startup does not occur by the time one gets to 1000mcg combined absorbed cobalamins, titrate LCF

2- Identify low potassium symptoms and titrate potassium.

3 - Identify donut hole folate insufficiency and titrate with 4x-8x dose size of l-methylfolate several times a day until those symptoms are strongly diminishing.

4 - titrate AdoCbl and MeCbl to perhaps a nominal sublingual dose of 1000mcg each, watching for low potassium, donut hole folate insufficiency and identify any other new symptoms, and what isn’t being taken care of

5 - Finish titrating LCF to 500-1000mg for now, then identify what isn’t healing or not enough. Try SAM-e, TMG, D- ribose, Vit D, Zinc, B-vits and various things as needed to improve performance. It isn’t a try 1 thing and then another. It is add SAM-e and then TMG and various other things. It is usually combinations that yield results. SAM-e need titration over several months. LCF could take six months to titrate up to the 500mg dose and try 1000mg to see if it makes a difference. Don’t rush things. Think things through. Look at the symptoms and effective supplements for them to get ideas. Most people will fall into one of several groups. Almost everybody here has appears to have complicating factors and more severe things going on, with me it is SACD which is basically long term damage from prolonged deficiency. Hormones get all messed up and will often change during these titrations.. There isn’t a system of the body that is immune to damage from these deficiencies. As there are at least 600 reactions affected by the methylation and ATP the variations are huge in number.

6 - Titrate MeCbl separately until it makes no difference.

7 - Adjust potassium and l-methylfolate as needed by response to symptoms

8 - Titrate AdoCbl separately until maximum amount that makes a difference.

9 - Adjust LCF

10 - Adjust various factors.[/QUOTE]

http://forums.phoenixrising.me/index.php?threads/b-12-the-hidden-story.142/page-145

[QUOTE]Increasing MeCbl quantities isn’t likely to change the amount of l-methylfolate needed. Adding AdoCbl might increase need somewhat because it opens up other layers of healing. Deplin is Metafolin which is a specific stable form of l-methylfolate You are aiming for the amount that will keep you out of paradoxical folate deficiency/insufficiency. It might be 4mg it might be 30mg. At this point I’m inclined to say that having to go as high as 30 probably indicates a lack of other things. I found that I reached that point fastest by increasing the dose by 50%-100% a day until the symptoms were fully controlled or at least visibly healing, which now goes to my earliest onset symptom, retaining water. After dropping the extra B1, B2 and B3 I appeared to have folate deficiency minimized but after a few months the skin around my fingernails is too ragged. It is appears to be the most mild symptom that takes months to show. So I have increased my dose to 8mg a day, from 4 to try for the next few months and see what heals. Things get slower as you pick off the quick incremental changes.
[/QUOTE]

**Understanding Folate**

Folate Food list: http://foodinfo.us/SourcesUnabridged.aspx?Nutr_No=435

http://forums.phoenixrising.me/index.php?threads/problems-beginning-methylation-needing-some-direction.28302/#post-432943
[QUOTE]@[USER=13629]whodathunkit[/USER]: You might want to read up on "Paradoxical Folate Insufficiency", too. Search it in the forum. I'm new here but have been reading A LOT, and it sounds like you were exhibiting symptoms of that. It's Freddd's theory and seems to hold true for many people (but not all).

Briefly, the theory is that in order to get well there are multiple levels of healing we must go through to reach wellness. Your first doses of folate start you on that healing. But if the dose is too low to affect *all* the necessary levels of healing, eventually the folate gets spread to thin and can't keep the healing going. So you need progressively larger doses for a while, until you feel normal again. The progressively larger doses keep the healing going.

It's like cars using gasoline (with the cars being the levels of healing and gas being the folate). One car can get pretty far on one gallon of gas...in the same way that if you only need to heal a little bit, a single 800mcg tab of folate will do you pretty well.

But if you have four cars and need to split that gallon of gas four ways...none of those cars are going to go very far. You need more gas (folate) or you just won't go.

Adding more folate can keep the healing going so the healing keeps going.

Low potassium is also a sign of the paradoxical folate insufficiency. My understanding is that when sludgy cells that haven't been using potassium in a while get kick-started by the folate/methylation supps, they suddenly start intaking potassium again, sucking all available potassium from your bloodstream (or wherever it comes from, like I said I'm new so still sorting it all out, LOL). So you need to add more potassium so your awakened cells can keep on using it, or eventually your cells will run out, making you feel crappy and causing other symptoms. It's basically like a sponge needing more water to become saturated.

I'm no expert, just, like I said, a noob with a lot of what she's read still fresh in her mind. And trying to explain what I've read to other people helps me sort things out in my own head.

Paradoxical insufficiency is when you're taking a form of folic acid or folinic acid that your body can't use, it blocks whatever methylfolate you're intaking that your body *can* use, and thus causes deficiency. It's a paradox because it seems like you're getting the nutrients your body needs by the amount you're taking. But you're having weird and disturbing symptoms of poor health.

Freddd says donut hole only occurs with insufficient methylfolate. Some levels of healing/symptoms are slipping through the hole, I guess.

Read this thread, it gave me a better understanding of things

http://forums.phoenixrising.me/inde...rong-reaction-from-taking-methylfolate.21896/[/QUOTE]

**https://en.wikipedia.org/wiki/Folate#Folate_deficiency**

Folic acid (also known as vitamin M, vitamin B9,[3] vitamin Bc[4] (or folacin), pteroyl-L-glutamic acid, and pteroyl-L-glutamate)[dubious – discuss] is a form of the water-soluble vitamin B9.[citation needed] Folate is a naturally occurring form of the vitamin, found in food, while folic acid is synthetically produced, and used in fortified foods and supplements.[5] Folic acid is itself not biologically active, but its biological importance is due to tetrahydrofolate and other derivatives after its conversion to dihydrofolic acid in the liver.[6]
Vitamin B9 (folic acid and folate) is essential for numerous bodily functions. Humans cannot synthesize folate de novo; therefore, folate has to be supplied through the diet to meet their daily requirements. The human body needs folate to synthesize DNA, repair DNA, and methylate DNA as well as to act as a cofactor in certain biological reactions.[7] It is especially important in aiding rapid cell division and growth, such as in infancy and pregnancy. Children and adults both require folic acid to produce healthy red blood cells and prevent anemia.[8]

Folate is necessary for the production and maintenance of new cells, for DNA synthesis and RNA synthesis, and for preventing changes to DNA, and, thus, for preventing cancer.[43] It is especially important during periods of frequent cell division and growth, such as infancy and pregnancy. Folate is needed to carry one-carbon groups for methylation reactions and nucleic acid synthesis (the most notable one being thymine, but also purine bases).[78] Thus, folate deficiency hinders DNA synthesis and cell division, affecting hematopoietic cells and neoplasms the most because of their greater frequency of cell division. RNA transcription, and subsequent protein synthesis, are less affected by folate deficiency, as the mRNA can be recycled and used again (as opposed to DNA synthesis, where a new genomic copy must be created). Since folate deficiency limits cell division, erythropoiesis, production of red blood cells, is hindered and leads to megaloblastic anemia, which is characterized by large immature red blood cells. This pathology results from persistently thwarted attempts at normal DNA replication, DNA repair, and cell division, and produces abnormally large red cells called megaloblasts (and hypersegmented neutrophils) with abundant cytoplasm capable of RNA and protein synthesis, but with clumping and fragmentation of nuclear chromatin. Some of these large cells, although immature (reticulocytes), are released early from the marrow in an attempt to compensate for the anemia.[79] Both adults and children need folate to make normal red and white blood cells and prevent anemia.[80] Deficiency of folate in pregnant women has been implicated in neural tube defects (NTD); therefore, many developed countries have implemented mandatory folic acid fortification in cereals, etc. NTDs occur early in pregnancy (first month), therefore women must have abundant folate upon conception. Folate is required to make red blood cells and white blood cells and folate deficiency may lead to anemia, which further leads to fatigue and weakness and inability to concentrate.[81]

http://forums.phoenixrising.me/index.php?threads/ow-muscle-cramps-keeping-me-up-at-night-and-leading-to-permanent-injury.27753/#post-423306

[QUOTE]Methylfolate doesn't cause methyltrap. It is what is being blocked or trapped Lack of MeCbl causes methyltrap. Glutathione/NAC can cause methyltrap. Folic acid and folinic acid appear to cause partial methylation block as opposed to methyltrap unless it is effective and then a shortage of MeCbl causes methyltrap or partial methylation block. That is a problem with folic and folinic acid is that one never knows what the result means, it can mean that it is working or not working, depending upon the person's own response and their MeCbl content. Keeping methylfolate "below" MeCbl amounts will cause endless donut hole paradoxical folate deficiency. There is almost no relationship between amount of MeCbl and amount of Methylfolate that might be needed.
[/QUOTE]

http://forums.phoenixrising.me/index.php?threads/should-i-reduce-my-b12.29096/

**methyl folate can range from 400, to roughly 1600mg a day.**. Do you think that low dose of folate would even trigger paradox deficiency? It seems most people that had that were using much higher doses...-(Todd)

[QUOTE]This one you have 100% backwards. A low dose like this almost always triggers donut hole paradoxical folate deficiency. Higher doses relieve it. Low dose methylfolate PFD can cause massive inflammation.

Daily doses of B1 and B2 above 30-50mg a day and B3 above 100mg a day can cause an insatiable need for methylfolate and potassium, so make sure that is ok. Remind me that you are not taking NAC, glutathione or Whey.

If you want to get rid of low folate symptoms and inflammation try 4mg of l-methylfolate or so each 4-6 hours Typically it will start turning around within a few hours and after a day or 3 you should know for sure. Now it is possible you are one of those who needs 30mg a day to make any headway but that is rare without folic acid or folinic acid or large amounts of vegetable folate.

Try 8mg before you go to bed tonight. Metafolin has no side effects different from sugar pills. That is what the Deplin study says at doses up to 30mg/day. Best results are at 15 and 30mg daily. That is what all my experience says. The people who take tiny doses have terrible reactions and think it is because of so much folate instead of so little. They have even worse responses with 200 mcg of folinic and 200mcg of mfolate. Wow do they get hit. That is because of a double whammy paradoxical folate deficiency. Without the folate you are wasting your money and wasting 90% of the b12. You could get equally bad results from 500mcg of b12.

Try it cautiously, 4 mg and then 4rmg in couple of more hours to avoid possible stomach distress or take 8mg and some food and go for it. You could be a new man in 2 days.

After you get rid of all the folate deficiency symptoms, then is the time to adjust other things. Doing it otherwise is bass akwards.

Now this is my opinion and experience. Everybody who takes the small doses has terrible results and a rough time. The people who use the larger doses get healing going. You can always go back but I would bet you won't want to. Do as you wish. It is your game of you bet your life. I would bet on the bigger "go for it" doses.[/QUOTE]

http://forums.phoenixrising.me/index.php?threads/active-b12-protocol-basics.10138/page-8
[QUOTE]ratios, once again.....the ratios between MeCbl/AdCbl/MeFolate + cofactors are of course individual and must be determined by trial and error, right? However, what are the recommended ratios to start out with?

There are no fixed ratios.

With 1mg of AdoCbl and 1mg of MeCbl each held for 1-2 hours against oral mucosa, one could end up with 200-400 mcg or more absorbed. This is enough to turn on all layers of healing except CNS for many of us. A start of methylfolate of 800mcg or less will usually produce a burst of healing on a couple of layers that then demands more folate than the body has easily available and so shorts

other layers to supply the ones that are healing causing paradoxical folate insufficiency. So one titrates methylfolate until the insufficiency symptoms go away. This is usually between 1600mcg and 20-30mg depending upon how one reacts to other folates and B1, b2, b3.

While this is happening there is also usually a need for potassium of which needs to be titrated to the level of no symptoms. This usually happens in the range of 1200-3000mg daily in 4-6 divided doses. Again, this is dependent upon how fast cells are being formed and if too much b1, b2, and/or b3 can also be insatiable.

It is via systematic titration, finding peak effectiveness and staying there, not trial and error.

...Serum halflife might be a problem. If I don't take b-complex twice a day I get a 24 hour pain cycle and at the 16-24 hour mark, heart arrhythmias. AdoCbl and LCF usually make for a much more even energy as they restore the mitochondria and are essential for that. Many have found that a second smaller LCF dose in midafternoon makes a difference. Also, l-methylfolate has a short halflife, about 3 hours so I find it best in at least 3 doses a day
[/QUOTE]

http://forums.phoenixrising.me/index.php?threads/need-large-amounts-of-mfolate-throughout-day-and-potassium-but-potassium-opposes-mf-help.25857/
[QUOTE]Considering that B1, B2 and B3 can cause changes in how much potassium and Metafolin might be used daily, it might pay to check the labels and find out how much you are getting. I found that a B-50 type supplement was too much in the b1 b2 b3 combo. Taking 100mg extras was too much. I found a b-complex with only 20mg of b1 and similar on the others and take it twice a day. It has slowed down the rate of potassium and folate need.

However, keep in mind that that amount of potassium and folate being used is in the range of that of people having effective healing. Stopping the potassium need stops the healing. HyCbl can affect about up to 30% of the symptoms for up to 70% of people. Nobody actually heals on it as the majority of b12 deficiency symptoms will keep worsening even while a few symptoms may improve. HyCbl is great for having the illusion of doing something and will keep most people safe from the discomforts of healing. Unfortunately they will generally continue to have worsening symptoms more narrowly defined. Good health to you. Follow the clues. If you keep it up for a year most of the symptoms being affected now will be largely gone and a different set will be healing.

....Have you identified your early onset folate insufficiency symptoms? I don't use or suggest any specific fixed ratios. For instance I suggest l-Methylfolate be increased until one doesn't have periodic bouts or continuous folate insufficiency symptoms. For me these a certain type of muscle pain, angular cheilitis, acne on my face, IBS and so on.

100mcg absorbed AdoCbl/MeCbl is all that is needed to start the need for even 30mg of Metafolin. These items are not tied together in any ratio. It is more the B1, B2 and B3 and maybe other things that drive the relative needs for methylfolate and potassium. Also, the amount of l-methylfolate a person needs also depends on how well their body handles folic acid, folinic acid and veggie folates.
[/QUOTE]

**When To Take Things:**

http://forums.phoenixrising.me/index.php?threads/need-large-amounts-of-mfolate-throughout-day-and-potassium-but-potassium-opposes-mf-help.25857/
[QUOTE]The timing can be difficult. I take 4000mcg of Metafolin with my pre-meal supplements and meds; SAM-e, LCF, Levothyroxine, DHEA, Pregnenolone. An hour later I take 400mg of potassium. Then just before a meal I might have a couple of more folate tablets and then 30 minutes later take 5 or 6 potassium with the meal. I take b-complex with food. I also take 300mg of potassium at bedtime. However, with the folate unwound to needing 4mg to stop the cheilitis, I can now see if 6 or 8mg helps something even more. If the doses are 30-60 minutes apart or 2 hour after food, they don't interfere particularly. I take the folate and then 30 minutes later potassium. I take the folate before food and the potassium with the food. It takes some practice. What I think is desirable is to have healing going, even if not perfect and then you get clues, more or less of folate or potassium needed. Follow the clues. Take small steps in titrating up to home in on a dose from below.

[/QUOTE]

**Symptoms**

**Anxiety:**
http://forums.phoenixrising.me/index.php?threads/need-large-amounts-of-mfolate-throughout-day-and-potassium-but-potassium-opposes-mf-help.25857/

[QUOTE]In the past decade I have seen several different causes for anxiety augmentation. There is an effect that affects some people to a degree but rarely just completely intolerable. It has to do with the ratio of AdoCbl to MeCbl. Sometimes when that gets out of balance, it has caused some anxiety and irritability.

Another thong that happens is that some people with a specific damage in the limbic system (part of the brain that affects a lot of emotions and such) when they start B12, especially AdoCbl. If the person is not taking l-carnitine fumarate, the AdoCbl effect often isn't too intense and tends to end in a few days as with AdoCbl it is a one or two time change usually, doesn't increase with the next AdoCbl dose and wears off after a while. However, If a person takes even a small dose of carnitine and goes through the roof with anxiety, panic, fear , anger etc. Interestingly sometimes TMG can take the edge off, shifting the balance like MeCbl. It is possible to microdose carnitine. There are those who have managed to microtitrate the carnitine and find that the anxiety diminishes over time as the nerves appear to heal.

Does any of this sound like it is similar to yours. It isn't a BAD sign. It's an indication of severity of deficiency and some of the damage which MIGHT be healable.

…
The only people in whom I have seen improvement in this anxiety response to the LCF are the ones able to tolerate the feelings and the others to come as there is what looks like remission or healing that happens. My experience was volatility in moods in general and intensification after being really flat emotionally for a long time. As far as the amount, the people with the really extreme hyper responses can find 1mg orally intolerable. These are the people that have to microtitrate. The problem is that to heal the muscles and body one needs doses like 500mg of carnitine (what you are taking). However, at your level of response and "ordinary" titration might very well do the trick. I was blown away by a 125mg dose and probably could have started at 62.5mg. However, the TMG took most of the edge off and I was 6 months at 125mg, 3 months at 250mg and another 2 months at 500 before it faded away. Going to 1000mg did nothing. The response only comes back when I

avoid it. It appears to be a key ingredient in stimulating the proliferation of mitochondria and the regrowth of muscles. It also is needed for the proliferation of osteoblasts in the bones and may help account for MeCbl being found to decrease second hip fractures in elderly women.[/QUOTE]

http://forums.phoenixrising.me/index.php?threads/can-you-help-me-with-the-dosage.27908/
[QUOTE]Then the question comes up do you have anxiety. If you have anxiety and hyper responses, one needs to start with crumbs of AdoCbl and MeCbl, of the 5 star brands.

If not having anxiety, then a 1mg Enzymatic Therapy or 1/4 of Country Life Methyl B12 5mg, 1/4 capsule or tablet of Anabol Naturals AdoCbl and 1/4 of an 800mcg Metafolin 4 times a day is a good starting place for many. There is often a brightening of everything neurological as the nerves start working better than they have in years. Pains intensify, things look brighter (dimming of vision is a b12 deficiency symptom), sensations that have been ignored for years become new and obvious again. Often there is a significant increase in energy as the AdoCbl gets into the mitochondria. If a healing startup occurs then often on about the third day a person starts to feel really sick. This is typically a combination of two induced deficiencies, low potassium and donut hole paradoxical folate deficiency. It is dangerous to ignore the low potassium and very unpleasant to ignore the low folate. These can be taken to a balance point were those symptoms go away. The low potassium symptoms can go away in hours and also return in hours without another dose. A lot of people find that the need for potassium can jump up from 1200 to over 2000mg a day and adjustments need to be made as things progress. The low folate symptoms can start being relieved in hours and a person may end up needing anywhere from maybe 1600 to 30,000 mcg a day depending upon a whole lot of factors. Here is a list of the more common symptoms [that list in the post above--whodathunkit]. Many people might have several from both varieties. Which exact ones though vary tremendously from person to person.[/QUOTE]

http://forums.phoenixrising.me/index.php?threads/the-stages-of-methylation-and-healing.21725/page-10
[QUOTE]Perhaps I can help distinguish between different levels of things.

Partial methylation block creeps up on you.
Paradoxical folate deficiency, several levels, creeps up on you except when suddenly induced
MeCbl body and/or CNS creeps up on you
AdoCbl body and/or CNS partial mito blockage creeps up on you

AdoCbl/LCF-CNS partial mito blockage can correct like a ton of bricks especially with anxiety present.

When MeCbl gets low enough Methyl-trap (severe mfolate deficiency symptoms, CNS and/or body) - hits like a ton of bricks and so does getting out of it

When AdoCbl/LCF gets low enough below a certain ATP generation level, sometimes muscles switch to workaround with lactic acid, prodcution, 1/6 energy. A different group of researchers from Rich (local to where I live) was looking for this situation, I had it. It hits like a ton of bricks and so does it's correction.

Methy-trap and Partial mito block (or something) together may set off each other or by the same stress; combined hits like 10 tons of bricks, and so do their corrections[/QUOTE]

http://forums.phoenixrising.me/index.php?threads/paradoxical-folate-deficiency-insufficiency-and-edema.26944/unread

[QUOTE]Freddd: The body is said to have a “triage” system for distribution, or maybe utilization of, b12 and folate. Healing can turn on with methylation and ATP startup and yet deficiency symptoms can worsen on other layers. The placement of edema within a layer can be done by the symptoms set it responds with; angular cheilitis, IBS and acne type lesions, and others, depending upon duration and severity of insufficiency.[/QUOTE]

http://forums.phoenixrising.me/index.php?threads/the-stages-of-methylation-and-healing.21725/page-20#post-422644

[QUOTE]...In here it says it’s crucial to recognise the ‘flags of healing’/ neurological brightening....

Freddd:  An awful lot of peoples discussion around here is how to avoid them since having them is typically about as easy as falling off a log. Basically an hour after a person takes a Metafolin table and swallows it, put an Enzymatic Therapy tablet under their lip and part of an Anabol Naturals Dibencoplex capsule contents under their lower lip. In about an hour about 90% of those with a good assortment of CFS/FMS responsive symptoms (symptoms on those lists) will have some to a lot of effects. Much of ot is neurological brightening. That is literally everything looks brighter. All pains feel ”brighter“. Hearing may sharpen. Intensity increases. Some people feel it as pleasantly stimulation, like they hadn’t had this kind of clarity or energy since they got sick. Many get a little euphoric. Others get anxious. Lots of ways to feel MORE as the nervous system starts to wake up. Despite the intensity I felt I also know my life of misery was changing right before my eyes. Those who feel anxious then interpret all these things in whatever is fearful to them. This ”anxious and fear“ interpretation appears to be linked to a hyper-response in part of the brain, the limbic system,. For most people it isn’t that it is too subtle to see, it’s that they it hits so hard they can’t stand it and it triggers all the worst stories of what must be happening since it is so intense.

Then on about the third day all sorts of symptoms hit and a person can be feeling quite sick. These are usually a combination of potassium deficiency and donut hole folate deficiency. Then one takes enough potassium to relieve the low serum potassium symptoms and more folate until the induced folate deficiency symptoms. There is a list of those specific symptoms so it is easy to match up.

Then after the potassium and folate are adjusted to correct lack of low potassium and/or folate symptoms. As long as there is a some significant amount of ”brightening“ just keep going. When that fades a fair amount it’s time to start titrating the LCF. If one has anxiety as a reaction, then the micro titration of LCF would be suggested. If it was no anxiety but maybe euphoria or just ”energized“ then a regular titration would appear suitable.

If you don’t get startup with the first 3, then titrate the LCF, again whether micro or regular depending upon whether anxiety is one of your symptoms. If there still isn’t any startup, there is another round of critical cofactors like Vit D (if not already being taken as part of basics, 3000-5000 IU typically), SMA-e, TMG, Biotin, D-Ribose, magnesium, more zinc up to a total of around 50mg, and maybe a few other items. In my estimation 90% of the discussion is about how to heal without having startup so it goes way afield from methylation and ATP startup. So don’t assume that it will be too subtle to see or not happen at all. There is a checklist, THE 95% REASONS B12/FOLATE THERAPIES DON’T WORK. Read that first. It was my ”debugging“ list. I found all those reasons

the hard way, by running into them and learning what I had to do to get things working. Achieving startup for 95% of those who try it as stated have no doubt about it. Some will say you have to do ”X“ or ”Y“ first. Some of them may be correct under some circumstances. However, remember this. There are hundreds of symptoms caused by hundreds of biochemical breakdowns from these deficiencies. There are many hundreds or thousands of breakdowns because these. It is all these secondary or tertiary reactions that cause damage and make all sorts of additional things go wrong that then make even more things go wrong. My ”logic“ approach is that if one fixes the most fundamental bottom layer, hundreds of these things will correct and be gone or very reduced in a year. Then when one sees what ISN’T being helped or gone away, or getting worse these things can be targeted.

Then mostly as one continues, additional things might be increased or decreased to ”tune the effects“. As the intensity fades then one can work with titrating the MeCbl and AdoCbl for maximum effectiveness.

There are some potentially dangerous responses, the low potassium being one of them. If the low potassium isn’t corrected, a person can end up in the ER or if long enough, dead. Taking CoQ10 during the early months of startup and healing can increase the blood pressure dangerously in a matter of hours. Healing itself can be very unpleasant, especially neurological healing. I can tell how good a new batch of injectable b12 is by how much it increases the pain in my feet. ATP startup starts all sorts of enzymes that hadn’t been working well start working better causing all sorts of transitory effects. The important thing is to distinguish induced deficiencies from

I understand the desire to have a simple plan. I don’t know how that could work. If methylation starts up, and with MeCbl and methylfolate, it usually does in hours, but even if it is after weeks, all the pent up healing starts trying to heal and that induces side effects, usually other deficiencies. I just read another article by a doctor last night about how having high folate in tests can be caused by insufficient B1. By the same token too much B1 can cause low folate. There are several dozen items that work together and all interact. The body is a complicated item.

I hope this helps to understand these matters.. As 100 different people are going to have 300 different responses of some kind or another it always has to be customized and is never simple.

http://forums.phoenixrising.me/index.php?threads/b12-documentary.21478/page-3#post-391835
Thought I’d add still more signs/symptoms of B12 deficiency here. Skin changes: hyperpigmentation, vitiligo, and hypopigmentation are included.

These changes can happen early, before blood and neurological abnormalities occur.

Sometimes, the hyperpigmentation can be mistaken for other conditions, such as Addison’s disease.
[/QUOTE]

http://forums.phoenixrising.me/index.php?threads/update-and-warning-about-methylation-treatment.26102/#post-399702
[QUOTE]I’ll tell you what will make almost everybody sick who does start up methylation when it has been depressed, induced potassium deficiency and induced paradoxical folate deficiency. The paradoxical folate deficiency would explain the MCS, lots of food sensitivities etc. Look over this list and see if your symptoms are in which groups or not included.

You are playing YOU BET YOUR LIFE” . These things have real consequences. For instance untreated hypokalemia with methylation startup can kick in as high as at least 4.3 so if one is tested,

“normal”. If left untreated it can cause gut paralysis, heart irregularities, mood changes,heart and breathing paralysis and death.

Maybe this can give some clues. These reactions are often called “detox” and can be deadly if ignored as “detox”.[/QUOTE]

http://forums.phoenixrising.me/index.php?threads/couple-of-questions.22718/page-3#post-407888
[QUOTE]If methylation starts up many people almost immediately have induced deficiencies. The first two are usually paradoxical folate insufficiency and low serum potassium. After that often come zinc, or magnesium, or vitamin D or half a dozen others. So the solution is more L-methylfolate and/or more potassium, titrated until the symptoms disappear. It works for a lot of people. It happens to a large percentage of people who start methylation. It means you have started healing and forming cells. That mounts more demand on the bodies supplies of nutrients. [continues on w/ list as below (Group 1....)][/QUOTE]

http://forums.phoenixrising.me/index.php?threads/symptoms-by-deadlock-quartet-and-other-nutrients.27482/#post-421506

**SYMPTOMS LIST**
[QUOTE]Version 2 - 01/09/2014

In this post this is a list of symptoms that are mine, and others experience of these nutritional items in relieving their symptoms, and in a very few instances reflect research and successful practice, such as p5p for Hcy and Liver extract studies of several disorders in old journals. In some instances the same symptoms might have different combinations of nutrients.

These symptoms responded almost entirely or entirely to, with basics 5 star MeCbl – methylcobalamin – Methylb12 - Mb12 - Mecobl . Many started improving in hours. Others took 9 months to correct.

[Following list first occured in above methylation warning, then reposted w/ addition of Group4 in following thread.]
http://forums.phoenixrising.me/index.php?threads/ten-years-of-healing-no-more-congestive-heart-failure-fms-cfs-and-minus-100-pounds.25788/page-2#post-405187
One can have a lot of food sensitivities, MCD, hypersensitive to odors, textures, just about anything, when folate deficiency symptoms are heavy, as with methyltrap. Gluten can make a huge difference if you are gluten sensitive, or dairy. However, if you are like me you won’t be able to tell until the deficiency symptom food sensitivities go away and see what remains. If you have celiac disease gluten can make you quite ill. It wasn’t until I did an elimination diet after being on MeCbl and AdoCbl for several years and at least400mcg Metafolin that the elimination diet made any difference. I can’t eat cheese, milk, whey but I can have cream and a little butter.

The potassium might start on the third day after starting AdoCbl,, MeCbl and Metafolin. This will usually start up methylation and rapid cell formation from long pent up demand. That causes low potassium frequently. If startup doesn’t happen then add in L-carnitine fumarate. That limits startup to about half the levels of healing at first. That is usually more than enough to deal with at first.

There is a lot of reading to do. It is like solving a giant maze. You get clues in the form of changing symptoms, new symptoms, strengthening of neurological symptoms and all these allow you to follow the clues of healing. The low potassium and low folate symptoms are usually the first clues and then one deals with these induced deficiencies and moves on to the next thing.

Typically several of these symptoms will appear suddenly with more appearing and worsening over time if corrections are not made. While these groups of symptoms are called “detox” by some alternative practitioners and many people otherwise knowledgeable about vitamins and supplements, depending upon what theories they are operating under, use this term. Typically they are working on a “toxin” theory of CFS/FMS/ME/MCS etc and that these vitamins and supplements mobilize the toxins which then cause all sorts of symptoms in the groups listed. As the “translations” are made it is clear that actual “detox” if it exists, has nothing to do with these symptoms and they can be dangerous to ignore. If it is “detox” in an actual sense, then it is in what is left after these other things are accounted for and/or corrected, perhaps 5-10% of the total initial number. Also, co-morbidities often show up in this way..

Group 1 – Hypokalemia onset. Symptoms may appear with serum potassium as high as 4.3. May become dangerous if ignored. Considered “rare” with cyanocobalamin it is very common with methylb12 and adensosylb12 and less so with hydroxycobalamin..
IBS – Steady constipation , Nausea, Vomiting, Paralyzed Ileum, Hard knots of muscle, Sudden muscle spasms when relaxed, Sudden muscle spasms when stretching , Sudden muscle spasms when kneeling, Sudden muscle spasms when reaching , Sudden muscle spasms when turning upper body to side, Tightening of muscles, spasms and excruciating pain in neck muscles, waking up screaming in pain from muscle spasms in legs. Muscle weakness, Abnormal heart rhythms (dysrhythmias), Increased pulse rate, Increased blood pressure, Emotional changes and/or instability, dermal or sub-dermal Itching, and if not treated potentially paralysis and death.
Group 2a - Both
IBS – Diarrhea alternating with constipation, IBS – Normal alternating with constipation
Group 2b – Either or both
Headache, Increased malaise, Fatigue
Group 3 - Induced and/or Paradoxical Folate deficiency or insufficiency
IBS – Steady diarrhea, IBS – Diarrhea alternating with normal, Stomach ache, Uneasy digestive tract, increased hypersensitive responses , Skin rashes, Increased acne, Skin peeling around fingernails, Skin cracking and peeling at fingertips, Angular Cheilitis, Canker sores, Coated tongue, Runny nose, Increased allergies, Increased Multiple Chemical Sensitivities, Increased asthma, rapidly increasing Generalized inflammation in body, Increased Inflammation pain in muscles, Increased Inflammation pain in joints, Achy muscles, Flu like symptoms, Depression, Less sociable, Impaired planning and logic, Brain fog, Low energy, Light headedness, Sluggishness, Forgetfulness, Confusion, Difficulty walking, Behavioral disorders, Dementia, Reduced sense of taste, Increase irritability, Loss of reflexes, Fevers, Old symptoms returning, Heart palpitations, Bleeding easily.
Group 4 - Hydroxycbl onset, degraded methylcbl onset, methylcbl after photolytic breakdown onset.
Itchy bumps generally on scalp or face that develops to acne like lesions in a few days from start.

Group 3 symptoms, induced paradoxical folate deficiency or insufficiency are corrected quickly with titrated doses of Metafolin, methylb12 and adenosylb12. If glutathione (precursors) are the cause then larger doses of Metafolin, 7.5-15mg,or maybe more are needed. Different tissues are affected at different levels of methylfolate, it comes or goes in stages. Very strong dose proportionate characteristics are present. Serum folate levels may be high or even very high despite Metafolin responsive deficiency/insufficiency symptoms.
Group 1 symptoms respond readily to potassium. The symptoms and response to potassium may occur at a serum level of 4.3 or less.
[/QUOTE]

**Sublingual or Injections?**

http://forums.phoenixrising.me/index.php?threads/the-stages-of-methylation-and-healing.21725/

[QUOTE]The Enzymatic Therapy MeCbl is more effective and reliable than most injections except for the very best MeCbl prepared under light free conditions. Light breaks it down to HyCbl which compared to MeCbl/AdoCbl is all but totally worthless for healing neurology.

Neurological damage is caused partly by lack of ATP production in the mitochondria of the brain. For your neurology to heal you have to first restore the energy production. L-carnitine and AdoCbl and MeCbl and l-methylfolate is needed for neuroblast formation for growing neurons.

Then it is AdoCbl and L-carnitine fumarate for the mitochondria. Of course you also will need to have MeCbl and l-methylfolate so the whole thing doesn't deadlock from lack of methylation. It is a 4 way deadlock.

Read my posts describing the levels near the beginning and the lists of symptoms by nutrients towards the end, 6 posts of those I think. Then lets talk about it and you ask what remaining questions you have.
[/QUOTE]

**HydroxyB12:**

http://forums.phoenixrising.me/index.php?threads/short-term-relief-from-b12-shots-real-relief-or-placebo.27064/#post-416371
[QUOTE]HyCbl is a pseudo vitamin. It is 1% as effective as MeCbl and AdoCbl. If you want neurological healing, these with L-methylfolate and L-carnitine fumarate plus other cofactors are the answer. I speak from massive experience. [/QUOTE]

http://forums.phoenixrising.me/index.php?threads/the-stages-of-methylation-and-healing.21725/
[QUOTE]HyCbl typically will make 50%-90% of the active b12 deficiency symptoms worse over some months and makes startup worse when it happens when a person finally gives up on this pseudo vitamin. It never fulfills the full need for either AdoCbl or MeCbl. It is approximately 1% as effective as AdoCbl and MeCbl, if you are lucky. The neurological symptoms will keep worsening until they destroy your life. It is a horrid thing to continue to have neurological damage or even worsen it by taking HyCbl or CyCbl. One study of older people diagnosed with Alzheimer's found that 41% of the people so diagnosed, in the study actually had b12 deficiency dementia. B12 deficiency in the long run makes for irreparable damage to your brain and spinal cord.

Megaloblastic madness (psychosis caused by b12 deficiency damage) is the "most florid psychosis known to man". Of course nowadays, they stop the enlarged red cells with HyCbl or CyCbl while the brain continues to deteriorate. One doesn't even get the warning of high MCV. Anyway, with the alert changed form > 93 to > 100 or 102 over the past 15 years thereby enshrining one of the early warnings as "normal". This is in a population in the USA that has most of the population eating "fortified" foods with CyCbl and Folic acid. Instead of preventing FMS/ME/CFS the frequency is much increased. If these things could work, (and HyCbl is only marginally more effective than CyCbl) they would have already. Instead we see the opposite.[/QUOTE]

http://forums.phoenixrising.me/index.php?threads/symptoms-by-deadlock-quartet-and-other-nutrients.27482/

[QUOTE]So when asked why don't HyCbl and CyCbl work well it's because they are not what our biochemistry evolved to use over hundreds of millions of years starting before mammals even existed. We did evolve a starvation mode of survival in which some of the previously used cobalamins that had become unusable throwaway forms after MeCbl breaks down or detoxifies cyanide and reclaim them. As with other work around methods it isn't very effective and it doesn't provide enough active cobalamins to do any major healing but it is enough to stay alive during a famine or a bad winter. It does require the presence of some reduced amount of each MeCbl, AdoCbl, l-methylfolate and l-carnitine fumarate to provide the needed biochemistry to fuel the conversion, allowing the body to tread water for a while.

WHY ARE THERE ALL THESE COBALAMIN A, B, C, D, ETC DISEASES?

These are the cataloging of all the ways our bodies didn't evolve to use HyCbl and CyCbl. These gene variations never got culled out of us by disease and death in a natural environment. Those that had these enzymes might survive starvation better as they can use some trace cobalamins, but not enough difference to cull out those that don't. General starvation isn't selective enough. So many people don't have the enzymes needed to transform trace cobalamins that the body creates from MeCbl for special purposes or post use or breakdown products, to recycle them for a workaround for starvation for a while. Some have even suggested that the lethargy of metabolic shutdown (seasonal CFS) achieved by AdoCbl/MeCbl starvation allowed early humans to survive long winters of semi starvation with very low food requirements substituting for true hibernation or winter sleep.
[/QUOTE]

**Folinic Acid**
http://forums.phoenixrising.me/index.php?threads/mthfr-folate-usage-and-blocking.28229/#post-430132

[QUOTE]I adopted the "blocking" idea from folic acid research dating back to the 60s. I don't know if that is the actual cause. All I can tell you for sure is that inflammation and histamine responses increase tremendously when I eat too much folate containing vegetable matter, folic acid and folinic acid. I don't deprive myself of any vegetables, just eat somewhat fewer servings or smaller servings. Tonight and the pastr few days I have been enjoyiong fresh asparagus. NAC and other glutathione promoting items cause the most severe results with large visible amounts of b12 being flushed out in my urine within hours, with sudden onset of obvious methyltrap (a completely different mechanism than folic acid or folinic acid or veggies) inflammation starting within hours, acne, IBS, angular cheilitis starting in a day or two and allergic responses, asthma, widespread inflammatory pain worsening day by day and within a couple of weeks, MCS is getting started and not responsive to anything except discontinuing NAC/glutathione promoters, folic acid (takes days to have an effect, in theory time for unconverted folic acid to build up to the "blockage" point, the hypothesis of many researchers and clears in about 24 hours allowing more normal effectiveness of Metafolin) and folinic acid (which builds up quicker, blocks in 24 hours and takes a couple of days to clear). The difference between folic and folinic acid could be entirely because of serum clearance half life difference. To break the methyltrap took some sizeable doses of AdoCbl and MeCbl, causing 4 distinct startup responses all over again, the only time besides initial startup for each at both levels (4 in all). It may not be tied to any polymorphisms at all because 50% can convert to a biological maximum of 800-1000mcg daily, 30% less than that but some conversion and 20% no conversion at all. Those probably represent some polymorphisms however, 50% can still have a buildup if they take more than minimum doses. So which 50% is "normal"? It looks like all can be affected on the folic acid. I have no idea what percentage are represented in the folinic acid equivalent groups or veggie folate groups.

You may be asking a question to which you will get answers of all kinds. It may not be a question with a nice neat single answer. I would be inclined to bet on that option as these differences have been known since the 60s, long before the polymorphisms were even discoverable. I would be interested in seeing the results.
[/QUOTE]

http://forums.phoenixrising.me/index.php?threads/active-b12-protocol-basics.10138/page-11
[QUOTE]WHY DO SOME PEOPLE FIND FOLINIC ACID UNUSABLE?

Folinic acid is another matter. It is the natural folate of most vegetables. It is a handicap not to be able to use vegetable folate but lots of people can survive on the animal form of folate. It is a handicap to not be able to digest milk as an adult. Adults can do fine without milk and cheese. It is a handicap not to be able to utilize gluten, a protein in some grains. There are lots of alternatives to gluten. Milk as an adult food is a recent arrival on the scene. Grain containing gluten as a dietary mainstay is a more recent arrival on the scene. 10,000 years more or less hasn't been long enough to for humans to fully genetically adjust. However, some populations have evolved to be able to drink milk as adult. Most people in the world can't digest milk as adults. I "should" be able to digest milk as "should" my ex-wife. We both come from northern long term dairy drinking white folks. Neither of us can do so. Chances are our children won't be able to either. I miss it but I sure don't miss the digestive problems. Fortunately gluten gives me no problem at all. On these variables like adult milk and gluten, 10,000 or 20,000 years or whatever isn't enough for a population to fully adapt. For vegetable folate, even 400,000,000 years hasn't been long enough for 100%. However, I can use the natural animal form of folate, L-methylfolate or I wouldn't be alive to write this as can 100% of people. Vegetable folate is an "also" or a biological workaround. However it is amply effective for the majority of persons. Some tribes evolved on high meat diets for a long time and some did not.

In a normal software system after too many generations of changes it becomes unmaintainable and needs to be reconceptualized and redesigned. A college I went to in the 1960s had brand new physics and chemistry buildings both with standard air pressure, humidity and temperature. The only thing not standardized was local gravity. That standardization has NEVER been done in nutrition with all the active natural forms of the vitamins. What we have standardized on are CyCbl , HyCbl and folic acid. We are reaping the results, with all these rapidly increasing neurological, metabolic, neuro-psyc diseases and generally poor health with lots of symptoms and no treatments that actually work. Even worse is that these symptoms and diseases have become the "norm" as these fake vitamins are in many foods. I eat almost no white flour products, no fortified products, no corn syrup, minimal trans-fats and almost no processed foods. I avoid folic acid and CyCbl like the poisons they are to me. Instead I take the natural forms in sufficient quantity to allow my damaged body to function.

[/QUOTE]
**AdB12**
[QUOTE]Freddd, from thread re detox:
it is the adb12 that generates ATP in the mitochondria and whose lack can casue total fatigue, all sorts of muscle and neurological pain and so on. I cured myself of CFS and FMS and many more symptoms starting 9 years ago.

Glutathione and NAC that are both said to cause "detox" are actually causing severe folate and if

continued, b12 deficiencies and even brain and/or cord damage from these induced deficiencies. [/QUOTE]

http://forums.phoenixrising.me/index.php?threads/symptoms-by-deadlock-quartet-and-other-nutrients.27482/#post-423015
[QUOTE]Freddd: This (anti-inflammatory) is the third major role for AdoCbl. The first is mitochondria at the heart of ATP production and the second is processing fatty acids for myelin generation for healing nerves. Those are not in this paper. An important understanding is that with zinc it a complete fix for the inflammation and NO with no nasty leftovers like HyCbl leaves behind. She did the "scarlet pimpernel" papers before this and a whole lot of others, on HyCbl before this one and is an oncologist. I can't wait to see the next one.[/QUOTE]

http://forums.phoenixrising.me/index.php?threads/active-b12-protocol-basics.10138/page-7

[QUOTE]Freddd on **Why to Avoid Glutathione supp:** "..Glutathione does indeed make these feel somewhat better, by turning them off even more and if continued long enough, making them totally non-functional and no longer painful. I haven't recovered in 5 years from much of the neurological damage and have been walking on broken glass ever since, not to mention the CNS cognitive and mood damage.

From having the SACD at about a 75% remission before glutathione. I'm struggling to maintain it at 50% remission ever since. By 6 weeks it was clear that it was doing damage to all of us and we all stopped the trial at 6 weeks. I couldn't ethically ask anybody to continue at that time. Increased neurological damage, CNS and peripheral, was not one of the disclosed risks. Had we known the very real risk of damage none of would have done that. However, it made clear what it was doing." It is exactly like cyanide and nitrous oxide, it oxidizes the MeCbl or AdoCbl into a form that is rapidly excreted upon contact. One researcher MD told me on the phone, "glutathione is too dangerous to take in any way".

…Sometimes the balance between AdoCbl/MeCbl can make a difference. Chart it every day and see what is steady and what changes day by day and even the pattern within the day. I found this kind of diary very helpful in knowing what was going on. I could see clear changes in the right direction in a month that were not visible in day to day memory comparisons. Our memories are so frail in this and it is so easy to forget most of the changes. Looking back 11 years I have trouble now believing how sick and miserable I was, how disabled I was. I was reasonably euphoric for the first 9 months or so despite all the increased awareness of muscles and nerves damage.

… I suggest establishing Methylation startup with 100+ mcg of MeCbl and AdoCbl absorbed each (at least, since the effect is NOT linear, 80% of all the body healing that can turn on does with a couple of hundred absorbed mixed active B12s. One ENZY tablet and part of an Anabol Dibencoplex capsule along the lip and gum for 1-2 hours is quite sufficient until potassium and L-methylfolate are titrated to full need at that level, then tolerate the LCF.
With B12s and folate there are at least 5-6 or more levels of healing, each one of which starts independently of the others when the full requirements are available. See LEVELS OF METHYLATION AND HEALING http://forums.phoenixrising.me/index.php?threads/the-stages-of-methylation-and-healing.21725/[/QUOTE]

**L-Carnitine Fumarate**
http://forums.phoenixrising.me/index.php?threads/the-stages-of-methylation-and-healing.21725/

[QUOTE]LCF, if it is what methylation is deadlocked on, will cause low potassium and donut hole

paradoxical folate deficiency/insufficiency which is usually called ”detox“ just as glutathione detox equals paradoxical folate deficiency and so does NAC ”detox“. Of everything I have seen called detox, better than 9 out of 10 times it resolves with potassium and/or Methylfolate. ”Detox“ has so many meanings it is meaningless. The docs immediately go deaf when they hear that word and won’t hear a thing you said before or after.

So let’s consider what carnitine does. First, some people have to have LCF, about 90% of us here with these for whom it makes a difference. About 10% have to have ALCAR. It transports fats to mitochondria. It, by demonstration on me and others, causes proliferation of mitochondria in conjunction with the other 3 items. It causes muscles to grow back. It causes osteoblast proliferation strengthening bone. It cause neuroblast formation, encouraging neuronal healing and growth. These are essential to healing and causes demands on Methylfolate and potassium as it encourages new cells to grow as well as more mitochondrial density producing more ATP.

I started with a 500mg dose and had to be peeled off the ceiling. I was quite deficient. It was key in my taking off 85 pounds of water and healing all levels. A person who has no deficiency will have no obvious reaction. It was almost made a vitamin but wasn’t because some people can make enough of the right kinds. Even if they had it would have been ALCAR and most of us would be out in the cold anyway. I backed off to 128mg. After a few months I could increase to 250mgl, then a few more months 500mg. That turned out to have peak effect and 1000mg did nothing more so I backed off to 500. If a person has anxiety and is overly risk adverse they may have a specific type of hypothesized damage to the limbic system in the brain and then they have hyper responses to less than 1mg of LCF. Such folks might need to microtitrate starting at 100mcg with Jarrow liquid carnitine. It really has nothing at all to do with detox and everything to do with neuronal damage from deficiency and restarting damaged or inflamed nerves with ATP generation which also is needed for dopamine synthesis.
[/QUOTE]

**Other Factors**

http://forums.phoenixrising.me/index.php?threads/getting-back-to-balance.24134/ July 2013
**Fred re role of Bvitamins**

[QUOTE]As far as I can tell it is the B1, B2, B3, Pantithine, biotin and who knows what else, that DRIVE how far many of these things go in a lopsided way, losing the healing. When one is working from a stance of basic healing happening then one knows when healing stops that something has gone wrong or it strengthens or it makes a weird left turn into nowheresville. The AdoCbl involvement in methylation is indirect in that without ATP no methylation will happen but it doesn;’t drive the methylation. Biotin appears to drive the ATP reactions possible harder in some people than is optimum. B1 and B2 appear to drive need for both potassium and more folate without providing the general healing. That stops when it goes wrong. The healing is a sweet spot that takes careful balance to stay aboard.

...This balance is ever so more important when there is a sufficiency of ATP and methylation capacity. When everything is held back to starvation mode or worse; partial methylation block, methyltrap or partial ATP block, none of the other b-vitamins appears to make much difference, and I’m speaking now, not the 20s and 30s investigating B vitamin starvation because of white flour. It’s in foods and drinks and all sorts of things including white flour products.

So in days of old when knights were bold and vitamins not invented, people would occasionally feast on b12 containing items, get enough in them for a while to be able to heal and then sink back into starvation maintenance. So now instead of everything being limited by available b12, now

other vitamins need balance and moderation.

Are you taking more than about 30-60mg of b1, b2 or b3 a day? In some people it causes a large loss of potassium. However, MeCbl is out of circulation in 2-3 days. Methylfolate has a serum halflife of about 3 hours.[/QUOTE]

http://forums.phoenixrising.me/index.php?threads/acne-sign-of-methylation-problems-or-hormone-imbalance.26012/
[QUOTE]Too much B1, B2 and/or B3 can increase paradoxical folate deficiency and cause acne.
[/QUOTE]

http://forums.phoenixrising.me/index.php?threads/ten-years-of-healing-no-more-congestive-heart-failure-fms-cfs-and-minus-100-pounds.25788/page-2#post-403
[QUOTE]I am taking no extra B1, B2 or b3, just the amount in the low dose b-complex mentioned before; 10-20mg or so each per day in 2 doses. All three increased the amount of potassium and folate needed and reduced actually healing till at the end I couldn't take enough of either and healing was going backwards. I am remaining quite stable now at about 1500mg of potassium and 4-6mg of Metafolin. I have thickening of my nails again at some point some months ago when I discontinued the extras, my actual cell formation increased. The requirements for 3000+mg of potassium and 20+mg of Metafolin came down in a few days after I discontinued the extra bs. ....I suggest that a low dose b-complex without folic acid and without CyCbl, E, C, A, D.....NatureMade B-complex with C, List # 1338. This has 15mg of thiamin,10.2mg of Riboflavin and 50mg of Niacin, 5mg b-6 and 10mg pantothenic acid.

http://www.metabolics.com/b-complex-pot-of-180-capsules.html
Each capsule contains: Magnesium Citrate (64mg Magnesium), Choline Bitartrate (50mg Choline), Niacinamide (14mg Vitamin B3), Inositol (12.5mg), Calcium Pantothenate (11.25mg Vitamin B5), Pyridoxal 5 Phosphate (5.2mg Vitamin B6), Thiamine Pyrophosphate (4.9mg Vitamin B1), Riboflavin 5 Phosphate (5.1mg Vitamin B2), Calcium L Methyl Folate (201mcg Folate), Methylcobalamin (125mcg Vitamin B12), Adenosylcobalamin (125mcg Vitamin B12), Biotin (50mcg Vitamin B7).
[/QUOTE]

http://forums.phoenixrising.me/index.php?threads/the-stages-of-methylation-and-healing.21725/page-20#post-422644
[QUOTE]…In the presence of the active b12s and folate, B1, B2 and B3 are a real surprise as they are tremendously more powerful in the presence of the active b12/folate.
...I can see now that the B-50 complex I took for decades was damaging me, making me sicker. The standard explanation was that it was "out of balance" with the arbitrary 50mg of each. These statements were made even way back in the 60s about these supplements. Now it is obvious how it was out of balance. So, look at the dates. The newest posts reflect the newest understandings. and newest models. Also, I have been exploring ways to make the startup more comfortable. Some people react differently and some tremendously more intensely and some both and discover the reasons. As reasons are understood, changes can be made. I'm working on a post that will modify startup procedure and will likely have that later today or tomorrow or maybe a little longer. It's going to be more modular.

...And it takes having enough AdoCbl and Carnitine to produce the ATP anyway. The body can be sufficient and the brain very deprived. Mine was limited enough that after 9 months on MeCbl I had major startup effects both in body and CNS when starting AdoCbl. Methylfolate is required for both

AdoCbl and MeCbl.

Other deadlocks can be **SAM-e, TMG, Vit D, magnesium, zinc, D- ribose, biotin and just about any vitamin.**[/QUOTE]

http://forums.phoenixrising.me/index.php?threads/b-12-the-hidden-story.142/page-150#post-422971
[QUOTE]In my opinion taking too much niacin can cause increased paradoxical folate deficiency and/or deplete potassium. I have no apparent problem with 100mg/day in 2 divided doses but do have a problem with 200mg/day.[/QUOTE]

http://forums.phoenixrising.me/index.php?threads/induced-insatiable-hypokalemia-and-methylfolate-insufficiency.22968/
[QUOTE]@[USER=2835]dbkita[/USER]:  P5p is the cofactor most people focus on since it controls methionine synthase, shmt, and cystathione beta, and dopamine and serotonin production.

But r5p is the cofactor for mthfr. And r5p will also increase b6 to p5p conversion. This is relevant since anyone taking oral p5p has it all turn to b6 in their stomach due to the low ph (unless enteric coated which is rare). So their b2 levels will regulate their b6 to p5p levels.

My guess is that increasing b2 is ramping your conversion of 5, 10 methylene thf to methylfolate while you are ingesting methylfolate throughout the day. You have lots of thf from driving the methylation cycle, you have no rate limitation on making 5, 10 methylene thf due to adequate p5p and adequate shmt activity, add the b2 at sufficient concentration and even with a defective mthfr you still get a big shift in your equilibrium. Hypokakemia accelerates, and the reaction rates of the folate cycle and the methylation cycle “uncouple” in the new state. You probably are not in methyl trap since you have adequate b12s but for some people that may also come into play if they shift b2 in to high gear.

In my own case I seem ok on 100 mg b2 single dose provided I am not going above 800 mcg of methylfolate. Last year the additional 400-800 mcg of methylfolate, on and off 800 mcg folinic acid, SAM-e, tmg, etc along with 100 mg b2 was a mess with hypokalemia. When I switched to 50 mg b2 and 50 mg r5p it was hypokalemia wasteland.[/QUOTE]

http://forums.phoenixrising.me/index.php?threads/induced-insatiable-hypokalemia-and-methylfolate-insufficiency.22968/page-4
[QUOTE]@dbkita:I would agree. B2 is needed in active form to convert all the other b’s into their active form including b6 to p5p. Your chemical equilibrium is probably sitting at a particular spot and when you downshift b2 or something else your equilibrium shifts. Perhaps by lowering b2 you were not converting folate metabolites fast enough into their methylation cycle products?[/QUOTE]

**Further Reading, Viewing**

From @[USER=90]caledonia[/USER]:

Methylation Made Easy - if you don't know where to start - start here. Four short videos explain the basics. https://www.youtube.com/watch?feature=player_detailpage&v=o4uqEDK6BvM
Start Low and Go Slow - How To Be Safe On A Methylation Protocol
http://forums.phoenixrising.me/index.php?threads/start-low-and-go-slow-how-to-be-safe-on-a-methylation-protocol.26711/
Roadblocks to Successful Methylationhttp://forums.phoenixrising.me/index.php?threads/roadblocks-to-successful-methylation-treatment.29273/

http://mthfr.net/l-methylfolate-methylfolate-5-mthf/2012/04/05/
L-Methylfolate, Methylfolate, 5-MTHF, L-5-MTHF. What is the Difference!?

http://forums.phoenixrising.me/index.php?threads/b12-protocol-no-startup-from-anything-so-far-what-does-it-mean.23427/page-2#post-407527
**THE 95% REASONS B12 AND FOLATE THERAPIES FAIL**
Version 2.0 - 03/10/11, Version 2.1 - 05/08/11. Version 3.0 – 10/25/2012, Version 3.1 10/26/2012, Version 11/05/2012 3.2

http://forums.phoenixrising.me/index.php?threads/under-methylation-over-methylation-and-precursers-laymans-version.1740/page-2
[QUOTE]**Under and Over methylation symptoms and characteristics**
Freddd: Here is a collection of symtoms, signs and chracteristics of overmethylators and undermethylators from several sources. A few specific items are footnoted. I found the specific interesting. The consensus as to which is what is a bit fuzzy. Some things like depression show up on both lists according to different people. Many of the symptoms on BOTH lists are active b12 and folate deficiency symptoms. As far as response to b12 and folates are concerned, I'm just including what the sources say, not what I think. The ONLY thing they are all (sources) in full agreement on is response to SAM-e.

My experience prompts me to use a different terminolgy from under and over methylators. These are all genetic tendencies at best. In actual practice I have found that people are very often "depleted methylators" or maybe in different terminology "blocked methylators" regardless of what their genetic tendencies theoretically are. Many of these assumptions come from a backround of tests performed on people that are chronically deficient of active folate and active b12s. I had approximately equal numbers of active b12/folate deficiency symptoms from BOTH lists of "under" and "over" methylators. To this day I can't tell you what I actually am in that schema as it just doesn't make sense in terms of what was wrong and what fixed it. Active b12s with Metafolin, as many active b-complex components as possible, basic cofactors and selected critical cofactors all played their part in fixing my symptoms from BOTH lists allowing my body to be healthy and normalized. Personally I thionk way to much attention is applied to the over/under situation, both of which may be artifacts of inactive pseudo vitamins and how people respond to those.
[/QUOTE]

**THE COMPLETE METHYLATION REVIEW** Fredd Feb 2013
http://forums.phoenixrising.me/index.php?threads/the-stages-of-methylation-and-healing.21725/

Excellent B12 vid. 50 minutes  Diagnosing and Treating Vitamin B12 Deficiency
[media=youtube]BvEizypoyO0[/media]

**About Freddd**
Year I came down with ME/CFS:1970
Health Care systems analyst

http://forums.phoenixrising.me/index.php?threads/the-stages-of-methylation-and-healing.21725/page-20#post-422887
[QUOTE]I'm a Sherlock fan and really like this new BBC Sherlock series. I'm sorry to say I don't

always "get it" as fast as he does. I'm only a systems analyst and I have to just plod along. The relevance of this will be clear in a minute.

A week ago I went outside and saw a bloody mess on the driveway, well, a tablespoon of blood anyway and a lot of feathers. I jumped to the assumption that it was a cat that had gotten a bird. Now I have seen lots of that through the years and I had never seen a cat arrange the feathers in a circle with a clear space and blood in the middle. In fact I have never seen so much as a drop of blood from a cat killing a bird so the whole scene bothered me. It wasn't right.

The answer dropped in yesterday out of the sky. On the fence 10 feet away from the kill scene sat a young peregrine falcon in the process of molting to adult feathers. Falcons are messy eaters. When they fly off the downbeat of the wings clears a circle. There is the answer that fits all the clues. No dissonance any more from facts not coinciding with the theory. Theories are usually wrong. My immediate presumption of a cat was wrong.

History, and data are always being re-evaluated in hindsight. So some of your questions go to the apparent contradictions. Many things I have said are specific to the question. Some go to semantics.

I've been at the actual practice of healing my body with b12 et al for 11 years. The first 5 gave me all 4 of the deadlock quartet and the disaster of glutathione. Disasters can be very educational when understood. The next almost 6 years has been spent learning about methylfolate and it's modifiers. And it really is something new. All the research on B1, B2 and B3 and other things were done in the absence of methylfolate and active b12s.. One thing I had noted was that virtually ALL the other vitamins and supplements had much more effect with the deadlock quartet, with most of the nutritional research done on people in starvation mode for b12 and the pseudo vitamin folic acid.

In the presence of the active b12s and folate, B1, B2 and B3 are a real surprise as they are tremendously more powerful in the presence of the active b12/folate.

Each of the factors in turn has required a complete re-evaluation from the base up and modification of the model. Nothing stays fixed. Taking these things into account changes everything. So over time everything changes. Even at this pace, 11 years, it will take 100 years for all this to come as a result of "standard" research models, maybe never. B-complex is treated as an object but it is all wrong using active b12 and methylfolate. The only problem is that they based the They do single items, maybe even 2 or 3, not 4 items as an object and then stacking another 6 critical cofactors or so to get the first 4 working and another 3 or more major modifiers. The models they use and hence the questions they ask can't ever find this. It is invisible. So for Cerefolin with NAC they don't (can't) recognize induced methyltrap/methylation block (paradoxical folate deficiency) when it hits their subjects upside the head. It's just "side effects", not a CRITICAL side effect, not a complete blocking of all that expensive Metafolin. So if they tried NAC on people without having had methylation startup, the side effects can be already existing symptoms, not side effects and hence invisible. The amount of MeCbl in Cerefolin with NAC isn't enough to generally start healing when taken purely orally. They don't have a theory or model that allows them to see all this. I see what works and come up with the theory

I learned a long time ago that "side effects' are important. I learned that all the little details can be critical Patterns of side effects. Patterns of symptoms. Mashing it all together statistically gives the equivalent of mashed potatoes, the appearance of uniformity. I am, and probably most of us here are in the tails, outside of 95%, 2 standard deviations, in all sorts of these things. To heal myself I had to ask why I was on the outside. I can see now that the B-50 complex I took for decades was damaging me, making me sicker. The standard explanation was that it was "out of balance" with the arbitrary 50mg of each. These statements were made even way back in the 60s about these

supplements. Now it is obvious how it was out of balance. So, look at the dates. The newest posts reflect the newest understandings. and newest models. Also, I have been exploring ways to make the startup more comfortable. Some people react differently and some tremendously more intensely and some both and discover the reasons. As reasons are understood, changes can be made. I'm working on a post that will modify startup procedure and will likely have that later today or tomorrow or maybe a little longer. It's going to be more modular.[/QUOTE]

http://forums.phoenixrising.me/index.php?threads/the-stages-of-methylation-and-healing.21725/page-20#post-42264
[QUOTE]…I've been at the actual practice of healing my body with b12 et al for 11 years. The first 5 gave me all 4 of the deadlock quartet and the disaster of glutathione. Disasters can be very educational when understood. The next almost 6 years has been spent learning about methylfolate and it's modifiers. And it really is something new. All the research on B1, B2 and B3 and other things were done in the absence of methylfolate and active b12s.. One thing I had noted was that virtually ALL the other vitamins and supplements had much more effect with the deadlock quartet, with most of the nutritional research done on people in starvation mode for b12 and the pseudo vitamin folic acid….[/QUOTE]

http://forums.phoenixrising.me/index.php?threads/overwhelmed-by-the-many-protocols-the-pros-cons-of-each-etc.27737/#post-428988
[QUOTE]I was accused of Its All In Your Head for decades as a health care systems analyst. I paid attention to every detail is detecting patterns that we might data mine for screening and preventive purposes or fraud or incompetence. We were out to get rid of the 1% worse providers every year in the plans we consulted for. I was told often that "You have too many symptoms to be believable". They are suspicious about anybody who knows lots of symptoms. I'm not sure why but part of it is that they only want to hear the top ten symptoms. They lose patience and are not going to sit still listening to 200 symptoms. The won't believe it and they certainly won't make the connection that the active B12/folate deficiencies can account for all 200. If they did listen they would feel like they have to come up with 10-20 diagnoses. Then there is the reaction of putting one of those canvas conference bags on the counter with a big "HELP STAMP OUT MEDICAL FRAUD" on it. It makes some docs very nervous.

High resolution symptom tracking can tell a person an awful lot about methylation and ATP functionality. For the last half of the 100 docs I worked through I removed the possibility of treatment and interviewed them to see if they had any ideas. Then when they didn't have any new ideas or drug suggestions, just the same old stuff that had already failed several times and was just plain wrong, we could each go our way none the worse for wear. Without doing that they would just be making me sick with all the drugs that were already tried and side effected out of consideration and then have to kick me out for not being a cooperative patient. It saved a lot of wear and tear and expense on my part.
[/QUOTE]

http://forums.phoenixrising.me/index.php?threads/glutathione-precursors-detox-or-induced-methylb12-and-methylfolate-deficiencies.374/page-7#post-420947
[QUOTE]I'm in the part of the USA where we really shouldn't eat a lot, or maybe any, of the local fish. They contain a lot of mercury released by smelting operations decades ago and even now. I used to fish and eat the fish in the east but I won't do it here. I also take selenium and have for decades to neutralize and immobilize the mercury as an inert substance. I played with mercury as a boy. My father came home from work every day covered with micro-drops of mercury from working with it all day as a dentist. When he started in practice the amalgam was kneaded barehanded until the right consistency. He is in high level Alzheimer's care now. He refused to try

vitamins. His soon to be widow refused later for vitamins to be given him though it very possibly was way too late. She thinks I, and all the rest of us, are fakers and hypochondriacs and I couldn't possibly heal from vitamins because I was never really sick, just lazy and a no good liar. Lots of us have family problems like that.

I spent 20 years trying every therapy in the book and then some. I went to all sorts of practitioners with all sorts of theories. I kept a daily diary. They all wanted to claim any periodic improvement and disclaim all the downturns which always were more common than upticks. None of the therapies made any difference, didn't change the up and down pattern in any way and added all sorts of side effects and often made things worse, lots worse, like glutathione and it's instant methyltrap. I didn't expect 100% failure on the part of every theory and treatment based on it. Something was wrong with every one of them. Diddling with one resultant symptom, even if it helps that symptoms, didn't change anything, didn't cause any healing. It was just skimming a little cream of the top but not getting the cause of anything.

I studied up on each theory and tried it two or three times with different practitioners. Not a single one, over 100, EVER healed anything. My chiropractor working on my injured back and neck game me a great deal of pain relief. So did massage. As is complained, that is only temporary, but it was all I had that did anything.

On the mercury, I studied all the theories and "treatments". I watched people panic and stop MeCbl when they had fecal mercury which is sort of strange to me because fecal mercury is exactly what one would get by taking MeCbl if indeed it does react with mercury since the monomethylmercury is then excreted in the bile. The whole idea is to get it out of the body Getting it out of the body is a good idea. The 1% per day of serum monomethylmercury that is excreted in the bile comes from research of people accidently poisoned with monomethylmercury. The research allowed me to build a serum model for it. When they are poisoned by it to the extent of having greater than 30mg body load, they start having direct toxic symptoms which disappear as it is flushed from the body.

The B12 research showing 99% unchanged excretion of B12 within 24-48 hours puts an upper limit on how much reaction can take place. According to research I've read, approximately 80% of the symptoms of mercury toxicity is identical with B12 deficiency symptoms, that is to say partial methylation block. The deadlock quartet can reverse most of those in short order. Now perhaps one of the reasons I am still improving 11 years down the road is that at 1% a day of serum monomethylmercury, and only a little bit, micrograms, are formed per day with MeCbl hypothetically, then it could take a decade or more to react with the mercury and flush all of it out. The amount found as fecal mercury is on the order of micrograms per day which is in line with such a hypothesis. In the meantime, I'm not suffering all the effects of partial methylation block or methyltrap. I'm not suffering from any of them.

I've been doing trials since 1979 in myself as a longitudinal study. Basically one way of saying what I have found is that 95% medicine doesn't work for us. We are in the tails beyond 2 standard deviations and are ignored. I'm a systems analyst and consultant in healthcare since about 1980. The date isn't exact because it started with one little thing and then another and then another until it was full time Actually I started at 13 years old analyzing blue collar and a white collar dental practices, modeling them (adding machine and paper spreadsheets) and doing the preliminary actuarial work for the first free-standing dental HMO back in 1961.

I've written all sorts of serum level models for drugs to help practitioners figure out what was going on, such as one to show why Oxycontin didn't work as the advertising suggested it did. The graph that was used to show steadiness of serum level didn't match the data table which showed no such thing. I'm not interested in rehashing 20 year old business here but just used it as an example to

show how models can help. In reverse engineering their graph I was able to show that it required a completely different set of numbers than their Orange Book data showed.

When building a model for B12 I found that while the numbers from lots of studies were pretty consistent for serum halflife they were not modeled well as there were a lot of complications and wrong assumptions.

So I take apart studies and build models. The models have to reflect how the results actually occur in people, not according to somebody's wish list hypothesis.

If you can show me the data from multiple studies I can build a better model than from one study. A good model has to be able to accommodate all data, not just the 95%. So I build it based on the 5% and the 95% are always accommodated. They just don't use all the variations built in. So in the medication model (Oxycontin for example) I include gut transit time, liver damage, kidney damage and all the other quantifiable things causing variations outside the 95%.
[/QUOTE]