

# Client Attunement Commitment

## Forms to fill out and turn in

- Terms of Acceptance
- Medical history form
- Narcissism Disorder Assessment
- Prescription Drug and supplementation form
- Implementation and Assessment form
- Trauma History Questionnaire
- Cancellation Policy
- Attunement expectation
- Client Attunement plan

## Client list of educational reading

- Home blocking
- Rare steak
- Autonomic recovery
- 78 reasons to avoid sugar
- Be the solution
- Circadian rhythm
- How to get a good nights sleep
- Flying protection
- Rare Steak
- What do I do when I get the flu?
- Core essence/protection
- Posture alignment training
- Calcium
- Cobalamin
- Refrigerator list/ meal recommendations
- Client Manual
- Drug Awareness form
- How to Use BCT
- How to use Loalson
- Emergency Kit instruction
- Parenting Manifesto
- Yeast Reduction Program

## Items to purchase prior to first attunement

- Light and magnet
- Client Manual
- Flying Protection Vials
- Situational Vial
- Zeta Vial
- Violet Wrist bands
- Iodine
- Calmg
- Flora Norm
- Loalson
- BCT
- 7UP & Alka seltzer
- Vitamin D
- Vitamin B6
- Omega 3
- Pumpkin Seed Oil (Male)
- Beef Liver
- Beef Steak

# Client Attunement Commitment

## The Wholehearted Parenting Manifesto

Above all else, I want you to know that you are loved and lovable. You will learn this from my words and actions—the lessons on love are in how I treat you and how I treat myself.

I want you to engage with the world from a place of worthiness. You will learn that you are worthy of love, belonging, and joy every time you see me practice self-compassion and embrace my own imperfections.

We will practice courage in our family by showing up, letting ourselves be seen, and honoring vulnerability. We will share our stories of struggle and strength. There will always be room in our home for both.

We will teach you compassion by practicing compassion with ourselves first; then with each other. We will set and respect boundaries; we will honor hard work, hope, and perseverance. Rest and play will be family values, as well as family practices.

You will learn accountability and respect by watching me make mistakes and make amends, and by watching how I ask for what I need and talk about how I feel.

I want you to know joy, so together we will practice gratitude.

I want you to feel joy, so together we will learn how to be vulnerable.

When uncertainty and scarcity visit, you will be able to draw from the spirit that is a part of our everyday life.

Together we will cry and face fear and grief. I will want to take away your pain, but instead I will sit with you and teach you how to feel it.

We will laugh and sing and dance and create. We will always have permission to be ourselves with each other. No matter what, you will always belong here.

As you begin your Wholehearted journey, the greatest gift that I can give to you is to live and love with my whole heart and to dare greatly.

I will not teach or love or show you anything perfectly, but I will let you see me, and I will always hold sacred the gift of seeing you. Truly deeply seeing you.



# Narcissism Test

Name:

Date:

Age:

*This Narcissism Test helps mental health professionals assess the presence and severity of narcissistic traits in patients. It aims to identify patterns of grandiosity, entitlement, and lack of empathy that are characteristic of narcissistic personality disorder (NPD).*

*There are 40 pairs of statements. Select the statement that you feel best reflects your personality and behavior out of each pair*

## Statements

<input type="checkbox"/> I have a natural talent for influencing people.	<input type="checkbox"/> I am not good at influencing people.
<input type="checkbox"/> Modesty doesn't become me.	<input type="checkbox"/> I am essentially a modest person.
<input type="checkbox"/> I would do almost anything on a dare.	<input type="checkbox"/> I tend to be a fairly cautious person.
<input type="checkbox"/> I know that I am good because everybody keeps telling me so.	<input type="checkbox"/> When people compliment me I sometimes get embarrassed.
<input type="checkbox"/> If I ruled the world it would be a better place.	<input type="checkbox"/> The thought of ruling the world frightens the hell out of me.
<input type="checkbox"/> I can usually talk my way out of anything.	<input type="checkbox"/> I try to accept the consequences of my behavior.
<input type="checkbox"/> I like to be the center of attention.	<input type="checkbox"/> I prefer to blend in with the crowd.
<input type="checkbox"/> I will be a success.	<input type="checkbox"/> I am not too concerned about success.

<input type="checkbox"/> I think I am a special person.	<input type="checkbox"/> I am no better or worse than most people.
<input type="checkbox"/> I see myself as a good leader.	<input type="checkbox"/> I am not sure if I would make a good leader.
<input type="checkbox"/> I am assertive.	<input type="checkbox"/> I wish I were more assertive.
<input type="checkbox"/> I like to have authority over other people.	<input type="checkbox"/> I don't mind following orders.
<input type="checkbox"/> I find it easy to manipulate people.	<input type="checkbox"/> I don't like it when I find myself manipulating people.
<input type="checkbox"/> I insist upon getting the respect that is due me.	<input type="checkbox"/> I usually get the respect that I deserve.
<input type="checkbox"/> I like to show off my body.	<input type="checkbox"/> I don't particularly like to show off my body.
<input type="checkbox"/> I can read people like a book.	<input type="checkbox"/> People are sometimes hard to understand.
<input type="checkbox"/> I like to take responsibility for making decisions.	<input type="checkbox"/> If I feel competent I am willing to take responsibility for making decisions.
<input type="checkbox"/> I want to amount to something in the eyes of the world.	<input type="checkbox"/> I just want to be reasonably happy.
<input type="checkbox"/> I like to look at my body.	<input type="checkbox"/> My body is nothing special.
<input type="checkbox"/> I will usually show off if I get the chance.	<input type="checkbox"/> I try not to be a show off.
<input type="checkbox"/> I always know what I am doing.	<input type="checkbox"/> Sometimes, I am not sure of what I am doing.

<input type="checkbox"/> I rarely depend on anyone else to get things done.	<input type="checkbox"/> I sometimes depend on people to get things done.
<input type="checkbox"/> Everybody likes to hear my stories.	<input type="checkbox"/> Sometimes I tell good stories.
<input type="checkbox"/> I expect a great deal from other people.	<input type="checkbox"/> I like to do things for other people.
<input type="checkbox"/> I will never be satisfied until I get all that I deserve.	<input type="checkbox"/> I take my satisfactions as they come.
<input type="checkbox"/> I like to be complimented.	<input type="checkbox"/> Compliments embarrass me.
<input type="checkbox"/> I have a strong will to power.	<input type="checkbox"/> Power for its own sake doesn't interest me.
<input type="checkbox"/> I like to start new fads and fashions.	<input type="checkbox"/> I don't care about new fads and fashions.
<input type="checkbox"/> I like to look at myself in the mirror.	<input type="checkbox"/> I am not particularly interested in looking at myself in the mirror.
<input type="checkbox"/> I really like to be the center of attention.	<input type="checkbox"/> It makes me uncomfortable to be the center of attention.
<input type="checkbox"/> I can live my life in any way I want to.	<input type="checkbox"/> People can't always live their lives in terms of what they want.
<input type="checkbox"/> People always seem to recognize my authority.	<input type="checkbox"/> Being an authority doesn't mean that much to me.
<input type="checkbox"/> I would prefer to be a leader.	<input type="checkbox"/> It makes little difference to me whether I am a leader or not.
<input type="checkbox"/> I am going to be a great person.	<input type="checkbox"/> I hope I am going to be successful.

<input type="checkbox"/> I can make anybody believe anything I want them to.	<input type="checkbox"/> People sometimes believe what I tell them.
<input type="checkbox"/> I am a born leader.	<input type="checkbox"/> Leadership is a quality that takes a long time to develop.
<input type="checkbox"/> I wish somebody would someday write my biography.	<input type="checkbox"/> I don't like people to pry into my life for any reason.
<input type="checkbox"/> I get upset when people don't notice how I look when I go out in public.	<input type="checkbox"/> I don't mind blending into the crowd when I go out in public.
<input type="checkbox"/> I am more capable than other people.	<input type="checkbox"/> There is a lot that I can learn from other people.
<input type="checkbox"/> I am an extraordinary person.	<input type="checkbox"/> I am much like everybody else.
<b>Total in this column:</b>	<b>Total in this column:</b>

### Reflection

Please share any thoughts, feelings, or experiences that arose while completing this test. Are there areas where you'd like to explore or discuss further?

## Healthcare Professional's Additional Notes and Recommendations

Please provide any observations, potential areas for discussion, or recommendations for further exploration based on the patient's responses.

## Interpretation of Results

*A higher number of choices indicating narcissistic traits (left column) may suggest the presence of narcissistic tendencies or narcissistic personality disorder.*

*However, this test is not a diagnostic tool for NPD, and a comprehensive assessment by a qualified mental health professional is necessary for an accurate diagnosis. The results of this test should be discussed with a mental health professional to understand their implications.*

Raskin, R.; Terry, H. (1988). A principal-components analysis of the Narcissistic Personality Inventory and further evidence of its construct validity. *Journal of Personality and Social Psychology*, Vol 54(5), 890-902.



## Rare steak? You've got to be kidding!

No, I'm not kidding. I have found that rare steak offers more nutrients and supports a quicker recovery from a stress-related condition, such as fibromyalgia, than any other food.

### First off, what is red meat?

We consider beef, venison, buffalo, and elk red meat. Pork, chicken, turkey, fish are not.

### Isn't red meat hard to digest?

In short no, not unless it's cooked. Rare meat, which is basically warmed, but not cooked, is quite easy to digest. However, when it is cooked to the point that it could be used as a hockey puck, which is how most people cook it, well, yes.

### Isn't it dangerous to eat rare beef?

First off, all properly cared for meat is sterile, except on the outside. Microbes do not normally live in muscle. The area of the steak where the butcher's knife has cut it could be a problem though. That is why you want to sear the top and bottom to sterilize them. Additionally, the stomach is at a pH of 1 which will virtually sterilize a well chewed piece of meat. If you are not making hydrochloric acid, then that wouldn't be the case and hydrochloric acid will need to be taken with meals.

### Why can't it be cooked?

In short, I don't know. I've just found clinically that rare steak supports recovery far better than cooked steak or hamburger. We do know that enzymes inherent in all living things are destroyed with cooking.

### Won't it make my cholesterol go sky high?

Not in my experience. I tenaciously follow my patient's lipid profiles and consistently see abnormal cholesterol and triglycerides actually improve with a diet high in red meat. In fact, overall I've seen dietary fat have a positive effect on lipid profiles, which is the opposite of what those making money off of cholesterol drugs are telling people.

### Doesn't beef have all kinds of hormones, antibiotics and other toxins in it?

Well, yes, unless it was naturally raised. But so does about any food stuff you purchase. There are a myriad of problems with food production in America. So what does one do? First off, I encourage quantity over quality. What I mean is that first focus on getting the right quantity of the foods you need, then, if you have the inclination and resources, worry about quality. If you don't mind spending 2 – 3 times the amount for your food or have an interest in raising your own beef, chicken, fruits and vegetables, go right ahead. Each person has to create their own balance. Additionally, keep in mind that when a body is supplied with adequate nutrients, is well hydrated and physically active, it can deal quite adequately with the toxins that are almost unavoidable in today's world.

### Why is it so good for me?

The real answer is because you have been genetically adapted to it. In other words, if you don't like that you need to eat red meat then direct your anger toward your ancestors. Our progenitors had vegetables part of the year, fruit part of the year and even grains part of the year, but meat was always available and animal foods a staple. As a result, the body has centered many of its physiological processes on animal foods, particularly animal proteins and fats. A couple of these include blood sugar, which is actually brain sugar, regulation and hormone production. Look at the rise of diabetes, depression and obesity in the United States since red meat and animal fat in general has been labeled "bad" by the nutritional "authorities."

Additionally, red meat is high in the essential amino acid methionine. Because it is a "methyl donor", it is essential for effective detoxification in the liver, because it is incorporated into the "N-terminal" position of all proteins, it is essential in the production of proteins within the body. Vegetables, fruits and legumes contain very little methionine.

### How do I cook a steak rare?

Start with a hot surface. A briquette grill is my personal favorite. When I cook indoor I use a cast iron grill pan, but a flat surface can work as well. To keep the steak from sticking, especially if it is a lean cut, I will apply some butter. I then grind fresh pepper and apply salt to each side and rub it in with my fingers. Then I place the steak on the grill and, with a ¾ inch thick cut, leave on each side for about 90 – 120 seconds. If the steak is thinner, the time needs to be reduced. Just long enough to take the refrigerator coolness out of the center. When finished it should be warm, but completely raw in the center with about 1/8 inch of gray on each surface. If you overcook it, it will "bleed" liquid onto your plate. That means that you have ruptured the cell membranes and destroyed some of the delicate nutrients.

### But I don't like the taste of it!

Then start out with small portions. Over time you will develop a taste for it. I was a vegetarian for 8 years and almost threw up when I first ate meat. Now, however, a rare steak is one of my most favorite foods, right up there with ice cream!



TBM™ Brief:

# Cobalamin

Kevin S. Millet, D.C.

Updated 9 May 2018

SPECIAL THANKS to the late Daniel L. Richardson, PhD (1942-2018) for his nudge into a seven-year cobalamin odyssey summarized below. His youthful exuberance and brilliance regarding human physiology, pharmacology, clinical nutrition, and herbology are sorely missed.

## Background and Physiology

NOTE: The use of abbreviations, in order to conserve space, is extensive in this document. First use of such are in **bold** to facilitate location when a reminder of any particular abbreviation is desired. Thank you for your understanding.

### Introduction

**Cobalamin (Cbl)**, also known as vitamin B12, is a cobalt-containing, organometallic cofactor necessary for human life. The perspective that Cbl levels are adequate as long as **megaloblastic anemia (MA)** and/or severe neurologic pathologies are absent is fading as the awareness grows that essential physiologic processes are often impaired long before those conditions manifest. Humans possess two essential Cbl-dependent enzymes: **methylmalonyl coenzyme A mutase (MCM)** and **methionine synthetase (MeSe)**. MCM functions in the mitochondria and requires **adenosylcobalamin (AdoCbl)**, whereas MeSe functions in the cytosol and requires **methylcobalamin (MeCbl)**. Hence, AdoCbl is critical to DNA replication and MeCbl to methylation.

Cbl is synthesized by bacteria in the gut of ruminant animals and fish. Either the flesh or feces from those animals must be consumed by all other animals in order to acquire the Cbl needed for life processes. All of the following contribute to eventual Cbl-related depletion and/or dysfunction: failure to consume adequate Cbl-rich foodstuffs, digestive disturbances, certain auto-immune conditions, specific infections, certain genetic mutations, and exposure to nitrous oxide anesthetic (e.g. “laughing gas,” “Whip-its”).

Cbl-related dysfunctions can have broad-reaching clinical impacts in our patients. Therefore, we recommend a thorough evaluation of “all things cobalamin” for each patient. Information on how to conduct such an evaluation is taught in **Pathologies & Specialized Physiology – part one (PC1)** and described in our *PC1&2 (Module 3) Manual: 40th Anniversary Edition* available at [www.liveTBM.com](http://www.liveTBM.com).

### Safety of Cobalamin Augmentation

Cbl, a water-soluble vitamin, is absorbed in the healthy population via selective and/or active transport into cells. This not only includes the digestive tract but also cells throughout the body. Cbl has no known toxicity level, and excess Cbl is excreted via the stool and urine. Oral **cyanocobalamin (CN-Cbl)** is absorbed passively in those deficient in **gastric intrinsic factor (IF)** (i.e. pernicious anemia) when taken in therapeutic amounts. Supranormal serum Cbl levels have been observed concurrently with certain pathologies (e.g. cancer) and seem to offer a biologic defense mechanism against such pathologies, much like hyperthermia (fever) aids in controlling infections. Administration of extremely high levels of intramuscular MeCbl (45,000 mcg/week) for several months or longer has been shown to lead to the development of anti-cobalamin antibodies; however, no known adverse effects were reported.



TBM™ Brief:

# Cobalamin

Kevin S. Millet, D.C.

Updated 9 May 2018

## Cobalamin Deficiency

There are two clinically-defined Cbl-depleted states in medical literature: clinical **Cbl deficiency (CD)** and **subclinical Cbl deficiency (SCCD)**. CD is associated with severe serologic changes, is reflected as MA and/or severe neurologic pathologies, and is caused primarily by **autoimmune gastritis (AIG)**, a.k.a. pernicious anemia. SCCD is associated with mild to moderate serologic changes and no apparent Cbl-related pathologies; it is primarily caused by **food-bound cobalamin malabsorption (FBCM)**. There is a third clinical entity alluded to in medical literature but not clearly defined: symptoms responsive to Cbl augmentation in the absence of Cbl-deficient serologic abnormalities. We have chosen to call this clinical condition **seronegative Cbl deficiency (SNCD)**.

NOTE: The incidence of CD in the elderly ranges from 20% in the general population to nearly 40% in those hospitalized. **Dietary Cbl insufficiency (DCI)** and FBCM must exist for 10-30 years before a Cbl deficiency becomes evident. DCI and FBCM together only account for 1% of CD. Atrophic gastritis manifests as CD in 2-5 years and accounts for 94% of CD etiologies. CD, as a result of N2O abuse, can occur within days but N2O abuse makes up less than 1% CD. FBCM is the cause of 30-50% of SCCD.

Most sensitive, literature-supported, guidelines in screening for clinical Cbl deficiency (CD) and subclinical Cbl deficiency (SCCD)		
Serum lab value	CD	SCCD
Total Cbl	<200 ng/L (<200 pg/mL)	<450 ng/L (<450pg/mL)
MMA	≥ 750 nmol/L (≥ 0.750 μM)	≥ 271 nmol/L (≥ 0.271 μM)
Hcy	≥ 15 μM	≥ 10 μM
HoloTC	≤ 35 pmol/L	≤ 50 pmol/L

## Cobalamin Synthesis

Cbl, in the form of **hydroxycobalamin (OH-Cbl)**, is synthesized to some degree by bacteria in the gut of nearly all animals when cobalt (Co) is present in the diet. However, in most animals, including humans, there is insufficient Cbl produced to meet physiologic requirements, and/or the Cbl is synthesized beyond the ileum and not absorbed. These such animals must consume flesh and/or feces containing Cbl. Commercially-produced Cbl is also synthesized by bacteria and is commonly in the CN-Cbl form due to its ability to withstand light and heat, which degrades OH-Cbl. Both OH-Cbl and CN-Cbl are readily converted to the metabolically active forms Ado-Cbl and Me-Cbl.

## Cobalamin Management

Since Cbl is both a rare and fragile micronutrient, mammals possess a sophisticated protein chaperoning system that aids in ensuring dietary Cbl is protected from degradation by acid and gut microbiota; reserved until biologically needed; and irretrievably inert Cbl derivatives known as Cbl analogues, **corrinoids (CorA)**, or pseudovitamin B12 are excreted. Each Cbl chaperone only binds to a single Cbl molecule. **Salivary haptocorrin (HC)**, a glycosylated serum protein, is synthesized by myeloid cells and has a half-life of several days. It protects free Cbl from the low pH of the stomach once Cbl disassociated from protein by pepsin. IF shields Cbl from being consumed by intestinal biota—particularly E. coli—and presents it to the cubam receptor [**amnionless (AMN)/cubilin (CUBN)**] in the distal ileum for enteric absorption. Within the enterocyte lysosome, Cbl is disassociated from IF, allowing free OH-Cbl (or CN-Cbl if in supplemental form) to recouple with a protein chaperone, either HC or **transcobalamin (TC)**. The protein bound Cbl is then released into portal circulation. It largely bypasses the liver and enters directly into systemic circulation. TC is a



TBM™ Brief:

# Cobalamin

Kevin S. Millet, D.C.

Updated 9 May 2018

nonglycosylated serum protein synthesized primarily by enterocytes and the vascular epithelium and has a half-life of less than 2 hours. Once Cbl has served its intracellular metabolic functions, active transport mechanisms (e.g. ABCC-1 transporter) recycle Cbl back into systemic circulation, typically in the form of holoTC. Surplus Cbl is managed by four unique reserve mechanisms: hepatic, enterohepatic, serologic, and renal.

## Hepatic Reserve

Approximately 50% of the body's 2-3mg of Cbl is found within the liver, primarily bound to MCM and MeSe. This **hepatic reserve** can supply 3 to 10 years of Cbl if none is provided in the diet and seems to be designed for a slow and sustained release when needed, as opposed to the renal reserve. The liver is the only known tissue that readily absorbs free Cbl and **holohaptocorrin (holoHC)**. It actively assimilates the latter via the **asialoglycoprotein receptor (ASGR)**, which is virtually exclusive to hepatocytes. Excess Cbl is either placed into systemic or enterohepatic circulation as holoHC.

## Enterohepatic Reserve

**Enterohepatic circulation (EHC)** is the excretion by the liver of various substances (e.g. cholesterol, bilirubin, pharmaceuticals) in bile that are reabsorbed by the small intestine and returned to the liver via the portal vein and its tributaries. Each day, approximately 5-10 mcg of Cbl and CorA are released as holoHC in the bile. The holoHC is then lysed by pancreatic proteases (chymotrypsin, trypsin) in the small intestine. Free Cbl may then bind to IF and be taken up by the cubam receptor and transported back into to the systemic circulation as **holotranscobalamin (holoTC)**. Free CorA will rebind to HC and be eliminated as a constituent of feces; thus, EHC has a purifying effect. The liver contains 50 times the Cbl analogues as most other tissues due to being the sole tissue that possess a holoHC receptor. The **enterohepatic Cbl reserve (ECR)**, essentially a tube-like chamber that includes the biliary tree, small intestines and the portal vein [approx. 20 feet (6 meters)] contains a very significant amount of Cbl. In fact, if the ECR is not functioning (usually due to the absence of IF) the amount of time to CD reduces 10-fold (10-30 years to only 1-3)!

## Serologic Reserve

The **serologic Cbl reserve** is the reservoir of Cbl circulating throughout the bloodstream as the non-biologically active protein-bound form holoHC. HC in the serum, as holoHC, is about 75% Cbl saturated, and holoHC makes up approximately 80% of the Cbl found in serum. Furthermore, HC binds both Cbl and CorA, so much of holoHC does not contain a biologically useable form of Cbl. The saturation of HC with CorA has been shown to be as high as 80%. TC is only about 10% saturated, as holoTC, and constitutes about 20% of serum Cbl. HoloTC is the only form of Cbl that can be taken up by the **megalin** and **transcobalamin II (TCBIR/CD320) receptors** and, as such, is sometimes referred to as "Active-B12." While not yet available in the United States, it is easy to see that holoTC is the preferred measurement of serologic Cbl rather than the inaccurate total cobalamin.

## Renal Reserve



TBM™ Brief:

# Cobalamin

Kevin S. Millet, D.C.

Updated 9 May 2018

The kidney, like the liver, is special when it comes to Cbl management. HoloTC is small enough (~40.0 kDa) to pass through the slits of the podocytes in the visceral epithelium of the glomerular capsule, thus allowing it to be filtered by the kidney. HoloHC is not. HoloTC is endocytosed by the **megalín receptor**, a calcium-dependent glycoprotein, in the apical plasma membrane of the proximal convoluted tubule epithelium. Once endocytosed the holoTC/megalín vesicle is coated with clathrin and taken into the lysosomes where it is digested by cathepsin B to yield free Cbl (OH, CN, Ado or Me-Cbl). The free Cbl remains stored in the lysosome until needed by the body. The megalín receptor is recycled back to the apical membrane and the TC spontaneously clears due to its short half-life (~90min). When the demand occurs, the stored Cbl will egress the lysosome via the **ATP-binding cassette transporter (ABCD4 aka ABCC1/MRP1)** into the cytosol. It is then released back into the tubule, along with renal synthesized HC and TC, where it is re-chaperoned, taken up by the distal tubule and placed into venous circulation. The kidneys, therefore, play the central role in Cbl management, providing a rapid-access reservoir. Free Cbl from the serum is quite rare. It is also filtered, but not reabsorbed, and will be excreted in the urine.

## Vegetarianism

The most common cause of **dietary** Cbl deficiency is the **removal of animal flesh**, as in vegetarianism and veganism, resulting in not only the near absence of Cbl from the diet but also the diminishment of HCl production as a result of non-triggered gastrin hormone release. The diminished HCl secretion is further exacerbated by the effect hypochlorhydria has on mineral digestion, especially zinc, which is required for the production of HCl-producing carbonic anhydrase. Consequently, many former vegetarians and vegans remain hypochlorhydric and, therefore, remain Cbl deficient due to zinc deficiency and/or disuse-atrophy of gastrin-producing cells even though they have returned animal flesh to their diet.

### Insufficient dietary Cbl intake (percentage)

Sex	Age				
	19-24	25-34	35-50	51-64	65-80
Men	7.4	6.8	8.4	7.9	9.8
Women	32.7	26.4	24.5	23.0	26.3

Source: Gröber U, et al

## Food-Bound Cobalamin Malabsorption

The most common cause of SCCD is FBCM, which has **many contributors**. **Abbreviated mastication** results in diminished surface area on which substrates may act. Inadequate mechanical and hydrolytic reduction of food particle size and inadequate blending of protease and haptocorrin (HC) reduces the likelihood that gastrically-liberated free Cbl will be able to combine with HC and form the R-protein complex needed to prevent acid deformation in the stomach. **Hypohydration**, chloride deficiency (**salt avoidance**), and **zinc deficiency** impair HCl production leading to **hypochlorhydria**. Keep in mind that HCL deficiency and IF deficiency are concomitants. The **cooking** of fish, seafood, beef, and lamb—all excellent sources of Cbl—reduces the raw Cbl content in these foods by up to 60%. These foods also become more difficult to digest after cooking. **Hyperacidity**, a frequent result of a chronic stress state, will also contribute to Cbl deficiency by increasing small bowel acidity and blocking the degradation of the R-protein complex. In order for the IF-Cbl complex to form, the R-protein complex must be broken down. The pancreas also plays a key role in Cbl absorption by



TBM™ Brief:

# Cobalamin

Kevin S. Millet, D.C.

Updated 9 May 2018

elevating the pH of chyme and supplying protease enzymes that are activated in a pH neutral environment. These proteases free the Cbl from the HC in the R-protein complex, thereby allowing Cbl to bind to IF. IF-Cbl is the only form of Cbl that will be endocytosed by the cubam receptor in the distal ileum. Therefore, **pancreatic insufficiency** not only dramatically reduces the absorption of dietary Cbl but also interferes with enterohepatic circulation, thereby depleting the entire body's Cbl supply. **Blind loop syndrome (BLS)** [aka stagnant loop syndrome, **small intestine bacterial overgrowth (SIBO)**], whose hallmark is E. Coli gut over-population, results in diminished Cbl due to E. coli consumption. One noteworthy contributor to the development of BLS is hypohydration due to the reduction of the small bowel mucin layer, a layer that is comprised of 90% water.

## Autoimmune Gastritis

The most common cause of CD is **autoimmune gastritis** (pernicious anemia), where parietal cell antibodies destroy the parietal cell's capacity to produce HCl and IF. Decreased HCl production results in the inactivation of the stomach's principal proteolytic enzyme (pepsin), which is typically produced from pepsinogen and whose activity results in a liberation of the protein-bound Cbl through the denaturing of protein. Diminished IF production leads to a failure to produce an IF-Cbl pairing in the small bowel, thus providing the gut microbiota with the opportunity for unfettered consumption of Cbl. Prolonged **Helicobacter pylori-induced pangastritis** also leads to this outcome, and this condition is seen particularly in the elderly population.

## Laboratory Diagnostics

Many **laboratory diagnostic tools** can provide useful insights into Cbl status and the status of Cbl-related parameters. This includes evaluation of: **gastric pH** (e.g. intragastric string test); SEROLOGIC MEASUREMENTS of Cbl [**total Cbl** (low sensitivity) and **holoTC** (high specificity and sensitivity)]; complete blood count (CBC) (low sensitivity, low specificity) [mean corpuscular volume (MCV), segmented neutrophils]; **methylmalonic acid (MMA)** (high specificity) (AdeCbl/mitochondria indicator) and **homocysteine (Hcy)** (high sensitivity) (MeCbl/cytosol); and potential causes of Cbl deficiency [**anti-gastric parietal cell antibodies, anti-intrinsic factor antibodies, anti-H. pylori antibodies** (particularly IgG)]. Since the Cbl levels necessary to prevent neurodegeneration are not yet agreed upon, **we recommend a multi-pronged approach to laboratory evaluation, which minimally includes total Cbl, MMA, Hcy and a complete blood count.** Where available, **HoloTC evaluation is also recommended.** Keep in mind that the incidence of SNCD is not known, is possibly very high, and that Cbl augmentation is inexpensive, easy-to-implement and very safe. This is where Need & Use evaluation can be especially beneficial.

"Minimal concentrations of serum vitamin B12 for optimal neuronal health are still unknown...Though serum cobalamin is a valuable marker of cobalamin deficiency, a number of neurologic disorders have been attributed to cobalamin deficiency in spite of normal or minimally reduced serum cobalamin concentrations...In clinical practice, normal concentrations of serum B12 do not exclude the diagnosis of B12 deficiency." Source: Rizzo G et al. (2016)

NOTES: Cbl therapy in the presence of macrocytic anemia, as a result of decreasing the size of serum erythrocytes, will result in a fall in serum iron within 1 to 2 days. Iron levels will, however, shortly return to normal unless a true iron deficiency exists. Cobalamin is a near neurologic panacea. We encourage every health care provider to consider the value

©2018 Total Body Modification™, Inc. [www.liveTBM.com](http://www.liveTBM.com) [health@tbmseminars.com](mailto:health@tbmseminars.com)

2505 Anthem Village Dr E, Suite #E221, Henderson, NV 89052, USA +1 (435) 652-4340



TBM™ Brief:

# Cobalamin

Kevin S. Millet, D.C.

Updated 9 May 2018

of Cbl augmentation in every patient with any neurologic/neuropsychiatric symptom. Keep in mind that the longer the duration of neurologic symptoms the worse the prognosis. However, the severity of Cbl deficiency, gender, and age have not been shown to have a negative impact on the prognosis. Irreversibility of neurologic symptoms is considered to occur within only a six-month delay in the onset of therapy. Normalization of MMA and Hcy occurs after about 1 week after the onset of Cbl augmentation. Normalization of CBC requires about 2 months. Neurologic improvement begins to become apparent in about 1 week and is complete within 3 months.

## Causes of Cobalamin Deficiency

### Gastrointestinal

**Autoimmune atrophic gastritis (pernicious anemia) (AAG)** (incidence is ≈ 20% 16-59 year olds, ≈30% 60-69, ≈40% 70, ≈80% 80), blind/stagnant loop syndrome [aka small bowel bacterial overgrowth (SIBO)], achlorhydria, hypochlorhydria, pancreatic protease insufficiency, celiac disease, ulcerative colitis, ileocecal resection, total or partial gastrectomy, gastric bypass surgery, H. pylori infection, exocrine pancreatic insufficiency [insufficient pancreatic proteases (enterokinase-dependant trypsin and trypsin-dependent chymotrypsin) and bicarbonate], intestinal enterokinase deficiency (small bowel villous atrophy), gastric acid hypersecretion, prolonged steatorrhea, pancreatitis (acute or chronic), biliary obstruction (lack of bile salts resulting in saponification of calcium and impairment of Cbl absorption), bile insufficiency, biliary dyskinesia, calcium deficiency, functional pancreatic insufficiency, Sjogren's syndrome, Crohn's disease, Whipple's disease, intestinal lymphoma, intestinal tuberculosis, *Diphyllobothrium latum* (fish tapeworm) infection.

NOTE: IF and HCl are concomitants, therefore if HCl is deficient or absent so is IF.

### Dietary

Vegetarian diet, vegan diet, hypohydration, salt avoidance, zinc deficiency, dependence on liquid proteins, insufficient mastication, chronic alcohol abuse (alcoholism), ascorbic acid (vitamin C) megadosing.

### Pharmacologic

Prolonged use of the following: H2 antagonists (e.g. Pepcid, Tagamet, Zantac), proton pump inhibitors (e.g. Prilosec, Prevacid, Nexium), biguanides (e.g. Avandia, Actos, metformin), oral contraceptives, gentamicin, cholestyramine, anticonvulsants, colchicine, direct (e.g. surgery, dentistry, "whip-its") and indirect (e.g. dental and anesthetic attendants) nitrous oxide (N2O) exposure. NOTE: Nitrous oxide anesthesia can trigger neurological damage and hematological deficiencies in patients who have Cbl deficiency and should, therefore, not be administered in a patient of questionable Cbl status without serologic screening first.

### Genetic

There are many Cbl-related single nucleotide polymorphisms (SNPs). For more information on them we refer you to the COBALAMIN-RELATED SNPs section in our *PC1&2 (Mod 3) Manual: 40th Anniversary Edition* available at [www.liveTBM.com](http://www.liveTBM.com).



TBM™ Brief:

# Cobalamin

Kevin S. Millet, D.C.

Updated 9 May 2018

Other

AIDS, amyloidosis, scleroderma.

## Indications of Cobalamin Deficiency

### Neurological Symptoms

Dyscognition, nocturia, myelopathy, neuropathy, dementia, optic nerve atrophy, **subacute combined degeneration (SCD)** (myelosis funicularis), symmetric dysesthesia, disturbance of position sense, spastic paraparesis or tetraparesis, isolated peripheral neuropathy, slowed mentation, memory impairment, attention deficits, bilateral visual loss (scotoma), paresthesia, numbness, autism, autism spectrum, schizophrenia, peripheral neuropathy, hyporeflexia, Babinski's sign, ataxia, Romberg's sign, anxiety, learning disabilities, polyneuritis, ataxia, cranial nerve abnormalities (e.g. optic neuritis, optic atrophy, urinary and fecal incontinence), Parkinson's disease, depression, anorexia nervosa, venous thromboembolic disease, angina, delirium, hallucinations, mania, delusions, personality change, abnormal behavior, brain atrophy, silent brain infarcts, dysautonomia, psychosis (suspiciousness, persecutory delusions, religious delusions, auditory hallucinations, visual hallucinations, tangential or incoherent speech, disorganized thought-process).

### Hematological Symptoms

Angor, angina, dyspnea on exertion, fatigue, congestive heart failure, ankle edema, orthopnea, thrombocytopenia, neutropenia, pancytopenia, hemolytic anemia, thrombotic microangiopathy, stroke, atherosclerosis, medullary megaloblastosis ("blue spinal cord"), leukoaraiosis, orthostatic hypotension.

### Dermatological Symptoms

Premature graying of hair, vitiligo, glossitis, aphthous stomatitis, angular stomatitis, cutaneous hyperpigmentation, longitudinal melanonychia, alopecia areata, alopecia totalis, poliosis, jaundice, mucocutaneous ulcers.

### Gastrointestinal Symptoms

Abdominal pain, dyspepsia, nausea, vomiting, diarrhea, irritable bowel syndrome, constipation.

### Genitourinary Symptoms

Vaginal dryness, vaginal infection, urinary tract infection, hypofertility, infertility, repeated miscarriages, impotence, micturition, nocturia.

### Serological Findings

Decreased total Cbl, decreased holoTC, elevated Hcy, elevated MMA, macrocytic megaloblastic anemia, increase of mean corpuscular volume, neutrophil hypersegmentation, elevated lactic dehydrogenase (LDH), elevated bilirubin.





TBM™ Brief:

# Cobalamin

Kevin S. Millet, D.C.

Updated 9 May 2018

## Magnetic Resonance Imaging (MRI) Findings

Symmetrical abnormally increased T2 signal intensity confined to posterior or posterior and lateral columns in the cervical and thoracic spinal cord, spinal cord sclerosis.

## Support for the Cobalamin Deficient Population

### Dietary

Food (ranked in order from 99µg/100g to 5 µg/100g): mollusks [clams, oysters (highest zinc content too!), mussels, octopus]; beef and lamb (B/L) liver and kidneys; fish eggs; fish (esp. mackerel, herring, salmon); B/L pancreas (sometimes substituted for thymus in sweet breads); B/L heart; B/L brain; giblets (chicken, turkey); crab; B/L testes; bluefin tuna; foie gras; goose and duck liver pate; sardines; emu; rabbit; beef infraspinatus (flat iron); beef gracilis (inside round cap); beef biceps femoris (bottom outside round); Beef triceps brachii (shoulder center); beef plate [brisket, skirt (fajitas), hanger]; trout; pork liver; chicken heart; lamb tongue; beef tripe; caribou; ostrich; venison; bluefish; beef chuck; B/L spleen; duck egg; cuttlefish; beef shoulder; conch; beef tenderloin; beef tongue; goose egg.

NOTES: Beef psoas major (tenderloin) and longissimus dorsi (rib eye) are among the beef cuts with the lowest Cbl content. Non-animal sources of Cbl purportedly include the seaweed *Porphyra yezoensis* (purple laver / nori) and the blue-green algae *Spirulina platensis*. Whether human Cbl requirements can actually be met by the inclusion of these foodstuffs has not yet been clarified. We therefore recommend against reliance on these “vegetarian” sources of Cbl until further information becomes available. Also be aware that cooking degrades Cbl, forming CorA. The net loss is minimally about 33% but has been found to be as high as 62%.

### Augmentation

We recommend CN-Cbl if delivery is oral, buccal or sublingual; we recommend OH-Cbl if delivery is **parenteral (IM)** (CN-Cbl is acceptable parenterally if no advanced kidney pathology is present). We advise against augmenting with MeCbl or AdoCbl. We are unaware of any study demonstrating that AdoCbl or MeCbl is effective in addressing CD, SCCD, or SNCD despite the widespread, nearly 40-year use of MeCbl in pain site injections.

NOTE: OH-Cbl converts faster than CN-Cbl to Ado-Cbl and Me-Cbl and, therefore, it has a lower initial urinary excretion rate. This means that IM CN-Cbl is more likely to produce a reddish urine color even if reserves are depleted. Both OH-Cbl and CN-Cbl will have that effect once reserves have been restored. The reddish urine discoloration does not occur with oral administration as the excess is passed in the feces. In atrophic gastritis, patients show an early serologic peak in Cbl levels due to passive-diffusion-dependent absorption compared to healthy individuals.

### Repletion Enhancers and Co-Factors

**Hydrochloride (HCl)**; proteases [low pH (pepsin), neutral pH (papain, bromelain, pancreatin)], zinc (oysters 75mg/100g, peanut butter 14mg/100g, sesame butter, pumpkin seeds, & beef 10mg/100g); folate; dark green leafy vegetables (e.g. collard greens, mustard greens, kale, spinach, broccoli, arugula); calcium; magnesium; pumpkin seed oil; consuming only solid proteins and chewing until liquid; consuming a large amount of the foods listed above in one sitting on a regular basis; generously salting to taste; hydration.



TBM™ Brief:

# Cobalamin

Kevin S. Millet, D.C.

Updated 9 May 2018

## Total Body Modification's (TBM) Recommended Augmentation Guidelines

Standard biomedical practice for CD and SCCD is an initial oral dosage of 1000-2000mcg/day (approx. 1% of oral administered Cbl is absorbed via passive diffusion) for 1-2weeks, then 1000mcg/day for life. Customary intramuscular dosage is 100-1000mcg/day for 1-2weeks, then 100-1000mcg every 1-3 months. **Our recommendation for SNCD is sublingual CN-Cbl 5000 mcg/day for 2 weeks, 2000 mcg/day for 2 months, then 1000 mcg/day thereafter.** The portion per 1000mcg Cbl administered that is absorbed orally and parenterally is ≈13mcg (1.3%) and ≈150mcg (15%) respectively. If an adverse reaction occurs with one form of Cbl (e.g. OH-Cbl), a shift to a different preparation (e.g. CN-Cbl) may eliminate the reaction. Harmonize the form of Cbl if it tests positive on the Thymus point. We recommend against the use of “depot injections” as they are more likely to trigger an unwanted immune response. While Cbl pills and sublingual lozenges have been shown to be effective, we recommend the sublingual method of administration to maximize interspersment with salivary haptocorrin and initiate passive absorption while still in the oral cavity. For **oral augmentation** we recommend **sublingual cyanocobalamin** on an **empty stomach** or **injectable hydroxycobalamin**. **DO NOT co-ingest iron and/or vitamin C with Cbl**, as these may degrade Cbl to CoRA.

NOTE: As a general rule in TBM, we strongly recommend universal substrates over biologically active substances when augmenting diet or endogenous hormones {e.g. thyroxine (T4) instead of triiodothyronine (T3), cholecalciferol (D3) not calcitriol [1,25-(OH)2D3] and pregnenolone not dehydroepiandrosterone (DHEA), estradiol (E2), progesterone, or testosterone}. This includes Cbl. A healthy body will readily determine the ratio of AdoCbl:MeCbl when OH-Cbl is consumed in animal protein in spite of any homozygous SNPs in a particular patient. In these instances, it is our experience that when proper physiologic support is provided, as is included in the Basic Physiological Exam and Autonomic Recovery Program, these so-called “impairments” are easily overcome.

For additional clinical information relating to addressing the causes and effects of cobalamin deficiency, cobalamin-related pathologies, and/or cobalamin-related genetic mutations see the 40<sup>th</sup> Anniversary edition of the Module 3 manual.

## References

NOTE: Items in bold are recommended additional reading. We've included a link to free pdf documents for them and others.

1. Adnes A, Loukili NH, Noel E et al. **Vitamin B12 (cobalamin) deficiency in elderly patients. *CMAJ*. 2004 Aug 3; 171(3): 251-259. <https://tinyurl.com/ycsvz6am>**
2. Birn H. The kidney in vitamin B12 and folate homeostasis: characterization of receptors for tubular uptake of vitamins and carrier proteins. *Am J Physiol Renal Physiol* 291: F22-F36, 2006.
3. Bowen RA, Drake SK, Vanjani R, Huey ED, Grafman J, Horne MK. Markedly increased vitamin B12 concentrations attributable to IgG-IgM-vitamin B12 immune complexes. *Clin Chem*. 2006 Nov;52(11):2107-14.
4. Briani C, Dalla Torre C, Citton V, et al. Cobalamin Deficiency: Clinical Picture and Radiological Findings. *Nutrients*. 2013;5(11):4521-4539. <https://tinyurl.com/y74zqaxu>
5. **Carmel R. How I treat cobalamin (vitamin B<sub>12</sub>) deficiency. *Blood* 2008 112:2214-2221. <https://tinyurl.com/y7m8tt5r>**
6. Carrillo N, Adams D, Venditti CP. Disorders of Intracellular Cobalamin Metabolism. *Gene Reviews*. Updated 2013 Nov 21.
7. Chanarin I. Cobalamins and nitrous oxide: a review. *J Clin Pathol*. 1980 Oct;33(10):909-16.
8. Czerwonka M, Szterek A, Waszkiewicz-Robak B. Vitamin B12 content in raw and cooked beef. *Meat Science* 2014 96: 1371-1375.
9. **Gherasim C, Lofgren M, Banerjee R. Navigating the B12 Road: Assimilation, Deliver, and Disorders of Cobalamin. *J Biol Chem* 2013 May 10; 288(19): 13186-13193. <https://tinyurl.com/y82xs4ps>**
10. Grasbeck R, Kantero I, Siurala M. Influence of calcium ions on vitamin-B12 absorption in steatorrhoea and pernicious anaemia. *Lancet* 1959 Jan 31;1(7066):234
11. **Gröber U, Kisters K, Schmidt J. Neuroenhancement with Vitamin B12—Underestimated Neurological Significance. *Nutrients*. 2013 Dec; 5(12): 5031–5045. <https://tinyurl.com/ychsvrn5>**

©2018 Total Body Modification™, Inc. [www.liveTBM.com](http://www.liveTBM.com) [health@tbmseminars.com](mailto:health@tbmseminars.com)

2505 Anthem Village Dr E, Suite #E221, Henderson, NV 89052, USA +1 (435) 652-4340



## TBM™ Brief: Cobalamin

Kevin S. Millet, D.C.

Updated 9 May 2018

12. Hannibal L, Kim J, Brasch NE, et al. Processing of alkylcobalamins in mammalian cells: a role for the MMACHC (cbIC) gene product. *Mol Genet Metab.* 2009 August ; 97(4): 260–266.
13. Herbert V, Jacob E, Wong KT, Scott J, Pfeiffer RD. Low serum vitamin B12 levels in patients receiving ascorbic acid in megadoses: studies concerning the effect of ascorbate on radioisotope vitamin B12 assay. *Am J Clin Nutr* 1978 Feb;31(2):253-8.
14. Hutto B. Folate and Cobalamin in Psychiatric Illness. *Comprehensive Psychiatry.* Vol. 38, No. 6 (November/December), 1997; pp 305-314. [graphic]
15. Issac, TG, Soundarya S, Christopher R, Chandra SR. Vitamin B12 Deficiency: An Important Reversible Co-Morbidity in Neuropsychiatric Manifestations. *Indian J Psychol Med.* 2015 Jan-Mar, 37 (1): 26-29.
16. Kanazawa S, Herbert V. Noncobalamin vitamin B12 analogues in human red cells, liver, and brain. *Am J Clin Nutr* 1983;37:774-777.
17. Kanazawa S, Herbert V. Noncobalamin vitamin B12 analogues in human red cells, liver, and brain. *Am J Clin Nutr* 1983;37:774-777.
18. Kurnat-Thoma EL, Pangilinan F, Matteini AM et al. Association of Transcobalamin II (TCN2) and Transcobalamin II-Receptor (TCbIR) Genetic Variations with Cobalamin Deficiency Parameters in Elderly Women. *Biol Res Nurs.* 2015; 17(4): 44-454.
19. Lachner C, Steinle NI, Regenold WT. The neuropsychiatry of vitamin B12 deficiency in elderly patients. *J Neuropsychiatry Clin Neurosci.* 2012 Winter; 24(1):5-15
20. Lahner E, Gentile Giovanna, Purchiaroni, Mora B. Single nucleotide polymorphisms related to vitamin B12 serum levels in autoimmune gastritis patients with or without pernicious anaemia. *Digestive and Liver Disease.* 47 (2015) 285–290.
21. Manoli I, Sloan JL, Venditti CP. Isolated Methylmalonic Acidemia. *Gene Reviews.* Updated 2016 Dec 1.
22. Minot GR, Murphy WP. Treatment of pernicious anemia by a special diet. 1926. *The Yale Journal of Biology and Medicine.* 2001;74(5):341-353.
23. Moestrup SK, Birn H, Fischer PB, et al. Megalin-mediated endocytosis of transcobalamin-vitamin-B12 complexes suggests a role of the receptor in vitamin-B12 homeostasis. *Proceedings of the National Academy of Sciences of the United States of America.* 1996;93(16):8612-8617.
24. Nilsson-Ehle H. Age-Related Changes in Cobalamin (Vitamin B<sub>12</sub>) Handling. *Drugs & Aging* 1998 Apr; 12(4):277-292.
25. Oh R, Brown DL. Vitamin B12 deficiency. *Am Fam Physician.* 2003 Mar 1;67(5):979-86.
26. Pruthi RK, Tefferi A. Pernicious anemia revisited. *Mayo Clin Proc.* 1994 Feb;69(2):144-50.
27. Quadros EV, Sequeira JM. Cellular Uptake of Cobalamin: Transcobalamin and the TCbIR/CD320 Receptor. *Biochimie.* 2013 May ; 95 (5): 1008-1018.
28. Quadros EV. Advances in the Understanding of Cobalamin Assimilation and Metabolism. *Br J Haematol.* 2010 January;148(2):195-204
29. Reizenstein P. Conversion of Cyanocobalamin to Physiologically Occurring Form. *Blood,* Vol. 29, No. 4, Part I (April), 1967.
30. Richardson CT, Walsh JH, Hicks MI, Fordtran JS. Studies on the Mechanisms of Food-Stimulated Gastric Acid Secretion in Normal Human Subjects. *J Clin Investigation.* Volume 58, September 1976, 623-631.
31. **Rizzo G, Laganà AS, Rapisarda AMC, et al. Vitamin B12 among Vegetarians: Status, Assessment and Supplementation. *Nutrients.* 2016;8(12):767. <https://tinyurl.com/gssxg8n>**
32. Russell RM, Baik HW. Clinical Implications of Vitamin B12 Deficiency in the Elderly. *Nutr Clin Care.* 2001 Jul/Aug 4(4): 214-220.
33. Scott JSD, Treston AM, Bowman EPW, et al. The regulatory roles of liver and kidney in cobalamin (vitamin B12) metabolism in the rat: the uptake and intracellular binding of cobalamin and the activity of the cobalamin-dependent enzymes in response to varying cobalamin supply. *Clinical Science.* (1984) 67, 299-306.
34. Strittmatter L, Li Y, Nakatsuka NJ, Calvo SE, Grabarek Z, Mootha VK. CLYBL is a polymorphic human enzyme with malate synthase and β-methylmalate synthase activity. *Human Molecular Genetics.* 2014;23(9):2313-2323.
35. Teo NH, Scott JM, Neale G, Weir DG. Effect of bile on vitamin B12 absorption. *Br Med J* 1980 Sep 27;281(6244):831-3.
36. USDA National Nutrient Database for Standard Reference (Release 28): Vitamin B12. Sept 16, 2016. <https://tinyurl.com/y73ub273>
37. Vogiatzoglou A, Smith AD, Nurk E, et al. Dietary sources of vitamin B-12 and their association with plasma vitamin B-12 concentrations in the general population: the Hordaland homocysteine Study. *Am J Clin Nutr* 2009;89:1078-87.
38. Watanabe F, Nakano Y. Comparative biochemistry of vitamin B12 (cobalamin) metabolism: biochemical diversity in the systems for intracellular cobalamin transfer and synthesis of the coenzymes. *Intl J Biochem.* (1991) Vol. 23, No. 12, pp. 1353-1359.
39. Watanabe F, Yabuta Y, Tanioka Y, Bito T. Biologically Active Vitamin B12 Compounds in Foods for Preventing Deficiency among Vegetarians and Elderly Subjects. *J Agric Food Chem.* 2013, 61, 6769-6775.
40. Watanabe F. Vitamin B12 Sources and Bioavailability. *Exp Biol Med* 2007 232:1266-1274.
41. Wickramasinghe SN, Fida S. Correlations between holo-transcobalamin II, holo-haptocorrin, and total B12 in serum samples from health subjects and patients. *J Clin Pathol.* 1993; 46:537-539.
42. Yagiri Y. On the Metabolism of Coenzyme B12. III. Conversion process and rate from cyanocobalamin and hydroxocobalamin into coenzyme B12 in the body. *J Vitaminology.* 13, 228-238 (1967).
43. Zhang Y, Hodgson NW, Trivedi MS, et al. Decreased Brain Levels of Vitamin B12 in Aging, Autism and Schizophrenia. Bauer JA, ed. *PLoS ONE.* 2016;11(1):e0146797. <https://tinyurl.com/y776ewp4>

**Meal breakfast, lunch dinner**

**Meal Eggs**

Apples with yogurt dip

Carrots with dip

**Meal Salad – Asian with orange slices and chicken**

String cheese

Jalapeno poppers

**Meal Bratwurst with Pepper onions**

**Meal Yogurt fruit salad – oranges, apples, banana, cinnamon**

String cheese

Jalepeno popper

**Meal Greek Salad – chicken salad, chicken skewer, homemade Greek yogurt sauce**

Banana

Nuts

**Meal Stuffed bell peppers, beef.**

**Meal Corn tortilla with eggs**

Peppers and cream cheese dip (cream cheese, salt pepper and chives)

Avocado with salt

**Meal Rice bowl, beef, peppers, onions, squash**

Baked avocado

Fruit salad / yogurt

**Meal Bunless burger with bacon**

**Meal Hard boiled eggs and bacon**

Banana

**Meal Lunch meat lettuce wrap**

Nuts

Peppers with cheese

**Meal Steak**

**Meal Banana pancakes (mashed banana, eggs, vanilla, cinnamon)**

Avocado with salt

Nuts

**Meal Egg salad with avocado**

String cheese

**Meal Fajita /tacos**

**Meal Sausage patties with egg**

Fruit salad and yogurt

Cheese

**Meal Chicken and rice bowl with veggies**

Oranges

Nuts

**Meal Bacon, jalpeno stuffed chicken**

## First Aid Kit for Fibro Wellness Patients

Listed below are the items we recommend you keep on hand throughout your time with us. Often we get phone calls on what to do for specific issues and a patient has to make a special trip just to pick up one of the items. The guidelines are very general and serve as a base to work from until you can be tested or consult with the doctor.

Viral Aid – This product is used when a viral infection is suspected, including flues and colds. The typical dose for a 150 pound adult is six (6) capsules per day.

Echinacea Plus – This product is used when a bacterial infection is suspected, including sore throats, skin lesions, bronchitis and sinus infections. The dosage and schedule listed on the bottle is for a 150 pound adult.

BCT – This product is used when ANY infection is suspected that is on any of the epithelium. This includes skin fungus (jock itch, athlete's foot, and white skin blotches), sinus infections, sore throat, intestinal parasites, intestinal bacteria, intestinal viruses, skin pustules, nail fungus, etc...

- **Sinus Infection:** Put a couple drops on a Q-tip, then slide into your nostril with a slight twisting motion until resistance is reached. Do not press past resistance. Do this on both sides and lie on your back for several minutes so it can run down. Repeat for a total of 3 times per day until symptoms subside, then once per day for 3 days.
- **Sore Throat:** Put a couple drops on a Q-tip and swab as far back as you can on each side of the throat. Then place the swab in the middle of your throat and slide it back until you activate your gagging reflex and leave the swab in place. This will squeeze the remaining BCT out and coat the center of the throat. Repeat for a total of 3 times per day until symptoms subside, then once per day for 3 days.
- **Traveler's Diarrhea:** When symptoms first appear, pull any capsule you have apart and empty it. Fill the large side with BCT oil. Replace the other half of the capsule and swallow. Repeat each morning on an empty stomach, until symptoms subside.

Loalsan – This product is used when a yeast infection is suspected.

- **Vaginal Yeast Infection:** Place a capful of Loalsan in a quart jar and fill with warm water. Place the liquid in douche or douche syringe. While lying on your back in the tub, douche with the entire quart. Do this three times per day for 3 days, then once per day for 4 days. Douche once weekly to prevent reoccurrence. If results are not satisfactory after the first week, let the doctor know before you taper to once weekly.
- **Scrotal Yeast Infection** (jock itch): Place a capful of Loalsan in a quart jar and fill with warm water. While in the tub or shower, wash with the entire quart and let air dry. Do this three times per day for 3 days, then once per day for 4 days. Wash once weekly to prevent reoccurrence. If results are not satisfactory after the first week, let the doctor know before you taper to once weekly.

- **Athlete's Foot:** Place a capful of Loalsan in a quart jar and fill with warm water. Place liquid into a container large enough to put your foot/feet in and soak the entire foot/feet for 10 minutes. Remove feet from solution and allow to air dry. Do this three times per day for 3 days, then once per day for 4 days. Wash once weekly to prevent reoccurrence. If results are not satisfactory after the first week, let the doctor know before you taper to once weekly.

Cranberry Plus – This product is used when a bacterial urinary tract infection is suspected.

- **Urinary Tract Infection:** Follow the dosage recommendations listed on the bottle until the bottle is empty. Then complete a second bottle at half the recommended dosages. For the third bottle take 2 capsules per day until it is empty. For the fourth and following bottles take one capsule per day until a year has passed since beginning the protocol. If at any time your symptoms flare up, begin again with the full dosage and taper as described above.

Empty capsules – These are good to keep on hand for BCT protocol.

7-Up and Alka-Seltzer – This procedure is to only be used to relieve flu symptoms to enable you to travel to our office for care. Put four ounces of original 7-up from a can into a tall glass. Add two original Alka-Seltzer tablets (blue package). Lap up the solution taking in only what sticks to the tongue. If you drink it you will dry heave. It takes about an hour to lap up the entire solution. Once all of the solution has been consumed you will be able to travel to our office for proper care.

NOTE: This article is for educational purposes only. It is not meant as a diagnosis or treatment for any disease. When any infection is suspected, consult a physician as soon as possible.

# AUTONOMIC RECOVERY PROGRAM

(Formerly the Sugar Control Program)

The guidelines illustrated below were developed by Dr. Victor Frank, co-founder of Total Body Modification (TBM) and have been expanded upon by Dr. Kevin Millet. This program is used in conjunction with TBM procedures to re-establish the sugar control mechanism and restore healthy functioning to the autonomic nervous system. It must be adhered to with precision during the initial phase of care until the successful completion of the “challenge meal (approximately 3 weeks).” As your condition improves, various foods will be added. The object is to return you to a well-balanced, healthy diet as soon as your body will allow it.

**Note:** Prior to beginning this Sugar Control Program, consult with your current health care professionals. Although this program is based on recommendations that have been utilized for decades and have been proven to be effective and completely safe, there are certain individuals and medical conditions that can make elements of this program unsuitable.

## DO'S

**WATER:** Drink a MINIMUM of one quart of water per fifty pounds body weight each day, unless otherwise directed. This must be water without added minerals, juices, flavorings, lemon wedge, etc. Tap water or water that has been “purified” by any means (e.g. distilled, reverse osmosis, filtered), is acceptable.

Weight (lbs)	Quarts	Weight (kgs)	Liters
Up to 49	1	Up to 22	1
50 to 99	2	23 to 45	2
100 to 149	3	46 to 68	3
150 to 199	4	69 to 92	4
200 to 249	5	92 to 114	5
250 to 299	6	115 to 137	6
300 to 349	7	138 to 158	7
350 to 399	8	161 to 181	8

**SALT:** Salt food to taste. Note: Salt avoidance when drinking healthy amounts of water can be unsafe. To reduce aluminum exposure and to provide other trace minerals, we recommend avoiding standard commercial salt and using unrefined salts instead (e.g. Real Salt®, Celtic Sea Salt®, Himalayan salt).

**ESSENTIAL PROTEIN:** A MINIMUM of nine ounces of “essential protein” must be eaten per week. For most this is beef, venison, buffalo, elk. Scandinavians must add fish. Arabians and Australians may substitute lamb. Some Indians must eat goat while others are to avoid meat entirely. Failure to honor your inherited essential protein requirement results in sickness!

**EAT FREQUENTLY:** Be sure to eat a protein-rich meal for breakfast each day. You must eat AT LEAST every two hours. A snack is sufficient. Suggested snacks: cheese, fruit, plain yogurt with your own fresh fruit added, hard boiled eggs, raw cashews or raw brazil nuts, toasted sprouted bread with butter, Sucanat® and cinnamon added, bacon, and shrimp. DO NOT FAST FROM FOOD OR WATER WHILE ON THE SUGAR CONTROL PROGRAM.

**SWEETENERS:** Small amounts of completely unrefined sugar cane granules or syrup (e.g. Sucanat, Rapadura, and Steen's).

**ANIMAL PRODUCTS:** Except for milk, you may eat any and all animal products you desire (e.g. eggs, meats, cheeses, butter, yogurt, poultry, shellfish).

**RICE:** Consume, as desired, whole grain rice which has been roasted in a dry skillet to a golden brown (approx. 5 min.). It is normal for some of the kernels to pop. Prepare it as you would prepare rice normally. Note: large amounts may be "browned" in advance, cooled then stored for later use.

**BREAD:** Consume no more than two slices per day of one hundred percent sprouted bread (Alvarado Street®) or rice bread. Do not consume Ezekiel® bread, as it contains soy.

**GREEN & RED VEGETABLES:** Consume, as desired, any and all green and red vegetables (e.g. peppers, tomatoes, broccoli, cucumbers, zucchini, etc.).

**YELLOW & ORANGE VEGETABLES:** Consume up to 3 servings per week of yellow and orange vegetables (e.g. corn, carrots, yellow squash, etc.).

**ALLIUMS:** Consume, as desired, any and all edible alliums (onion, garlic, leeks).

**NUTS:** Consume ONLY raw cashews and Brazil nuts.

**FRUITS:** Consume any and all raw, whole fruits as desired. Canned fruit may be consumed only if it is canned in water or its own juice. Juices may be consumed in moderation if they are juiced fresh and diluted 50% with water.

**COFFEE & TEA:** Consume only hot beverages that do not contain caffeine.

**LISTEN TO YOUR BODY:** Ask your brain, not your mouth, if a particular food is right for you at this time. If it simply "tastes good," it is probably a poor choice.



Autonomic Recovery and Implementation Assessment



Name \_\_\_\_\_ DOB \_\_\_\_\_ Date \_\_\_\_\_

This Compliance Assessment form is designed to support you in developing habits and practices that support your healing and ongoing well being. This form is tailored to those of Western European heritage and may need to be customized for you if you have a different lineage.

Answer the questions honestly. Circle a number for each statement with "0" representing **completely false** and "10" **completely true**. The first two questions apply to clinical progress. Do not include those totals with the questions that follow. If a question does not apply, place an "X" on the number 10 and count it as a 10 in your calculations. Starred (\*) questions apply only to those who have passed their Challenge Meal. Upon completion, calculate totals and write in the provided locations.

NOTE: We recognize that some individuals may not consider the following guidelines as "politically correct" nutrition. Rest assured, however, that they have been drawn from traditional practices and utilized, with great success, by experienced TBM providers for decades. Please discuss any considerations you have with your TBM provider.

**Since my last TBM appointment...**

**SLEEP**...I have fallen asleep within 15 minutes and woken up 7-9 hours later, in the same position, feeling refreshed.

0 ----- 1 ----- 2 ----- 3 ----- 4 ----- 5 ----- 6 ----- 7 ----- 8 ----- 9 ----- 10

**BOWEL MOVEMENTS**...I had a properly formed (one continuous stool, tapered both ends, caramel color, no invaginations, no visible food particles) bowel movement, that did not require straining, following each meal.

0 ----- 1 ----- 2 ----- 3 ----- 4 ----- 5 ----- 6 ----- 7 ----- 8 ----- 9 ----- 10

**AUTONOMIC RECOVERY TOTAL \_\_\_\_\_/20**

**WATER**...I drank no less than 2/3 of an ounce of water per pound of my body weight (43.5mL/Kg) and no more than 32 ounces (1L) above that each day.

0 ----- 1 ----- 2 ----- 3 ----- 4 ----- 5 ----- 6 ----- 7 ----- 8 ----- 9 ----- 10

**BLUE BEEF**...I have eaten a beef steak prepared "blue" or steak tartare at least once per week.

0 ----- 1 ----- 2 ----- 3 ----- 4 ----- 5 ----- 6 ----- 7 ----- 8 ----- 9 ----- 10

**LIVER**...I have eaten beef liver at least once per week.

0 ----- 1 ----- 2 ----- 3 ----- 4 ----- 5 ----- 6 ----- 7 ----- 8 ----- 9 ----- 10

**OFFAL**...I have eaten offal (e.g. heart, kidney, sweet bread, tendon, marrow) at least once every other week.

0 ----- 1 ----- 2 ----- 3 ----- 4 ----- 5 ----- 6 ----- 7 ----- 8 ----- 9 ----- 10

**LIQUID FOOD**...Excepting soups and red wine, I have avoided all liquid foods (milks of all kinds, juices, nutritional shakes, smoothies), unless otherwise directed. When otherwise directed, I am sipping and thoroughly mixing with saliva before swallowing.

0 ----- 1 ----- 2 ----- 3 ----- 4 ----- 5 ----- 6 ----- 7 ----- 8 ----- 9 ----- 10

**IMPLEMENTATION TOTAL 1 \_\_\_\_\_/50**

Name \_\_\_\_\_ DOB \_\_\_\_\_ Date \_\_\_\_\_

**CHEWING**...I have chewed all food consumed to the point of liquid before swallowing.

0 ----- 1 ----- 2 ----- 3 ----- 4 ----- 5 ----- 6 ----- 7 ----- 8 ----- 9 ----- 10

**SWEETENERS**...I have avoided all sweeteners other than cane sugar and organic corn syrup.

0 ----- 1 ----- 2 ----- 3 ----- 4 ----- 5 ----- 6 ----- 7 ----- 8 ----- 9 ----- 10

**SUPPLEMENTS**...I have taken all of my supplements as advised (includes Autonomic Recovery Meal, if directed).

0 ----- 1 ----- 2 ----- 3 ----- 4 ----- 5 ----- 6 ----- 7 ----- 8 ----- 9 ----- 10

**DISINFECT**...I have applied to my skin or douched with a disinfectant, as recommended by my TBM provider.

0 ----- 1 ----- 2 ----- 3 ----- 4 ----- 5 ----- 6 ----- 7 ----- 8 ----- 9 ----- 10

**DAIRY**...I have consumed dairy products (e.g. cheese, yogurt, kefir, butter, cream) on a daily basis.

0 ----- 1 ----- 2 ----- 3 ----- 4 ----- 5 ----- 6 ----- 7 ----- 8 ----- 9 ----- 10

**OMNIVORE**...I have not avoided any food categories (e.g. gluten containing grains, dairy, animal products) that I have not been recommended to avoid by my TBM provider.

0 ----- 1 ----- 2 ----- 3 ----- 4 ----- 5 ----- 6 ----- 7 ----- 8 ----- 9 ----- 10

**SALT**...I have conscientiously salted to taste.

0 ----- 1 ----- 2 ----- 3 ----- 4 ----- 5 ----- 6 ----- 7 ----- 8 ----- 9 ----- 10

**PRE-CHALLENGE MEAL**...I have fully complied with the dietary guidelines of the Autonomic Recovery Program (ARP).

0 ----- 1 ----- 2 ----- 3 ----- 4 ----- 5 ----- 6 ----- 7 ----- 8 ----- 9 ----- 10

**POST-CHALLENGE MEAL**...I have carefully listened to, and complied with, my body while I have expanded my food choices beyond those allowed in the ARP.

0 ----- 1 ----- 2 ----- 3 ----- 4 ----- 5 ----- 6 ----- 7 ----- 8 ----- 9 ----- 10

**GRAINS, LEGUMES\***... I have only consumed grains and legumes that have been germinated (sprouted) and/or fermented AND cooked, excepting "al dente" (firm center) pasta and rice which has been dry or oil cooked prior to water cooking.

0 ----- 1 ----- 2 ----- 3 ----- 4 ----- 5 ----- 6 ----- 7 ----- 8 ----- 9 ----- 10

**RED WINE\***...I have consumed some red wine at least once per week.

0 ----- 1 ----- 2 ----- 3 ----- 4 ----- 5 ----- 6 ----- 7 ----- 8 ----- 9 ----- 10

**INSOLUABLE FIBER**...I have consumed food stuffs that contained insoluble fiber (e.g. greens, veggies, fruit, whole grains, legumes) with each meal.

0 ----- 1 ----- 2 ----- 3 ----- 4 ----- 5 ----- 6 ----- 7 ----- 8 ----- 9 ----- 10

**BOWEL HABITS**...Within 30 minutes of finishing a meal I have taken up to 10 minutes on the toilet, if necessary, to allow my body to have a bowel movement.

0 ----- 1 ----- 2 ----- 3 ----- 4 ----- 5 ----- 6 ----- 7 ----- 8 ----- 9 ----- 10

**IMPLEMENTATION TOTAL 2 \_\_\_\_\_/130**

Name \_\_\_\_\_ DOB \_\_\_\_\_ Date \_\_\_\_\_

**TREATS/DESSERTS\***...I have allowed myself to enjoy high-quality desserts and other treats in a way that respects my body's limits.

0 ----- 1 ----- 2 ----- 3 ----- 4 ----- 5 ----- 6 ----- 7 ----- 8 ----- 9 ----- 10

**PHYSICAL ACTIVITY**...I have averaged an hour or more of physical activity a day.

0 ----- 1 ----- 2 ----- 3 ----- 4 ----- 5 ----- 6 ----- 7 ----- 8 ----- 9 ----- 10

**ISOLATION BANDS**...I have worn violet Isolation Bands as directed by my provider.

0 ----- 1 ----- 2 ----- 3 ----- 4 ----- 5 ----- 6 ----- 7 ----- 8 ----- 9 ----- 10

**PROTECTION**...I have practiced Protection a minimum of each morning and each evening.

0 ----- 1 ----- 2 ----- 3 ----- 4 ----- 5 ----- 6 ----- 7 ----- 8 ----- 9 ----- 10

**CIRCADIAN**...I have retired to bed and arisen from bed at the same time each day.

0 ----- 1 ----- 2 ----- 3 ----- 4 ----- 5 ----- 6 ----- 7 ----- 8 ----- 9 ----- 10

**SLEEP HYGIENE**...I have slept in a quiet, completely dark room, with no operating electronics within 5 feet.

0 ----- 1 ----- 2 ----- 3 ----- 4 ----- 5 ----- 6 ----- 7 ----- 8 ----- 9 ----- 10

**MOBILE DEVICE**...Other than in my hand, I have not placed any mobile device (e.g. smartphone) against my body, my head or in my pocket, while the device is turned on (excepting "airplane" mode).

0 ----- 1 ----- 2 ----- 3 ----- 4 ----- 5 ----- 6 ----- 7 ----- 8 ----- 9 ----- 10

**POSTURE**...I have maintained an ongoing level of conscientiousness regarding the guidance I've been given about optimal posture throughout my daily activities.

0 ----- 1 ----- 2 ----- 3 ----- 4 ----- 5 ----- 6 ----- 7 ----- 8 ----- 9 ----- 10

**CORE TRUTH INFUSION**...I have infused my "Spark of Life" with my Core Truth during each Protection practice.

0 ----- 1 ----- 2 ----- 3 ----- 4 ----- 5 ----- 6 ----- 7 ----- 8 ----- 9 ----- 10

**CORE TRUTH REPATTERNING**...I have conscientiously engaged in the practices, language and behaviors, recommended to me by my provider, that support repatterning of my life around my Core Truth.

0 ----- 1 ----- 2 ----- 3 ----- 4 ----- 5 ----- 6 ----- 7 ----- 8 ----- 9 ----- 10

**IMPLEMENTATION TOTAL 3 \_\_\_\_\_/100**

**IMPLEMENTATION GRAND TOTAL \_\_\_\_\_/280**

The **symptoms, questions** and **concerns** that are of highest priority to me today are:

---

---

---

---

---

---

# **Posture Alignment Training (PAT)**

Establishing mechanically sound posture or living in your skeleton instead of hanging on your muscles.

## **PAT Steps to establish mechanically sound posture:**

1: Activate your core: Think of sucking in your stomach to prepare for a punch or like you do when sneaking behind someone at Thanksgiving dinner.

2: Feet two fists apart: Make sure that your feet are about two fists apart from the front to the back (the whole length of the foot).

3: Put your tabletop over your table legs: Make sure that the weight of your body is resting on the full foot, not just on the balls of the foot. If you are you will be able to lift either your toes or your heels without having to dramatically shift your body forward or backward.

4: Shoulder blades in back pockets: At all times you should sense that your shoulder blades have dropped down ever so slightly toward your waist. You can check in on this by raising your shoulders up, relaxing them down, and then imagine putting them into your back pockets. Remember, this is a SMALL movement

5: Get your melon on your post!: What we mean is to keep your head centered over your shoulders not allowing it to protrude forward as if you're a turkey! Do not drop the chin, but rather keep the head level as you bring it back over your torso.

6: Soften the knees: Do not lock your knees backward. To check this, move both knees forward and back and locate a neutral place where knees do not feel "tight". Have other people take a look at them to double check.

## **Other pointers:**

How are you getting along with your skeleton? In other words ask yourself, "**How can I do this in such a way that keeps me in my skeleton and doesn't hurt me** (strain my muscles and joints). You are in the same skeleton no matter what you are doing!

If you start to hurt you know you are not, but rather hanging on your muscles. OUCH! **Take pauses several times a day to check if you are in your skeleton.** After 40 days or so it will become habit and you won't have to think about it.

Remember that everything from your nose to your toes is connected. One thing will affect everything else and make a difference in how your system supports you. Use the ground to support the stability in your body.

## **Choose to be aware!**

NOTE: PAT was developed by Sue Horton, PT

When Dr. Victor L. Frank was asked what was next in importance following getting our bodies to properly regulate our blood sugar and to be adequately hydrated, he responded, "Protection!" He taught that the level that we vibrate attracts things of a similar level. If we want to change our health then we need to work on increasing our level of vibration. The higher our level of vibration the more positive people and experiences we attract. Vibrating at a higher level can also make us a target. Therefore, we not only need to energetically cleanse and increase our level of vibration, but we must also shield ourselves. The following visualization was developed in the 1950s by Dr. Frank and was practiced everyday by him and was something he taught his students the world over. It serves to cleanse our energetic or luminous body, raise or vibration level and shield us from outside attacks or negative energies.

### TBM Protection

The TBM Protection procedure both raises your level of vibration and protects you. It raises your level of vibration by cleansing and filling your body with white light. It protects you by placing shield around you.

- 1) Uncross your legs and place your feet flat on the floor.
- 2) Close your eyes. Place your hands over your belly button with the left hand pressed against your belly and the right hand against the back of the left. Now interlock your thumbs by place your right thumb under your left one. Now bend your right index and ring fingers so they curve back under your left hand and leave the middle finger straight in the center of your left forearm. Keep your hands in this configuration until you've completed the exercise.
- 3) Now visualize a hot, bright, white flame behind your sternum. Use your breath like a bellows to increase the intensity of the flame and make it grow. As it enlarges into a ball turn it in on itself in a centripetal fashion, continuing to increase the intensity as it becomes more and more dense. Do not spin it. Note: If you are having a hard time visualizing a white flame, then do the same with a harmonious tone or a feeling of love.
- 4) Now cause it grow throughout your chest and abdomen. Continue to use your breath as a bellows to build the intensity. Allow the light to flow into your neck and shoulders, then down your arms and into your head. Now feel it flow into your pelvis and buttocks, then down into your thighs, legs and then feet.
- 5) Continue to build the brightness and intensity of the light as it fills your body from the original source behind your sternum. Now let the light pass beyond your skin and fill the area around your body. Feel it cleanse not only your entire body, but the space around you.
- 6) Once the light has filled your entire body and a space of at least six inches around you, take in a quick, deep breath and draw the white light back into your body. Your body is now filled with the light, the Spark of Life behind your sternum continues to grow brighter, hotter and more concentrated and radiates throughout your entire body like dense Styrofoam.
- 7) Now visualize a large bucket above your head that is filled with a clear, liquid plastic. With your mental hands reach up and pour the contents of the bucket over your body, allowing it to flow over all parts of you. Use your hands to smooth it out and to make sure that it is spread over every square inch of you. As you do so it becomes a paper thin, fully flexible, breathable armor and protection to you.
- 8) Above your head is a second bucket of liquid plastic. Do the same thing with this bucket, smoothing it out, making sure that no spots are missed. Feel it become paper thin, flexible and breathable again.
- 9) A third bucket is now overhead. This one, however, is filled with a pink, liquid foam. This will form a layer around you that will repel any attacks and convert the energy into pure love and sending it back to them 10-fold! Once again, using your mental hands, pour the foam over your body, smoothing it out and insuring that all areas are well covered.
- 10) Now take three long, deep breaths and open your eyes.

This procedure is to be completed at least each morning and evening. If at any time during the day you wonder if you shield is worn down a bit, take a moment to "check in" and repeat any aspects of the shielding that may be needed.



### **Total Body Modification, Inc.**

2505 Anthem Village Dr E, Suite #E221, Henderson, NV 89052 USA  
Voice: +1 (435) 652-4340 Fax: +1 (888) 908-3906  
EEmail: [health@tbmseminars.com](mailto:health@tbmseminars.com) Web: [www.livetbm.com](http://www.livetbm.com)

## Client Medical History Form

<b>Name:</b> _____	<b>Age:</b> _____	<b>Date of Visit:</b> /    /
<b>Height:</b> <b>Feet</b>	<b>Inches</b>	<b>Weight:</b> <b>pounds</b>

**Medical Illnesses**

- |  |   |   |
|--|---|---|
| <input type="checkbox"/> Diabetes                  | <input type="checkbox"/> Asthma                   | <input type="checkbox"/> HIV                |
| <input type="checkbox"/> High Blood Pressure       | <input type="checkbox"/> COPD/<br>Emphysema       | <input type="checkbox"/> Arthritis          |
| <input type="checkbox"/> Heart Attack              | <input type="checkbox"/> Congestive Heart Failure | <input type="checkbox"/> Thyroid Disease    |
| <input type="checkbox"/> Depression                | <input type="checkbox"/> Migraine                 | <input type="checkbox"/> Seizure Disorder   |
| <input type="checkbox"/> Anxiety                   | <input type="checkbox"/> Headaches                | <input type="checkbox"/> Seasonal Allergies |
| <input type="checkbox"/> Hepatitis C               | <input type="checkbox"/> Acid Reflux/<br>Ulcers   | <input type="checkbox"/> Kidney Disease     |
| <input type="checkbox"/> Cancer (Specify)<br>_____ |   | <input type="checkbox"/> MRSA               |

**Surgical History**

- |  |   |  |
|--|---|--|
| <input type="checkbox"/> Heart Surgery           | <input type="checkbox"/> Tonsils removed  | <input type="checkbox"/> Cataract surgery  |
| <input type="checkbox"/> Cardiac Stent Placement | <input type="checkbox"/> Shoulder Surgery | <input type="checkbox"/> Joint Replacement |
| <input type="checkbox"/> Hysterectomy            | <input type="checkbox"/> Bowel Surgery    |  |
| <input type="checkbox"/> Gall Bladder removed    | <input type="checkbox"/> Appendix removed |  |

<u>Surgeries:</u>	<u>Surgeon:</u>	<u>Date:</u>	<u>Outcome:</u>
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____

**Family History**

- |  |   |   |
|--|---|---|
| <input type="checkbox"/> Diabetes            | <input type="checkbox"/> Stroke         | <input type="checkbox"/> Mental Illness |
| <input type="checkbox"/> High Blood Pressure | <input type="checkbox"/> Asthma         | <input type="checkbox"/> Spine Disorder |
| <input type="checkbox"/> Heart Disease       | <input type="checkbox"/> Arthritis      | <input type="checkbox"/> Other: _____   |
| <input type="checkbox"/> Cancer              | <input type="checkbox"/> Kidney Disease |   |
|  | <input type="checkbox"/> Blood Clots    |   |

**Personal History**

- |                                    |                                     |  |
|------------------------------------|-------------------------------------|--|
| <input type="checkbox"/> Single    | <input type="checkbox"/> Student    | <input type="checkbox"/> Number of Children: _____         |
| <input type="checkbox"/> Married   | <input type="checkbox"/> Unemployed |  |
| <input type="checkbox"/> Divorces  | <input type="checkbox"/> Disabled   | <input type="checkbox"/> Number of Children at Home: _____ |
| <input type="checkbox"/> Separated | <input type="checkbox"/> Retired    |  |
| <input type="checkbox"/> Widowed   |                                     |  |
| <input type="checkbox"/> Employed  |                                     |  |

**Pregnant:**    Yes    No

**Social History: Please indicate how often you use the following Substances**

Tobacco:

- Never Smoked
- Smoke \_\_ pack(s) of cigarettes/day OR Chew 1 can every \_\_ day(s)

# Client Medical History Form

Alcohol:

- Never       Rarely       Moderately (3-5 days/week)       Daily

Recreational Drugs:

- Never       Rarely       Moderately (3-5 days/week)       Daily

**What Medications do you take? (Please list all medications and dosages. Include over the counter medications and herbal supplements)**

_____	_____
_____	_____
_____	_____
_____	_____

**Are you allergic to any medication? (Please list medication and reaction)**

_____	_____
_____	_____

**Mark Only Symptoms you have had in the last 3 months:**

**GENERAL:**

- Fatigue
- Fever
- Night Pain
- Weight Gain
- Unexplained Weight Loss

**GASTROINTESTINAL**

- Abdominal Pain
- Constipation
- Diarrhea
- Frequent Heartburn

**EARS, NOSE, THROAT**

- Hearing Loss
- Ringing in the ears
- Vertigo
- Nasal congestion
- Mouth/lip sores
- Tooth abscess
- Difficulty Swallowing
- Hoarse voice
- Throat lesions

**NEUROLOGICAL**

- Difficulty with balance
- Loss of coordination
- Gait abnormality
- Headaches
- Muscle weakness
- Seizures
- Sensory disturbance
- Speech difficulty
- Tremor

**GENITOURINARY**

- Erectile dysfunction
- Increased urination
- Decreased urination
- Loss of urine
- Burning/pain with urination

**BLOOD/ LYMPHATIC:**

- Bleed easily
- Prolonged bleeding after surgery
- Bruise Easily
- Painful/ swollen lymph node (s)

**CARDIAC**

- Chest Pain
- Shortness of breath w/activity
- Lower extremity swelling
- Heart Murmur
- Heart racing

**PSYCHIATRIC**

- Depression
- Anxiety

**ALLERGY/IMMUNE**

- Immune Disorder
- Seasonal allergies

**RESPIRATORY**

- Cough
- Vomiting blood
- Shortness of Breath
- Wheezing

**EYES**

- Discharge
- Cataracts
- Visual field loss

**SKIN**

- Abnormal growth
- Rash
- Non-healing sore

Do you have any current addictions? \_\_\_\_\_

The Information provided in the form is true and complete to the best of my knowledge:

Signature \_\_\_\_\_



# TERMS OF ACCEPTANCE

## For Nicole VanderMeyden & Attunement Services

This document constitutes informed consent for services provided by Nicole M. VanderMeyden.

*When a client seeks my services and I accept that client, it is essential that we interact within the same framework to prevent confusion and disappointment, and to maximize efficiency and effectiveness. To that end, I offer the following.*

*Thank you.*

A *dissonant bioprogram* is a stored memory constellation which elicits disadvantageous physiological responses. In my experience most acute and chronic pain, stress, and other unwanted symptoms are both initiated and maintained by dissonant bioprograms. Subtle-influence medicine (SIM), a tradition of healing which began being taught in Paris, France in 1783, aims to artificially adapt dissonant bioprograms into resonant ones. This is known as an *attunement*. SIM achieves attunements utilizing the natural mechanisms underlying the processing of incoming stimuli and the accessing of stored memories.

I do not offer to diagnose, treat, or cure any disease or condition, whether physical, mental, or emotional other than dissonant bioprograms. I do not offer to prescribe any medication. I do not offer therapy in any form. **I offer to solely address the pertinent dissonant bioprograms which interfere with the full expression of ease, vitality, and peace.** This is accomplished through conversations and directed contact.

All services are non-therapeutic and therefore do not include any elements which would require the maintenance of any medical license.

By signing below, you accept the responsibility to keep me informed and updated regarding any accidents, injuries, surgeries, illnesses, medications, or other factors that could relate to the safeness and effectiveness of receiving the services described above. You also affirm that you have read the preceding paragraphs and that all questions pertaining to receiving services subject to the above-described conditions have been answered to your satisfaction prior to placing my signature below. And that you additionally accept those conditions and affirm your intent to work with me as I have outlined above.

Full Legal Name \_\_\_\_\_

DOB \_\_\_\_/\_\_\_\_/\_\_\_\_

Signature (actual) \_\_\_\_\_

Date \_\_\_\_/\_\_\_\_/\_\_\_\_

*Complete if client is a minor or declared mentally incompetent.*

I, being the parent or legal guardian of the individual listed below, have read, had any questions I had answered to my satisfaction, and signed the above "terms of acceptance." I hereby grant permission for the following individual to receive services as described above by Nicole VanderMeyden.

Minor's Full Legal Name \_\_\_\_\_

DOB \_\_\_\_/\_\_\_\_/\_\_\_\_

Signature (actual) \_\_\_\_\_

Date \_\_\_\_/\_\_\_\_/\_\_\_\_

# GROCERY LIST

## VEGETABLES

- Asparagus
- Broccoli
- Cabbage – Green & Red
- Cucumbers
- Eggplant
- Garlic
- Green Beans
- Leeks
- Lettuce
- Mushrooms
- Onion
- Peppers – Green & Red
- Spinach
- Sugar Snap Peas
- Tomatoes
- Zucchini

Limit to 3 servings /week:

- Butternut Squash
- Carrots
- Corn
- Spaghetti Squash
- Summer Squash

## NUTS & SEEDS

- Raw Brazil Nuts
- Raw Walnuts
- Raw Pecans
- Raw Cashews
- Raw Sunflower Seeds

## DAIRY (FULL FAT), EGGS

- Butter
- Cheese
- Eggs
- Cream Cheese
- Sour Cream
- Yogurt

## MEAT

- Beef
- Buffalo
- Chicken
- Duck
- Elk
- Fish
- Lamb
- Pork
- Shellfish
- Turkey
- Venison

## SPICES & SAUCES

- Dried or Fresh Herbs
- Soy Sauce
- Ranch - Homemade
- Mustard
- Salsa
- Vinaigrettes – Homemade

## OILS

- Avocado Oil
- Bacon Grease
- Butter
- Coconut Oil
- Extra Virgin Olive Oil

## FRUIT

- Apples
- Avocados
- Bananas
- Berries
- Grapes
- Lemons/Limes
- Melons
- Oranges

## OCCASIONAL

- Unrefined cane sugars (Sucanat®, Rapadura®, Steen's®)
- Herbal teas
- Rice (whole grain rice “browned” in a dry skillet to golden brown ~5min; once cooled, prepare normally)
- 100% Sprouted Bread (limited to 2 slices per day)

## GUIDELINES

---

- Eat every 1-2 hours
- Choose Organic whenever possible
- Choose Full Fat Dairy only (no low fat or fat free!)
- Choose products with no added sweeteners (unless with cane sugar and still only consume a small amount)
- Great Snacks to have on hand: Hard Boiled Eggs, Pork Rinds with Sour Cream, Cheese, Yogurt and Fruit, Permitted Raw Nuts, Raw Veggies, Fruit, Lunchmeat
- If you are UNSURE if a food is approved, DO NOT EAT IT until you can check with your practitioner

# GROCERY LIST

## AVOID COMPLETELY

- All grains (wheat, oats, barley, rice, etc.) and grain products (cereal, pastas, breads, etc.) unless specifically listed above
- Pre-made packaged meals (unless you recognize ALL ingredients listed as ARP approved)
- Non cane-derived sweeteners including:
  - Natural sweeteners such as stevia, sugar, invert sugar, brown sugar, “Sugar in the Raw,” coconut sugar, sucrose, glucose, maltose, fructose, malt sugar, honey, syrups (maple, rice, corn, high-fructose corn), concentrated fruit juice, agave nectar, and sugar alcohols (xylitol, mannitol, sorbitol, maltitol)
  - Artificial sweeteners such as polyols/sugar alcohols (xylitol, erythritol, mannitol), sucralose (Splenda®), aspartame (NutraSweet®, Equal®), saccharin (Sweet’N Low®), acesulfame potassium (ACK, Sweet One®, Sunett®), neotame, and cyclamate
- Soy and Soy products, including Tofu
- Nonfat or low-fat dairy products
- Milk (of any kind including Cow, Goat, Almond, Coconut, Soy, Rice, etc.), soda, or juices
- Caffeinated beverages like coffee and tea (including Kombucha)
- Alcoholic beverages
- Smoothies/meal replacement shakes or other ‘liquid food’
- Chewing gum
- Legumes (peanuts, kidney beans, pinto beans, refried beans, lentils, etc.)
- Modified fats (hydrogenated oils and margarines)
- Select oils (canola, safflower, sunflower, flax, vegetable)
- Dried fruit, frozen fruits (unless you froze them yourself from fresh), and fruit juice
- White and/or starchy vegetables (cauliflower, potatoes, parsnips, turnips, etc.)
- Beets

## How to Protect Yourself from the Harmful Effects of Flying

Flying in an airplane brings a whole set of stressors that often derail the process of healing unless they are properly addressed. Those problems are primarily radiation, dehydration, prolonged sitting, time zone changes, sleep deprivation, air sickness, neck strain, and the adrenaline surge from the excitement of visiting new places. We recommend you address them as follows:

**Radiation** – wear the TBM Flying Protection vials and follow the protocol. Take two (2) Flying Protection vials, place them on the body, in a pocket is fine, within five (5) minutes of boarding plane. Immediately place all five (5) fingertips together and tap the mid forehead once, tap the top of your head with the back of your hand once, tap the forehead again with all five (5) fingers, tap the chest with your arms in an “X” configuration while your fingers are extended and your thumbs pointing away from you, one time, then finish by grabbing the right wrist with the left hand and, while holding your hands together, make a light thrust (downward) over the pubic area. Within five (5) minutes of leaving the plane, repeat above sequence then remove the vials from your body. Repeat this with every boarding and debarking of an airplane.

**Dehydration** – drink more water than normal in advance of the flight and then ask for three full glasses of water, with no ice, each time the flight attendant offers beverages. Drink only water while flying.

**Prolonged sitting** – get up from your seat frequently. This happens, more or less, automatically because of all of the water you’re drinking. Spend some time moving around while you are up. Take a stroll to the back of the plane, do some stretching, move your body around. If you find that you tend to have fluid pool in your lower limbs on long flights, you may want to purchase support stockings at a medical supply store.

**Time zone changes** - To program your body to the local time zone upon landing, rub the Spleen 21 point (left rib cage halfway between the armpit and the bottom of the rib cage) for 30 seconds. Immediately following, rub both ears beginning at the bottom and working toward the top as if you were trying to unfurl or flatten the ears with the thumb on the back of the ear and the index finger rubbing backward on the front. Do one pass up and one down. If you are less than 3 hours away from going to bed upon landing, then wait to do this upon waking up, preferably prior to your feet touching the ground. This, by the way, eliminates jet leg in virtually all cases.

**Sleep deprivation** – sleep on the plane. Take a light blocking eye mask. If you forget, most airliners have them available. When you get there, take a nap, but don’t sleep in. Wake up at your normal time to maintain your sleep cycle. Take a nap later in the day if need be.

**Air sickness** - If you are experiencing airsickness, firmly tap half way between the bottom of your breast bone and your belly button for thirty to sixty seconds. Repeat as necessary.

**Neck strain** – invest in a flying neck pillow. They can be a life saver. They are always available in airport gift shops.

**Adrenaline surge** – yes, traveling is fun. It’s easy to get hyper, stay out late, push ourselves hard and the like. Just be mindful that you are doing it. I suggest that you have the supplement ADR (available from [professionalbotanicals.com](http://professionalbotanicals.com)) on hand and take three per day while you are on your trip. Remember to bite them before you swallow them. This is adrenal gland nutrition and will help keep them from getting drained of reserves.

**Montezuma’s Revenge** – for traveler’s diarrhea, when symptoms first appear, pull any capsule you have apart and empty it. Fill the large side with the liquid supplement BCT (also available from [professionalbotanicals.com](http://professionalbotanicals.com)). A dropper works best, but if you’re careful you can pour it straight out of the bottle by place the lip of the bottle against the empty capsule. Replace the other half of the capsule and swallow. Repeat each morning, preferably on an empty stomach, until symptoms subside.

## How to Get a Good Night's Sleep

Sleep deprivation is a potent deterrent to healing. In fact, getting a 'good nights sleep' is arguably the most important ingredient to good health, along with adequate hydration and the like. Too many patients are taking sleep aids and still not feeling rested in the morning. The key is to let the body sleep, not force it to sleep. There is nothing like natural sleep. Medication induced rest just isn't the same.

The primary reason that most patients don't sleep is dysautonomia (dysfunction to the regulatory branch of the nervous system), but other causes include hormonal imbalances, nutritional deficiencies, pain and digestive problems. Each of these must be diagnosed and addressed by your Total Body Modification (TBM) practitioner and other professionals, as needed. However, if direct efforts are not made to re-establish the circadian sleep cycle or daily sleep rhythm, addressing the causes of poor sleep may be insufficient. The following recommendations are to help you do just that. They should be followed to re-establish and maintain healthy sleep and a consistent circadian rhythm.

**Sleep in the dark:** Completely darken your room. This includes turning off or covering light sources with electrical tape (e.g. cell phones, alarm clocks, smoke alarms, DVD players, televisions) and reducing light that peaks through the windows and doors. Feel free to wear a light-blocking sleep mask. If you need a light to go to the bathroom, grab your cell phone and turn it on to light your way. Make sure, however, that the cell phone is at least four feet away from you body during the night.

**Minimize sounds:** Reduce noise interference as much as possible throughout the night. If necessary, use noise-reducing ear plugs. A third option is soothing music or 'white noise' generators to minimize disrupting sounds. If you have a partner whose sounds are waking you, you may want to sleep alone. Once you are sleeping regularly you may be able to return to sleeping together normally.

**Go to sleep and wake up at the same time each day:** Choose an approximate time that will work every night to fall asleep and a time every morning to wake up and stick to it! Only go to bed when you're tired though. If you wake up before your designated time and can't get back to sleep, get out of bed. If you stay in bed it will work against developing a healthy sleep pattern. Here are two exercises you can do to help improve your sleep.

1. **At bedtime:** To activate your bodies sleep mechanism rub both mastoid bones (the bumps just behind the ears) until you feel a 'wave of sleepiness.' This usually occurs in 10 to 15 seconds. If, after 90 seconds it doesn't occur, it probably won't help and you need to look at calming your body and/or your mind down through reading, stretching, sexual intimacy, conscious breathing or meditation. Rub the mastoid bones each night at the time you chose as your bedtime until you find your body's rhythm has adjusted. Do this anytime you lie down and are finding it difficult to go to sleep. Also do this if you wake during the night and are having difficulty going back to sleep.
2. **Upon arising:** To program your body's wakefulness time, rub the Spleen 21 point (left rib cage halfway between the armpit and the bottom of the rib cage) for 30 seconds. Immediately following, rub both ears beginning at the bottom and working toward the top as if you were trying to unfurl or flatten the ears with the thumb on the back of the ear and the index finger rubbing backward on the front. Do one pass up and one down. NOTE: This also works with programming infants sleep cycles.

**Avoid all stimulants and stimulating activities after dinner time or approximately 7:00pm:** This includes sugary foods, caffeine, nicotine, medications and supplements that have stimulating ingredients, bright lights, arguments, aggressive physical activity, watching television, using the computer, thrilling novels and the like. Also be sure to avoid using a cordless or cellular phone. An ear piece that is connected to the phone (not Bluetooth) is permissible.

**Get outside.** Expose your body to sunlight for at least a few minutes every day.

**Be active.** Maintain at least one hour of brisk physical activity every day, based on your current fitness level.

## Yeast Reduction Program

While yeasts and yeast-containing foods are an important part of a healthy diet, your TBM provider may advise you to avoid them for a period of time, usually 2 - 8 weeks, to facilitate your body in addressing yeast overgrowth and/or yeast infections. The more adherent you are to the following guidelines, the quicker your progress and the sooner you will complete the Yeast Reduction Program.

Avoid all foods that contain added sugars, as yeasts, molds and fungi thrive on simple sugars.

Avoid all foods with baking, brewing or wild yeast, mold and fungus, these include:

- All alcoholic beverages (e.g. distilled liquors, wine, beer)
- Aged cheeses
- Mushrooms
- Leavened breads (including sourdough)
- Brewer's yeast and yeast spreads (e.g. Vegemite, Marmite).
- Yeast containing beverages (e.g. apple cider, black tea, ginger ale, root beer, buttermilk, fruit juices, if not made fresh)
- Yeast derived food additives (e.g. citric acid, unless derived from citrus juice not fermented corn, lactic acid, yeast extract)
- Vinegar and , vinegar containing foods (e.g. mustard, ketchup)
- Soy sauce, bean paste, miso and tempeh
- B vitamins (unless from a non-yeast source)
- Fruits containing wild yeasts (e.g. blackberries, blueberries, grapes, strawberries) and jams and jellies made from them.
- Dried fruits
- Aged meats (sausage, bacon, aged beef)
- Olives
- Peanuts and peanut butter
- Pickled foods (e.g. pickled cucumbers, peppers, artichokes)

Foods that are acceptable:

- Fresh fruit that is free from yeast, mold and fungus (we recommend eating fresh-whole fruit with yogurt and nuts and, if juices are consumed, make fresh and dilute in half with water )
- All vegetables
- Alliums (e.g. onions, garlic, leeks)
- Non-aged animal meats and eggs (e.g. beef, chicken, fish, organ meats)
- Non-aged cheeses (cream cheese, mozzarella, cottage cheese, \*processed cheese)
- Pasta
- Breads not leavened with yeast (soda crackers, Irish soda bread, essence bread, tortillas)
- Yogurt, kefir

In addition to the above dietary guidelines, your TBM doctor or practitioner may recommend specific anti-fungal supplementation and washing protocols.

## 78 REASONS TO AVOID SUGAR

1. Sugar can suppress the immune system.
2. Sugar can upset the body's mineral balance.
3. Sugar can cause drowsiness and decreased activity in children.
4. Sugar can cause hyperactivity, anxiety, concentration difficulties and crankiness in children.
5. Sugar can adversely affect children's school grades.
6. Sugar can produce a significant rise in triglycerides.
7. Sugar contributes to a weakened defense against bacterial infection.
8. Sugar can cause kidney damage.
9. Sugar can reduce helpful high density cholesterol.
10. Sugar can promote an elevation of harmful cholesterol.
11. Sugar may lead to chromium deficiency.
12. Sugar may cause copper deficiency.
13. Sugar interferes with absorption of calcium and magnesium.
14. Sugar may lead to cancer of the breast, ovaries, prostate and rectum.
15. Sugar can cause colon cancer with an increase risk in women.
16. Sugar can be a risk factor in gall bladder cancer.
17. Sugar can increase fasting levels of blood glucose.
18. Sugar can weaken eyesight.
19. Sugar raises the level of a neurotransmitter called serotonin, which can narrow blood vessels.
20. Sugar can cause hypoglycemia.
21. Sugar can produce an acidic stomach.
22. Sugar can raise adrenaline levels in children.
23. Sugar can increase the rise of coronary heart disease.
24. Sugar can speed the aging process, causing wrinkles and gray hair.
25. Sugar can lead to alcoholism.
26. Sugar can produce tooth decay.
27. Sugar can contribute to weight gain and obesity.
28. High intake of sugar increases the risk of Crohn's disease and ulcerative colitis.
29. Sugar can cause a raw, inflamed intestinal tract in persons with gastric or duodenal ulcers.
30. Sugar can cause arthritis.
31. Sugar can cause asthma.
32. Sugar can cause Candidiasis (yeast infection).
33. Sugar can lead to the formation of gallstones.
34. Sugar can lead to the formation of kidney stones.
35. Sugar can cause ischemic heart disease.
36. Sugar can cause appendicitis.
37. Sugar can exacerbate the symptoms of multiple sclerosis.
38. Sugar can indirectly cause hemorrhoids.
39. Sugar can cause varicose veins.
40. Sugar can elevate glucose and insulin responses in oral contraction users.
41. Sugar can lead to periodontal disease.
42. Sugar can contribute to osteoporosis.
43. Sugar contributes to saliva acidity.
44. Sugar can cause a decrease in insulin sensitivity.
45. Sugar leads to decreased glucose tolerance.
46. Sugar can decrease growth hormone.
47. Sugar can increase total cholesterol.
48. Sugar can increase systolic blood pressure.

49. Sugar can change the structure of protein causing interference with protein absorption.
50. Sugar causes food allergies.
51. Sugar can contribute to diabetes.
52. Sugar can cause toxemia during pregnancy.
53. Sugar can contribute to eczema in children.
54. Sugar can cause cardiovascular disease.
55. Sugar can impair the structure of DNA.
56. Sugar can cause cataracts.
57. Sugar can cause emphysema.
58. Sugar can cause atherosclerosis.
59. Sugar can cause free radical formation in the bloodstream.
60. Sugar lowers the enzymes' abilities to function.
61. Sugar can cause loss of tissue elasticity and function.
62. Sugar can cause liver cells to divide, increasing the size of the liver.
63. Sugar can increase the amount of fat in the liver.
64. Sugar can increase kidney size and produce pathological changes in the kidney.
65. Sugar can overstress the pancreas, causing damage.
66. Sugar can increase the body's fluid retention.
67. Sugar can cause constipation.
68. Sugar can cause myopia (nearsightedness).
69. Sugar can compromise the lining of the capillaries.
70. Sugar can cause hypertension.
71. Sugar can cause headaches, including migraines.
72. Sugar can cause an increase in delta, alpha and theta brain waves, which can alter the mind's ability to think clearly.
73. Sugar can cause depression.
74. Sugar can increase insulin responses in those consuming high-sugar diets compared to low sugar diets.
75. Sugar can increase bacterial fermentation in the colon.
76. Sugar can cause hormonal imbalance.
77. Sugar can increase blood platelet adhesiveness, which increases risk of blood clots
78. Sugar can increase the risk of Alzheimer Disease.

#### REFERENCES

- Sanchez, et al. "Role of Sugars in Human Neotrophilic Phagocytosis," American Journal of Clinical Nutrition, November 1973, pp 1180-1184
- F. Coutzy, et al. "Nutritional Implications of the Interaction between Minerals," Progressive Food and Nutrition Science 17, 1933, 65-87
- J. Goldman, et al. "Behavioral Effects of Sucrose on Preschool Children," Journal of Abnormal Child Psychology, 14 1986, 565-577.
- D. Behar, et al. "Testing with Children Considered Behaviorally Sugar Reactive," Nutritional Behavior, 1984, 277-288
- Alexander Schauss. "Diet, Crime and Delinquency," Berkeley, CA. Parker House, 1981.
- S. Scanto and John Yudkin. "The Effects of Dietary Sucrose and Blood Lipids, Serum, Insulin, Platelet Adhesiveness and Body Weight in Human Volunteers," Postgraduate Medicine Journal, 45, 1969, 602-607.
- W. Rinsdor, E Cheraskin and R. Ramsay, "Sucrose Neutrophilic Phagocytosis and Resistance to Disease," Dental Survey 52 12 1976 46-48.
- J. Yudkin, S. Kang, and K. Bruckdorfer. "Effects of High Dietary Sugar," British Journal of Medicine 281, November 22, 1980, p. 1396.
- Lewis, G.F. Steiner, "Acute Effects of Insulin in the Control of VLDL Production in Humans, Implications for the Insulin Resistant State," Dep. of Medicine, Univ. of Toronto, Canada, Diabetes Care 1996, Apr 19 (4), 390-3.
- R. Pamplona, M. J. Bellmunt, M. Portero, and J. Prat. "Mechanisms of Glycation in Atherogenesis," Medical Hypotheses 40, 1990, pp 174-181.
- Kozlovsky, et al. "Effects of Diets High in Simple Sugars on Urinary Chromium Losses." Metabolism 35. June, 1986, pp 515-518.
- M. Fields, et al. "Effect of Copper Deficiency on Metabolism and Mortality in Rats Fed Sucrose or Starch Diets," Journal of Clinical Nutrition 113, 1983, pp 1335-1345.
- "Sugar and Prostate Cancer," Health Express, October 1982, p 41.
- R.M. Bostick, J. D. Potter, L.H. Kushi, et al. "Sugar, Meat and Fat Intake and Non-dietary Risk Factors for Colon Cancer Incidence in Iowa Women," Cancer Causes & Controls 5, 1994, 38-52