**Your Keys for Purification*
Detox Your Body, Thoughts and Emotions with ETI Formulas**

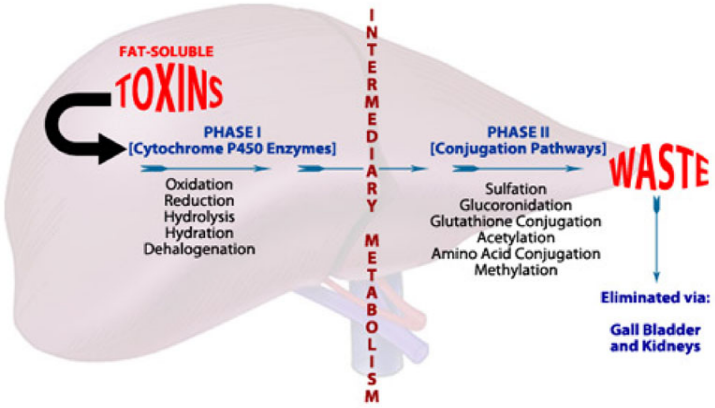
The Environmental Protection Agency (EPA) estimated that in 2015 approximately 3.36 billion pounds of toxic chemicals were released into the environment, just in the United States alone (TRI National Analysis, 2015).The current toxified state of the environment, together with the demanding, stress-inducing pace of modern society, produce a huge impact on our mental, emotional and physical well-being, causing a substantial dysregulation of the body's elimination pathways, thereby creating conditions for pathological states (Liska, 1998).

To successfully address this situation requires an appropriate awareness and understanding of the detoxification pathways that help the body remove unwanted chemicals. The term "detoxification" has come to have a broad meaning and may be used to describe different practices and protocols, such as fasting and colonic cleansing, chelation therapy, foot detoxification, etc. A discussion of particular detoxification protocols is not a goal of this review. For those who are interested in detox protocols, we would recommend consideration of the Natural Standard purification program: https://www.standardprocess.com/Products/Literature/Patient-Purification-Program-Guide.

This review is focused on liver detoxification pathways, emphasizing the importance of the purification process, not only for our physical body, but also for our thoughts and emotions. In addition, this report is concerned with providing you with the directions for effectively using ETI's energy formulas to energetically promote the body's ability to purify itself.

1. Introduction to the Body's Detoxification Pathways

During a person's lifetime, the human body is continuously exposed to a wide array of xenobiotics (foreign chemical substances not normally or naturally found within an organism). To detoxify these substances, our body has developed an enzymatic transformational (detoxification) system utilizing cytochrome P450s (CYPs), which metabolize potentially toxic compounds. This system demonstrates an individual's significant genetic variability, and is affected by the environment and lifestyle (Liska, 1998). In general, the process of metabolizing xenobiotics goes through three stages in the removing of harmful compounds from the body. They are called Phase I (transformation), Phase II (conjugation) and Phase III (transportation) (Attar, 2005).



From http://www.holisticvanity.ca/detoxification-debunked/

Phase I is responsible for the functional group modification and making the substances more polar. Phase II deals with the conjugation of the functional groups, making the substances even more polar. Once the substances are made water-soluble, they can be excreted out of the cell through the cell membrane by the transport proteins, and then transported into the bile or urine for excretion. This is called Phase III of the detoxification system (Nakamura, 2003; Sikka, 2005; Attar, 2005).

The CYPs are a primary part of the liver's enzymatic system that metabolizes xenobiotics. This system is also found in other tissues exposed to toxic environmental compounds, which can be found in the skin, lungs, gastrointestinal tract, kidneys, placenta, corpus luteum, lymphocytes, monocytes, pulmonary alveolar macrophages, adrenals, testes and brain (Ross, McKinnon & McManus, 1996).

2. Phase I

The majority of the Phase I transformation reactions are performed by the CYPs (Sikka, 2005). They can be roughly grouped into three categories: as oxidation, reduction, and hydrolysis (Danielson, 2002).

Due to the fact that CYPs has a large isoform classification with varied structure (Ince et al., 2013), polymorphic expression (Paine, 1981) and overlapping specificity, it makes it difficult to measure the precise role of each individual CYP in the metabolism of xenobiotics (Danielson, 2002; Sikka, 2005). However, researchers have found that around 57 CYPs are able to detoxify any potential toxin that enter the body (Nelson et al., 2004).

After the enzymes have broken down some of the xenobiotics by unmasking or inserting a polar functional group (-OH, -SH, -NH2) into them, several very toxic metabolites are produced. They must be quickly moved into the Phase II pathway, in order to make them more stable and/or more functional for the body (Guengerich, 2001).

3. Phase II

After a xenobiotic has gone through the process of becoming hydrophilic (Phase I), its reactive point can be conjugated with an endogenous hydrophilic substance. This reaction is often referred to as Phase II detoxification. The result of the collective activity of several enzymes is an increase in the hydrophobicity of the metabolite, leading to enhanced excretion in the bile and/or urine (Xu, 2005).

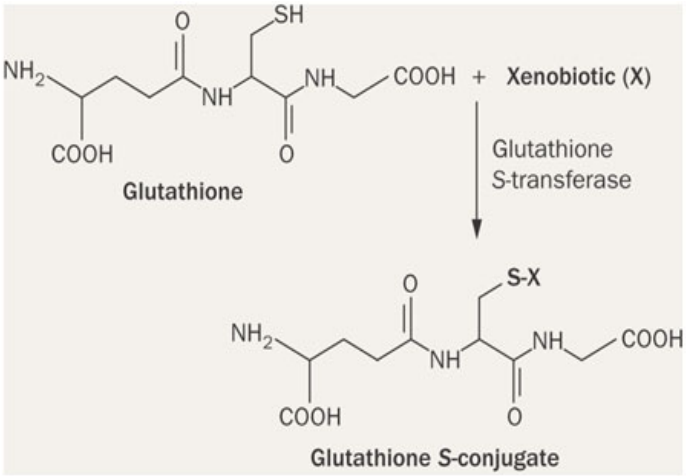
Also, the activation of the Phase II enzymes is responsible for the anti-carcinogenic properties of the metabolic detoxification system. It is widely accepted that Phase II enzymes protect against the chemical carcinogenesis, especially during the initiation phase of cancers (Nakamura et al., 2003).

At the genetic level, the production of most Phase II enzymes is controlled by a protein called nuclear factor erythroid-derived 2 (Nrf2), a main regulator of antioxidant response (Moi et al., 1994; Motohashi & Yamamoto, 2004). Nrf2 regulates the activity of genes involved in the synthesis and activation of important detoxification molecules, including glutathione and superoxide dismutase (SOD). It also plays a vital role in initiating heavy metal detoxification, and the recycling of CoQ10 (Landi et al., 1997; Klaassen & Slitt, 2005).

Eight different major biochemical reactions occur in Phase II. They are known as glutathione conjugation, amino acid conjugation, methylation, sulfation, acetylation, glucuronidation, and sulfoxidation.

Glutathione conjugation

A major Phase II detoxification route is conjugation with glutathione, a tripeptide composed of three amino acids - cysteine, glutamic acid, and glycine (Forma et al., 2009). Attachment of glutathione to metabolites happens with the help of complex enzymes, known as glutathione S-transferases (GSTs).



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This pathway helps to detoxify and eliminate fat soluble toxins, as well as heavy metals (like mercury, cadmium and lead) in the liver, lungs, intestines, and kidneys (Temellini et al., 1993). Exposure to high levels of toxins depletes glutathione faster than when it happens through one's diet. This results in a person's having increased susceptibility to toxin-induced diseases, such as cancer (Balendiran, 2004), especially if the Phase I detoxification system is very active.

Sulfation

The super family of enzymes SULTs is responsible for the transfer of a sulfuryl group that is donated to hydroxyl or amine groups by 3′-phosphoadenosine-5′-phosphosulfate (PAPS), particularly in liver, intestine, adrenal gland, brain, and skin tissues (James & Ambadapadi, 2013). This process is often referred to as sulfation. Decreased function of these enzymes, due to the genetic variability or presence of environmental chemicals, can lead to the decreased effectiveness of the main pathway for the elimination of steroid hormones, thyroid hormones, and neurotransmitters and thus may subsequently contribute to the development of some nervous system disorders (Wang & James, 2006; Kodama & Negishi, 2013).

Glucuronidation

Glucuronidation is a combination of glucuronic acid with toxins produced through any of the several types of enzymes UDP-glucuronosyltransferase, which occurs primarily in the liver (Rowland, Miners & Mackenzie, 2013) and small intestine (Strassburg et al., 2000). Glucuronidation is a major deactivating pathway for pollutants, fatty acid derivatives, retinoids, bile acids and bilirubin. This pathway also helps to detoxify food additives, such as benzoates, aspartame, menthol and preservatives, as well as adrenal hormones. It has been estimated that in a human being, 40-70% of all medications are detoxified through glucuronidation reactions (Wells et al., 2004).

Acetylation

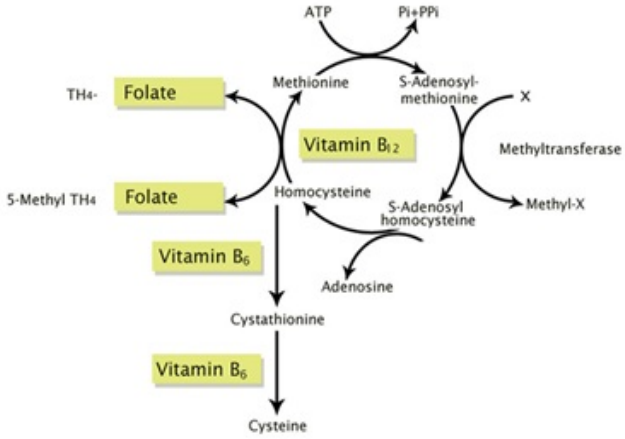
Conjugation of toxins with acetyl Co-A, with the help of the family of enzymes N-Acetyl Transferases (NAT), is the main way by which the body eliminates sulfa drugs and other compounds containing aromatic amines, such as histamine, serotonin, PABA, and P-amino salicylic acid (Jancova, Anzenbacher & Anzenbacherova, 2010). It has been shown that hepatotoxicity during drug treatment (Makarova, 1988) is caused by polymorphisms in genes, leading to slow metabolism (Okumura et al., 1997; Hein, 1988).

Amino acid conjugation

In contrast to acetylation, the combination of toxins with amino acids follows a pathway known as amino acid conjugation. The amino acids commonly involved in this pathway are glycine, taurine and glutamine, as well as arginine and ornithine (Knights, Sykes & Miners, 2007). A low protein diet may possibly decrease a presence of essential amino acids and thus consequently cause a negative impact on this pathway.

Methylation

Methylation refers to the process involved in conjugating methyl groups to toxins. The majority of the methyl groups used for detoxification comes from S-adenosylmethionine (SAM), which is synthesized from the amino acid methionine.



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Methionine is the main methyl donor that detoxifies amines, phenols, thiols, noradrenaline, adrenaline, dopamine, melatonin, L-dopa, histamine, serotonin, pyridine, sulphites and hypochlorites (Kohalmy & Vrzal, 2011).

Sulfoxidation

Sulfoxidation is a process that involves several steps: a conversion of cysteine to cysteinesulfinic acid; then, cysteinesulfinic acid is converted to sulfite; and finally, sulfite is converted to sulfate. With a poorly functioning sulfoxidation detoxification pathway, these steps are the most sensitive to sulfur-containing drugs and foods containing sulfur or sulfite additives. This is especially important for asthmatics, who can react to these additives with life-threatening attacks (Gunnison & Jacobsen, 1987). For asthmatics with an elevated ratio of sulfites to sulfates in their urine, molybdenum could help, due to the fact that sulfite oxidase is dependent on this trace mineral (Wright & Littleton, 1989). A relatively good review regarding sulfoxidation and sulfation is presented by Donohue, M. in *The Detoxification System Part III: Sulfoxidation and Sulfation - Toxipedia*.

4. Balancing of Phase I and Phase II Reactions

The rate at which Phase I produces new reactive intermediate metabolites must be balanced by the rate at which Phase II finishes its processing. Currently, an extensive amount of evidence indicates that maintaining a particular diet can play a critical role in modifying the body's detoxification pathways (Clapper et al., 1997; Nho & Jeffery, 2001; Crowell, 1999; Osawa, 2007). For example, there is a current medical procedure that uses grapefruit juice for transplant patients, because grapefruits contain naringenin, a substance known to slow down the Phase I

enzymes' activity. This gives the drugs that prevent organ rejection an opportunity to stay in the system longer, before being detoxified (Johnston, 1995; Yee et al., 1995).

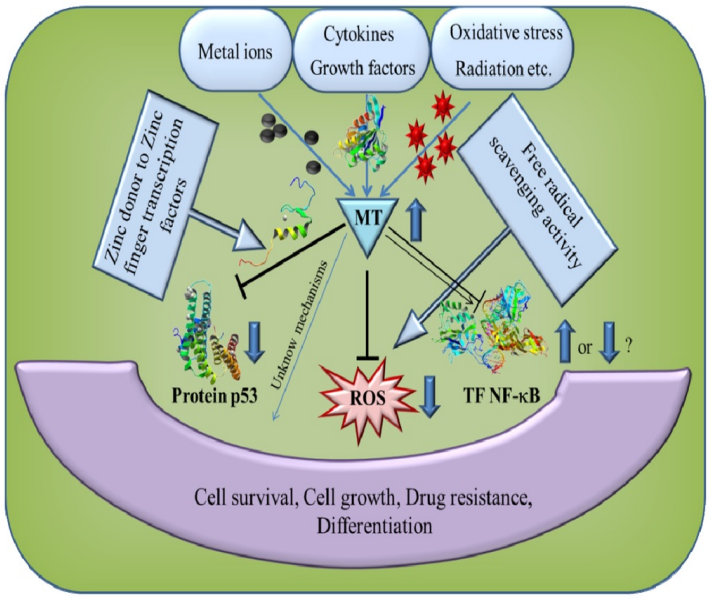
An imbalance between Phase I and Phase II can also take place when a person is exposed to a large amount of toxins and/or exposed to toxins for a long period of time. In these situations, the critical nutrients needed to slow down Phase I and support Phase II detoxification become depleted. Research has shown curcumin, a plant-derived chemical, is able to resolve this problem by slowing down Phase I and speeding up Phase II simultaneously (Osawa, 2007).

5. Phase III

The Phase III transporters are essential to excrete out of the cell the products newly produced by Phase II, because these new water-soluble compounds need specific transporters to move them out (Mizuno et al., 2003). The Phase III transporters belong to a family of proteins named the ABC transporters (Keppler, 2011). They exist in many tissues, such as the liver, intestines, kidneys, and brain (Yang et al., 2010). It is a curious fact there are drug-resistant cancer cells that use Phase III transporters as protection against chemotherapy drugs (Klaassen & Lu, 2008).

6. Metal Detox

Metallothionein (MT) is a cysteine-rich protein with its major physiological functions being: a) to support homeostasis of the essential metals, zinc and copper (Zn and Cu), b) to protect against cytotoxicity of toxic metals like mercury, cadmium, lead, and arsenic, and c) to scavenge free radicals generated by oxidative stress (Andrews, 2000; Lichtlen & Schaffner, 2001; Sato & Kondoh, 2002). Similar to the upregulation of Phase II and antioxidant enzymes, metallothionein can be induced to the specific promoter regions of the genes by particular stimuli, such as heavy metals, oxidative stress and glucocorticoids (Sato & Kondoh, 2002).



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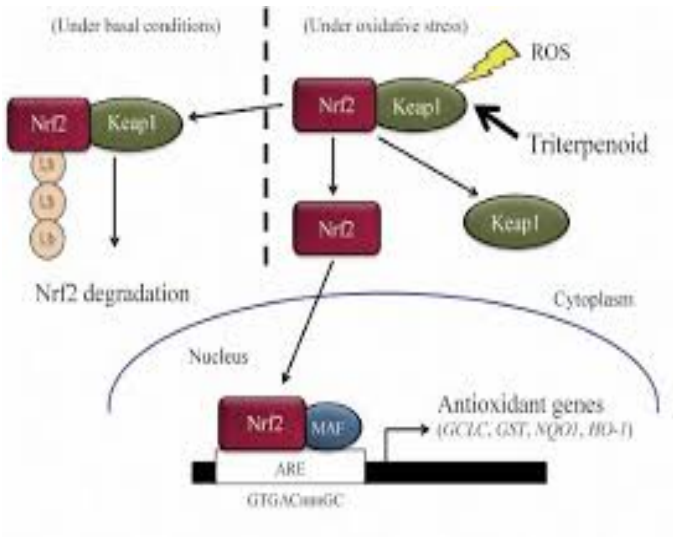
Several studies have suggested that specific supplements, as zinc (Aydemir, Blanchard & Cousins, 2006), quercetin (Weng et al., 2011), cruciferous phytonutrients (Hu et al., 2004)) and *Cordyceps sinensis* (Singh et al., 2013) may deregulate the metallothionein expression.

7. Transcription Factor Nrf2

Transcription Nrf2 is considered by the medical field to be the master regulator of oxidative stress signaling. Increasing evidence has demonstrated the Nrf2 response pathway plays an important role in cellular antioxidant defense by activating a wide variety of genes involved in early defense reactions of the organism (Ma, 2013; Van der Wijst, Brown & Rots, 2014). After its activation, Nrf2 binds to the specific region of the genes encoding various antioxidant molecules, leading to the expression of the antioxidant proteins, thiol molecules and other protective molecules.

There is considerable experimental evidence suggesting Nrf2 is controlled through a complex transcriptional/epigenetic and post-translational network that ensures its activity in response to redox disturbances, inflammation, growth factor stimulation and nutrient/energy fluctuations, orchestrating adaptive responses to diverse forms of stress (Hayes & Dinkova-Kostova, 2014). It is important to note the expression of Nrf2 has been found throughout the human body's tissue, with high expression in detoxification organs, including the liver and kidneys (Tang et al., 2014). It has been demonstrated that naturally occurring triterpenoids affect the Nrf2 pathway and were shown to be protective in the face of various diseases (Loboda et al., 2012; Owusu-Ansah et al., 2015).



Research has also indicated some phytochemicals (sulforaphane, curcumin, epigallocatechin gallate, aka EGCG, sylymarin, resveratrol, *etc.*) can activate Nrf2 signaling (Surh, 2008). Silymarin's ability to upregulate Nrf2 has been investigated in various *in vitro* and *in vivo* model systems. According to Velmurugan et al. (2008), an herbal combination of ashwagandha,

bacopa, green tea, milk thistle and turmeric has exhibited the potency of the Nrf2 activation, inducing both the Nrf2 nuclear localization and the antioxidant enzyme expression.

8. The Vital Force Technology (VFT) Approach

Over the past 15 years of its operation, Vital Force Technology (VFT) has developed a wide variety of outstanding energy patterns that can help you with detoxification system boosting, stress relief, and mental and physical performance enhancements, as well as providing many other benefits.

The technology behind the development of these patterns has been scientifically tested, (Swanson, 2009; Jones & Kronn, 2008; http://vitalforcetechnology.com/research-library/advanced-research), with ample research to indicate that energy patterns created by VFT and generated by its proprietary hardware change the structure of water profoundly. Water structured through the VFT process inherits biological effects *specific to the corresponding energy patterns*, and then transfers it to the body, once the water is consumed (Jones & Kronn, 2008; Levengood & Kronn, 2003).

Years of observation and usage by many holistic medicine practitioners have confirmed that a small amount of VFT's energy-infused minerals added to regular water transfers their structure and biological properties into the solution, thereby creating the potential for countless applications to enhance a person's well-being, not only on the physical level, but also for one's mental clarity and emotional stability.

9. Detox Your Body, Thoughts and Emotions via Energy Tools International (ETI) Formulas*

We, as a society, seem to have reached the point when our brains and bodies are not only bombarded by toxic substances, but we're also surrounded, on a daily basis, by many different potentially stressful events, any of which can alter our level of stress hormones (LeDoux, 2000) and unbalance our neurological pathways (Bandler, Price & Keay, 2000), and thus decrease our body's detoxification possibilities. It has been shown in several studies that psychological or emotional factors may significantly affect a person, revealing the connection between the psyche and neuroendocrine and immune systems (King, 1981; Lazarus & Folkman, 1984; Chrousos & Gold, 1992; Kasi et al., 2012). Medical research has also shown that "positive thinking" and conscious control of one's thoughts can be one of the best ways to detoxify the brain (Liberman, Boehm, Lyubomirsky & Ross, 2009).

Several ETI formulas generated with the help of VFT, such as Detox, Cleansing, Metal Detox, and Mercury Detox, have been created to promote the body's ability to purify itself, support detoxification pathways, and stimulate the elimination of waste products and heavy metals.

ETI formulas also provide you with a method to assist with the "detoxification" of your thoughts and emotions, by energetically supporting the body's natural ability to maintain communication and balance:

- between the left and right hemispheres with Quantum Balance formula;

- between the brain and body with Adaptogen formula, Adrenal Support formula and Balance formula;
- to help develop the experience of mental clarity, calmness, stable mood and a feeling of happiness with Master Brain formula, Oxytocin formula, Hypothalamus Support formula, and/or Stress Relief formula;
- mastering the meditative state with formulas such as Zen, Cosmic Eye, Alchemy of Transformation and others.

Interestingly, research has shown that a fear by itself can trigger many physical and chemical responses, and can alter one's hormonal patterns (Steimer, 2002). Such research illustrates there are actually medical reasons to forgive others; and anecdotal evidence from many practitioners and their clients have indicated this can be aided with the help of ETI's Forgiveness formula.

An information below lists some beneficial effects observed with the application of combined ETI formulas for detoxification purposes. Please note: It is always suggested to start with ½ dosage for the first 2-3 days, as well as to adjust a proportion of the formulation to fit one's individual needs.

1. *Supporting the body's detoxification pathways*

Description:
May help to improve the body's detoxification through energetically supporting functions of the liver, pancreas, kidneys and the lymphatic system
Formulation and Dosage:
Combined dosage of Detox (5 drops), Liver/Pancreas/Spleen (5 drops) and Formula G (5 drops) in 2-4 oz. of water.
Drink this mixture 2-3 times per day, 10-15 minutes after food intake, continue up to two weeks.
Precautions:
This formulation can be very effective as an individual formulation, via a slight tuning of the components' proportion. No precautions or side effects, if used within the recommended dosages.

2. *Addressing stress conditions during the detoxification process*

Description:
This formulation increases the body's detoxification possibilities through energetically improving one's response to stressful conditions.
Formulation and Dosage:
Combined dosage of Detox (5-10 drops) with Meta Stress (5-10 drops) in 2-4 oz. of water.
Drink 2-3 times per day, continue up to two weeks. If severe stress conditions are present, always address stress conditions before starting the detoxification process.
Precautions:
No precautions or side effects, if used within the recommended dosages.

3. *Supporting neuroendocrine functions during the detoxification process*

Description:
May be helpful with fatigue symptoms caused by sustained stressful conditions and thus supporting energy production during the detoxification process.
Formulation and Dosage:
Combined dosage of Detox (10 drops), Adrenal Support (5 drops) and Thyroid (2-3 drops) in 2-4 oz. of water.
Drink 2-3 times per day, up to two weeks.
Precautions:
No precautions or side effects, if used within the recommended dosages.

4. *Supporting GI track during the detoxification process*

Description:
May be helpful with addressing compromised GI functions when accompanied with stressful conditions.
Formulation and Dosage:
Combine Detox (5 drops), GI Aid (5 drops), Meta Stress (5 drops) and Magnesium (2-3 drops) in 2-4 oz. of water.
Drink 2-3 times per day before food intake, up to two weeks
Precautions:
Increase the amount of water up to 4-6 oz. for individuals with GI sensitivity to minerals in the ETI solution.

5. *Supporting metal detox*

Description:
May be helpful to anyone living in toxified environmental conditions
Formulation and Dosage:
Metal Detox (3-5 drops) in 2-4 oz. of water. Drink 4-5 times per day, up to two-three weeks.
Precautions:
Always start with ½ dosage for the first 2-3 days; it is also suggested to improve the GI track conditions and liver detoxification pathways before starting to use this formula. Increase daily intake of fiber and water.

6. *Supporting mercury detox*

Description:
This formula may significantly increase the body's possibilities for mercury detox.
Formulation and Dosage:
Mercury Detox (3-5 drops) in 2-4 oz. of water. Drink 2-3 times per day up to 2-3 weeks.
Precautions:

Always start with ½ dosage for the first 2-3 days; it is also suggested to improve the GI track conditions and liver detoxification pathways before starting to use this formula. Increase daily intake of fiber and water

7. *Supporting emotional detox*

Description:
It can be used as a restorative tonic to decrease the body's shift toward fear-inducing and anxiogenic conditions.
Formulation and Dosage:
Combine Meta Stress (5 drops), Forgiveness (5 drops) and Detox (5 drops) in 2-4 oz. of water. Drink 2-3 times per day or whenever necessary.
Precautions:
No precautions or side effects, if used within the recommended dosages.

8. *Supporting you in case of the electromagnetic environmental pollution as well as "psychological pollution"*

Description:
May support and positively strengthen body's physiological reactions when exposed to the electromagnetic environmental pollution (EMF Transformer, EMF Protection crystals), as well as may significantly decrease impact of the "psychological pollution" (Schumann Resonance Protection crystals, Clean Sweep).
Formulation and Dosage:
Spray your home, your workplace and around your body using Clean Sweep; wear Schumann Resonance Protection and EMF Protection crystals; use EMF Transformer on your cell phone, computer, Wi-Fi devices, smart meters etc.
Use when necessary
Precautions:
No precautions or side effects. Adjust to the individual time of wearing for the Schumann Resonance Protection and EMF Protection crystals.

9. *Supporting your meditation practice*

Description:
See the website description for meditation elixirs, as Zen, Alchemy of Transformation, Cosmic Eye, Deep Insight, Higher Guidance, Success & Achievement.
Formulation and Dosage:
Drink 5-15 drops before meditation or whenever necessary.
Precautions:
No precautions or side effects, if used within the recommended dosages

* Disclaimer: These statements have not been evaluated by the Food and Drug Administration. This text is for educational purposes only and not intended to diagnose, treat, cure, or prevent any disease.

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