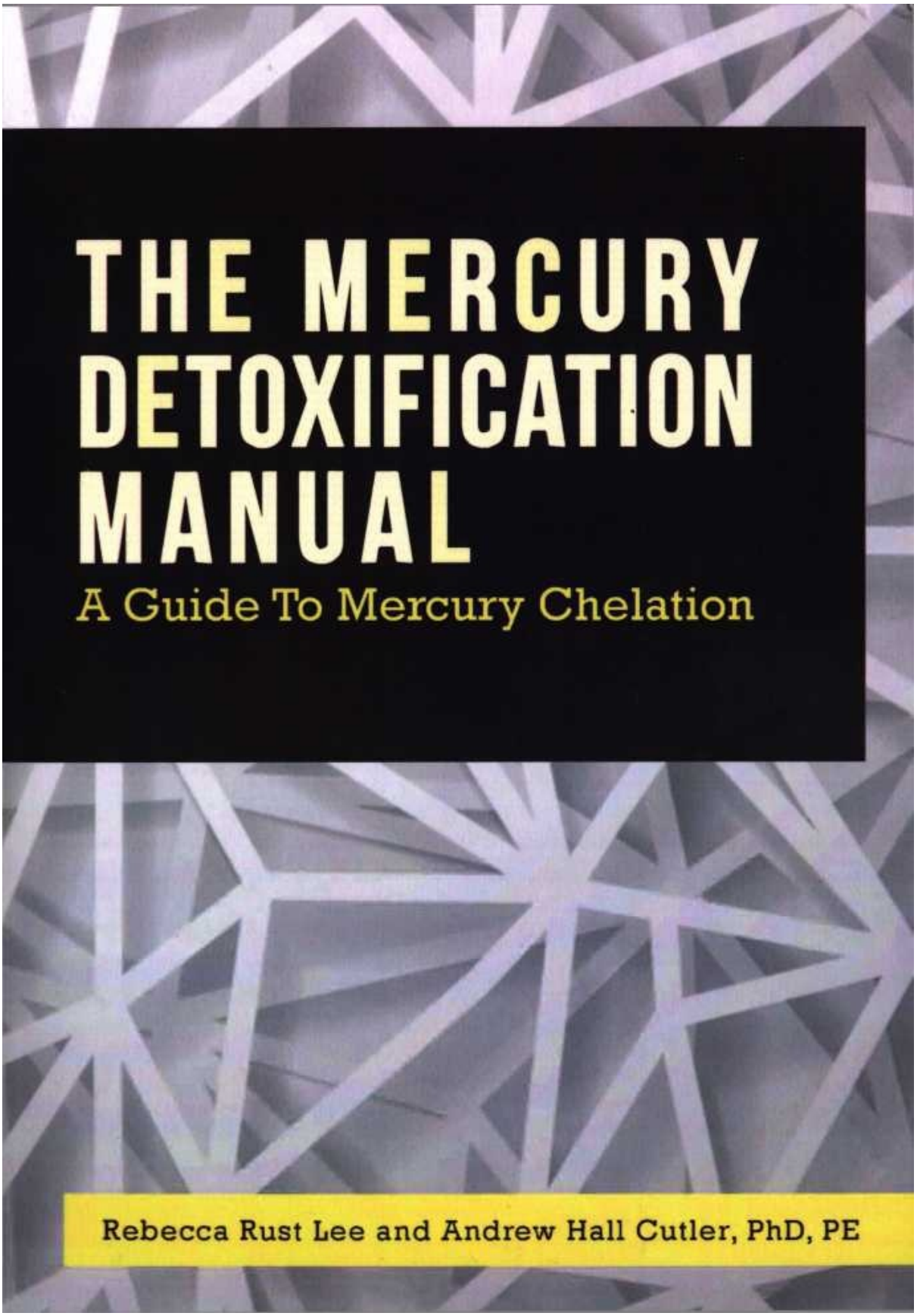
THE MERCURY DETOXIFICATION MANUAL

A Guide To Mercury Chelation


THE MERCURY DETOXIFICATION MANUAL
A Guide To Mercury Chelation
Rebecca Rust Lee and Andrew Hall Cutler, PhD, PE

Back cover

Have you been sick for years?

Have you seen doctor after doctor with no relief?

Or worse, have you been given a diagnosis (like Parkinson's disease, lupus, diabetes or dementia) and told there is no cure? That, at best, your doctor can only treat the symptoms?

Are you finally ready for a healthy body?

The Andy Cutler Chelation (ACC) protocol is the safest known method for removing mercury and other toxins from your body. This book describes how it feels to be mercury poisoned. It will help you decide if you are toxic. It gives a detailed description of how to chelate using the ACC protocol, not only to remove mercury, but also lead, aluminum, arsenic, antimony, cadmium and copper.

You will learn how to take care of yourself while you are becoming healthy:

- **How to identify problems with your thyroid, adrenal glands, digestive system and more**
- **Supplements to relieve symptoms caused by these problems**
- **How your doctor can help you**

Why wait any longer to reclaim the vibrant health you were born with? Let the authors guide you to better health!

Andrew Cutler was a health care consultant in the Seattle area. He had a PhD in chemistry from Princeton and a BS in physics from the University of California. He is the author of Amalgam Illness: Diagnosis and Treatment and Hair Test Interpretation: Finding Hidden Toxicities. Dr. Cutler engaged in extensive self study in biochemistry and medicine due to assorted health problems.

Rebecca Lee was educated at Middlebury College in Vermont and was certified as a health coach from the Institute for Integrative Nutrition. She learned about heavy metal poisoning when trying to figure out her own health issues.

THE MERCURY DETOXIFICATION MANUAL: A GUIDE TO MERCURY CHELATION

Rebecca Rust Lee and Andrew Hall Cutler PhD PE

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[**Editor's Note:** If you have any doubts about the spelling of some word, refer to the original pdf file that is also available.]

DISCLAIMER

This book provides information on a controversial subject — the diagnosis and treatment of mercury and other heavy metal toxicities. The subject is controversial because these toxicities are due to exposures which are often not only non-occupational, but **iatrogenic.**

Our purpose is to inform and educate interested readers. We have been as complete and accurate as we could manage given that this book is short, to the point and simple enough for most people to follow. As a necessary consequence of this simplicity, some of the technical discussion had to be abbreviated and approximated. A more detailed and academic discussion can be found in *Amalgam Illness, Diagnosis and Treatment* and *Hair Test Interpretation, Finding Hidden Toxicities*.[1]

This book is a summary and does not contain all possible information. We cannot guarantee that the actions suggested in this book are safe, helpful or effective for **you.** We do not advocate the use of any particular form of health care nor do we offer a diagnosis or suggested treatment for any specific individual. This book is not a substitute for medical advice or counseling by a licensed health care practitioner. Each persons own particular situation is unique and the advice of a licensed and experienced health care practitioner can be invaluable. We do not wish to discourage you from seeing a licensed health care practitioner, we do wish to provide information so you can understand your rights and make better decisions as a patient.

Parts of this book rely on statistical concepts and analyses. Due to the very nature of statistics, only probabilities can be determined. The probabilities are no better than the data used to calculate them, which is imperfect to start with. Because our data comes from people who are seeking help with chelation, the sampling is unusual and not random.

Because of the statistical nature of this work and imperfections of the available data, which are beyond the control of the authors, exceptions to the rules can reasonably be expected to occur. The authors and publisher can accept no responsibility or legal liability if you turn out to be such an exception. A licensed health care practitioner, seeing you as a patient, has a responsibility to ensure you are not an exception. We encourage you to consult one.

Scientific studies happen in a closed environment and even when done honestly and reported accurately, have limitations and are not conclusive. While some of the material in this book relies on published scientific studies, these studies will not necessarily determine your experience with any particular intervention or substance. There are far too many variables to identify to whom the results will or will not apply.

Clinical experience and ongoing research often change the available information on risks, benefits, contraindications and typical dosing schedules for drugs and nutritional supplements. These issues are often controversial. We assume no liability for suggesting any particular amount, timing, means of administration or reasons why you should or should not take a particular substance.

The legal status of drugs, nutritional supplements, health care and many other issues relevant to this book change frequently. We do not mean to encourage any

unlawful behavior on your part. We cannot possibly check or know the laws in every jurisdiction on earth where this book might be read, now or in the future. Please be sure to comply with local laws. We will not be liable if you follow any instructions in this book that do not comply with the current laws in your jurisdiction.

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Not being sued is important to us, but it is not the sole purpose of this disclaimer! We don’t want the emotional distress caused by someone getting really sick or dying because of how they used this material. Please read the disclaimer and take it to heart. Be careful! Don’t hurt yourself or someone you love. We want you to use this book to get better.

DEDICATION

We would like to dedicate this book to those sick and suffering people, many of them dear friends, who are still so mired in an old and harmful paradigm that they are unable to help themselves. We especially wish to dedicate it to those people who died never having figured out what was wrong.

We remember people from our childhood who in retrospect clearly had mercury poisoning. Nobody was able to tell them what was wrong. Nobody ever helped them. Most of them are dead now, never having had a chance at good health. Many of them mattered to us and we feel sad that they couldn’t take advantage of what we know now and is outlined in this book.

Rebecca Rust Lee Andrew Hall Cutler, PhD PE

I didn't derive my protocol from on high. I looked stuff up and tried it, talked about it on a listserver (the amalgam.de list) and others tried it as well. After getting large numbers of positive and consistent reports I considered it a protocol and wrote a book about it. I would have considered it shockingly irresponsible to advocate it based solely on theoretical reasoning, without many hundreds of people trying it and talking about it with me.

Andy Cutler 1956-2017

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The United Nations Program on the Environment has recently created the Minimata Convention on Mercury on October 10, 2013. One hundred twenty eight countries have signed it and 71 have ratified it. The mines will be closed and mercury banned. Future generations will now be protected from the ravages of mercury. The bureaucrats and diplomats are congratulating themselves on a job well done.

In the meantime, the World Health Organization has got an exemption to the Minimata Convention so they can continue giving mercury-laden vaccines to children all over the Third World. In the First World, doctors are giving their patients more mercury every year in vaccines, dental amalgam, eye and ear drops. Mercurial antiseptics continue to be popular and for sale in most countries.

Still, things look good for future generations, but what about you right now? What if your doctor or dentist didn’t get the message in time and poisoned you right up to the gills with mercury? The Minimata Convention certainly isn’t going to help YOU very much!

Thousands of people have had dramatic recoveries from chronic illnesses like multiple sclerosis, autism, diabetes and many other conditions, using the frequent low dose chelation protocol we spell out in this book. This information has been out there for twenty years. No other method of detoxifying heavy metals works half as well. Yet the bureaucrats keep worrying about their treaties, and the activists about the governments and the doctors tout expensive therapies that don't work and are, at the worst, actually harmful.

If you are sick with any of the hundreds of conditions that mercury causes, it's time for you to use this book and recover your health.

ACKNOWLEDGEMENTS

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Additional help was provided by the administrators and moderators of the Andy Cutler Chelation: Safe Mercury and Heavy Metal Detox (www.facebook.com/groups/acfanatics).

WHY DID ANDY DIE?

Andy died at a young age; he was 60 years old when he passed away from heart disease. You may be worried that the protocol killed him and that it may do the same to you.

The protocol was not the problem.

I'll let Andy speak for himself. This is from an interview in 2013.

Did you personally make a full recovery from mercury poisoning?

Probably not. I have a long and complicated health history even though most of it appears to involve mercury.

It isn't completely clear what problems I can reasonably expect to get rid of and which ones might be permanent, so when I had a lot of improvement (really tremendous improvement) and the opportunity to get on with life.

I got on with life. Unfortunately life turned out to be rather complicated so I didn't chelate more after that.

...If you are chelating yourself, you can make rational trade-off decisions whether you're chelated enough, and you'll remember that the mercury is waiting for you if you decide later that you do need to chelate more.

The reason to chelate is to improve your quality of life. Andy said that if you had responsibilities, like having to work or to take care of someone else, it was reasonable to chelate only until your symptoms were under control. You could always continue chelating later.

Andy followed his own advice. He used his protocol. He did get better. But he chose to stop chelating before he was completely well.

Alpha lipoic acid metabolizes in the body to high thiol compounds. Thiol sensitive people can have worse side effects while on a chelation round than others. Andy was so sensitive to thiols that he was unable to concentrate while taking ALA. This meant he could not do the research necessary to continue helping people. He made a choice to chelate only until his food sensitivities, allergies and other symptoms were tolerable. He chose to continue helping you with your health problems. He planned to continue chelation at a later time.

Unfortunately, he ran out of time before he could start chelating again. So, if anything hastened his death, it was not chelating enough. Please do not let his early demise keep you from chelating. Chelation had nothing to do with his passing.

Joann Loos November 1, 2018

INTRODUCTION

This book explains frequent low dose chelation, a method that is often called "the Andy Cutler Protocol" or "Andy Cutler Chelation" (ACC). It is a users guide for how to get mercury out of your body. The Cutler protocol also works for other metals.

Few people understand how easy it is to get exposed to mercury. They think they can't have mercury poisoning if they can't remember being exposed. This is the same as the doctors who think you can't have be toxic if you didn't work with mercury in a factory or laboratory. It really doesn't matter how the mercury got into your system. What matters is how to get it out.

If you have this book in your hand you probably already know that mercury poisoning is a real issue—we are not going to waste too much time "proving" that. If you want more detailed information about mercury poisoning, you can read *Amalgam Illness* or *Hair Test Interpretation.*

Although the principles of frequent low dose oral chelation are the same for adults and children, specific instructions on how to chelate children appropriately can be found in the book *Fight Autism and Win* (second edition) by Jan Martin and Tressie Taylor.[3]

Many people who have mercury poisoning have to start with expensive and unpleasant dental work before they can chelate. It is reasonable for them to want to be certain that mercury is really their problem before they proceed. To this end we have included a section on testing, another that will help you decide whether you have been exposed to mercury and a third that describes how it feels to be mercury toxic. We hope this material will help you decide that yes, you really do have mercury poisoning, and motivate you to chelate. Don't procrastinate and keep getting sicker. (Ironically, procrastination and indecision are common symptoms of mercury poisoning!)

If mercury poisoning is making you sick, there are nutritional supplements that you can take right now which will make you feel better. This information is important and is discussed in more than one place. Below we list the basic four —two vitamins and two minerals. These supplements should be taken continuously, while you are chelating (on round) and also on the days you are not chelating (off round). Go out and buy them! Start taking them right now!

The basic supplements to take—the “core” or “essential four”and a few others

The supplements listed below will make you feel better in a few days. **Most of the supplements should be taken three, or even better, four times per day, continuously.**

We often refer to these supplements as “the core four” or “the essential four.” They particularly counteract the bad things mercury does to your body and are inexpensive and easily available. Chemically sensitive or very allergic people, however, may need to try various brands and varieties before finding one that suits them. Most vitamin C, for example, is made from corn syrup. If you can’t tolerate corn you can also find it made from beet sugars, sago palm, tapioca or potatoes. Vitamin E is usually made from soy. If you are reactive to soy you could try a vitamin E derived from sunflower or try **tocotrienols** instead.

We are also including a second list of supplements that many people will find helpful.

If any of these supplements disagree with you, don’t take them. The supplements are supposed to make you feel better, not worse.

The core four essential supplements	
SUPPLEMENT	**HOW MUCH AND HOW OFTEN**
magnesium e.g. citrate, glycinate, malate*	**100 to 200 mg, three or four times a day (with meals and at bedtime)**
vitamin C, buffered	**1 to 2 grams, three or four times a day (with meals and at bedtime). You can also take 250-500 mg with each chelator dose**

vitamin E (natural or d-form)	**1,000 IU per day**
zinc	**50 mg one a day with a meal**
*** Do not use oxide, hydroxide or carbonate because they are poorly absorbed. Other forms are fine.**	
Vitamin C is an acid. If you take the ascorbic acid form it may give you heartburn. Buffering prevents this.	

Other basic supplements you may need

SUPPLEMENT	HOW MUCH AND HOW OFTEN	WHY
adrenal cortex*	**50 to 250 mg, three or four times a day**	**details in section 8.3.2**
phosphatidylcholine (lecithin)	**1 to 2 gr with meals and at bedtime**	**details in section 8.7.2 (liver), 8.10.2 (concentration and mood) and 8.11.2 (depression)**
omega 3 oil: fish or flax	**up to three tbsp (about 45 ml) flax oil or one tbsp (about 15 ml) fish oil daily**	**details in section 8.10.2 (concentration and mood) and 8.11.2 (depression)**

vitamin A	**25,000 IU per day**	**increases immunity**
*** Be careful to get “adrenal cortex” and not a whole adrenal product that contains both the adrenal cortex and the adrenal medulla.**		

A note on margin graphics

We’ve use a few graphics to help you read this book:

is used to identify sections describing what NOT to do.

A note on glossary words

Words that are defined in the glossary are in a separate font.

A note on gender

The authors will be using he/him to identify a singular person. Please note that this does not identify a man, but is used as shorthand to replace he or she/him or her. Otherwise the text becomes difficult to read.

1 WHERE AND HOW PEOPLE GET TOXIC

1.1 Why mercury is so dangerous

Mercury is one of the most poisonous substances known to man. Extremely small exposures are enough to ruin your health for your entire life. Yet, since it is tremendously useful technologically, it can be found in all kinds of products and devices. It is beautiful and fun to play with and has even been made into toys. Andy remembers having a little ball of mercury to play with when he was six or seven. He has no idea what became of it.

Figure 1.1. A mercury puzzle

This is a maze with mercury under a transparent cover. Now it would contain a steel ball.

Mercury evaporates readily. It is easy to get exposed and become severely toxic without the source of the exposure being discovered. While it is easy to get poisoned by mercury, it does not come out of your body easily. It builds up over time. An exposure you experienced fifty years ago can still be causing you trouble today.

Some people are clearly more susceptible to getting toxic that others. This susceptibility runs in families. It explains why one person will become sick from mercury while another (with the same exposure) will be healthy. Factors other than genetics also affect susceptibility. A primary factor is liver disease. Those who have or have had hepatitis will accumulate mercury up to four times faster than their unaffected twin.

You may not get sick gradually. It is common for peoples bodies to be able to handle mercury until a certain amount is accumulated. This amount will be different for each person. Finally, you accumulate enough mercury to change your biochemistry which causes your body to stop working properly.

1.2 How you might have become poisoned

Although dentistry and medicine are the most common sources of exposure, it is

possible to have never had a mercury filling or a mercury-preserved vaccine in your life and still be toxic. Plenty of people have been poisoned without ever figuring out how it happened.

Some possible exposures would be easy to miss. Do you know if a former tenant spilled a lot of mercury in the apartment where you live? What about your second-hand car? Perhaps the previous owner filled up the trunk with old mercury thermometers and tilt switches to take to the dump and a lot of them broke. Or perhaps someone spilled a quart of mercury in a lab where you studied or worked and it has been evaporating from the cracks in the floorboards for the past thirty years.

Below are some documented ways people have been exposed:

• **amalgam or "silver" dental fillings**—These are the biggest source of mercury exposure in the general population. Amalgam fillings are 50% mercury by weight. Mercury evaporates from these fillings and the vapor goes on to accumulate in the brain and organs.

Just as some people's bodies are more sensitive to mercury, some peoples fillings give off more mercury vapor than others. Most peoples fillings emit modest amounts of mercury and those people only get poisoned if they are very sensitive. Other peoples fillings emit very high levels of mercury. They will get poisoned no matter what.

• **vaccines and injections**—In the past the pediatric vaccine schedule exposed children to much more mercury than is recommended as safe by the **EPA.** The mercury preservative **thimerosal** was supposedly removed from pediatric vaccines in 2003, but actually a deadline to stop manufacturing was only established for several years later. Even after this deadline, old stock on the shelf was sold up to its expiration date.

Although mercury was supposedly removed from the pediatric schedule, both children and adults still get plenty of exposure from vaccines. The multiple dose vials for the flu vaccine, that is irresponsibly given to children and pregnant women, contains mercury. Vaccines that are shipped abroad to the Third World still contain it. Until recently, most allergy shots contained mercury.

Finally, adult vaccines (for children eight and older) still contain mercury and are much cheaper than pediatric vaccines. Since doctors are told that mercury

containing vaccines are perfectly safe, many pediatricians use them on children to save money.

• **fish**—Fish concentrate mercury from the environment. People who eat a diet rich in large fish at the top of the food chain, such as tuna or swordfish, can become toxic. This can be as simple as eating a lot of canned tuna. Freshwater fish from small, highly contaminated waterways may be particularly dangerous. These fish, which are generally caught for sport, sometimes have vastly elevated mercury levels and there is currently no organized monitoring program to keep the public from eating them. (Fish, unlike mammals and birds, protect themselves with enzymes that **methylate** the mercury. That is why fish that are full of mercury are not sick themselves.)

• **mercury in the environment from mining**—Mercury was used in the mining of gold and silver at the time of the Gold Rush in the United States. It is still used in some Third World countries today. Liquid mercury was mixed with some crushed ore, shaken out and put in a pot on the campfire to boil away and leave a bit of gold or silver behind. Cinnabar, or mercury ore, was also refined by heating on a fire. The mercury would evaporate and a portion would be condensed. Old mining sites are still heavily contaminated and are, unfortunately, fascinating to children.

mercury in agriculture—Red mercuric oxide and later organic mercury compounds were used as fungicides to preserve seed grains. This caused several instances of mass poisonings, with many fatalities. The largest and most notorious instance happened in Iraq in 1971-1972 from seed grain donated by the United States. The farmers who received the grain didn't understand the warning labels and used the grain for baking bread.

Manometers, which are used to measure pressure in the milking machines on dairy farms, are another example of mercury used in agriculture. They used to contain a full pound of mercury, which was exposed to the air. They were thought to have been mostly phased out by digital models but there were no records kept of what happened to the old ones, or indeed if any mercury manometers are still in use.

• **broken mercury-containing devices**—Mercury is often used in devices to float components so they stay level and isolated from vibration. Many light switches contain mercury. If you have a light switch which doesn't click when

you flip it, there is mercury inside. Many batteries contain mercury, one example being the batteries in little children's light-up shoes. Smart phones and tablets may contain it. Thermometers, compact fluorescent light bulbs or fluorescent tubes, tilt switches from automobiles, thermostats, **manometers,** and **barometers** all contain mercury. It can be found in all kinds of engine repair shops, in gauges for ships' **ballasts,** or in any application where pressure differences due to airflow must be measured. It is frequently forced past gauge seals and splashed all over the place when someone turns the wrong dial.

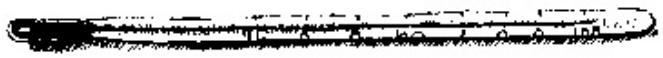

Figure 1.2. A mercury-containing thermometer *These thermometers are easily identified by the silver colored material in the bulb (at the left end) and in the column lined with numbers. Thermometers with other colored material are safe.*

- **medical products**—Mercury was used historically as medication, and can still be found in some eye drops, nose drops, ear drops and other products. Examples are mercurochrome, merthiolate, Neo-Synephrine nose drops, and contact lens cleaning and soaking solutions made before 1990s. (Some companies are selling mercury-free versions of mercurochrome and merthiolate. They contain other antiseptics.) Yellow mercuric oxide ointment was used for eyelid problems until 2013. Red mercuric oxide was used for psoriasis. Calomel —mercurous chloride —as a laxative. Mercury is still used in some Traditional Chinese, Ayurvedic and homeopathic preparations.

- **spills**—Liquid mercury, once dispersed, is hard to find. It seeps between floorboards and accumulates under carpet, continuing to evaporate for years. Dental practices were often responsible for spilling gallons of mercury, which ended up in the building, floor and soil around the building. It is still there decades later. Before there were any safety concerns, factories that made mercury-containing devices could be closed without doing any environmental cleanup. Large quantities of free liquid mercury might remain in what later could be converted in to an apartment building, nursing home or childrens daycare.

Old chemistry labs where spills happened even decades ago can still be a source of exposure. This also applies to buildings where a child played with mercury or the previous tenant broke a thermometer and didn't clean it up properly. The

same goes for buildings where people repackaged mercury, recovered silver from dental amalgams, did amateur science experiments or homes where the previous tenant used mercury in religious rites.

- **certain antiques**—The CDC warns the public about the following antique items that might contain mercury: thermometers, barometers, pendulum clocks, electrical switches, blood pressure gauges, thermostats, silvered mirrors and silvered vases. Objects made from carved cinnabar, or mercury ore, can still be found for sale in antique stores or in private collections.

- **cosmetics**—Mercury is used as a preservative in cosmetics (for example, mascara at 65ppm), and as an active ingredient in certain skin lightening creams. Mercury interferes with the skin's ability to produce melanin which is why it is used in these skin creams. Skin lightening creams are a business worth several billion dollars a year. These mercury-containing creams are still sold in various jurisdictions where they are legally banned.

Figure 1.3. A jar of skin lightening cream containing mercury *This is ajar of mercury-containing skin-lightening cream that was poisoning a person Andy was helping. It was bought in 2012 in a major first world city and is believed to be widely available in countries where mercury is banned as well as where it is legal.*

- **paint**—Phenylmercuric acetate was used as a preservative in paint until 1991. It could be found in interior latex paint in amounts up to or equal to 300 ppm and exterior latex paint up to or equal to 2,000 ppm. The manufacturers were not required to list this on the label.

It is estimated that 227 metric tons per year of mercury compounds was used in paints from the mid 1960s until 1991. One ounce bottles of phenylmercuric acetate were sold to the public to mix in paint. Andy remembers seeing one of these bottles in his mother's garage in 2000. He has no idea what became of it.

Mercury was used as a preservative in the flooring of some school gyms. Some state agencies issue health warning and exposure guidelines.[4]

It can be hard to recognize mercury in ingredient lists. To assist you, Table 1.1 includes some other names for mercury.

Table 1.1	
Other names for mercury	
amide chloride of mercury	**mercuric chloride**
ammoniated mercury	**mercuric iodide**
blue mass	**mercurochrome**
blue pill	**Mercurophen**
Calomel (mercurous chloride)	**mercurous chloride**
Calomelol	**mercury iodide**
Cerosan	**Mersalyl**
cinnabar (mercury sulfide)	**merthiolate**
ethylmercuric chloride	**phenylmercuric acetate**

ethylmercury thiosalicylate	**phenylmercuric nitrate**
Granosan	**quicksilver**
Hg	**red mercuric oxide**
hydrargyri oxydum rubrum (red mercuric oxide)	**sindoor**
merbromin	**thimerosal**
mercadium Lithopone red	**thiomersal**
mercadium Red (cadmium mercury red)	**vermillion**
mercumatilin sodium	**yellow mercuric oxide**
mercufenol chloride	**“Poison”**

Directions to avoid contact with silver, gold, rubber, aluminum and jewelry may also indicate the presence of mercury.

1.3 Why your doctor might miss what is wrong

Doctors have to remember and be able to identify thousands of different diseases, but they are not trained to recognize chronic mercury poisoning. Andy had personal experience with this. His doctor remembered what he was taught about mercury symptoms in school but missed Andy’s diagnosis.

Andy’s health began to decline in 1992 after the placement of two amalgam

fillings that extended below the gum-line. He went to his doctor many times, first for allergies, then for other complaints. The doctor, who was a smart man with an undergraduate degree in Biochemistry, became concerned when he saw blood in a urine test. He asked Andy if he worked with mercury. When Andy said no, the doctor dropped the subject and went on to investigate other possible causes. Eventually blood cells stopped showing up in Andy's urine so both he and the doctor forgot about it.

If the doctor had thought to ask about recent dental work and tested Andy for mercury, it could have saved years of grief! Andy would have continued on as an engineering consultant and never have had to figure out how to detoxify. He never would have written about mercury poisoning. But the doctor, though smart and well-educated, didn't realize that what he had learned in medical school about mercury was insufficient. He didn't realize he should have checked for mercury even though Andy didn't work with it.

Rebecca was exposed to mercury through the many travel vaccines she got as the child of a Foreign Service officer, plus an enormous amount of dental work because of weak teeth. She also got a big exposure in 1986, when she returned home from abroad. A dentist drilled out eight amalgam fillings and replaced them with brand new amalgam. Although in retrospect, she thinks she had many mercurial symptoms since childhood, this episode sent her into a period of weeping day and night and after that a life plagued with anxiety, depression and fatigue. Her case was confusing because she, had Hepatitis C. Hepatitis causes a person to accumulate mercury more quickly, and it also causes fatigue.

In 2015, Rebecca took the new Hepatitis C cure, which eliminated the virus. Afterwards, she was so fatigued, she could barely get out of bed even though her virus titers were at zero and her liver enzymes within range for the first time in decades. The doctor, in Rebeccas case, was also a very smart person. Her reply to, "How come I still feel so horrible?" was, "I don't know why you feel so horrible, but I am delighted!" It took months of chelation and adrenal support for Rebecca to start feeling well again. Now, with no virus, and no mercury either, she has recovered her health.

2 WHAT MERCURY POISONING LOOKS LIKE

Cyanide and carbon monoxide block the hemoglobins ability to carry oxygen. Ozone destroys the lining of your lungs. Hexavalent chromium oxidizes your

DNA. All the plastics and plasticizers in the environment are estrogen mimics and **agonize** or **antagonize** one of a handful of estrogen receptors in your body. But mercury is different from ordinary poisons. It doesn't just harm you in one way. Mercury interferes with a vast number of fundamental metabolic processes. It causes **hundreds** of different symptoms and any individual may experience some or a great many of these at any time.

A 2017 journal article about mercury poisoning states: "the resulting clinical picture can be differently associated to over 250 symptoms, involving the **neurological, renal, respiratory, cardiovascular, hepatic,** reproductive, and immune systems, with **fetotoxicity** and **genotoxicity** in humans."[1]

If you have mercury poisoning you will experience a constellation of different symptoms depending on your own individual biochemistry. Which symptoms show up will depend on how susceptible you are, where the poison wound up in your body and how much of it you have. The illness is progressive and the symptoms may come and go, or change.

[1] Virginia Andreoli and Francesca Sprovieri, "Genetic Aspects of Susceptibility to Mercury Toxicity: An Overview". *Int J. Environ Res. Public Health* **2017, 14 ,93; doi: 10.3390/ijerphl4010093**

It may take years or decades for the symptoms to develop into a case of frank mercury poisoning.

With most other poisons, you will be treated and you will either recover or die. With chronic mercury poisoning, oddly, you will probably not die right away. Instead, you will probably live a long and miserable life of chronic illness, missed opportunities, unsatisfactory relationships and financial difficulties.

Doctors are trained to be aware of the symptoms of **acute** mercury poisoning (such as you would receive from an industrial accident) but they rarely diagnose chronic mercury poisoning. Chronic poisoning is a slow and cumulative exposure, as from the mercury evaporating from amalgam fillings, a predilection for tuna fish salad sandwiches and sushi, and a yearly flu vaccination to top off the dose.

The **US Food and Drug Administration (FDA)** website says chronic mercury poisoning causes signs and symptoms such as:

- irritability
- shyness
- **tremors ,**
- changes in vision or hearing
- memory problems
- depression
- numbness and tingling in the hands, feet or around the mouth

The only problem is that they have no recommendations for when and how to check for this chronic poisoning. Did you ever hear of a doctor checking a depressed person, or a shy person, or a person with a tremor for mercury? Even if you have an obvious case of mercury poisoning, you may well have to figure it out for yourself.

2.1 Psychological symptoms

Mercury poisoning also causes psychological problems and personality changes which has been understood and written about for centuries. The most famous studies observed workers in the hat making industry at the turn of the eighteenth and again at the end of the nineteenth century. This profession made people mentally ill, or “mad as a hatter,” for a couple of hundred years, yet nobody checks mentally ill people for mercury anymore.

The hatters got small, chronic exposures from the mercury salts used in the manufacture of felt. They were reported to have reddish complexions, to often blush and to be timid and full of vague fears. They would grow inappropriately irritated and often lose their jobs because they couldn’t take orders. Their symptoms ranged from melancholia to “manic-depressive insanity” and suicidal tendencies. They suffered from insomnia and bad dreams. A syndrome was identified and given the label **“erethism mercurialis.”**

Nowadays, these symptoms would be diagnosed as a mental disorder and the sufferer sent for psychiatric care.

Mercury poisoning produces personalities that may at first glance seem more eccentric than actually toxic. Take a look at your neighbor's 38-year-old son who lives in her basement and can't keep a job. Why can't he function in society even though he has an advanced degree? How come he spends all his time playing video games and researching conspiracy theories and his medical symptoms? Or what about your wildly eccentric mother-in-law with the terrible tremor? She is half crippled with anxiety and has been dithering around with one crackpot scheme or another for her whole life. There they are, poisoned people, out in plain sight, but nobody thinks anything of it. They are passed off as a bunch of peculiar or eccentric types—obsessives, who can be boring, pedantic and repetitive. There they go again, droning on about their fixations!

As the poisoned person becomes more toxic, the disease progresses and psychological symptoms may develop into an outright mental illness such as **bipolar disorder, schizophrenia, anxiety disorder** or **obsessive-compulsive disorder (OCD).** Many toxic people have been on anti-depressants or anti-anxiety medication at some point in their lives. Some of them wind up on anti-psychotic or mood stabilizing medications.

Others need these medications but refuse to take them. Perhaps they self-medicate with alcohol or drugs. Or perhaps the toxicity has made them angry and emotionally volatile. Their increasingly short temper has driven away their friends and family.

2.2 Neurological symptoms

Some peoples brains manifest neurological problems instead of, or as well as, psychiatric problems. They may develop **Parkinson's disease, amyotrophic lateral sclerosis (ALS), multiple sclerosis (MS),** tremors, **neuropathy,** seizures, poor memory or impaired thinking. As they age, they may descend into **Alzheimer's disease.** Or they may, like half of all neurology patients, never get any diagnosis at all although their symptoms vary from miserable to disabling. As one woman's neurologist told her, "The good news is you don't have MS, ALS or Parkinson's Disease. The bad news is we don't know what you have."

A classic mercury symptom is an **intention tremor.** This is a tremor that shows up when the person is attempting a deliberate and visually guided movement. Their hands shake when they pick up a fork or glass. Their handwriting becomes more and more difficult to read. Typing becomes difficult. It becomes hard to

dial the phone without mistakes. There can be a tremor in the lips that leads to unclear diction. Over the course of the disease, these tremors can develop into a full body tremor.

The list of psychological and neurological symptoms is long. **Brain fog** develops. This is an inability to concentrate which feels like a hangover without the pain. Short-term memory is lost. The person may come into a room and stand perplexed having forgotten their reason for being there. They may not be able to find their car in the parking lot without standing and thinking for a minute. They may ask their spouse something they asked five minutes ago and think they are just having a “senior moment.”

Mercury can cause attention deficit where, for instance, organizing a pile of papers becomes terribly perplexing. Simple things like balancing checkbooks or making routine telephone calls become dreaded tasks. Academic work, which used to be easy, becomes difficult. The person has to read paragraphs over and over as their mind wanders, or they forget the beginning by the time they get to the end.

A toxic person’s days seem a whole lot shorter than other people’s. Much time is spent being tired, unfocused and disorganized. Time and energy is lost looking for misplaced objects. Tasks are repeated or picked up again after they have been dropped and forgotten in mid-stream.

2.3 Physical symptoms

Mercury also causes a full measure of physical symptoms. Fatigue is universal. Some people have such crushing fatigue that they are bed-ridden and can no longer function. They also frequently have aches and pains that may be severe enough to be diagnosed as **fibromyalgia.**

Toxic people lose control of their **circadian rhythm.** They have a hard time getting up in the morning and a hard time going to sleep at night. They may develop insomnia. They never feel refreshed or rested. They may wake up every few hours all night. Sometimes they wake up with a start at three in the morning and can’t go back to sleep. They may fall asleep during the day at inappropriate times.

Their vision, hearing or sense of smell may be affected. There can be alterations

in color perception. The person finds it difficult to focus on distant objects. While reading, the words seem to swim around on the page and they lose their place. They have to run a finger under the lines when they read large blocks of text. Loud noises make them jump. Their sense of smell diminishes or disappears.

Toxic people's intestinal flora gets out of balance. They suffer from **dysbiosis** and yeast overgrowth, **leaky gut** and indigestion. They have food sensitivities and food allergies. They may develop **multiple chemical sensitivity (MCS)** where they can't walk down a detergent aisle in the supermarket without fainting because of the smells. They often try one diet or another, or one cleanse after another to fix these issues.

Mercury is diuretic. It directly poisons the kidneys as well as those areas of the brain that control how the kidneys work. Toxic people wake up all night to urinate. They produce more urine than normal and it is light colored. If they do not drink they continue to urinate and become very thirsty and dehydrated. Women may think they have a urinary tract infection but the **urinalysis** is negative. At some point their doctor might suspect diabetes.

Their **metabolism** gets disrupted and their internal thermostat stops working properly. Mercury victims often feel either too hot or too cold, or they go back and forth between the two. Many complain that they have stopped being able to sweat, others that they sweat too much.

Mercury scrambles the brain's delicate hormone-regulating systems and directly poisons the hormone-producing glands. The **thyroid** stops working properly. The **adrenal glands** are affected as well. People find themselves dragging around without energy, relying on stimulants like coffee and sugar to make it through the day. Their temperature is low, their blood pressure is low (or conversely too high) and many gain weight no matter how disciplined they try to be. Healthy libido becomes a thing of the past. Women may have painful menstruation. Men may suffer from low testosterone.

Mercury interferes with the immune system. Toxic people have a perennial problem with yeast overgrowth, viruses, bacterial infections and parasites because those aspects of the immune system that control these things have been compromised. In the worst-case scenario, the immune system starts attacking the body itself, causing **autoimmune diseases** like **multiple sclerosis** or **lupus**.[5]

Groups of symptoms wind up being mislabeled as some disease or other: lupus, or multiple sclerosis, or **irritable bowel syndrome** or just **chronic fatigue syndrome.** The “diagnosis” confers a name but nobody knows what causes it. It is **‘idiopathic,’** and by the way, there is no cure. There are only drugs to control symptoms.

Thus, a lady who Rebecca knew personally, started off with loss of feeling in her feet, which the doctors diagnosed as peripheral **neuropathy,** then loss of balance which they decided to call **multiple sclerosis.** She wound up in a wheelchair and eventually was confined to a bed and moved around with a **Hoyer lift.** She was put on **Methotrexate,** and a host of other drugs with horrible side effects. Her care was expensively managed by a team of doctors during her long and miserable decline into death.

There are many diseases of unknown origin that can “just be mercury”. These include multiple sclerosis, Alzheimer’s disease, amyotrophic lateral sclerosis, Parkinsons disease and many more. If you have a chronic disease for which nobody knows the cause, look closely at the possibility of mercury poisoning. Mercury poisoning is curable, whereas these chronic diseases rarely are. Don’t condemn yourself to taking expensive drugs with terrible side effects while you suffer and die. Chelate instead and get better!

You may very well have mercury poisoning if any of the following are true:

- you have been told by a doctor to see a therapist when you were obviously physically ill

- you have a medical file more than an inch thick

- you have a cupboard bursting with supplements and medicines

- you have consulted multiple doctors and other practitioners without much progress

- you have tried all kinds of different diets and cleanses

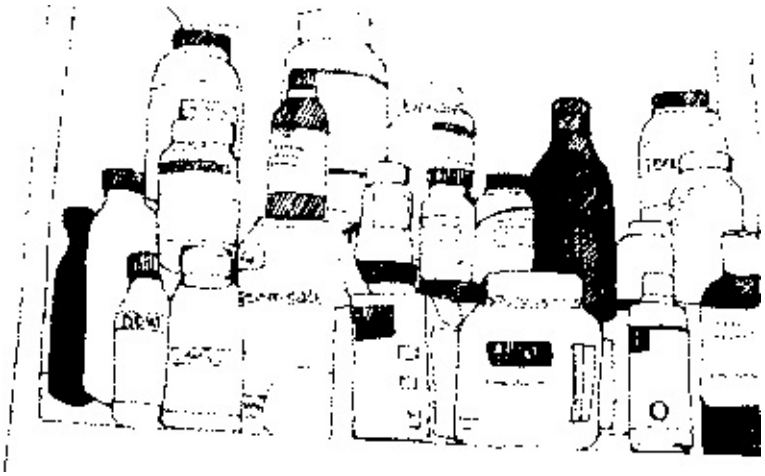

Figure 2.1 Typical cupboard

Do you have a cupboard that looks like this in your house? You could be a self-indulgent, crazy hypochondriac. Or you could be mercury poisoned.

Reading this book may well be diagnostic. If you didn't have mercury poisoning, doctors would have fixed you up by now and this book would not hold your interest.

So, if you have read this description and recognized yourself, you probably have chronic mercury poisoning. Many people do. We wrote this book so you can get better. Don't spend the rest of your life feeling sick. The cure for mercury poisoning is appropriate chelation. Chelating takes a long time and is tedious—but it is worth it to reclaim your birthright: good health and a happy disposition.

This discussion has touched on **some** of the symptoms and problems caused by mercury. There are more. You can read about them in *Amalgam. Illness* or *Hair Test Interpretation.* You can also read about them online at www.noamalgam.com/ai.html by clicking on the link, "What mercury poisoning does to you."

You get mercury...

↓

maybe from your doctor

maybe from your dentist

maybe from your dinner

maybe from the air

maybe it makes you not able to pay attention

maybe it makes you not able to remember things

maybe it makes your brain go on strike

maybe it makes you go cross-eyed

maybe it makes you itch all over

maybe it makes you depressed

maybe it makes you not sleep

maybe it makes you anxious

maybe it makes you tired

maybe it makes you allergic

maybe it makes you crazy

maybe it makes you confused

maybe it makes you pee too much

maybe it makes you easy to sunburn

maybe it makes your stomach act up

maybe it makes your thyroid go on strike

maybe it makes you adrenal glands go on strike

maybe it makes you unable to walk and keep your

balance

No maybe about it, mercury makes you miserable!

1

Available at www.noamalgam.com.

2

For example, see www.dmpsbackfire.com, or cutlersuccessstories.weebly.com/what-not-to-do.html.

3

Available at www.FightAutismAndWin.com

4

www.health.state.mn.us/divs/eh/hazardous/topics/mercury/hgflooringprofguide.html

5

Autoimmune diseases are paradoxically more common in people with an immune deficiency.

3 OTHER TOXIC METALS

You can get poisoned from other metals, too. Sometimes people have lead, occasionally they have other metals, but most often they just have mercury.

People will often get confused by a laboratory test or what a doctor has told them and believe they have a mixed metal intoxication. With the exception of lead, this is seldom true. However, once a person has accumulated enough mercury, their body's detoxification systems will stop working properly so other toxic elements may accumulate.

The most common toxic elements other than mercury are aluminum, arsenic, antimony, copper, cadmium and lead. These toxicities can have many features in common and, as with mercury, symptoms vary from person to person. The poisons are synergistic, so a mixed-metal intoxication will make a person exponentially sicker than mercury on its own. Each metal adds its own signature symptoms to the situation, but the most common picture is simply one of mercury poisoning.

Non-specific symptoms typical of heavy metal problems are:

- headaches
- fatigue
- restlessness
- insomnia
- drowsiness
- vertigo
- listlessness
- malaise
- abdominal pain

- body aches
- cognitive decline

3.1 Aluminum

Many parents get distressed to see high aluminum levels on a child's hair test. They worry that they are seeing aluminum buildup from vaccines, Actually, it is a sign that mercury is causing the body to retain aluminum. When the mercury load is brought down with chelation, the aluminum will decrease on its own.

Aluminum build-up may:

- cause confusion and poor mental focus
- cause problems with the heart muscle (cardiomyopathy)
- be a factor in Alzheimer's disease and other dementias
- be a trigger for sarcoidosis

Aluminum retention can be stopped by excluding it from the diet. You can do this by avoiding baked products that use aluminum containing baking powder and staying away from processed cheeses. You should also avoid uncoated aluminum cooking pots and aluminum containing antiperspirants. The real issue, however, is mercury-induced retention. The solution is mercury detox.

We do not believe that aluminum is behind the epidemic of brain damage that children are experiencing these days. No matter what aluminum level they have, these children improve when they are chelated for mercury.

3.2 Antimony

Antimony is another heavy metal that often accumulates in the presence of mercury. When manufacturers removed lead from paint and plumbing solder, antimony replaced it. It is also a fire retardant used on children's clothing and toys, carpets, drapes, furniture and firefighters clothing. Firefighters are often heavily exposed. Children absorb antimony much more readily than adults.

Some antimony symptoms are:

- damage to the heart. Heart problems, particularly in a young person, are a reason to check for antimony.

- irritability. Children don't like to be touched; adults are sulky, sad and distressed.

- magnesium deficiency. Most people with antimony poisoning will need to supplement magnesium. They will show very elevated antimony and magnesium on a hair test.[1]

- suppression of white blood cell levels with neutrophils particularly affected

- slow digestion with gas and colic

- a rash similar to chicken pox

- a propensity to nosebleeds

- fatigue, lethargy, malaise, headaches, and aches and pains

Antimony can be chelated out of the body with alpha lipoic acid, DMSA or DMPS.

3.3 Arsenic

In the USA, arsenic was used in homes to preserve wood until 2003. It is still used for other applications such as insecticides, pyrotechnics, as a hardening agent for lead shot and a food additive in poultry feed. For centuries, it was a common agricultural pesticide and this use was discontinued only about 50 years ago. It is persistent in the environment and a significant number of people get arsenic poisoning. Mercury may make it easier to accumulate arsenic.

Some symptoms of arsenic toxicity are:

- pallor

- short temper and sensitivity to stress

- cancer
- difficulty tolerating carbohydrates which can lead to diabetes
- chemical sensitivity (particularly in people who have toxic levels of arsenic and mercury at the same time)
- peripheral neuropathy
- heart racing and palpitations
- skin problems
- diarrhea
- atherosclerosis
- mental anguish
- magnesium wasting

Arsenic chelates with alpha lipoic acid, DMSA or DMPS in exactly the same way as mercury. Both of these metals can be chelated at the same time. It is not necessary to change the mercury chelation protocol to chelate out the arsenic.

3.4 Cadmium

Cadmium is used in many industrial applications. It can be found in rechargeable batteries, silver jewelry solder and as a coloring agent in oil pigments and ceramic glazes. Cigarette smoking causes significant cadmium exposure both to the smoker and those around them.

While cadmium is frequently elevated on hair tests, it is seldom actually present in toxic amounts. You may need to look into cadmium if you have several of the following symptoms:

- very high cadmium levels on more than one hair test
- enlargement of the heart

- kidney stones
- substantial osteoporosis
- the need to eat carbohydrates often
- an inability to get very excited
- vertigo
- a tendency to shiver easily

Chelating cadmium is slightly different from chelating other metals. It chelates with DMSA but you need to alkalinize your urine while you are doing it. We encourage you to consult *Hair Test Interpretation* for more detailed information.

3.5 Copper

Copper is an essential element that your body needs in small amounts. Too much, however, is toxic. In men, copper intoxication is indistinguishable from mercury intoxication. Copper toxic women tend to have terrible premenstrual syndrome. Copper does not need to be chelated. Copper levels can be brought down by eliminating sources of exposure such as copper in nutritional supplements. Supplementing with additional zinc and molybdenum and adding additional liver support supplements will also bring copper burden down. People who have too much mercury may also retain copper.

3.6 Lead

Lead poisoning is acknowledged by health authorities and the public. Unlike mercury, nobody would think it is okay to have lead in medical products or your teeth. It is well known that lead exposure lowers IQ in children. It is also well known that toddlers often get toxic by eating paint chips because lead salts taste sweet. In the United States, there are many programs to educate the public about the dangers of lead and programs to remove it from older homes.

There is a lot of lead in the environment, particularly because of lead paint in old houses. A beautiful old American colonial house, for instance, can have hundreds of pounds of lead on its clapboards and columns. Over the years, with

scraping and repainting, much of this lead will have contaminated the surrounding soil. Dust inhalation from dry sanding lead painted surfaces, or even surfaces that used to be covered in lead paint, is probably the biggest source of exposure for adults.

In the USA, lead was banned from household paints in 1978. If your house was built before that you should be concerned about poisoning from peeling and chipping paint and cautious about preparing your house for remodeling or repainting.

There are an enormous number of other ways to get exposed such as leaded crystal, lead solder, and leaded gasoline (which is still used in many countries). Lead was commonly used as an agricultural pesticide. Old dishes may have lead glaze, as do many dishes imported from countries without legislation against lead. The red stuff on your car battery is red lead and is easy to absorb. There are myriad other possible sources and many people today have lead poisoning. The **US Centers for Disease Control and Prevention (CDC)** reports that several percent of the adult population of the USA has lead levels in the toxic range.

Some lead symptoms in children are:

- lowered IQ
- hyperactivity
- learning disabilities
- stuttering

Aggression and impulse control problems Adults tend to have:

- irritability
- anger control issues
- glaucoma
- gout
- hypertension

- darkening of the skin
- intestinal colic and gas

Lead chelates with DMSA.

4 HOW TO TEST FOR CHRONIC MERCURY POISONING

Mercury hides away in the brain and other organs. It is impossible to measure it without **biopsies** after death. Blood tests are misleading, as mercury will only stay in the blood for a few months after an acute exposure. If you have a long-term exposure such as amalgam fillings, blood and urine levels can be low while organ levels are dramatically elevated. There is no test you can use to see how much mercury you have. You can't monitor your progress by chelating for a few months and then test again to see how much has been removed. You must use symptoms as your guide.

In any case, you do not have to do tests to find out if you have mercury, because everybody has **some.** The real question is, do you have **too much mercury.** Do you have **enough** mercury, and in the right places, to interfere with your **biochemistry** and make you sick?

If you are amalgam free you can test yourself for mercury with a therapeutic trial of chelation. You **must not** chelate with amalgams in your mouth! Most people are not lucky enough to be amalgam free. In that case a hair test can be informative. There is also a checklist on pages 56 to 61 of *Amalgam Illness: Diagnosis and Treatment* which you can use to evaluate yourself for mercury poisoning. This checklist uses laboratory abnormalities that can show up on tests you may already have in your medical records.

4.1 If you don't have mercury fillings: a trial of chelation

If you are lucky, you don't have any amalgam fillings in your mouth. In this case, you can answer the question of whether you have mercury (or something else chelatable) quite easily. A therapeutic trial of chelation is the "acid test." Any reaction, good or bad, to alpha lipoic acid is proof of toxicity with mercury, arsenic or antimony. To check for lead you will need to use DMSA. We suggest

ten trial **rounds, but be sure to follow the rules for chelating safely when you try this!** (See section 7.2)

Try a few rounds of chelation with alpha lipoic. Start at 25 mg and double the dose with each new round, until you either hit 200 mg every three hours without feeling anything, or until you get side effects.[2] If you get any kind of side effect, it means you have something that alpha lipoic acid chelates. You may feel tired, cranky and depressed or have aches and pains, particularly the day after the round. A few people feel euphoria during the round. This method of testing will give you a definitive answer as to whether you are toxic or not. Ten rounds should be enough to ascertain if you need to chelate. If you have nothing to chelate, nothing will happen. If you have something to chelate, you will get a reaction.

4.2 If you have mercury fillings: a hair test

If you are unable to do trial rounds of chelation because you have fillings, the most useful test for toxicity is a suitable hair test. The examples in Hair Test Interpretation are Hair Elements tests from Doctors Data, Inc. Be careful to order the correct hair test from Doctors Data as there are two. You want the one that has both a toxic and an essential elements section. This is the test referenced on web page www.doctorsdata.com/ hair-elements/ at the Doctor's Data website. (You **do not** want the test labeled "Hair Toxic Element Exposure Profile" found at www.doctors-data.com/hair-toxic-element-exposure-profile/)

Either a doctor must order this test for you, or you can order it on your own through an online service such as Direct Labs.[3]

Laboratories that offer suitable tests to check for mercury include: Doctors Data, Inc., Great Plains Laboratory, Inc. and Rocky Mountain Analytical. Trace Elements, Inc. (TEI), operating as Interclinical, is suitable for adults[4], but you may have a hard time interpreting it as the format is different.

4.2.1 How to interpret a hair test

Interpreting a hair test is not straightforward. Most practitioners do it incorrectly. The level of any element in your hair does not necessarily reflect the amount you have in your body. Very toxic people often have low mercury on the test leading

them to think that they don't have a problem.

A hair test is positive for mercury when the patterns in the essential elements section indicate **"deranged mineral transport."** This situation is caused by mercury preventing your body from getting the right minerals to where they belong. Only mercury can do this and it is one of the ways it makes you sick[5]. Deranged mineral transport doesn't answer the question of how much mercury you have in your body. It **does** let you know there is enough to interfere with your basic biochemical processes and make you sick.

Andy has put together five statistical tests for deranged mineral transport, called the "counting rules." If your hair test meets any one of the counting rules, then you have enough mercury in your body to be a problem.[6]

Sometimes you can get a hair test that shows very high mercury. This would also be a positive-for-mercury test. If you have this situation, your doctor might even believe what you are saying.

It is also possible to be toxic and have a perfectly normal looking hair test. This can happen if your exposure happened years in the past or you are doing an excellent job taking care of your health. (Anything that makes you feel better will make the hair test look better.) If this is the case and you have no amalgams, a therapeutic trial of chelation will let you know if you are toxic with mercury or not.

A hair test can also give some useful information about adrenal and thyroid function and whether you may have an issue with some toxic metal other than mercury.

4.2.2 How to apply the "counting rules" to the "Essential and Other Elements" section of a Doctors' Data hair test

The counting rules are easiest to apply using a Doctors Data Toxic and Essential Elements Hair Test. The first step is to check that the name, age and sex are recorded correctly. Normal ranges are age and sex dependent. If those are wrong the test will have to be recalculated.

The test has two sections. The top section is "toxic elements." The bottom section is "essential and other elements." You apply the counting rules to the

bottom, or “essential and other elements” section.

When your test meets a counting rule, mineral transport is deranged. You can’t rely on the levels of the toxic elements in the top section of the test. **You ignore them.** They have no meaning. The mercury level on the test will typically show low, even though you know you are toxic because you have met a counting rule.

A normal and orderly test will look well balanced in the middle of the chart. There will typically be about 15 in the white and green zones, about 6 into the yellow and possibly one into the red.

With normal, orderly, mineral transport, the bars in the toxic element section represent the amounts in your body. Those that stick out into the red are significant, except for uranium and titanium, which simply aren’t very toxic. A yellow range lead result can be significant because lead is very toxic. Other yellow range results seldom mean anything.

When mineral transport is somewhere between normal and deranged, you will have to make a judgment call as to whether the toxic element section results are meaningful or not. In this case, *Hair Test Interpretation* is useful to evaluate symptoms. Alternatively, you can go online and find internet groups devoted to frequent dose chelation and ask for help with your hair test.

Below is a quick summary of how to interpret a hair test:

Table 4.1

How to apply the counting rules_

1. Five or fewer bars from the middle white zone going right meets a counting rule. [7]

2. Five or fewer bars going left from the middle white zone meets a counting rule.

3. Four or more bars extending into the red zone either right or left meets a counting rule.

4. Eleven or fewer in the white and green zones (not touching the yellow) meets a counting rule.

5. Missing any two of the above rules by one bar meets a counting rule.

5 DENTAL WORK: THE BIGGEST HURDLE

If you have no amalgam fillings or other dental work that involve mercury, you can chelate right away and skip the misery and expense of dental work. You can also skip the rest of this chapter and go to chapter 7. If you have or have ever had silver fillings, or if you have crowns, inlays, onlays or root canals, continue reading below.

5.1 Dental work and what you need done

Before you start chelating, it is essential that no current source of exposure to any chelatable heavy metal. The chelators get into all your body fluids and will pick up even the tiniest bit of metal, redistribute it, and make you very sick.

For most adults, no current source of exposure means having all your mercury fillings (the silver or black looking ones) replaced. Mercury fillings are usually replaced with white composite fillings by a specially trained dentist who knows how to protect you and himself from exposure.

Before attempting to chelate, it is a good idea to get digital bite-wing x-rays of your entire mouth, even if your amalgam removal has already been done. Get these double-checked by a competent dentist to make sure that all the amalgam is gone. Even very tiny flecks of amalgam will cause problems when you chelate. Sometimes little bits can get lodged in to the gums or jawbone and these will need to be removed surgically. You are better off going to a mercury-free dentist for this check-up because they are less likely to tell you it’s fine when it isn’t fine. If you had fillings removed by one dentist and you are concerned in might not have been done correctly, go to another to verify all amalgam is out.

5.1.1 The difficult issue of crowns

If you have a crown and are not sure whether amalgam exists under it, it must be lifted and visually inspected before you chelate. An x-ray may not be able to show what is underneath a crown. It is not easy to figure out which crowns may be hiding mercury. One possible indicator is black discoloration of the gums around the edge of the crown. Another is gray on the gums immediately adjacent

to the crown margin. Old dental records or your own memory of the procedure may help. Sometimes, if there is amalgam present, it extends far enough down that x-rays from different angles will show it.

You can try to pry off a crown with sticky candy or have the dentist take it off intact. This will save you money because these crowns can be reused. Unfortunately, it is often necessary to cut into the crown to remove it, which ruins it, and a new one must be made. This can be very expensive.

If you have crowns, inlays, onlays, bridges or other types of dental restorations you face the difficult decision of whether to try to chelate and hope there is no mercury, or replace the crowns or other work to be sure of it. If you chelate with mercury in place you will not improve and may make the situation worse. There is about a 40% chance there is mercury under any given crown or bridge.

5.2 Further comments about dentistry

Dentists are trained to leave as much of the actual tooth intact as possible. Even the best holistic dentist may think it is okay to leave a tiny fleck of mercury behind before putting back a crown. They were originally told amalgam was totally safe. When they figured out that wasn't true, they were told that amalgam that was "sealed" under crowns and was safe because of that. This is not true, either.

Some situations may cost you extra money or discomfort. For instance, a bit of amalgam extending down close to the tooth root might end up causing you to need a root canal. But you must remove every single bit of amalgam. Be strict and thorough. Remember that you are the paying client. It is your health that is on the line. When in doubt, ask to see a mirror or ask for an x-ray to prove there is no amalgam remaining.

Sometimes, people will get scared when they see something gray or black showing through their new composite fillings. This is usually silver oxide staining and not mercury. It is not a problem for chelating. If you really aren't sure whether it is a stain or amalgam, an x-ray will answer the question. If it is a visible white spot on x-ray, it is a solid piece of amalgam and needs to be removed. The silver looking margin on a crown may also scare people. This is an actual part of the crown and usually made of nickel, stainless steel or zirconium. It is not a problem for chelating unless you are allergic to nickel.

Sometimes the most practical thing to do is have a tooth pulled. Be careful because you don't want an open wound in your mouth when the dentist is removing amalgam. If an amalgam chip gets healed in to a wound, it will have to be surgically removed. The only way to absolutely prevent this is not to have an open wound and an amalgam chip in your mouth at the same time. For this reason, be sure to wait at least one month or longer after an extraction before getting any amalgams removed. This is to give the socket time to heal. Wait at least one day after getting amalgams removed before having any extractions done.

You will definitely need oral surgery and possibly a tooth extracted if amalgam got implanted in your gums or jaw. An example is if a "retrograde amalgam filling" was placed. This is a small bit of amalgam that is placed at the tip of your tooth's root during a root canal procedure. It **must** come out along with some tissue around it as the area will be heavily contaminated. This situation is very obvious on a dental x-ray.

5.2.1 Precautions you must take with the dentist

If you get your amalgam fillings removed without proper precautions, you may get an acute dose of mercury and suffer symptoms for a very long time so find a dentist you can trust. Avoid any dentist who still puts in amalgams because they think the material is safe. Even if they don't use it with you, you may still get exposed to vast amounts of mercury dust and vapor in their office, and they may not be careful to avoid leaving amalgam bits in place when they remove your fillings.

Before you start your dental work, it is a good idea to think about how you want the dental work done and make a list of conditions for the dentist to read and initial. A good starting point in the list below is section 5.2.2. Review this list with your dentist before you start every session. It is OK if they propose a different reasonable method of meeting a specific need. It is not OK if they simply want you to trust them. **NEVER** assume that they know what they are doing. There are enough horror stories out there without yours being one.

5.2.2 Precautions the dentist must take

Here are some minimum precautions a dentist needs to take to protect you from

mercury chips and mercury vapor. You need:

- a dentist who realizes these precautions are important. One who is not taking them just to humor you but will do the work properly.

- a **rubber dam** or a suction tip that clips around the tooth being worked on.

- high suction near the tooth.

- oxygen or air with a **cannula** (nose piece), some sort of mask, or at least some suction device or high airflow in the treatment room. This is to keep you from breathing the dust and vapor. If you can smell what is going on, you're breathing it, too.

- lots of water to keep the amalgam cool while drilling.

- a low speed drilling technique that takes the old amalgam out in chunks. This is to keep the mercury from heating up and vaporizing and to keep from making a lot of fine amalgam dust.

- no **chlorella** rinse after the procedure. It is okay to use activated charcoal or Vitamin C. Be careful with Vitamin C before the procedure as it has been known to interfere with anesthesia.

- no chelators before, after or during the procedure.

- nothing to "bind" or "passivate" the mercury

At no time during the amalgam replacement project should you be left with any metal in contact with amalgam: neither next to it, over it (as in a crown or onlay) nor across from it in the bite (an example is a gold crown on one tooth biting down on an amalgam that has not yet been replaced.) You should not be sent home with this situation in your mouth.

When the metal components of a crown touch amalgam, a battery is formed. This battery is short circuited by your saliva (which is also the electrolyte). A current will flow causing the mercury from the amalgam filling to dissolve into

the saliva, your tooth, or anything it touches at an extremely high rate. The electric current will also help drive the mercury into your tissues. This situation can make you sick very rapidly, even in just a few days.

Make sure that all amalgam is removed from a tooth before any crown is placed. Ask to look at an x-ray of the tooth before the crown is glued on. Have the dentist use an intraoral camera if he has one. Or have him show a friend of yours while the work is being done. This is extremely important, as chelating with amalgam under a crown can be catastrophic. It is very difficult to detect amalgam once the crown is on.

5.2.3 Be careful about advice from your dentist

Your dentist may want to treat your ‘cavitations’ and pull all your root canal treated teeth. Most root canal treated teeth are fine, though sometimes one may have failed and need to be extracted. The same goes for ‘cavitation sites’ under root canals or where a tooth was previously extracted. If there is an active, ‘wet’ infection you will need to deal with it, otherwise leave it alone. This issue is controversial, and many people believe that it is crucial to get all root canals removed and cavitations cleaned up. You don’t need to do this in order to chelate. All you need to do is get every last speck of amalgam out of your mouth. You can put off all this extra surgery and expense and evaluate the situation later when you feel healthier. Most people who get cavitation surgery butcher their mouths unnecessarily. Very few people actually need it.

NEVER let any dentist persuade you to do any of the following:

- NO chlorella rinse
- NO chlorella ever
- NO chelation before, during or immediately after the dental work
- NOTHING to bind or passivate the mercury
- NO special detox products, detox support or detox remedies
- NO special mercury remedies

- NO DMSA or DMPS before, during or the few days afterwards until you use it as a chelator

- NO EDTA

- NO R-alpha lipoic acid ever

- NOTHING containing alpha lipoic acid until you use it as chelator at least three months after the dental work

5.2.4 How to afford the dental work

It is a sad fact that some people can't start chelating before spending thousands of dollars on their teeth. If you are really sick, this should be a high priority. If the situation is not urgent, get the amalgams removed gradually, safely and as you can afford it. If you take your time on the dental work you lower you chances of having a bad reaction.

Don't let yourself get discouraged or give up! The dental work is the hardest part to get through because of the trouble and expense. Check into dental insurance. Check into getting the work financed. Most dental offices have financing plans that are easy to get.

Prices vary enormously. If you have a lot of dental work and the expense is great, it is worth getting several estimates. Dentistry is craftsmanship. If one dentist is proposing a particularly expensive way to redo your fillings, shop around. That might be the best or only way that dentist knows how to do it, but another dentist might be able to come up with a different solution that is less expensive.

For people in the United States and other expensive countries one way to keep costs down is to go abroad. Both Canadians and Americans have been going to Mexico for dental work for years. Thailand is an excellent place to go and some Eastern European countries are also possibilities.

Nowadays, because of the Internet, it is easy to find a mercury-free dentist. There are many online lists and internet groups that deal with mercury poisoning. Join one or more and ask people where they went for their dental work. It is these people who are going to be able to tell you if a particular dentist

is good. There are also professional organizations for mercury free dentists such as www.iaomt.org.

6 THE INS AND OUTS OF CHELATION

6.1 The Cutler protocol versus other methods

If you have been diagnosed with heavy metal toxicity by a doctor, chelation therapy is considered the standard of care. It is usually administered by IV or orally, in high, infrequent doses. Most doctors really hate chelating their patients. They don't know how to do it properly and the patients wind up worse than before. Many doctors have shared stories with Andy from when they were residents. They describe watching their supervisors kill a patient with chelation. While textbooks don't talk about this kind of outcome, doctors talk to each other more frankly.

There is no profit to be made by diagnosing and treating mercury poisoning. If there were, any chemist at any pharmaceutical company, by reading the same standard medical texts Andy read, would come up with this same protocol: low dose, oral (or **transdermal)** chelation based on the **half-life** of the chelators. Indeed, dosing on the half-life is how most drugs are used.

The proper use of chelators has not been researched by scientists or taught to doctors. This protocol uses the chelators alpha lipoic acid, DMSA and DMPS. In the United States, DMSA was approved as an **'orphan drug'** so proper studies and groundwork weren't done. DMPS is available because the usual means of approval were circumvented. Alpha lipoic acid is an over the counter nutritional supplement which almost no doctor realizes is a chelator.

How to use chelating agents properly flows from an understanding of the chemical kinetics— the pharmacokinetics[9]— of chelation. It is unusual for physicians to be familiar with kinetics even though the subject is spelled out in standard medical texts. Typically drug companies have specialized chemists who work out the relevant details during the extensive studies government regulators require before approving a drug.

Kinetics is the branch of chemistry in which Andy spent 15 years as a researcher and consultant and in which he got his PhD. It was not difficult for him to look

up the relevant details regarding alpha lipoic acid, DMSA and DMPS and use them to determine a chelation protocol.

It is important to understand that a frequent, low dose chelation protocol is the right way to detoxify heavy metals **ANY** other way of detoxing heavy metals is the wrong way and dangerous. There are no “safe and natural” methods. Any method that does not use actual chelators dosed on their half-life [10] is the wrong way to do it. Some people have gotten better with other chelation protocols, it is true, but they were lucky and many others got very sick instead. There is about a one-in-six chance of hurting yourself badly with DMPS infusions, for instance[11]. Some of the other methods have a 100% adverse reaction rate. Mercury is poisonous stuff. When you move it around your body you have to do it the right way. Don’t play Russian roulette with your life and health! Learn how to detoxify yourself properly.

Be very cautious about taking the advice of doctors, naturopaths and other practitioners. They do not have the proper background or technical education to develop treatment protocols. When they prescribe medicines, they are relying on existing protocols developed by someone else with a very different background than a physician. You have been strongly socialized to trust physicians and nurses, but do not trust them for this! The Andy Cutler chelation protocol is the only way to remove metals safely. Any other way carries serious risk. Andy said he grew tired of getting emergency telephone calls from people who let their doctor persuade them to do something dangerous like a DMPS IV or oral alpha lipoic acid a few times a day to “support their mitochondria.”

The rules about how to take chelators and the warnings we give you are inflexible. Other parts of the protocol are flexible because they are not well defined scientifically and people really are different. How you decide to take supplements, for instance, is flexible, although some of them need to be taken three or four times a day in order for them to be effective.

6.2 How chelation works

The word chelation comes from the Greek word for claw. A true chelator molecule for mercury has two thiol (sulfur) groups, which are spaced an appropriate distance apart so they can fit around the mercury ion. Mercury is particularly attracted to thiol sulfur[12], which is found in every cell in the body.

When the chelator molecule comes along, it attaches itself to the mercury ion. The bond is strong and it rips the mercury away from wherever it is lodged.

The chelator molecule, with its little payload, now flows along in the blood stream destined to be excreted. Unfortunately, it does not have a perfect grip and after a while it will lose its hold. The chelator has exceeded its half-life in the body and has started to dissipate. When this happens, the mercury will zip off and reattach itself to some other attractive, sulfury location. The Andy Cutler chelation protocol solves this problem by dosing the chelators on their half-lives. That way, when a chelator loses its grip on a metal ion, there is a fresh dose right behind ready to pick up what has been dropped. You need to have a constant blood level of chelator to keep redistribution from happening too much. This keeps the mercury moving **out** rather than **around.**

A harmful chelation protocol is one that moves the mercury around a lot before it can come out. This can cause preferential redistribution of mercury from less sensitive locations (like your muscles) to more sensitive locations (like your brain). The more sensitive tissues tend to have more thiol groups and a higher affinity for mercury.

The mercury in your muscles, bones, ligaments, lungs, skin, and fat is not hurting you because these are not sensitive tissues. It is the mercury in your brain, liver, thyroid, adrenal glands and immune system cells that is hurting you because these **are** sensitive tissues. In the process of moving mercury out, you do not want to inadvertently move any of it into the sensitive tissues as this will make you sicker, not better.

Even if the total amount of body mercury falls it doesn’t do you any good if the amount that is actually hurting you increases. This is why you have to follow the rules and chelate on a proper schedule. Chelating incorrectly may make a lot of mercury come out in the urine or stool but most of the mercury that is not eliminated will wind up some place worse than where it started. It is more difficult to get the mercury out of higher affinity tissue. It is going to be hard enough to remove the mercury already in your brain without adding more.

An unskilled doctor is one who goes by tests alone. A doctor using a harmful protocol will think the patient is getting better because mercury keeps coming out in the tests. They don’t notice the patient standing in front of them is getting worse. There is no test to show the mercury in the sensitive organs going up and

the mercury in the tissues where it doesn't matter going down. The end result is a patient who is even sicker and is going to take a lot longer to get better, and a doctor who thinks they've done a great job because the reports from the lab look so good.

You are going to be naturally inclined to trust your doctor. Don't be too trusting! You are probably going through "Health Care Hell" right now, at great expense, because you trusted a doctor or a dentist who poisoned you!

It doesn't matter what kind of doctor they are, **MD, DO, ND, NMD, DC, DDS, DMD** or **NPs.** They are all taught in school how to chelate you wrong! They are all taught in school that they know everything they need to know and they shouldn't have to listen to anyone else.

Unfortunately, the chelators don't listen to doctors. They do whatever the laws of nature require. If the doctor prescribes chelators wrong, as they've all been taught to do, it will make you sicker, not better. It doesn't matter how nice the doctor is or what fancy credentials he has. Chemicals don't pay any attention to that at all.

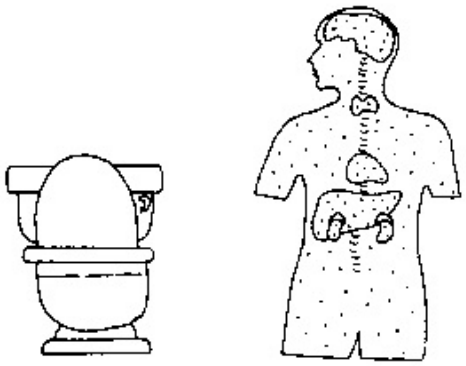

Figure 6.1. Before Chelation *You are full of mercury and not much being is being excreted.*

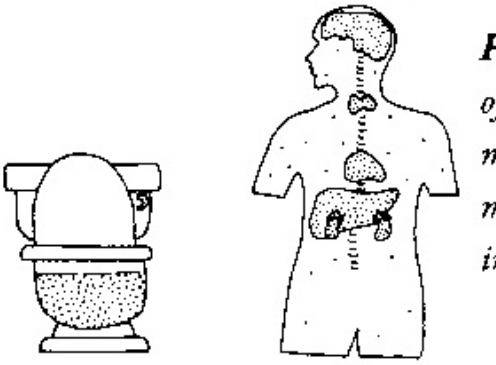

Figure 6.2. Chelating with a bad protocol *Lots of mercury was excreted, but there is now a lot more mercury in the organs that are sensitive to it. You are much worse off even though the total amount of mercury in your body is less.*

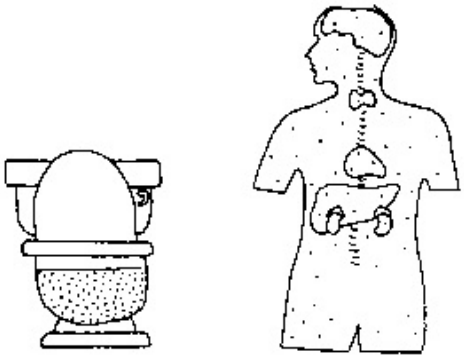

Figure 6.3. Chelating with ACC *This is what happens if you chelate properly. A lot of mercury is excreted. Mercury is not only taken out of the less sensitive parts of your body where it doesn't matter, but also from sensitive organs like your brain, liver, thyroid and adrenal glands. You will get better this way.*

Overcome your conditioning and be skeptical so that you don't get hurt even more! As far as chelating is concerned, doctors and dentists lack the technical knowledge to avoid hurting you. Know what you want and make sure you get it. Don't let any health care professional sway you, even if they are the nicest person in the world.

6.3 The chelating agents and waiting periods for taking them

6.3.1 The chelators we use for the ACC protocol

Table 6.1

The chelators we use for the ACC protocol

CHELATOR	DOSING	WHAT IT DOES
ALA (alpha lipoic acid, may also be called thioctic acid)	• every 3 hours or more often • every 4 hours at night if this is tolerated and waking up is an issue • can be started 3 months after last exposure to mercury	• is the only chelator that can cross the lipid barriers into the brain, organs and cells • is the main chelator that everyone needs to use to clear mercury out of their body • chelates mercury, arsenic and cadmium but not lead • is excreted mostly via bile through the liver, but significant amounts also leave via the kidneys

Table 6.1

The chelators we use for the ACC protocol

CHELATOR	DOSING	WHAT IT DOES
		• chelates extracellular mercury, lead, cadmium, antimony and

DMSA **(dimercaptosuccinic** **acid)**	**• every 4 hours or more often** **•can be started 4 days after last exposure to mercury**	**arsenic** **• may speed up excretion of mercury when used with ALA** **• helps with symptoms when chelating with ALA** **• can be used during the times one is not able to take ALA** **• is excreted through the kidneys** **• may exacerbate yeast**
DMPS **(dimercaptopropane sulfonate sodium, a** **pharmacist puts 'sodium' last, a chemist puts it first)**	**• every 8 hours or more often** **•can be started 4 days after last exposure to mercury**	**• chelates extracellular mercury, arsenic and antimony** **• may speed up mercury excretion when used with ALA** **• helps with symptoms and does a better job at it than DMSA** **• can be used during the times one is not able to take ALA** **• not useful for chelating lead** **• is excreted through the kidney**

6.3.2 The waiting periods for taking chelators

You must wait four days from your last mercury exposure before taking DMSA or DMPS. You must wait three months from your last exposure before taking alpha lipoic acid. You can also choose to take no chelators at all for three months after your last exposure. You will still experience some relief during these three months even if you do not chelate. You should still take all the vitamins and minerals we talk about even if you choose not to chelate during this time. In fact, you should start taking them right now and not stop until you are all better.

Here is a typical scenario is a person who gets their amalgams removed:

- they start the essential four supplements at least two weeks before starting chelation. The sooner the better.

- four days after final amalgam removal, they can start DMSA or DMPS.

- three months after final amalgam removal, they can take alpha lipoic acid and DMSA **or** alpha lipoic acid and DMPS **or** alpha lipoic acid on its own.

- or they can take no chelator for three months and then start alpha lipoic acid on its own.

- or they can wait longer than the four days and the three months waiting period to take any of the agents above. They just can’t start sooner.

6.3.3 Why these waiting periods are important

The four-day waiting period for DMSA and DMPS allows time for any residual mercury source like amalgam dust or chips to be washed off your skin, pass through your digestive tract and get sneezed out of your nose. Chelating while in direct contact with a mercury source may cause you to absorb more of it. Chelators get into all your bodily fluids and can dissolve mercury out of something like an amalgam chip. This dissolved and chelated mercury is easy to absorb.

The three-month period before taking alpha lipoic acid gives time for recent

exposures of mercury to clear out of your bloodstream. Chelating with alpha lipoic acid, at this point, would cause mercury to get into your brain, organs or cells. This is because alpha lipoic acid is fat soluble. It allows the chelated mercury to pass back and forth across cell membranes and the blood brain barrier. If there is more mercury outside the brain than inside the brain your body's natural drive to seek equilibrium will make the levels of mercury in the brain go **up** rather than **down.** The waiting period for alpha lipoic acid gives time for the mercury level outside the brain to drop lower than the mercury level inside the brain. That way, when the alpha lipoic acid allows the mercury to pass back and forth, the levels in the brain will go down, rather than up.

6.4 Which chelator to choose and how much to take

The only **necessary** chelator for getting mercury out of your body is alpha lipoic acid. You will have to decide for yourself whether to take alpha lipoic acid on its own or to use it with **one** of the other "accessory" chelators, which are DMSA and DMPS. This choice will depend on what other metals may be an issue, where you are in the protocol and how the chelators make you feel. It will also depend on practical issues such as cost, ability to get the different chelators and legalities in your jurisdiction.

Opinions differ on what chelator dosage to start off with. In the online chelation support forums, Rebecca and her colleagues tend to tell people to start at 12.5 mg of whichever chelator they choose. All three chelators are dosed at the same level.

12.5 mg is a conservative amount, but the people who show up on the online forums tend to be sicker and more sensitive than average. We have certainly seen people who could barely tolerate 1 mg of chelator when they started off! Yet others do fine at 50 or 100 from the beginning. For the purposes of this book, we suggest starting with 25 or 50 mg of chelator. People who are very sick or very sensitive may have to start lower. People who are very sensitive to thiols (see section 9.3.) will need to start with low doses of alpha lipoic acid. People who do well on thiols will be able to tolerate more robust dosages.

Your first **round** is a trial to see how the chelator makes you feel. If you are very sensitive or you can't afford to be out of commission for a few days, start low. The worst that will happen if you start too low is you may waste a few weeks in dosage adjustment.

Typical side effects are feeling tired, bad tempered and depressed. These side effects will often build up as you go along in the chelation round. The worst day is usually the day after you stop. If a couple of days after the round you can look back and think that the whole experience was bearable, then you're at about the right dose.

The side effects tend build up as the round goes on. Your dose is certainly too high if you are having hard to tolerate side effects on day one. In this case, just stop. Wait to start a new round at a lower dose the following week.

Fifty or 100 mg of any chelator is enough to get better. Higher doses may speed things up somewhat, but a lot less than you think[5] High doses are useful because side effects will let you know where you stand in regards to chelatable toxins.

People have varied and individual responses to drugs, supplements and foods. There are bound to be a few people who will have trouble with more or less anything we've mentioned in this book. If you think you are reacting poorly to a chelator or a supplement, stop taking it! If you get a rash while taking DMPS, or a lot of yeast problems, **ringworm,** or **boils** while taking DMSA, stop taking it. If these agents are important to your detoxification you will need to learn more about them and their risks of potentially very nasty adverse reactions before considering taking them again.

Alpha lipoic acid is a different issue. It is the main chelator that crosses the blood brain and other lipid barriers. You have to use it in order to recover. If you find you can't tolerate it, you need to try cutting down the dose until you can. If that doesn't work, you should chelate for several months with one of the other chelators, usually DMPS, and then try again with alpha lipoic acid.

6.5 What NOT to do!!!!

Mercury is extremely poisonous and moving it around your body is dangerous. Don't try random things! Here is a list of things never to do:

- **chelating with amalgam fillings**—Amalgam fillings are a reservoir of available mercury. If you take chelators while you have amalgam fillings in your

mouth, they will pick up and redistribute mercury from this pool. You will get very, very sick. Do not attempt to detoxify or chelate in any way (other than sauna) with amalgam fillings in your teeth.

- **taking chelators in any other way than dosed on their half-life**[13]— Doctors commonly prescribe detoxification protocols that involve taking infrequent doses of chelators. This will make you sicker than you already are. Chelating this way causes the mercury to move around and get redistributed to sensitive tissues rather than excreted. Chelators must be dosed on their half-lives or not at all. Do not take alpha lipoic acid or any other chelator in an IV or injection. Do not take alpha lipoic acid or any other chelator on anything but a proper chelation schedule.

- **cilantro**[14]—From the horror stories we hear from people who tried to detox with cilantro, we think that it contains an actual chelator that crosses the blood brain barrier similar to alpha lipoic acid. Nobody knows the active ingredient in cilantro. Nobody knows its half-life. There are no standardized extracts so it is impossible to use properly. Although it is indeed “perfectly natural” so are botulism, strychnine and hemlock. Some of the worst stories of regression we have heard come from people who juiced cilantro or made cilantro smoothies or salads.

- **using chelators that don’t work and are dangerous—EDTA** is not a clinically useful chelator for mercury even though it increases the amount of mercury that shows up in the urine. In an actual human body, it does not chelate mercury from sensitive organs or clear it from the body. Using EDTA will make you get worse by moving mercury from harmless locations into your brain and other sensitive organs. EDTA does chelate lead very effectively, but DMSA chelates lead better. Do not use EDTA unless you have removed all amalgam fillings and done several years of chelating with alpha lipoic acid and are sure all the mercury is gone from your body.

EDTA can be used to clear minerals out of clogged arteries. If you are in an

extreme health situation, such as needing bypass surgery, the risk of mercury poisoning from using EDTA may be less than the risk of a heart attack. But if your goal is to get rid of mercury or lead, skip the EDTA. Do not let any "detox doctors" give you EDTA suppositories, IV s or capsules.

chlorella and other "detox supplements"—A true chelator has two thiol groups[15] that latch on to the mercury ion securely enough to get it moving along out of the body. Chlorella is full of various molecules that have only one thiol group, so it picks up the mercury but doesn't cause it to be excreted. In nature, chlorella can absorb heavy metals (and is often contaminated with them). In nature, it absorbs heavy metals from the inorganic environment, which has few thiols. Living bodies have many thiols and the chlorella does not react with them in the same way. It does not absorb heavy metals in a living body. It causes redistribution.

*** using alpha lipoic acid for anything other than chelating**—Chemicals do not care what you think they should do, or what the most important doctor in the world tells them to do. Chemicals act entirely according to the laws of nature. If your doctor lectures his syringe before giving you an injection, it is not going to change the outcome.

Many doctors prescribe alpha lipoic acid because it is a powerful antioxidant. A common recommendation we have heard is 600 mg a day to treat diabetic neuropathy. Apparently, it is effective for that, but it is also a chelator, alas. Over time, if you have any mercury in your body, chelating improperly will concentrate it in to your brain and other sensitive organs. The alpha lipoic acid acts as both as an antioxidant and a chelator at the same time. The doctor and the patient will usually not realize that the neurological issues that slowly develop are due to the misuse of alpha lipoic acid.

Using alpha lipoic acid improperly will eventually result in new, horrible, long lasting symptoms like brain damage and insanity. Do not use alpha lipoic acid improperly. Always dose alpha lipoic acid on its half-life. Do not use alpha lipoic acid prior to 3 months after your last exposure to mercury.

- **intravenous anything except vitamin C**—Many doctors who treat heavy

metals will prescribe IVs. An IV of a chelator is a hazardous proposition as it will mobilize a huge amount of mercury and the bulk of it will be redistributed. For case reports about what can happen, see www.DMPSbackfire.com.

An IV of vitamin C is the only kind that we recommend. It can provide enormous short-term symptom relief. Just be careful the doctor doesn't put something else he thinks may be good for you into the IV bag. It should only contain vitamin C, calcium gluconate, magnesium chloride or sulfate, and unpreserved sterile water or half normal saline for injection.

- **never do glutathione IVs**—A glutathione IV will mobilize mercury and cause an enormous "redistribution event" without getting any of it out of the body. It is common for people to become mentally ill and develop bipolar disorder as well as many other problems after these infusions. A glutathione IV will provide only temporary symptom relief at best. It won't remove any toxic metal from where it is doing damage. The most dangerous aspect of glutathione IVs is that people often have several good experiences with them, so they ignore warnings and keep on going until the bad one hits and causes catastrophic, long-lasting damage.

- **challenge tests**—Challenge tests are faddish and popular. They provide no useful information. They are also dangerous because of the huge dose of chelators. Never agree to do one.

liver flushes—These are simply too hard on your mercury toxic liver.

• **homeopathic detox remedies**—Homeopathy can be useful for symptom control and we are not against using it. But homeopathy depends on the body's natural mechanisms. The body has no natural way to detoxify mercury and detox remedies have consistently made people worse. Do not use any "homeopathic heavy metal detox" remedies.

6.5.1 Supplements never, ever to take

Table 6.2	
Supplements to avoid	
SUPPLEMENT (OR MEDICATION)	**DISCUSSION**
alpha lipoic acid (ALA)	**Should only be used for chelating on a proper schedule.**
cilantro* (coriander leaf)	**•Cilantro is an actual chelator. Nobody knows enough about it to use it safely.**
colloidal silver or any other form of silver topically or internally such as sulfalazine silver, silver nitrate sticks	**Silver is a toxic element which accumulates and is almost impossible to chelate.**
copper	**Mercury toxic people tend to accumulate too much copper.**
dandelion	**This is hard on the liver. It makes a lot of mercury toxic people who use it sick, often after it has been tolerated for some time.**
EDTA	**Forms a dangerous compound with mercury. Trace amounts as a preservative in foods or cosmetics are okay.**

IMD	**A proprietary formula of unknown composition that our experience suggests some people do not tolerate well. It is held out as binding metals in the intestines, which is not useful for detoxification.**

*** Also avoid eating this as a food, e.g. in guacamole, salsa, breakfast sausages.**

Table 6.2

Supplements to avoid

iron	**Do not take it just because your blood levels (ferritin) are low. Only take it if you also have low MCV and MCH on your blood count (small red blood cells, microcytic anemia), then at half dose.**
manganese	**Can be a synergistic toxin for people with mercury poisoning.**
mercurochrome	**The active ingredient is mercury. It absorbs into your body.**
merthiolate	**The active ingredient is mercury. It absorbs into your body.**
methionine, l-methionine, dl-methionine	**Does not chelate or detox anything. Often causes agitation and emotional distress.**

MMS, Miracle Mineral Solution, **Master Mineral Solution or chlorine dioxide**	**Don’t use this. Don’t drink bleach. Don’t take poison.**
penicillamine (Cuprimine) or N-acetylpenicillamine	**Tends to redistribute mercury rather than cause it to be excreted. Adverse reactions are common.**
R-alpha lipoic acid or R-ALA	**Consistendy makes people ill no matter what the schedule.**
thioctic acid	**This is another name for alpha lipoic acid (ALA).**
TTFD (thiamin tetrahydrofurfuryl disulfide)	**Doesn’t detoxify anything. Contains a poisonous petrochemical. Thiamin or benfotiamin are safe and equivalent.**
vitamin D	**Do not take it just because your blood test is low. Only take it if you have frank deficiency symptoms such as fatigue, seasonal depression and getting sick easily.**

You must constantly check all combination products (like multivitamins) for any of the ingredients listed above. It is easy to forget what you have and haven’t checked. Formulations change all the time.

6.5-2 Supplements some people need to avoid

If you are taking, or plan to take the following, read about thiol sensitivity in section 9.3.

Table 6.3	
Supplements some people need to avoid	
acetylcysteine	glutathione (oral)
allicin	1-cysteine
brown rice protein	MSM
curcumin	n-acetylcysteine (NAC)
DMSO	pea protein
fenugreek	turmeric
garlic capsules	whey protein

6.5.3 Avoid medical mercury!

• do not get flu shots. These shots are full of mercury, don’t prevent the flu and make you more likely to get sick<.

• do not get any vaccines, whether or not they contain mercury. Vaccines can cause many autoimmune diseases which mercury poisoned people are very prone to developing. You can easily be told there's no mercury in vaccines any more, then be given one that is loaded with mercury. This is very politicized and [17] [18] [19] doctors and nurses think it is OK to lie. Their supervisors and pharmaceutical sales representatives often lie to THEM about the mercury content of vaccines

If you find yourself in the emergency room with a nurse vehemently insisting you can get tetanus and die if you don't get a tetanus shot RIGHT NOW, ignore her. That's nonsense. It takes 4-6 weeks before the tetanus shot is effective. You are relying on your LAST tetanus shot to cover you for THIS cut. You have plenty of time to decide if you need a tetanus shot later. We know of many cases of mercury toxic adults who got much worse when they got a tetanus shot.

• do not get any silver filling even if the dentist says they no longer have mercury in them (they still do). Do not let a dentist place a crown on a tooth with an amalgam filling in it without removing all the amalgam first. Make him show you a bite wing X-ray of the tooth before putting the crown on to prove there is no mercury left.

• watch out for the mercury preservative thimerosal and any compound of mercury, as it can be found in many medical products. Examples are eye drops, nose drops and vaccines.

• do not use mercurochrome or any other mercury based antiseptics.

6.5.4 No other medical metals either!!!

You are already toxic with at least one metal. Don't add any more to the list or you will get much sicker and more difficult to detoxify. Make sure the treatment you are considering is not worse than the disease.

• no Pepto Bismol or bismuth containing stomach remedies. Bismuth[20] is often combined with H2 blockers, and routinely used to treat H. Pylorii.

• no sulfalazine silver or silver nitrate sticks.

• no colloidal silver or nano silver.

• if you are offered chemotherapy, do not take Trisenox which contains arsenic, or cisplatin (Platinol) or carboplatin (Paraplatin) which contain platinum, unless there is no good alternative.

6.5.5 No drugs that are dangerous for people with mercury poisoning!

Some drugs are much more dangerous for people with mercury than for others, even if their kidney function is completely normal.

*** Avoid diuretics that deplete your already low magnesium and potassium**

Table 6.4	
Diuretics	
GENERIC DRUG NAME	**TRADENAME**
bendoflumethiazide	
chlorothiazide	**Diuril**

chlorthalidone	**Hygroton**
hydrochlorothiazide	
hydroflumtthiazide	
indapamide	**Lozol**
methyclothiazide	
metolazone	**Zaroxolyn**
polythiazide	

*** Avoid MRI contrast agents containing gadolinium**

Table 6.5			
MRI contrast agents containing			**gadolinium**
Ablavar	**Gadavist**	**Omniscan**	**ProHance**
Dotarem	**Magnevist**	**OptiMARK**	
Eovist	**MultiHance**	**Primovist**	

Most of the time when the doctor says they need to use it, they don’t. It just lets them bill insurance for twice as much.

*** Avoid fluoroquinolone antibiotics—**The fluoroquinolone class of antibiotics has a risk of adverse reactions in which your tendons rupture, your muscles fall apart, the nerves in your hands and feet don’t work right and your brain stops working properly. These reactions appear irreversible. Nobody should take these antibiotics if another kind will do. People with mercury poisoning seem especially likely to develop these severe and lifelong problems.

Avoid these antibiotics:

Table 6.6	
Fluoroquinolone antibiotics	
GENERIC NAME	**TRADE NAME**
ciprofloxacin	**Cipro**
gemifloxacin	**Factive**
levofloxacin	**Levaquin**
moxifloxacin	**Avelox**
norfloxacin	**Noroxin**

ofloxacin	**Floxin, Ocuflox**

1

The high magnesium on the hair test means the body is excreting it and needs more.

2

To do this test with children see *Fight Autism and Win (second edition)*

3

www.directlabs.com Search for “Doctors Data” and choose the test labeled “Hair Toxic & Essential Elements-Doctor s Data Kit.”

4

It is useless for children (those under eighteen years of age).

5

Pregnant and lactating women can exhibit an “all low” profile which satisfies rule one, even if they are not toxic.

6

In a technical sense meeting a rule means there is more than a 97.5% chance mercury is causing you problems. This corresponds to how standard medical laboratories provide ‘normal ranges’ for their tests. The finer gradations between “abnormal” and normal” are discussed on page 26 of *Hair Test Interpretation: Finding Hidden Toxicities.*

7

Pregnant and lactating women can exhibit an “all low” profile which satisfies rule one, even if they are not toxic.

9

From The Merck Manuals (www.merckmanuals.com/professional/clinical-pharma-cology/pharmacokinetics/overview-of-pharmacokinetics): "Pharmacokinetics, sometimes described as what the body does to a drug, refers to the movement of drug (sic) into, through, and out of the body-the time course of its absorption, bioavailability, metabolism, and excretion."

10

The half-life is the time it takes for the concentration of a substance to fall to half its original value. For substances with what is called first order kinetics, this number is a fundamental constant. It is often loosely used for other materials such as alpha lipoic acid in place of more accurate phrases like characteristic time.'

11

See www.dmpsbackfire.com or cutlersuccesstories.weebly.com/what-not-to-do.html for typical outcomes.

12

Thiols are one particular chemical form of sulfur. Among other things they're what make skunks stink and natural gas smell bad. They may also be called sulfhydryl groups.

13

See section 6.1 for a discussion on half-life.

14

By cilantro we mean the leaves of the coriander plant *(Coriandrum sativum).*

15

or other binding groups. E. g. EDTA has carboxylic acid groups and amines. Thiols are highly selective for heavy metals like mercury and do not get blocked by binding to calcium, magnesium and other light metals in the body. For this practical reason the only chelators relevant to this book are

dithiol chelators.

17

Dimicheli V, et al, "Vaccines for preventing influenza in healthy adults." Cochrane Database of Systematic Reviews 2014, Issue 3. Art. No.: CD001269.
Onlinelibrary. wiley.com/doi/10.1002/14651858.CDOO1269.pub5/epdf. *"Flu shots are known by the medical profession to prevent on average 1 case of respiratory illness for every 40 flu shots given. "*

18

Benjamin J. Cowling, Vicky J. Fang, Hiroshi Nishiura, Kwok-Hung Chan, Sophia Ng, Dennis K. M. Ip, Susan S. Chiu, Gabriel M. Leung, J. S. Malik Peiris, "Increased Risk of Noninfluenza Respiratory Virus Infections Associated With Receipt of Inactivated Influenza Vaccine," Clinical Infectious Diseases, Volume 34, Issue 12, 15 June 2012, Pages 1778-1783, doi.org/10.1093/cid/cis307

19

Leftover flu shots contain enough mercury to be hazardous waste. It is a federal crime to throw them in the garbage or put them down the drain. Children given flu shots are known to suffer more frequent respiratory infections than those not given flu shots: 30% of nurses refuse flu shots. Many hospitals buy mercury-free flu shots for staff but give mercury containing ones to their patients.

20

If the inside of the pill is pink, be suspicious! Read the package carefully.

7 HOW TO FOLLOW THE ANDY CUTLER CHELATION PROTOCOL

7.1 Some considerations before starting

• double check for residual amalgam by getting your mouth X-rayed and checked by a competent dentist. All mercury, down to the tiniest fleck, needs to be removed. Ask for digital bitewing X-rays. If in doubt, check yet again. Crowns, which are impermeable to X-rays may pose a problem. This is discussed in section 5.1.1.

• take the following essential supplements for at least two weeks before starting to chelate. This is the same list as in the introduction. Hopefully, you are already doing this. You may also take the other basic supplements if you find them helpful.

These supplements should be taken three, or better four times per day.

• chemically sensitive people or people with severe allergies may need to try various brands and types of these supplements. For example, most vitamin C is made from corn syrup, but you can also find brands made from beet sugar, sago palm, cassava or potatoes. Vitamin E is from soy. If you are so reactive to soy you can't take vitamin E, try tocotrienols instead.

Table 7.1	
The core four essential supplements	
SUPPLEMENT	**HOW MUCH AND HOW OFTEN**
magnesium e.g. citrate, glycinate, malate*	**100 to 200 mg, three or four times a day (with meals and at bedtime)**

vitamin C, Buffered **	**1 to 2 gm, three or four times a day (with meals and at bedtime). You can also take an additional 250-500 mg with each chelator dose.**
vitamin E (natural or d-form)	**1,000 IU per day**
zinc	**50 mg one a day with a meal**
*** Do not use oxide, hydroxide or carbonate because they are poorly absorbed. Other forms are fine.**	
****Vitamin C is an acid. If you take the ascorbic acid form it may give you heartburn. Buffering prevents this.**	

Table 7.2

Other basic supplements you may need

SUPPLEMENT	HOW MUCH AND HOW OFTEN	WHY
adrenal cortex*	**50 to 250 mg, three or four times a day**	**details in section 8.3.2**
phosphatidylcholine	**One to two gm with**	**details in section 8.7.2 (liver), 8.10.2**

(lecithin)	**meals and at bedtime**	**(concentration and mood) and 8.11.2 (depression)**
omega 3 oil: fish or flax	**Up to three tbsp (about 45 ml) flax oil or one tbsp (about 15 ml) fish oil daily**	**details in section 8.10.2 (concentration and mood) and 8.11.2 (depression)**
vitamin A	**25,000 IU per day**	**increases immunity**
*** Be careful to get "adrenal cortex" and not a whole adrenal product that contains both the adrenal cortex and the adrenal medulla.**		

7.2 The protocol

7.2.1 The first three months after amalgam removal or your last exposure to mercury

1. You can start DMSA or DMPS four days after your last exposure to mercury. In most cases this means four days after getting your last amalgam removed. You can also choose to take no chelators at all at this point.

2. Start with between 25 and 50 mg of DMSA or DMPS.

3. You take DMSA every four hours or less, you take DMPS every eight hours or less.

4. The minimum round is three days and the intervening two nights, which is about 64 hours. The rest of the week is used to recover. **DO NOT SKIP THE NIGHTTIME DOSES!**

5. You can do longer but never shorter rounds. Be sure to take at least four days off between rounds to recover.

6. If you miss the scheduled dose of DMSA by more than one hour or DMPS

by more than two hours, stop the round and start over the following week.

7. If you've missed a dose and taken the next one anyway, continue the round to the end and expect to experience substantial side effects.

8. If you take a double dose by mistake continue the round as though nothing had happened.

9. Never increase or decrease dose, change chelators or vary the timing in the middle of a round. This is how you decide if you are at the right dose:

- if your symptoms are bearable, stay at your starting dose.

- if they are really awful and you can't stand it stop and halve your dose the next round. If you felt your experience was especially bad you can reduce it even more than this.

- if you don't feel anything you can double your dose on the next and every new round until you find the dose that is appropriate for you. If you are a person with a lot of symptoms or are very sensitive to everything, increase your dose by 50% or less.

- the appropriate dose is where you feel something is happening but it is tolerable. The side effects shouldn't be so bad that you can't chelate every week or every other week. Feeling tired, cranky and depressed the day after the round ends is normal. If you continue to feel worse for more than one day, the dose is too high. You should be able to continue with your normal life and obligations.

10. Once you have found your tolerated dose, stay with it for about six months. At this point, if you feel you can tolerate your chosen dose well, you may try to increase. Adjust it up until you find a new tolerated dose. We suggest a 50% increase at first, but use your own judgment as to how cautious you wish to be based on how sensitive you are.

11. Each time you increase your dose, you should stay at that level for about two months, although the decision about when and how much to increase is highly individual.

7.2.2 Adding alpha lipoic acid after three months

(We have repeated some of the information in the section above word for word so you don't have to go back and forth and risk losing your place.)

After three months have elapsed since your last exposure, you can add ALA to your chelating rounds. For most adults, their last exposure was the date their last amalgam filling was removed.

1. You can take alpha lipoic acid with DMSA **or** alpha lipoic acid with DMPS, **or** alpha lipoic acid by itself.

2. Start with between 25 to 50 mg of alpha lipoic acid. If you are sulfur food sensitive[1] start low, perhaps 12.5 mg. or even less. If you **need** a lot of sulfur foods, you'll likely do well with a generous dose.

3. You take alpha lipoic acid every three hours or less. At night, you can take it every four hours in order to have less interrupted sleep. **YOU MUST NOT SKIP THE NIGHTTIME DOSES!** Most people are OK with dosing every four hours at night, but some people need to stay at every three hours around the clock. A few may need even more frequent dosing. Dosing more frequently reduces side effects.

4. If you are taking alpha lipoic acid with another chelator you should adjust the other chelator's schedule to fit the alpha lipoic acid schedule. For instance, take the DMSA every three hours along with the alpha lipoic acid, or take the DMPS every second dose of alpha lipoic acid.

5. The minimum round is three days and the intervening two nights, which is about 64 hours. The rest of the week is used to recover.

6. You can do longer but never shorter rounds. Be sure to take at least four days off to recover.

7. A certain amount of experimentation may be needed to figure out which combination of chelators is right for you. Usually, however, alpha lipoic acid and DMPS is the best combination for controlling symptoms.

8. If you miss your scheduled dose of alpha lipoic acid by more than 1 1/2 hours, (1/2 hour for the night time four hours scheduling of alpha lipoic acid), stop the round and start over the following week.

9. If you've missed a dose and taken the next one anyway, continue the round to the end and expect to experience significant side effects.

10. If you take a double dose by mistake continue the round as if nothing had happened.

11. Never increase or decrease the dose or change chelators or timing in the middle of a round.

12. This is how you decide if you are at the right dose:

• if your symptoms are bearable, stay at your starting dose.

• if they are really awful and you can't stand it, stop and halve your dose the next round. If you felt your experience was especially bad you can reduce it even more than this.

• if you don't feel anything you can double your dose on the next and every new round until you find the dose that is appropriate for you. If you are a person with a lot of symptoms or are very sensitive to everything, increase your dose by 50% or less.

• the appropriate dose is where you feel something is happening but it is tolerable. The side effects shouldn't be so bad that you can't chelate every week or every other week. Feeling tired, cranky and depressed the day after the round ends is normal.

If you continue to feel worse for more than one day, the dose is too high. You should be able to continue with your normal life and obligations.

13. Once you have found your initial tolerated dose stay on it for about six months. At this point, if you feel you can tolerate your chosen dose well, you may increase. Adjust it up until you find a new tolerated dose. We suggest a 50% increase at first, but use your own judgment based on how sensitive you are as to how cautious you wish to be with this increase.

14. Each time you increase your dose, you should stay at that level for about two months, although the decision about when and how much to increase is highly individual.

15. Do not add or subtract chelators during a round.

7.2.3 Schedules for taking supplements

Here are some examples of chelation schedules:

TABLE 7.3		
Chelator schedule: every 3 hours. Use for alpha lipoic acid or alpha lipoic acid and DMSA		
DAY 1	**DAY 2**	**DAY 3**
Start	**12 am**	**12 am**
6 am	**3 am**	**3 am**
9 am	**6 am**	**6 am**
12 pm	**9 am**	**9 am**
3 pm	**12 pm**	**12 pm**
6 pm	**3 pm**	**3 pm**
9 pm	**6 pm**	**6 pm**

	9 pm	**Stop**

Table 7.3. *This is the most common type of schedule.*

TABLE 7.4		
Chelator scheudle: every 4 hours. Use for DMSA		
DAY 1	**DAY 2**	**DAY 3**
Start	**3 am**	**3 am**
7 am	**7 am**	**7 am**
11 am	**1 lam**	**11 am**
3 pm	**3 pm**	**3 pm**
7 pm	**7 pm**	**7 pm**
11 pm	**11 pm**	**11 pm**
		Stop

Table *7,4. Easy$_y$ regular and convenient. Alarms are necessary at least at night. Alarms and a checklist are helpful and we strongly suggest you use them, but on this schedule you may be able to simply watch the clock and remember to take*

your dose.

TABLE 7.5		
Chelator schedule: three hour schedule with four hours at night Use for alpha lipoic acid only or alpha lipoic acid and DMSA		
DAY 1	**DAY 2**	**DAY 3**
Start	**2 am**	**1 am**
7 am	**6 am**	**5 am**
10 am	**9 am**	**8 am**
1 pm	**12 pm**	**11 am**
4 pm	**3 pm**	**1 pm**
7 pm	**6 pm**	**5 pm**
10 pm	**9 pm**	**8 pm**
		11 pm
		Stop

Table 7.5. *Due to the varying time interval between doses, this schedule does not conveniently work out to be the same time every day. You'll want to make a check list and mark off each dose as taken to keep track. You will need to set alarms.*

If you have bad symptoms on a round it sometimes helps to shorten the interval between chelator doses. This may seem counterintuitive, but shortening dosing intervals stabilizes blood chelator levels further and minimizes redistribution. For instance, take the alpha lipoic acid every two hours or two and a half hours rather than three. Two hour and 40 minute dosing is particularly convenient because dosing happens at the same time every day. This schedule is given as an example below.

TABLE 7.6		
Chelator schedule: two hour 40 minute dosing schedule Use for alpha lipoic acid or alpha lipoic acid and DMSA		
DAY 1	**DAY 2**	**DAY 3**
Start	**1 am**	**1 am**
6:20 am	**3:40 am**	**3:40 am**
8 am	**6:20 am**	**6:20 am**
10:40 am	**8 am**	**8 am**
		10:40

1:20 pm	**10:40 am**	**am**
5 pm	**1:20 pm**	**1:20 pm**
7:40 pm	**5 pm**	**5 pm**
10:20 pm	**7:40 pm**	**7:40 pm**
	10:20 pm	**10:20 pm**
		Stop

Table 7,6. *You will definitely need alarms and checklists to keep track of a dosing schedule like this. It is worth doing if it makes chelation more comfortable.*

7.3 How long does this take?

Unfortunately, the answer to this question is different for every person. It is usually a long time. You can consider yourself done when you can get to 200 or 300 mg of alpha lipoic acid without any side effects and without any further improvements. At that point, you should continue chelating for another six months just to be sure. From start to finish the process can take between one to five years or more, but much relief occurs along the way. There is no way to tell how long it is going to take any particular person, so stop worrying and start chelating!

Barring some extremely rare genetic issue, your body is designed to be healthy. Poisonous metals make it hard for it to be in this healthy state. Every round you

do makes it easier for your body to readjust back to health. This can take a long time and there can be a “roller coaster” or a “two step forward one step back” element. Chelating is not difficult, complicated or expensive, but it is not fast or exciting, either. It is a tedious job, but you need to make it your new way of life until you feel well again. It requires patience and persistence to chelate heavy metals out of your body and recover your health.

7.4 If you are having a difficult time chelating

If you are having a difficult time chelating, you may be taking a dose of chelator that is too high, or not using enough supporting supplements. Some people also find that **shortening** the interval between doses helps when they are having a hard time.

You might be having a difficult time because:

- you have hidden amalgam. Hidden amalgam refers to a previously undetected fleck left behind by the dentist, or undiscovered amalgam hiding under a crown. This can be a cause of no progress or getting very sick from chelating.

- you are routinely taking supplements (such as multivitamins) that have alpha lipoic acid as an ingredient. Taking any form of alpha lipoic acid off your chelation schedule will certainly cause problems as you will be taking it off protocol. You must carefully read the ingredient list of every supplement you take, and recheck periodically as formulas can change.

- you may be going through the “dump phase,” which is described below.

7.5 The “stall phase” or “dump phase”

When you start to detoxify mercury (and this is unique to mercury) you will feel better for a while, then feel worse for a while, and then start feeling better again. We call this difficult period the “stall phase” or “dump phase.” It sets in six or nine months from first starting to detoxify. For most people, detoxification starts when they get their last amalgam filling removed. It usually lasts for several months. If amalgam removal, or the last mercury exposure is far in the past, the dump phase may be initiated by beginning chelation.

When the body is no longer exposed to new mercury coming in, it is able to dump what it can from the organs into the blood. This is caused by the equilibrium mechanism between extracellular and intracellular mercury. When the extracellular level is lower than the intracellular level, the mercury will tend to move out in to the blood stream.

This dump phase will cause you to feel bad or, at best, as though you are not making any progress. The best thing to do is not to get discouraged. Chelate right through it. Chelating and taking supplements is what will help the most with symptoms. If you panic, and stop chelating and taking your supplements, you will continue to feel bad and not get any better.

Unfortunately, your doctor was not taught about the dump phase in school. If you start chelating then go to a doctor who offers chelation to his patients and talk about how you are getting worse, you're likely to end up being diagnosed with something you don't have. You will probably be told to stop what you are doing, and get much worse as a result.

The dump phase, once it gets underway, is like a roller coaster ride. There are considerable ups and downs. It is difficult to figure out what is actually happening. It's not clear whether something new is wrong or if it is "just the dump phase." The experience can be emotionally traumatic because of the uncertainty and this often leads to anxiety, fear and the bad decision to change what you are doing.

The symptoms you are experiencing are not new problems; nothing new is suddenly appearing. You need to avoid the mistake of thinking your supplements have stopped working, or that something new is wrong with you or that you need to stop chelating. Assume whatever bad things are happening are due to the dump phase. Adhere religiously to your diet, drug and supplement regimen. As long as you feel confused, don't make any changes. It's hard to tell what is happening until it is all over.

Sometimes the dump phase is so subtle, it is hard to tell if you are in it or not. If you are several months or more into detoxifying and believe you haven't hit this phase, you have to assume that any problems you are having **are** the dump.

Detoxifying during the dump phase is a bit like driving on ice. It is not a good idea to make any sudden changes of speed or direction or you'll drive off the

road. If you have troubling symptoms and have waited several months and are certain that you need to try a new approach, then you can consider a change. If trying something new (which in most cases will be some kind of pill or medicine) doesn't give prompt relief, go back to what you were doing before.

Once things turn around and you start getting better again, you know you have completed the "detox roller coaster ride."

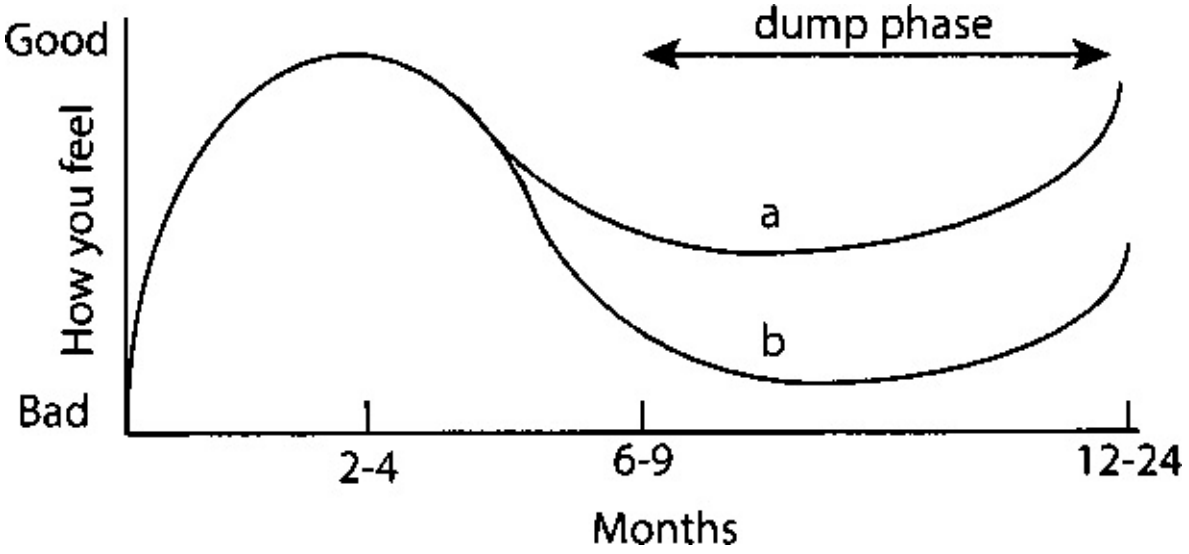

Figure *7.1. A chart with two different scenarios for the dump phase or "detox roller coaster ride. "Note that the curves and timescales are schematic and approximate.*

* *a is if you continue chelating and taking your supplements*

* *b is if you panic and start doing something else than chelating and taking your supplements*

7.6 What does methylation have to do with mercury detoxification?

Methyl mercury, the kind found in fish, is fat soluble and very easy to absorb. Once it is in you, your body takes the methyl group off and transforms it into the more dangerous, water-soluble inorganic mercury. It gets past your cell membranes to start in its methylated form, but then it is demethylated and not fat-soluble anymore. It gets stuck in whichever cell or organ it wound up in.

Mercury vapor is another form of mercury that is extremely easy to absorb. It

evaporates from mercury amalgam fillings and when you breathe it in, it shoots right through your cell membranes, and, just like the methyl mercury, turns into inorganic mercury which can't come back out.

Inorganic mercury is the dangerous form of mercury that does all the damage. In mammals inorganic mercury cannot be remethylated and excreted. Mammals don't have the enzyme that allows this to happen. No matter how many methylating supplements you take, you cannot remethylate that mercury. It is stuck inside you behind lipid barriers and it will never come out on its own.

You don't have the right enzyme to methylate mercury. Fish do. They can remethylate mercury and move it out of their brain and other organs. This is why fish can have such high mercury levels and remain healthy. The fish stay healthy, but the people and other mammals that eat these fish become horribly toxic.

To sum things up: in mammals and birds, methylation has nothing to do with detoxifyng mercury. In fish, methylation keeps the mercury in them safe. Nothing you can do about methylation will help your detoxification pathways clear out mercury. You don't have the right enzyme. You can't remethylate mercury. Only fish can remethylate mercury.

7.7 Chelating lead

The conventional belief is that once you have lead poisoning nothing can be done. This is not true. Lead can be chelated out of your body[2] years or decades or even half a lifetime after you got it. The approach, however, is a bit different from chelating mercury.

The body stores lead in the bones. It needs to be chelated out of the blood so the bones will release their stored inventory. Getting rid of lead takes several years because you have to chelate the blood, wait for it to fill up again from the bones, and then chelate some more. No chelator will remove lead from the bones directly so there is no way to speed things up. The good news is DMSA works far better for lead than anything does for mercury, so you only have to chelate one weekend every month or two once you get past the early stages of the process. DMSA is easy to take orally, unlike EDTA, and poses no risk of making your mercury problem worse.

Basic supplements for lead are the same as those for mercury except that you

don’t need the zinc and magnesium.

7.6.1 Protocol for chelating lead

1. Make very sure there is no current exposure before starting chelation for lead. This means educating yourself about all the places lead can be hiding, checking if there is any lead in your environment and getting it cleaned up. There should also be no current exposure to mercury as DMSA will chelate that, too.

If there may be an ongoing exposure, do not take molybdenum or vitamin D. Take 250 mg of calcium citrate, or a combination of calcium and magnesium, with each meal until you are certain there is no ongoing exposure.

2. Do eight rounds of DMSA as explained above in section 7.2.1.

3. After these initial eight rounds, do one round of DMSA every one to two months. Continue this for three to five years.

4. As with mercury it is difficult to know when you are done chelating. You have to go by symptoms because a hair test will show normal toxic element levels long before you are well.

5. You can chelate lead at the same time you are chelating mercury.

6. For sources of exposure to lead, see *Hair Test Interpretation*, pages 73-74. For symptoms, see pages 97-101.

8 PROBLEMS YOU MAY ENCOUNTER ALONG THE WAY AND WHAT TO DO ABOUT THEM

8.1 Why take supplements?

Being toxic causes symptoms. Symptoms are experiences and sensations that cause suffering and impair your life. Chelating mobilizes metals causing even more symptoms. The symptoms will slowly become fewer as the levels of metal in your body come down.

Chelation takes a long time, but in the meantime, there are things you can take to feel better.

Dietary supplements and prescription drugs are all chemicals. Neither are magically better than the other. We simply want you to use those chemicals that will make you feel better. Our experience has been that dietary supplements are more likely to be tolerated and are often as useful as drugs, although for certain conditions prescription drugs are necessary and do work better.

There are an enormous number of supplements to help you feel better while you detoxify. How many you use depends on the particulars of your health situation. It can also depend on your personal preferences, your finances, what kind of health insurance you have or other practical constraints. It is not necessary or appropriate to take everything we discuss.

How a person will react to a particular chemical—a medication or supplement—will depend on their constitution. While the tables in this chapter list different things you can try, there are many other options. Some are presented in *Amalgam Illness, Diagnosis and Treatment* as well as other books. Chemically sensitive or highly allergic people may have to experiment with brands and varieties to find products they can tolerate.

It can be difficult to identify what is causing a particular symptom. Poor liver function, adrenal fatigue, low thyroid or all of the above at once can cause fatigue. Poor liver function, yeast overgrowth, food allergies or all three at once can cause indigestion.

Try only one supplement at a time so you can figure out if something is helping you or causing a problem. For the same reason, we recommend that people not use most multi-vitamins or other multi-formulas as it is difficult to figure out which ingredient is having a particular effect. (Vitamin B complex is one exception and many adrenal combination supplements also work well.)

If you insist on starting several supplements at once, at least keep good records! Try to keep a notebook or supplement diary. Noting on your calendar when you start and stop each one can be helpful.

Keep in perspective that the most important thing you can do is chelate and detoxify. Don’t get preoccupied with fine-tuning your supplement regimen and forget your goal. Your goal is to get so healthy you won’t need pills anymore.

Chelation is how you will get there.

8.2 Prescription medicines

Although medical doctors know next to nothing about mercury detoxification, they usually know a lot about prescription medicines and what those medications do. Don't be rigid and decide you will only use "natural" substances. Prescription medicines can sometimes be much more effective than a supplement. At the same time, don't assume medications are **always** more powerful and effective. Use what works for your problem.

If you have anxiety or depression, there is no shame in getting something to help. Sometimes this comes in the shape of a prescription pill. If you have seizures, you will almost certainly **need** prescription medicine. The early stages of chelating will increase your risk of getting seizures and there are very few nonprescription remedies that are effective.

8.2.1 A note about mental illness

If you are diagnosed with a mental illness, you should not stop your medications while chelating. We have found that staying on medication is important to success. There will be plenty of time to get off the medications once you are healthy. Chelating is what will make you not need them anymore—and have all your friends, family and doctors agree with you for once!

We appreciate that a lot of people who have been prescribed psychiatric medicines hate them. The medications can make you feel groggy, sedated, emotionally flat, spaced out, glassy eyed and not like yourself at all. They can make you gain weight, too. But part of what the medications do is to put you in a state where you can stick to things and chelation takes a lot of sticking to!

Another thing the psychiatric medicines do is modify your behavior, which makes other people happy. This may seem a cruel thing for doctors to use medication for, but it does have the benefit of getting other people to cooperate and help you. If you can stick to the program and get some help, you will be able to detoxify enough so eventually you may not **need** any medication. If you stop the medication too soon and aren't stable enough to chelate, you are going to end up under tremendous pressure to take medications for the rest of your life.

If people insist you take medications you don't like, insist they help you chelate. It's a fair trade. You give them something (you take the pill), they give you something (they help you chelate).

Andy's experience was that people who have been prescribed psychiatric medicines and take them are able to stick to chelation and get better. People who do not take their medications almost never stick to chelation long enough for it to do any good. We know the medications make a lot of people miserable and we certainly encourage you to get your doctor to adjust them so you are as comfortable possible!

8.3 Adrenals

Almost every mercury-toxic person has adrenal issues. Sometimes it is because the **adrenal glands** themselves have become poisoned and sometimes it is because the parts of the brain that control these glands are poisoned. All too often both the brain and the glands are poisoned.

Impaired adrenal glands usually make **adrenaline** just fine in the **adrenal medulla,** but do not make enough steroid hormones—**cortisol** being the main one—in the adrenal cortex. This discussion is about adrenal cortex problems.

Adrenaline is what your body uses when your prehistoric "fight or flight" reflex is set off or when you are having a lot of fun. Cortisol is what your body uses to help rest, digest, and recover. People with under-functioning adrenal glands have too much "fight or flight" and not enough "rest and digest". They don't have enough cortisol available, so when they are under stress they end up running on adrenaline. It takes them a long time to recover from stress.

As mercury builds up in the adrenal glands, their function slowly declines. First, your adrenal function will be a bit low and you'll have a hard time keeping up with your healthy friends or former lifestyle. As time goes on and function declines even more, your fatigue and inability to recover from stress will get worse. In the early stages **androgen** output is preserved, so women retain their libido and, in fact, it may increase. As the adrenal glands become more impaired androgen falls. Women but not men, lose desire for sex.

When the part of the brain that regulates the adrenal glands gets poisoned, it loses track of when to make cortisol. You might not make enough cortisol to get

up in the morning, but make plenty at bedtime and be unable to go to sleep. You might be doing fine with routine activity but any time something out of the ordinary happens, your brain forgets to tell your adrenal glands to react and you crash. At best, you feel horrible; at worst, you could wind up bed ridden for days. Even if the stress was fun, you will crash afterwards. When your brain doesn't run things right it is difficult to compensate other than by avoiding stress and being very careful to keep regular hours.

While your adrenals can't make adequate cortisol, they can still produce plenty of adrenaline. Some people, who feel exhausted all the time, will push through the fatigue and keep going on adrenaline. Don't run on adrenaline! Don't push through fatigue. Learn to recognize when to stop and rest.

Other people like the way adrenaline makes them feel. It is mood elevating, energizing and fun. They can surf a wave of adrenaline excitement for a while by experiencing urgency and drama. Don't become addicted to drama! Don't surf the adrenaline wave! When you run on adrenaline, you are borrowing energy against future cortisol production. That wave will eventually recede and leave you behind as a quivering pile of metabolic wreckage. Be careful, be aware and pace yourself! You'll feel better on average and get more done in the long term if you stay away from that happy, wide-eyed roller-coaster-ride excitement.

For a more complete discussion of how to test for and treat underactive adrenals, see *Amalgam Illness*, pp. 118-122. To find out how to recognize an adrenal sign on a hair test, see *Hair Test Interpretation* pp. 112-113.

8.3.1 Symptoms

People with adrenal fatigue:

□ have a hard time getting up in the morning

□ are tired as soon as they get out of bed

□ struggle to keep up with life's demands

□ are fatigued all the time

□ are weak

- are extra sensitive to pain, smell and taste
- may crave salt and need carbohydrates

Sometimes they are thin, anxious and shaky. They can eat a lot without gaining weight and have frequent nausea. Later in the progression of toxicity and adrenal fatigue they can be quite obese. They suffer from low motivation, depressed mood, lack of energy, listlessness and they feel weak and tired. They often stare blankly off into space. They have poor judgment. Other people find them obsessive (particularly about their health), incoherent and unfocused.

8.3.2 Adrenal support supplements

8.3.2.1 Adrenal cortex

The most likely supplement to help with adrenal stress is adrenal cortex[3]. Adrenal cortex is made from the freeze-dried adrenal glands of cows. It provides nutrients which help your own adrenals function normally. It does not contain hormones and will not cause adrenal suppression even if used for a long time and in high doses.

Some people have a paradoxical response when they first use adrenal cortex. They become agitated because the adrenal glands temporarily produce extra adrenaline. This reaction is temporary but you should start adrenal cortex at a low dose and build up to be sure you tolerate it.

Some products contain both the adrenal cortex and the adrenal medulla. You do not want to use these whole gland products as they will contain adrenaline. Just use the plain adrenal cortex.

8.3.2.2 Adaptogens

Licorice, *Rhodiola rosea*, ashwaganda, *Schisandra* and holy basil (also known as tulsi) are called adaptogens. All the adaptogens relieve anxiety and stress. They all help you to be more clear-headed and have better mental focus by modulate your immune system and helping it work better. They improve your energy, stamina and sense of well-being. They support liver health, help you fight off viruses and respiratory infections, improve chronic fatigue and reduce hot flashes in menopause. They relieve anxiety and obsessive feelings.

Licorice will perk you up immediately, give you a lift and some energy. It will relieve dry mouth and respiratory dryness. It soothes the digestive tract, helps retain sodium and may help with chemical sensitivity. It is mildly antiviral.

Rhodiola rosea improves sexual function in men and women, corrects heart arrhythmias and improves healing. It does not cause racing thoughts or giddiness, but some people need to avoid it in the evening.

Ashwaganda (also spelled ashwagandha) increases thyroid function modestly, improves sexual function in men and women and helps with menopause. It is a nightshade, which some people should avoid, e. g. those with arthritis. Ashwaganda has a higher side effect profile than the other herbs. It gives some people nausea and may cause vomiting, while others can get diarrhea. While calming and relaxing to most, it does make a few people edgy.

Schisandra is good for fibromyalgia and nerve pain, is good for your liver, improves allergy and asthma, reduces symptoms of menopause and helps normalize your circadian rhythm.

Holy basil will make you calm, peaceful, help with heart arrhythmias and increase your temperature and body heat. It is sometimes not tolerated by chemically sensitive people.

8.3.2.3 How to take adaptogens

Table 8.1	
Supplements to help with adrenal support	
SUPPLEMENT	**HOW TO USE IT**
adrenal cortex	• **as much as you need** • **from 2 to 10 or more capsules a day**

ashgawanda	**500 mg in the morning and afternoon**
electrolytes	**throughout the day as desired**
holy basil/tulsi	**500 mg of extract or 1 cup of tea once or twice a day**
licorice	**solid extract: one capsule or tablet two or three times a day, or as needed in any form**

Table 8.1

Supplements to help with adrenal support

SUPPLEMENT	HOW TO USE IT
Rhodiola rosea	**200-500 mg extract once or twice a day, not in the evening**
Schisandra	**Extract: 250 mg twice a day -OR- Fruit: 2 grams twice a day**

Holy basil, *Rhodiola rosea, Schisandra* and ashwaganda should be taken on a schedule. For instance, many people take their holy basil as a tea made from 1 tsp of leaves twice a day. Start with the dose recommended on the bottles. Some people will find these adaptogens too stimulating if taken in the evening.

You can take licorice on a schedule or whenever you feel you need a boost. You can use licorice supplements or many licorice candies (that contain licorice solid extract) for this purpose.

8.3.2,4 Electrolytes

Some people have to supplement with a lot of electrolytes because the adrenal glands have got so sick that they do not regulate salt properly. If you are one of these people, it may be helpful to drink an "electrolyte cocktail" throughout the day. You can adjust the recipe to taste by varying the amounts of the different salts somewhat. If it tastes good, then you have got the recipe right and it is good for you.

ADRENAL ELECTROLYTE COCKTAIL

2 quarts* water (or orange juice)
1 tbsp Epsom salts 1 tbsp table salt
1/4 tsp potassium chloride (cream of tartar also works)**
1 tsp baking soda

Reduce the salt if you experience bloating.

Bicarbonate of soda will cause fizzing.

*** One US quart equals 0.96 liters, so it's ok to use two liters for this recipe.**

**** If the potassium chloride tastes bad, leave it out. See page 99 of** *Amalgam Illness* **for more information on potassium supplementation.**

8.3.3 Help from your doctor

People with particularly bad adrenal problems may want to ask their doctor to prescribe **hydrocortisone** (which many doctors will be reluctant to do). The safe dose for long term daily use for an adult is 20 mg or less.[4] Using more can become dangerous in a few weeks. **Do not double up or be innovative with this medicine.** Hydrocortisone should be used in addition to the adrenal supplements you are already taking when these are clearly not doing enough for you.

8.4 Thyroid

Thyroid hormone levels in the body are regulated by a complex feedback loop,

which involves the thyroid itself and the **hypothalamus** and **pituitary gland** in the brain. The hypothalamus and the pituitary gland monitor hormone levels in the blood. They then communicate with each other and the pituitary sends **TSH** to the thyroid gland which causes it to let out its two hormones, **T3** and **T4.** These hormones are sent to every cell in the body via the bloodstream and direct the cells to run the chemical machinery which is the metabolism.

The liver also gets involved by converting T4 to T3 in response to other body regulatory signals. T3 and T4 have similar but not identical effects throughout the body. There are receptor molecules with different affinities for each of them. For example, T4 makes your heart beat faster and harder, T3 does not. T3 elevates your mood, T4 does not.

Tables 8.2

Differences between the various adaptogens

	SCHISANDRA	RHODIOLA	ASHGAWANDA	HOLY BASIL	LICORICE
Helps with insomnia	**Yes***	**Yes**	**Yes**		
Helps with diabetes	**Yes**	**Yes**	**Yes**		**Yes**
Lowers high cholesterol	**Yes**	**Yes**	**Yes**	**Yes**	
Blood pressure	**Normalizes**	**Varies †**	**May lower**		**Increases**

Relieves PMS‡	**Yes**	**Yes**			
Relieves PCOS§		**Yes**			**Yes**
Relieves digestive distress	**Yes**			**Yes**	**Yes**
Expectorant				**Yes**	**Yes**
Improves thyroid status			**Yes**		
Improves motivation			**Yes**		
*** May interfere with sleep if taken in the evening**					
† Depending on your dose and sensitivity, it may either raise or lower your blood pressure					
‡ Pre-menstural syndrome					
§ Polycistic ovary syndrome					

Mercury can interfere at many stages in the brain-thyroid control loop. It can cause every variety of thyroid disease. It can interfere with how the brain puts out TSH to signal the thyroid to produce hormones. It can interfere with how T4

is transformed into T3. It can stop the hormones from getting into the cells where they do their job. It can make your thyroid vulnerable to attack by the immune system.

8.4.1 Symptoms

Thyroid hormones do many things but their main job can be described as ‘revving up your engine’ to make you warmer, more energetic, more active and leaner. Low thyroid hormones can make people slow moving, placid, sleepy and indifferent. They may tire easily, wearing out by late afternoon and evening. They tend to be forgetful and may be mildly depressed. They often have a low body temperature of 97°F (36°C) or less and prefer to dress very warmly. Their grip may be weak; they may have trouble with tasks like taking the lids off of jars.

Other common symptoms of low thyroid are:

- □ puffy eyelids
- □ dry, coarse skin even though it looks smooth and young[5]
- □ fine, dull, dry and brittle hair
- □ loss of the outer half of the eyebrows
- □ hoarse voice
- □ snoring
- □ little bits of light green residue in the eyes upon awakening
- □ swollen tongue and biting the edges of the tongue by accident
- □ high cholesterol
- □ carpal tunnel syndrome
- □ constipation

8.4.2 Supplements

There are a few thyroid support supplements that contain selenium[6], 1-tyrosine, iodine[7], and assorted herbs such as guggul, ashwaganda and forskolin *(Coleus forskohlii)*[8]. These supplements may also contain adrenal support herbs. In all but the mildest cases, however, you will need to use thyroid hormone itself, as thyroid support supplements are only modestly helpful.

If you are relying on nutritional supplements to support your thyroid function, you will need to avoid raw foods: broccoli, cauliflower, Brussel sprouts, cabbage, turnips, peanuts, pine nuts and soy products. These contain compounds that interfere with thyroid function. Avoid them for a few months then reintroduce them in cooked form if you like them and don't have problems with them otherwise. Cooking these foods well makes them safe for most people.

8.4.3 Help from your doctor

Thyroid hormones are prescription only in the USA. If you do get a prescription for this from your doctor you should ask for a product that is a combination of **T3** and **T4,** like Armour Thyroid or Naturethroid which are made from dessicated animal thyroid.

Doctors will usually only want to prescribe T4, which is only one of the hormones that the thyroid produces. T4 was patented and is a brand name medicine, but it does not work as well as the natural dessicated thyroid medicines or pharmaceutical combinations of T3 and T4. The manufacturer of synthetic T4 spread the myth that T4 works better. After a court case in 2000, which they lost[10], Andy received compensation as did everyone else whose doctor had put them on Synthroid brand T4. Unfortunately, many physicians are still not aware that a combination of T3 and T4 is the best way to treat the thyroid, so you have to advocate for yourself.

You will have to advocate for yourself to get proper testing, too. Some doctors only test for TSH, which is just one step in the whole process of how the thyroid works. A proper thyroid test measures TSH, free T3 and free T4. Anything less is inadequate.

The doctor may look at a normal TSH result and insist you are fine. If he says you have "subclinical" hypothyroidism, he's wrong. Abnormal test results and symptoms to match[11] mean you have hypothyroidism. If he won't prescribe,

herbal supplements will occasionally work. If not, demand treatment or change doctors.

Adrenal and thyroid function interact. Each places a burden on the other. If both your thyroid and adrenals are low due to mercury (which is common) then only helping your thyroid will stress your adrenals and vice versa. People with both adrenal and thyroid problems are better off starting to work on their adrenals first because pushing your adrenal function down is much more unpleasant and debilitating, and happens much more quickly, than pushing your thyroid function down. The adrenals can be supported with nutritional supplements, which can be bought over-the-counter. Thyroid support in all but the mildest cases requires prescription medicine.

Often thyroid problems are recognized and treated first. If you've been treated for low thyroid and you feel worse instead of better, it may mean you need to resolve your adrenal problems. Supporting your adrenals will make you feel a lot better. It will also allow you to benefit from thyroid treatment.

If you do take thyroid hormone you may need to increase your intake of magnesium and potassium, especially if you start to get muscle cramps. Potassium chloride is available in grocery stores as a salt substitute.

Mercury sometimes causes the thyroid hormones to become too high. In this case, you will need to seek medical care. The nutritional supplement lemon balm may help alleviate mild symptoms.

8.5 Diabetes and blood sugar

Diabetes is caused by your body's inability to regulate blood sugar. There are three types of diabetes: type 1 (formerly called juvenile onset diabetes), type 2 (formerly called adult-onset diabetes) and gestational diabetes. We will be talking about type 1 and type 2 in this section.

Type 1 diabetes is a form of autoimmune disease. Some environmental trigger (usually a virus) will cause your body to attack the insulin manufacturing cells in the **pancreas.** As a result, your body will no longer make insulin. Insulin is needed to get energy into your cells, and without it you would die. If you are a type 1 diabetic, you will need to take injected insulin daily to allow your body to function normally.

Type 2 diabetes is part of a constellation of symptoms known as **metabolic syndrome** or **insulin resistance syndrome.** The symptoms of metabolic syndrome are obesity, high blood pressure, high blood sugar and high cholesterol. If your doctor diagnoses you with metabolic syndrome, he will try to treat each of these symptoms individually. However, he is not treating the root cause. Chelating will help with all of these symptoms.

When you have diabetes, your body will have a hard time handling carbohydrates. You can make it easier on your body by eating fewer carbohydrates. You will generally be given bad advice about this from health care providers. Ignore it. Don't get half or more of your calories from carbohydrates. Make it a third or less. Much less if you can. Before there were diabetes drugs, doctors prescribed an Atkins or **ketogenic** style diet for diabetes with good success. Many people who try this today report that it still works well.

If you are hungry and want to snack all the time whatever you are doing for blood sugar control is not adequate. You need to do more which may mean going to see your doctor to get extra medication.

Using artificially sweetened products will sometimes cause difficulty with blood sugar regulation. Your brain can react to the fake sugar as though it were encountering real glucose. Your pancreas will then release insulin in to the blood which signals the cells to take up glucose. But there won't be any real glucose in the intestines for the body to absorb to replace the glucose taken up into the cells.

If you have prediabetes, which is a fasting blood sugar between 100 and 125 mg/dl[12], or a hemoglobin Ale between 5.8 and 6.4, the supplements in Table 8.3 will control your blood sugar, make you feel a lot better, and buy you time to chelate before you do turn diabetic.

8.5.1 Symptoms

Symptoms common to both type 1 **and type** 2 **diabetes are:**

- □ increased thirst
- □ frequent urination

□ fatigue

□ blurred vision

□ slow healing cuts or sores

□ numbness or tingling in your hands or feet

□ dry, itchy skin

□ rapid weight loss or gain

□ yeast infections

8.5.2 Supplements

If you have type 2 diabetes, in the long term it is chelation that will allow your body to regulate blood sugar properly and get better. In the meantime, there are some supplements that will help. These supplements *may* allow you to cut back somewhat on your medications but please approach doing this with thought and care.

• berberine is as effective as standard diabetes drugs, and unlike them is **good** for your liver. You can use it if you need to add another agent or replace or reduce one you are on now. Berberine is roughly equivalent to metformin or lower doses of glipizide.

• bitter melon is also a nutritional supplement (and food) that reduces fasting blood sugar levels.

• chromium has been found to increase the effectiveness of diabetes drugs and reduce the associated weight gain.

• vitamin B complex as well as biotin plus thiamin are also helpful, but not as effective as medications, berberine or bitter melon.

• supplemental potassium and magnesium. The magnesium in the basic four supplements you are presumably already taking should be sufficient.

Table 8.3	
Supplements to help with diabetes	
SUPPLEMENT	**HOW TO USE IT**
B complex	**B50 or B100 with meals and at bedtime**
berberine	**500 mg with meals**
biotin and thiamin	**• biotin: 5 to 10 mcg[1] with meals** **• thiamin: 250 to 700 mg with meals**
bitter melon	**500-1000 mg with each meal**
chromium	**500 mcg, 2 or 3 times a day**
[1] The bottle may give this as 5,000 or 10,000 meg. 1 mg = 1,000 meg	

WARNING!

We often hear stories about high dose alpha lipoic acid for treating diabetes symptoms. NEVER, EVER use alpha lipoic acid unless you are taking it according to the Andy Cutler chelation schedule. DO NOT take high dose alpha lipoic acid to treat your diabetes!

8.5.3 Help from your doctor

While you can somewhat control your blood sugar levels with diet and exercise, many people will require medication to keep their glucose levels low enough to

prevent side effects.

The first thing you will want is a glucometer (a device to measure your blood sugar level) which your health insurance will most likely cover. But, if you don't have health insurance, glucometers are not very expensive and will allow you to see how diet, exercise, stress and quality of sleep are affecting your blood sugar.

Your doctor will most likely want to put you on medication. Be careful. There are two older types of medications that are relatively safe. The newer medications, however, have many boxed warnings issued by the FDA. Boxed warning (also called black box warnings) are issued after a drug has been approved when serious or life-threatening side effects are discovered. You do not want to be one of the test cases for a black box warning.

The oldest and safest forms of diabetes drugs are **sulfonylureas** and **biguanides.** Sulfonylureas include:

- glipizide (brand names Glucotrol, Glucotrol XL, GlipiZIDE XL)
- glyburide (brand names DiaBeta, Glynase, PresTab)
- glimepiride (brand name Amaryl)

The only currently available biguanide is metformin (brand names Fortamet, Glucophage, Glumetza, Riomet)

Table 8.4		
Diabetes	**medications with black**	**box warnings**
BRAND NAME	**GENERIC NAME**	**WARNING**
Actos	**pioglitazone hydrochloride**	**congestive heart failure**
		•lactic acidosis leading to death

Actoplus Met	**pioglitazone/metformin**	**• congestive heart failure**
Avandia	**rosiglitazone maleate**	**congestive heart failure**
Bydureon	**exenatide**	**risk of thyroid c-cell tumors**
Duetact	**glimepiride/pioglitazone**	**lactic acidosis leading to death**
Invokana	**canagliflozin / metformin**	**•lactic acidosis leading to death** **•risk of lower-limb amputation**
Kombiglyze	**saxagliptin/metformin**	**lactic acidosis leading to death**
Tanzeum	**albiglutide**	**risk of thyroid c-cell tumors**
Trulicity	**dulaglutide**	**risk of thyroid c-cell tumors**
Victoza	**liraglutide**	**risk of thyroid c-cell tumors**

1

See discussion in section 9.3

2

Lead can also be chelated out of your child's body, and the resulting better health and brain function is a wonderful gift to give them.

3

Some people call adrenal cortex “ACE” for adrenal cortex extract. **This is actually a misnomer. Adrenal cortex extract is an entirely different product.**

4

Do not use hydrocortisone for children. It can only be used after puberty.

5

In fact, low thyroid can make older women look younger by smoothing out wrinkles and filling in their bust line. Few people think of this as a sign of illness!

6

As selenomethionine, to help your liver convert the T4 form to T3.

7

Iodine intake should be limited to 500 mcg a day. Taking large amounts will cause your thyroid to be low.

8

Those prone to agitation may find forskolin bothers them.

10

Synthroid Marketing Litigation. MDL No. 1182. (United States District Court for the Northern District of Illinois Eastern Division. 2000)

11

The doctor wouldn’t have ordered the test if you didn’t complain of relevant symptoms.

8.6 Allergies

IgE is the immune globulin in your bloodstream that, when activated by encountering an allergen to which it has been sensitized, makes your nose run, your eyes turn red, your stomach feel uncomfortable, your skin itch, and your lungs wheeze. **IgG** is the immune globulin in your blood that helps your white blood cells find, identify and kill pathogenic organisms. Some people talk about “delayed allergies” or IgG allergies, usually to food. We are limiting this discussion to classical allergies caused by IgE. Mercury causes your body to become allergic to ordinary environmental proteins that are benign by encouraging the formation of new types of IgE.

The most basic way to handle allergies is to stay away from allergens. When you are outdoors, wear long sleeves and a hat. Filter air or breathe through a dust mask. Avoid eating allergenic foods or their mimics[11]. Bathe, shower or at least wash your face and hands often. Pursue indoor activities during allergy season. Use an allergy (HEPA) filter on your furnace and get your heating ducts vacuumed out if you have them. [1]

Adrenal support lets your adrenal glands do their job properly, which helps your body naturally control allergies and not develop more. See the section 8.3 on adrenal support.

8.6.1 Symptoms

Typical symptoms of allergies are:

- □ stuffy or runny nose
- □ itchy, red eyes
- □ sneezing
- □ coughing o asthma
- □ itchy skin
- □ hives

8.6.2 Supplements

When IgE binds to an allergen it sets off a biochemical cascade involving histamine that produces allergy symptoms. There are several places to intervene in this allergy cascade, but you will get the best results intervening at several points rather than trying to intervene very heavily at just one. Each of these agents helps the others work better. The table below gives you a set of synergistic suggestions that can be combined as needed.

Table 8.5	
Supplements to help with allergy symptoms	
SUPPLEMENT	**HOW TO USE IT**
adrenal support	**see section 8.3**
antihistamines	**see discussion below**
calcium and B complex	**300 mg calcium and B100 with each meal**
conjugated linoleic acid (CLA)	**2 grams (3 capsules) per day**

Table 8.5	
Supplements to help with allergy symptoms	
SUPPLEMENT	**HOW TO USE IT**

digestive enzymes	**use as directed on the bottle with meals**
forskolin	**10-30 mg 2 or 3 times a day**
grape seed extract	**250 mg each time you take vitamins**

Antihistamines help control symptoms. There are many different kinds of over-the-counter antihistamines. The reason there are so many is because tolerance and response are individual. Some are supposedly non-sedating—but how you react to antihistamines is an individual matter. Some people will find them very sedating or depressive, others won't. Some might even find one of the older 'sedating' antihistamines to be just fine. You may have to try each one to find out how you react. A dry mouth is a common side effect of all antihistamines.

Allegra, Claritin and Zyrtec are the new supposedly non-sedating antihistamines. Allegra works best if you take a bit more than they say. It is closely related to Seldane (which was withdrawn around 1998) so if that worked for you, try Allegra. Of these three, Claritin lasts the longest, Zyrtec gives the most rapid relief but lasts the shortest time. Allegra is in between on both counts.

Tavist is by far the best antihistamine if you itch a lot. It is moderately sedating. Benadryl is the most sedating of the lot and may even be depressive. Many people take it as a sleeping pill and it is given to agitated people in emergency rooms to calm them down. Many find Benadryl the best at controlling symptoms. Chlor-Trimeton and Dimetapp are fairly effective and somewhat sedating.

Table 8.6	
Over-the-counter antihistamines	
BRAND NAME	**GENERIC NAME**

Allegra	**fexofenadine**
Benadryl	**diphenhydramine**
Chlor-Trimeton	**chlorpheniramine maleate**
Claritin	**loratidine**
Dimetapp	**brompheniramine maleate**
Tavist	**clemastine fumarate**
Zyrtec	**cetirizine**

8.6.3 Help from your doctor

Unless they are severe, allergies are something you can manage on your own. You should need little help from your doctor. If you aren't sure if your symptoms are due to an allergy and are worried it is something else, serum IgE on a blood test can be informative.

8.7 Liver problems

The liver is the body's central chemical factory. Mercury concentrates in the liver and can block the myriad enzymes it uses for its various metabolic processes. When the liver malfunctions the effects cascade into almost all the body's other systems, so working on the liver will often clear up problems in other places. Mercury attached to alpha lipoic acid leaves your body via bile so liver support is always a good idea.

8.7.1 Symptoms

Symptoms that can be caused by poor liver function are:

- fatigue
- indigestion
- pale stools
- food sensitivities
- itchy skin

A sick liver also causes brain fog, poor concentration and confusion. Finding some foods repulsive and not wanting to eat fatty foods are signs your liver needs help.

Many toxins and metabolic waste products are excreted in the bile. Helping your liver make bile may reduce symptoms. Symptoms your liver is not making or releasing enough bile are:

- constipation
- light colored or hard pebbly stools
- nausea after eating fatty foods
- feeling like avoiding fatty food
- meals that sit in your stomach for hours on end like a baseball

8.7.2 Supplements

Below are some supplements you can use for supporting your liver and bile production.

Table 8.7

Supplements to help with liver support		
SUPPLEMENT	HOW TO USE IT	WHY TO USE IT
glycine	**1-3 grams with meals and at bedtime**	**increases bile flow**
milk thistle extract	**up to 730 mg with meals and at bedtime**	**good idea for everyone who is chelating**
phosphatidylcholine (lecithin)	**1 to 2 grams with meals and at bedtime**	**increases bile flow and help dissolve cholesterol**
taurine	**500 to 1000 mg with meals and at bedtime**	**increases bile flow, reduces chlorine/bleach sensitivity**

Coffee is now being recommended for people with liver disease. It may undo some forms of damage and help decrease the rate of damage due to toxins.

8.7.3 Help from your doctor

Generally, doctors will not diagnose liver problems unless you have flagrant symptoms such as jaundice. If you are concerned, you can ask your doctor for a blood test to check your **AST (SGOT)** and **ALT (SGPT)** levels. These tests measure enzyme levels that rise when the liver is damaged.

One of Andy's friends got chemical hepatitis from prescribed medication. The symptoms she had were fatigue so bad she couldn't turn over in bed and panting (shortness of breath). She was pretty sure her medication was making her sick. Her primary care physician ignored her and instead sent her in for a cardiac stress test, which came back normal. It was only when her naturopath noticed the raised AST and ALT values that the problem was verified. She improved after

she discontinued the medication.

8.8 Digestive tract problems

Digestive issues are an almost universal problem for people with mercury poisoning. Mercury deactivates many liver enzymes and prevents the pancreas from releasing digestive enzymes when needed. It directly poisons the immune system, causing it to stop killing yeast and parasites and go berserk attacking innocent bystanders like gluten or your own body. It can contribute to the factors that cause leaky gut with its attendant immune and allergy issues.

Many people are told they have acid reflux. Most don't. Frank reflux that comes up and burns your esophagus can occur from too little acid. Too little acid causes delayed gastric emptying so there is still food in the stomach to reflux hours later when the esophageal sphincter gets tired. Betaine HC1 and other vitamins will do you a world of good.

Some people do have excess acid. Taking a teaspoon of bicarbonate of soda in a half glass of water is helpful. Antacids are another choice.

8.8.1 Symptoms

People with digestive issues may experience:

- fatigue after meals
- pain in the belly
- bad reactions to various foods and heartburn
- undigested food may feel like stones in their gut
- feeling full more than two hours after a meal
- undigested food in the stool
- constipation or diarrhea

Below we describe a few simple interventions anyone can use. There are many

other things you can try. The most powerful is dietary modification. Diet is discussed in more detail in chapter 9 in this book.

Acupressure about 1 inch (2.5cm) up from your wrist on the inside is wonderfully helpful for nausea and sometimes an upset stomach. You can buy “motion sickness wrist bands” for this purpose.

Supporting the liver will increase bile flow and help with digestion, too. Your liver is part of your digestive system, supplying bile so you can digest fat. It also takes the toxins out of the food you absorb and turns them into substances your body can handle.

Lethargy and inability to focus or concentrate after meals may be improved by supporting liver health. Supporting bile production and release will keep food from sitting like an undigested lump in your stomach long after your meal.

8.8.2 Supplements

Table 8.8		
Supplements to help with digestion		
SUPPLEMENT	**HOW TO USE IT**	**WHY TO USE IT**
betaine HCL	**with food. Increase the amount pill by pill until it gives you heartburn. From then on use that amount minus one pill.**	**improves digestion of protein**
digestive enzymes	**with food**	**use as directed on the bottle with meals**

Table 8.8

Supplements to help with digestion

SUPPLEMENT	HOW TO USE IT	WHY TO USE IT
ginger	**use as needed or routinely as a spice in food. You can also eat crystallized ginger or take ginger pills.**	**improves overall digestion, promotes digestive comfort and relieves nausea**
ox bile	**with food**	**improves fat absorption**

8.8.3 Help from your doctor

There are many medications available to deal with heartburn and indigestion. Some of them, like proton pump inhibitors, are coming under scrutiny for serious side effects such as increasing your risk for cancer. Your doctor may prescribe some of them. In general, it is safest to deal with your digestion problems with digestive supplements, antacids and bicarbonate of soda. Under NO circumstances should you ever take Pepto Bismol. It contains bismuth, which is toxic.

8.9 Yeast and dysbiosis

Yeast or other organisms misbehaving in the digestive tract are a common problem for toxic people. Mercury compromises the immune system and an impaired immune system can allow yeast and other harmful microorganisms to grow out of control. In addition to mercury, many food chemicals, additives and ingredients interfere with how the body regulates yeast and other organisms. Some of them can also act as a fertilizer. Chelating with DMSA can cause yeast overgrowth and is an issue for some people.

When enough chelation has been done and the immune system starts working properly again, yeast and dysbiosis will cease to be a problem. In the meantime, you will have to be constantly on the lookout to keep it under control.

One of the most effective remedies is dietary modification. Eliminating sugar is the most important thing you can do. Yeast loves sugar. You can avoid many of the problematic food additives that fertilize yeast by eating organic. Butter and coconut oil help control yeast. Use them liberally.

Probiotics are organisms that **should** be present in your digestive tract. You can take them directly or grow your own in cultured foods such as kefir, kimchi and yogurt. Don’t take yeast killers at the same time as you take the probiotics as they may kill off the good bacteria you are trying to nurture in your gut. Take your yeast killing remedy, with meals, for instance, and your probiotics at bedtime.

8.9.1 Symptoms

Yeast symptoms include:

- □ thick white coating on the tongue
- □ itchy skin
- □ fatigue
- □ insomnia
- □ yeast elsewhere in the body
- □ yellow stools
- □ diarrhea or constipation
- □ bloating
- □ bad breath
- □ body odor

8.9.2 Supplements

For yeast killing remedies, find one that works for you and stick with it until it

stops working and then find something new. Don’t rotate remedies as this leads to resistance.

Table 8.9		
Supplements to help with yeast and dysbiosis		
Supplement	**How to use it**	**Why to use it**
biotin	**5 to 10 mg 4 times a day**	**interferes with yeast s life cycle, improves blood sugar regulation which makes it easier to follow diets**
emulsified oil of oregano (EOO)	**1 to 3 drops several times a day**	**kills everything in your gut**
grapefruit seed extract	**1 to 3 drops several times a day**	**kills everything in your gut**
probiotics: most useful are *Lactobacillus acidophilus* **and** *Bifidobacterium longum*	**at least 50 billion CFUs**	**replaces deficient species**

thymus glandular such as Neutrophil Plus from Biotics Research	**as directed**	**increases neutrophils which kill yeast and other pathogens**

8.9.3 Help from your doctor

If you want your doctor to help with yeast, they can prescribe Nystatin 500,000 to 1,000,000 IU with each meal, or Fluconazole 100 mg daily. Both of these need to be continued indefinitely or the yeast will come back soon after you stop. Nystatin stays inside your intestines and doesn't get into your body. Fluconazole gets into your body. Fluconazole seems also to be helpful for chemical sensitivity.

8.9.4 Die off when using yeast remedies

When first starting Nystatin you should use a very small amount for a few days, then twice as much for a few more, etc. until you are up to the prescribed dosage. If you don't do this, you may experience a lot of malaise in the first few days as all the yeast in your digestive tract dies off and rots (called the Herxheimer reaction). Similarly, when starting oil of oregano (OOO) or grapefruit seed extract, start low (1 drop per day, 1/2 tablet per day) and work up over the course of 2 to 3 weeks.

8.10 Poor concentration and attention deficit

Poor memory, poor concentration, brain fog and difficulty paying attention to anything for very long usually lead people to think that there is something going wrong in their brain. A poorly functioning liver can cause many of these symptoms, however, by allowing chemicals that upset the brain chemistry to get into the brain. If the symptoms come and go, try more liver support first. If they are constant or more liver support does not fully resolve them, the table below gives you a set of synergistic suggestions to improve brain function. Each of these agents helps the others work better.

8.10.1 Symptoms

Symptoms of poor concentration and attention deficit disorder

- ☐ inability to concentrate on one task
- ☐ inability to switch tasks when necessary
- ☐ inability to listen to others
- ☐ interrupting others
- ☐ procrastination
- ☐ continually being late
- ☐ emotional outbursts
- ☐ inability to sit still
- ☐ inability to prioritize tasks
- ☐ disorganization
- ☐ difficulty coping with details

8.10.2 Supplements

Table 8.10	
	Supplements to help with poor concentration and attention-deficit
SUPPLEMENT	**HOW TO USE IT**
caffeine	**as needed**

forskolin	**30 to 50 mg in morning and afternoon**
1-tyrosine	**1,000 to 3,000 mg in the morning or when you need to concentrate**
omega 3 oils: fish or flax	**1 -3 Tbsp daily**
phosphatidylcholine (lecithin)	**5 grams per day**
vitamin B50 or B100	**3 or 4 times a day**
vitamin B12	**1 to 12 mg as needed**

8.10.3 Help from your doctor

Clonidine, a prescription blood pressure medication, can also help reduce the scattering of attention and thought that often comes with attention deficit. It is available as pills and patches. It can't be used with beta-blockers, but otherwise it is fairly benign. The similar drug **Guanfacine** is approved for hyperactivity in children under the trade name Intuniv and works fine in adults too. These will keep your thoughts from jumping all over the place but do not directly improve concentration.

8.11 Depression

If you are suffering from depression, make sure your thyroid is performing adequately. A poorly functioning thyroid can cause symptoms of depression. Low thyroid hormones can actually cause depression. Antidepressants won't help if your thyroid is not working, because what you need is thyroid medicine. (See section 8.4)

A poorly functioning liver can cause depression, too. See the liver section (section 8.7) and make sure your liver is supported.

Anxiety along with depression means your adrenal glands are not doing their job. You can take all the antidepressants in the world and it wont help if your adrenals are not working. The adrenal section of this book tells you what to do. (Section 8.3)

Food sensitivities can also affect mood. Some toxic people react to food chemicals the way ordinary people react to dangerous drugs. Figure out if you are reacting to a chemical in your food. It can even be a natural chemical. A good third of toxic people, for instance, react to thiols in their food. If you are sensitive to thiols, eating them can make your emotions jump all over the place[2].

8.11.1 Some different kinds of depression and what they feel like

Mercury interferes with the chemicals that the body uses to run the brain. There are several different kinds of depression that have to do with these chemicals. The symptoms differ according to which chemical is affected. You will need to read this section even if you are relying on a doctor to prescribe for this situation. Most doctors don't understand these differences and prescribe randomly.

8.11.1.1 Obsessive, suffering depression

If you feel obsessive and compulsive and have trouble letting things go or moving on; if you feel lots of psychic distress, have bad thoughts about dying, suicide and think about hurting yourself, you may have low serotonin.

If you have the above WITH ANXIETY, the problem is your adrenal glands, and just doing something about serotonin isn't all that helpful. You have to support your adrenals as described in the adrenal section (section 8.3).

8.11.1.2 Hopeless, helpless depression

If you feel sad, hopeless, helpless, powerless and like crying all the time, or if you have trouble keeping a normal sleep pattern or a regular schedule it may be due to catecholamine neurotransmitters being too low in the limbic system.

8.11-1.3 Sluggish, lethargic, no motivation depression

If you don’t have much motivation or energy, aren’t very emotional and spend your time sitting around like bump on a log, your brain may not have enough histamine.

8.11.2 Supplements

Table 8.11		
Supplements to help with depression		
SUPPLEMENT	**HOW TO USE IT**	**WHAT KIND OF DEPRESSION TO USE IT FOR**
dl-phenylalanine (DLPA)	**1 gram several times a day**	**• chocolate cravings • PMS • pain • irritability • depressed phase of bipolar depression**
forskolin	**10 to 30 mg, 2 to 3 times a day**	**•hopeless, helpless depression • sluggish, lethargic with no motivation depression**

5-HTP*	**30 to 300 mg per day**	**obsessive, suffering depression**
inositol	**1 to 3 tsp per day**	**all types of depression**
l-histidine	**1 to 3 grams per day** **Do not use if you have problems with allergies or inflammation**	**sluggish, lethargic, no motivation depression**
l-tyrosine	**1 to 3 grams per day**	**hopeless, helpless depression**
omega 3 oils: fish or flax	**3 Tbs per day**	**all types of depression**
phosphatidylcholine (lecithin)	**5 grams per day**	**all types of depression**
vitamin B complex (B50 or B100)	**3 times per day**	**all types of depression**
vitamin B12	**1 to 12 mg per day as needed**	**Hopeless, helpless depression**
*** This is a more potent and less expensive chemical relative of 1-tryptophan. If you have trouble with 5 HTP you can try 1 g of l-tryptophan on an empty stomach 1 -3 times a day.**		

8.11.3 Help from your doctor

Try the supplements listed above first. If these don't help you may need prescription medicine. Using the supplements at the same time will make the prescription medicine work better and have fewer side effects. Using supplements may allow you to use less prescription medicines.

8.12 Anxiety

Mercury can cause anxiety in two ways. One is by inhibiting your adrenal glands. The other is by direct toxic action in your brain. It is important to control anxiety because it leads to poor decision making and putting off your main job, which is chelating.

Anxious people tend to behave in certain predictable patterns. First, they overanalyze a decision, going over and over and over and over the available information when all the useful analysis got done the first time through. They keep putting off taking positive action, in order to go over the original, adequate information yet another time. Then, when they've been over the subject a million times and have everyone tearing their hair out, they panic and try the first thing that comes to mind. This is usually a bad choice. The poor victim then becomes even more anxious and fearful and reverts back to over-analyzing everything all over again.

You need to do something to stay out of this cycle. Nutritional supplements are listed below. If those don't work, get a doctor to prescribe medication to control your anxiety and fear.

8.12.1 Symptoms

Symptoms of anxiety are:

□ repetitive thoughts

□ inability to make decisions

□ over-analyzing decisions

□ racing pulse

8.12.2 Supplements

Table 8.12	
Supplements	**to help with anxiety**
SUPPLEMENT	**HOW TO USE IT**
GABA	**500 to 1,000 mg, 4 times a day or as needed**
1-theanine	**500 mg as needed**
taurine	**1000 mg, 4 times a day**

Magnesium and taurine often help with spacey, almost disoriented anxiety and distress. These symptoms usually go along with rambling speech, a high heart rate and reduced sweating.

Any form of adrenal support will help with anxiety. Always use adrenal support in addition to whatever else you do.

The over-anxious person needs to understand how their behavior affects other people. Anxious people are terribly draining to be around because they are so self-involved, and obsessive and repetitive about their fears. Their self-involvement means they do not show an interest in other people. The only way normal people can react to this is to withdraw emotionally and become disconnected. This leads to failed relationships and not much goodwill being available when the anxious person needs help.

You may be willing to put up with some anxiety so that you don’t have to take so many pills, but nobody else will be able to bear being around you. Control your anxiety so you don’t drive away all the people in your life who are prepared to

help you!

8.12.3 Help from your doctor

Most anti-anxiety medicines are substances whose use is controlled by the government. You may need one of these in order to cope with the stress of being sick and the extra stress chelating may cause. Some doctors will try to convince you to take SSRIs, which are not controlled substances, instead. These are useless for anxiety.

Situational anxiety (stage fright, or being very tense in crowds or with new people) is somewhat different from ordinary anxiety. Beta blockers, which are normally used to lower blood pressure are sometimes quite helpful for this. These control the symptoms of anxiety such as rapid heartbeat, shaking and blushing. These are ordinary medicines, not controlled substances. Few doctors think to use them for this purpose but many will prescribe if you ask.

Remember, you will not need prescription medicines for the rest of your life. They are to help you until you have chelated enough to stop being anxious. See your doctor if you need an anti-anxiety medicine. If you are already using one, it is better to stay on it until you have chelated enough to feel better—and your family and friends all agree with you that you no longer need it.

8.13 Insomnia

Mercury poisons the part of your brain that regulates sleep. It is not normal to wake up several times in the night to go to the bathroom, or to wake up in the middle of the night and not be able to go back to sleep. This is not happening because you are getting old. If you are a woman, it is not happening because of menopause. A healthy person sleeps well and wakes up in the morning refreshed. If you are not sleeping well, you may be toxic.

There are many ways your sleep cycle can be disturbed. One is when you can’t get up in the morning, take a long time to become coherent, then are energized and alert at bedtime. This happens because the timing of how your adrenal glands secrete hormones is not being regulated properly by your brain. This is difficult to fix. The best thing to do is be careful to start relaxing an hour or two before bedtime, keep regular hours, and reserve some extra time in the morning

to get going.

You can also get so exhausted during the day that you have trouble sleeping at night. This is due to your body using too much adrenaline to keep going. Support your adrenals and don’t push yourself so hard!

More liver support may stop you getting up every night at 2 or 3 AM.

If you lie awake and worry, you need to use the same things you’d use for low serotonin as described in the depression section.

8.13.1 Symptoms

Symptoms of insomnia may include:

- □ difficulty falling asleep at night
- □ waking during the night
- □ waking up too early
- □ daytime tiredness
- □ lack of attention
- □ fatigue

8.13.2 Supplements

Below are some supplements you can try until you have detoxified enough to be able to sleep properly again.

Table 8.13		
Supplements to help with insomnia		

SUPPLEMENT	HOWTO USE IT	WHY TO USE IT
GABA	**500 to 1,000 mg at bedtime**	**• to relax and get tired**
melatonin	**3 to 50 mg in the evening one hour before bedtime**	**• to get tired and go to sleep** **• to stay asleep**
time-release melatonin	**3-12 mg at bedtime**	**• to stay asleep during the night** **• get back to sleep if you wake up**

8.13.3 Help from your doctor:

Sleeping pills are typically 'hypnotics' like Ambien (zolpidem) and Lunesta (eszoplicone). Benadryl, the over the counter antihistamine, is similar in action and very sedating.

All anti-anxiety medications also promote sleep.

If you have a sleep disorder, neither sleeping pills nor anything we talk about here is going to fix it. You can ask your doctor to refer you for a sleep study as you will need proper medical therapy.

8.14 Chemical sensitivity

If you experience negative symptoms when you eat preservatives or smell fragrances, exhaust or candles, you are chemically sensitive. Exposures to chemicals disturb your brain and give you crazy symptoms—just as crazy as normal people would get if bad chemicals got into their brains. Anxiety, spaciness and confusion are common symptoms.

Mercury can cause some enzymes in your liver to be so hyperactive they make chemicals that act like neurotransmitters—but then other liver enzymes aren't fast enough to get rid of them in the same way as with healthy people.

The hormones from your adrenal glands modulate many of the liver enzymes and receptors in your brain and mercury can make your adrenal glands too slow. You need your adrenal glands to work better to stop things from getting out of balance. Chemical sensitivity will worsen as your adrenal function declines. Focus on adrenal support, on avoiding the chemical exposures that set you off, and chelation, since that is the ultimate solution.

In the mean-time, a few things might help reduce your sensitivity. Avoid charbroiled, grilled, crispy-fried and smoked foods. Avoid carotenes and limit your intake of dark green leafy vegetables. Avoid going places where you will get exposed to chemicals that are your triggers. Shop for fragrance free[3] products.

8.14.1 Symptoms

Multiple chemical sensitivity (MCS) can cause symptoms like:

□ Headaches

□ Rashes

□ Fatigue

□ Muscle and joint pain

□ Memory loss

□ Confusion

□ Nausea

Q Changes in heart rhythm

□ Difficulty breathing

□ Mood changes

8.14.2 Supplements

Try the following, which may reduce chemical sensitivity by modulating liver metabolism:

Table 8.14	
Supplements to help with multiple chemical sensitivity	
SUPPLEMENT	**HOW TO TAKE IT**
Diflucan	**as prescribed**
grapefruit products	**juice or fruit, as needed**
oil of oregano (OOO)	**1 to 3 drops several times a day**
niacinamide	**500 to 1,000 mg with meals and at bedtime**

If you are chemically sensitive, you may be one of those people who have difficulty tolerating the basic nutritional supplements we recommend. You may have to spend time trying different brands and varieties of supplements before you can find ones you tolerate. Most vitamin C, for instance, is made from corn syrup, and if you are reactive to corn you may need to try a brand made from sago palm or cassava. Vitamin **E** is made from soy and if you are reactive to that, you can try **tocotrienols** or sunflower derived vitamin **E** instead.

8.14.3 Help from your doctor

Mainstream medicine does not recognize chemical sensitivity as a disease or

syndrome. There has been no research done on the subject, nor has there been any drugs developed to treat chemical sensitivity. Chelation is your best option to deal with this problem.

Chemically sensitive people often have trouble with drugs. It is unlikely, for instance, that you will be able to tolerate most SSRIs, although lithium, gabapentin and anxiety medicines are usually well tolerated. If it's appropriate to try an SSRI, use Lexapro or Zoloft.

8.15 Pain

Mercury can create miserable chronic pain situations in many ways. When your adrenals are not performing adequately, you are more sensitive to pain. When your magnesium is low, you are more sensitive to pain and often have muscle tension and cramps. Mercury can cause fibromyalgia. Mercury can cause multiple sclerosis, which often involves pain. Mercury can cause painful peripheral neuropathy.

Don't use over-the-counter pain medicines other than aspirin. Acetaminophen (Tylenol), Ibuprophen (Advil, Motrin IB) and Naproxen (Aleve) are really hard on your already overtaxed liver. Use aspirin instead. Aspirin is well known to prevent heart attacks and strokes, as well as reducing the risk of colon and perhaps other cancers and is also safe for your liver. However, you will need to avoid aspirin if you have kidney problems.

An overtaxed liver can cause pain and is especially implicated if itching and skin sensitivity are involved. See section 8.7 on liver.

If you are having chronic pain, try adding in more adrenal support (section 8.3). Be heavy handed. Use a lot.

Some rheumatic pain syndromes respond well to excluding nightshade family plants from your diet. These are tomatoes, tomatillos, potatoes, chili and other peppers, eggplant (aubergine), goji berries, huckleberries, ground cherries and cape gooseberries (but not regular gooseberries) as well as the herb ashwaganda.

8.15.1 Symptoms

Pain itself is a symptom of problems with your body. However, there are

different ways of describing how pain feels. Here is a list of some of the words can use to describe pain to your doctor:

□ Aching

□ Nauseating or sickening

□ Piercing

□ Pins and needles

□ Sharp

□ Shooting

□ Splitting

□ Stabbing

□ Pounding

□ Punishing or cruel

□ Tearing

□ Tender

□ Throbbing

□ Tiring or exhausting

8.15.2 Supplements

Below are some remedies for pain you can try:

- For neuropathic pain: Homeopathic remedy *Hypericum perforatum* 6X. Only use the 6X strength, don't use anything else no matter what anyone says about what they sell being better, stronger or more potent.

- For traumatic or inflammatory pain: T-Relief pills, cream or gel. You can also try *Arnica montana* 6X or arnica as a gel.

- For all sorts of chronic pain: dextromethorphan about 50 mg. This is the same active ingredient as the DM in cough remedies like Robitussin-DM and Mucinex-DM. Those have an expectorant as well but you can find them in any grocery or drugstore. Take about two or three times the recommended dose. You can also find dextromethorphan by itself in brands like Delsym and Robafen. These may need to be ordered online.

- Dl-phenlyalanine may relieve pain in people who have agitated depression, PMS or crave chocolate in large amounts.

- Menthol is also analgesic. Smelly creams and patches, like Salonpas contain menthol.

- There are many remedies you can apply externally. Magnesium oil[4] or strong Epsom salt solutions relieve pain. You can use Aspercreme[5], hydrocortisone cream[6], lidocaine cream, or any mixture of these (the mixtures work particularly well). You can also use T-Relief cream or arnica gel though these have to be applied by themselves.

- These remedies work best if you combine them. For example, apply a mixture of Aspercreme, and hydrocortisone cream to a sore knee while taking three Robafen pills then a T-Relief tablet.

You can also alternate remedies. For instance Aspercreme mixed with hydrocortisone cream, then 2 hours later, some T-Relief.

8.15.3 Help from your doctor

If you need pain control so powerful that it requires narcotics or some other prescription medicine, you need to see a doctor and get those prescribed. Were not going to talk about that here. If you walk in and start telling your doctor what kind of narcotics you want they'll probably refuse to prescribe anything anyway.

There are many prescription pain relievers that are bad for your liver. Make sure that you do not get any combination drugs like Percocet (a combination of oxycodone and acetaminophen). Tell your doctor you'd like something with aspirin, instead.

9 DIET: WHAT YOU EAT HAS A HUGE IMPACT ON HOW YOU FEEL

9.1 Why diet is important

It is very common for mercury toxic people to have all kinds of food sensitivities and digestive issues. Bad reactions to food can cause symptoms ranging from indigestion and fatigue to psychological problems. Being sensitive to a food is different from being allergic. Eating food you are allergic to can cause a life-threatening situation. This discussion is about food sensitivity.

Food is made up of chemicals. Some of the chemicals that can bother you are man-made, but many are naturally present in food. Some chemicals that are perfectly healthy for everyone else become poison to toxic people with their impaired metabolism. You are poisoning yourself when you eat chemicals to which you are sensitive. You stop poisoning yourself when you get these chemicals out of your diet. It is far more effective to clean up your diet and not eat any poison than to take exactly the right antidotes in the right amounts in the form of nutritional supplements and prescription pills. You can never match up the right amount of antidote with each poison every day, but if you don’t eat any poison, you won’t need any antidote.

Dietary control can relieve the need for a lot of medication and supplements. Unfortunately, following diets is a lot of work. You end up having to prepare all your own food because it is so difficult to eat what other people prepare while sticking to a special diet. Some of the restrictions require the use of more expensive ingredients, too.

Don’t feel discouraged if preparing a special diet for yourself is more than you can manage. If you start a special diet then decide it is just too much work, or it isn’t worth doing, just stop. There is no moral imperative for dietary modification. If it works for you, great! If not, skip it. Special diets are purely for symptom control. It is not the same as being a diabetic, where eating the wrong thing can really hurt you. When you are toxic, eating the wrong diet may make you feel bad but it won’t do lasting harm. You will still recover just fine if you chelate enough.

A good resource for learning how to eat a basic, healthy diet is The Weston A.

Price Foundation at www.westonprice.org. They may have a chapter near you where you can find out the best places to buy locally grown organic food.

9.2 Avoiding problematic chemicals in your diet

9.2.1 Fruits and vegetables

Conventional supermarket produce can be high in pesticides and weed killers. Organic produce will cost more but to the extent you are able, switch over. If you can't afford to go 100% organic be aware of the eleven most contaminated items and at least avoid those.

The following have far higher pesticide levels than any other conventionally grown food. On average, you will reduce your pesticide intake quite a bit if you only eat organic versions of these foods.

Table 9.1	
High pesticide fruits and vegetables	
potatoes	**raspberries**
spinach	**turnip greens**
strawberries	**pears**
peaches	**apricot**
apples	**nectarines**

collard greens	

Other types of fruits and vegetables are grown without much use of pesticide. These are pretty safe even when grown conventionally (not organic).

Table 9.2	
Low pesticide fruits and vegetables	
BEST	**VERY GOOD**
(total residue less than 0.002 ppm)	**(total residue less than 0.05 ppm)**
honeydew melon	**carrots**
sweet peas	**bananas**
mango	**tomatoes**
broccoli	**cauliflower**
avocado	**cantaloupe**
pineapple	**watermelon**
sweet corn*	

winter squash	

*** Do note that sweet corn can have a lot of glyphosphate (RoundUp), a weed killer on it, unless it's organic**

There may be plenty of perfectly good "natural" food available at the store, from neighbor's gardens and other sources, but for practical reasons you may have to stick mainly with certified organic. Organic food in the United States has to meet **United States Department of Agriculture** regulations."Natural" is not a well-defined term and it takes a lot of time and energy to figure out when it means the product is good or when it means someone wants to sell you stuff at a mark-up. For the food where you do know, certain "natural" items can be a good way to get budget nutrition.

9.2.2 Packaged foods

Packaged food from the supermarket will usually have indigestible ingredients. Even completely healthy people should not eat partially hydrogenated oils, not to mention chemical preservatives and so forth. The advice of Michael Pollan who wrote *In Defense of Food: An Eater's Manifesto* is good:

"Don't eat anything your great-grandmother wouldn't recognize as food."

If the ingredients sound like chemicals, they aren't food.

9.2.3 Meat

If possible, eat organic meats. The meat of organically fed animals won't have chemicals that may bother you. Organic free range and pastured animals have a more natural composition to their meat and it is more nutritious. However, organic meat and poultry raised in the conventional manner—feedlot finished beef, caged chickens—is less expensive and easier to find. In the USA, the safest conventional, non-organic meat from the supermarket is lamb. Your individual situation will determine your best choice, but good quality meat makes a lot of people feel so much better they bear the higher cost and find it well worth the money.

9.2.4 Fish

Don’t eat large predatory fish as they are at the top of the food chain and accumulate a lot of mercury. Farmed fish are usually not a good choice, either. They are not high in omega 3 oils and are exposed to agricultural chemicals from their feed.

Low mercury fish are flounder, plaice, sole, salmon, anchovies, sardines and catfish. Low mercury shellfish are scallops, clams, shrimp, oysters and squid (calamari). Most people can eat as much of these as they wish.

Canned light tuna and lobsters are roughly equal in mercury content and **five or ten times** higher than the above fish. You can eat these occasionally. Canned light tuna is the lowest mercury type of tuna, then skipjack tuna. After that, the mercury content in other forms of tuna fish rises rapidly. If you want to eat fish other than the low mercury fish we mention, you need to study the fish mercury list and decide what you’re willing to accept as a reasonable exposure. If you order fish and chips, for instance, and ask for halibut instead of cod, you will more than double your mercury intake.

A fish list from the FDA with mercury concentrations in ascending order is in Appendix B.

9.2.5 Game and game fish

There are some problems with fished and hunted meat that can be avoided with appropriate care. For fish, seek local information on fish mercury advisories. Freshwater fish in the northeastern USA and upper Midwest usually have far too high a mercury level to eat safely. In the western USA there are some lakes and streams with dramatically high mercury levels as well. ONLY eat fish caught where you know the advisory is based on analysis of fish from that body of water. Ocean fish will generally be fine as long as you follow the guidelines for low mercury fish.

There are two problems with hunted meat. An enormous number of small bullet fragments end up in the meat and you wind up eating them. Do NOT shoot game with lead ammunition! Use steel, copper or tungsten ammunition instead. Also, if you are taking animals on agricultural land they will be filled with the same chemicals the farmer is using on his crops. It is best to hunt animals in non-

agricultural areas.

9.2.6 Doing your own cooking

If feasible, buy basic ingredients and cook from scratch. We know you are tired and overwhelmed because you're sick. But if you take the time to prepare a few things that are healthy for you as often as you can, you're going to feel a lot better and have more energy. Organic and home cooked food tastes better, too!

It might be something as simple as making a sandwich or rice bowl by slicing up something you roasted on the weekend along with an organic tomato you bought at the store. Even a handful of organic almonds and an organic apple can be a tasty and satisfying snack or meal and you don't even need a fridge or stove to cook them. If you only learn how to make a few things and often eat food you don't have to cook, this will still greatly reduce the amount of general chemical toxins your body has to deal with. You'll feel better as a result.

If it is really not possible for you to cook any of your own meals, there is a lot of prepared organic food that you can buy and microwave, eat out of cans or heat in the oven. You can buy some of it on online. It won't be perfect, but it will be better than nothing. There may be BPA in the plastic around your organic TV dinner but you will ingest a lot more nasty stuff if you eat non-organic food instead.

After you spend a few weeks eating additive free food you'll start noticing reactions when you eat something problematic. You will learn what dishes at home or restaurants are good for you. As long as you stick to what you know works, you'll be able to go out with friends, eat during travel and business and have something tasty for dinner when you are just too tired to cook. You will also know what to request if someone else does the cooking and asks what you would like to eat.

9.3 Thiol food sensitivity

Below we discuss sensitivity to high thiol foods. Little information is available about this issue and it is common among mercury toxic people.

Thiols are also referred to as **mercaptans** or **sulfhydryl** groups. Foods high in thiols and their metabolic precursors are also colloquially referred to as sulfur

foods. This can be misleading as some forms of sulfur are not thiols and do not cause the problems thiols cause. Examples are glucosamine sulfate from cartilage or magnesium sulfate in Epsom salts. There are many lists of the sulfur content of foods available in books and on the internet that are not relevant to thiol sensitivity.

Mercury can ruin your body's ability to regulate thiols properly. People who have thiol levels that are too high will not tolerate high thiol foods and those with levels too low will need to eat plentiful amounts. Approximately a third of toxic people are too high, a third too low and the rest fall in between. You might need a high thiol diet, a low thiol diet, or just to be aware of dietary thiols and eat them in moderation. Or you may be one those lucky people who can eat anything they want!

High thiol foods can also exacerbate yeast overgrowth in your digestive tract, a perennial problem for the toxic person. A low thiol diet can improve yeast symptoms dramatically, even for the person who is not otherwise sensitive to thiol foods.

High blood pressure, emotional volatility, mood swings over a period of an hour or so after eating, and craving sulfur foods which seem to give the person a lift go along with being sensitive to thiols. It is not easy to figure out your thiol status after just one meal, since a high thiol person reacting to high thiol food feels quite good initially. The reaction happens in a certain order and not all at once. First, the person is happy, euphoric and chatty. Then they become babbly. Then they become libidinous and kind of messed up, mentally hyper and disconnected. **FINALLY,** after two to three hours, they become tired and crash. They then become cranky, achy and depressed. This part goes on for days.

It s only later, long after the meal is forgotten, that the crash comes. Feelings of depression may develop, as well as tremors and neurological symptoms like those found with Parkinsons or ALS. It can be impossible to tell from casual observation if thiols are causing symptoms or not. Most meals from most cuisines contain significant levels of thiol, and reactions stack up meal after meal. In fact, people who have this problem may think sulfur foods relieve symptoms since they eat a sulfury food and feel good for an hour or two. Just when they are crashing from one sulfur food binge, they may crave more sulfur foods to get the initial euphoria back!

To figure out your thiol status, you need to do an elimination diet. Eat exclusively low sulfur foods for at least four days. Do not chelate with ALA during this time. Reintroduce high sulfur foods at **ONE** meal. Watch what happens.

Unfortunately, a low thiol diet eliminates many typical vegetarian and vegan protein sources. If you are unwilling to eat any animals, the highest protein low thiol foods available are pumpkin seeds, almonds, pistachios, flax seed, cashews, hazelnuts and walnuts (in order from highest to lowest protein content). Also, oats and wheat are far higher in protein than any other grains, with oats having about twice as much as wheat and about the same as walnuts, cashews and hazelnuts. Pastry flour is relatively low protein. High gluten flour for bread making is high in protein. Vital wheat gluten, on which seitan is based, is around 70% protein.

A round of alpha lipoic acid will raise your thiol levels. If you are sensitive to thiols it is important to keep them out of your diet to make room for this because you **must** use alpha lipoic acid to recover your health as none of the other chelators will get the mercury out of your organs and cells. As a rule, people who do well with thiol foods feel good while taking alpha lipoic acid and can use robust doses. People who are thiol sensitive get a lot of side effects from it and need to stick to lower doses.

Table 9.3		
High thiol food list		
alfalfa sprouts	**daikon**	**radishes**
amaranth	**dairy products**	**rutabaga (Swede)**
artichokes, Jerusalem but not French	**dandelion greens**	**sauerkraut**

asparagus	**eggs**	**sesame seeds, ground, as when in tahini (when in hull ok for most, except the very sensitive)**
bakery products containing whey, cysteine, eggs or enzymes	**garlic**	**shallots**
bean curd/tofu milk	**green beans**	**sour cream**
bean sprouts	**greens (like arugula, used in salads)**	**soy cheese**
beans of all sorts	**hearts of palm**	**soy milk**
bok choy	**horseradish**	**spinach**
broccoli	**jicama**	**split peas**
brussel sprouts	**kale**	**sunchoke**

Table 9.3 (cont.)

High thiol food list

buckwheat	**leeks**	**tahini (from ground sesame seeds)**
buttermilk - cream turns into butter and buttermilk. Buttermilk is where the thiols end up. Butter is thiol free	**lentils, of all sorts**	**tamarind**
cabbage	**lotus root**	**tempeh**
carob	**milk, from any animal**	**tofu**
cauliflower	**miso soup**	**turnip**
cheese, of all sorts - aging of cheese does not affect thiol sulfur content	**mustard**	**turnip greens**
chives	**onions**	**turmeric (though not high in thiols, it is really good at raising thiol levels)**
chocolate	**papaya (slightly)**	**quinoa**
coffee	**peas, of all sorts**	**watercress**

collard greens	**peanuts**	**whey**
cream	**pineapple (slightly)**	**yeast extract**
Watch out for foods that have garlic and onion powders added, e.g. processed meats like hot dogs.		

Meat is also high in sulfur, but most people tolerate it well due to its low thiol level. It also depends upon how sensitive you are. If you need to limit meat, you should supplement amino acids, especially **glutamine.** Glutamine also helps to heal the gut lining.

1

Some people with inhalation allergies to pollen will have cross reactivity with certain fruits - OAS or oral allergy syndrome. Bananas, citrus fruit and grapes are often nonreactive unless the person is directly sensitized to them as a food allergy.

2

See section on 'sulfur foods' in section 9.3

3

"Unscented" products often have a neutral masking fragrance in them. Be careful of this and teach anyone who shops for you to look out for it in the ingredients.

4

Magnesium chloride solution.

5

If you apply a lot of Aspercreme some of the aspirin gets into your

bloodstream. Don’t also take your maximum dose of aspirin by mouth at the same time. If you have ringing in your ears, you’re overdoing the aspirin.

6

If you are using hydrocortisone cream every day or very frequently, limit your daily application to 2 tsp. A one ounce tube should last a week or more. If you are using it faster, slow down.

Table 9.4

High thiol supplements

ALA (Alpha Lipoic Acid or Thioctic Acid). Obviously this needs to be used for chelation purposes at some point, whether you are sulfur intolerant or not. If you are sulfur-sensitive, you may only tolerate small amounts of ALA, so start low just in case. This is not always true, but worth remembering. Also, do not take ALA during your sulfur exclusion trial.

Table 9.4

High thiol supplements

bromelain and papain (use enzymes derived from animals)

chlorella

curcumin

cysteine (1-cycstine) dairy source acidophilus

DMSO

extracts of the high sulphur foods glutathione

N-acetyl Cysteine (NAC)

Methylsulfonylmethane (MSM)

Methionine (converts down into cysteine)

S-adenosylmethionine (SAMe)

Turmeric (while it does not contain thiols, it is really good at raising thiol levels)

Table 9.5

Lowthio		food list	
abalone	cloves	lobster	sage
acai	coconut dried/ fresh*	loquats	salami
acorn squach	cod liver oil	lychee	salmon
alcohol t	coriander (spice)	mace spice	salt
allspice	corn	mackerel	sardines
almond extract	corn (sweet)	mahi mahi	scallopini
almond milk	cottonseed oil	maize	seeds - sunflower, linseeds, pumpkin, flax
anchovies	cucumber	mangoes	semolina
ancho chili	dates	majoram	sesame oil , but sesame seeds are high in thiol sulfur

anatto	**am**	**meats prepared with tenderizer**	**shark**

Table 9.5

Lowthio		**food list**	
anice	**dill seed**	**mint**	**shellfish**
apples	**dill weed**	**mushrooms**	**shrimp (fresh)**
arrowroot	**dried fish**	**non-frozen lemon juice**	**shrimp paste**
artichokes (french)	**duck**	**nutmeg**	**smoked, liquid smoke**
aubergine (all forms)	**eel**	**oats**	**smoked fish**
avocado	**eggplant (all forms, e.g. japanese aubergine)**	**octopus**	**smoked herring**
bacon	**elderberry**	**olives (green or black)**	**snail**

bananas	**fennel seed**	**orange peel, orange zest**	**sorghum**
bamboo shoots	**fermented fish**	**oregano**	**soybean oil**
barley	**figs**	**oysters**	**spaghetti squash**
basil	**flounder**	**paprika**	**spearmint**
bay leaves	**fruit (all fruits other than papaya and pineapple are low thiol)**	**parsley**	**spelt**
beef	**game hen**	**parships**	**star anise**
beef liver	**game meat**	**pasilla chile**	**squashes (acorn, butternut, spaghetti summer, winter, yellow crooked neck, zucchini)**
beer	**gelatin**	**peaches**	**sweet potato**
beets	**ginger**	**pears**	**tapioca**
berries	**ginger root (fresh)**	**peppermint**	**thai basil**

billberry extract	**ginger spice**	**peppers**	**thyme**
black pepper	**goose**	**pepper, white**	**tomatillos**

Table 9.5

Low thiol food list

bologna	**gooseberry**	**pepperoni (sometimes contains added ingredients such as garlic)**	**tomatoes**
breadfruit	**grapefruit**	**persimmon**	**trout**
brown sugar	**grapefruit juice (squeezed)**	**pheasant**	**tuna**
bulgar wheat	**guava**	**pickled fish**	**turkey (dark meat)**
butter	**halibut**	**pigeon**	**turkey (white meat)**
butternut squash	**ham**	**plum**	**vanilla bean (extract)**

cantaloupe	**herbs, fresh (basil, thyme, rosemary)**	**polenta**	**venison**
caraway	**honey**	**poppy seed**	**vinegar (white)**
caraway seed	**honeydew melon**	**pomegranate**	**water chestnuts**
cardamom	**jerky**	**pork**	**watermelon**
carp	**king mackerel**	**pork liver**	**wheat**
carrots	**kiwi**	**potatoes**	**white pepper**
casaba melon	**kumquats**	**quail**	**white sugar**
cassava	**lamb**	**rabbit**	**whole wheat flour**
celery	**lavender**	**red chard**	**winter squash**
celery seed	**lemon grass**	**red pepper**	**Worcestershire sauce**
cherry	**lemon**	**rice**	**yams**

chicken (white meat, dark meat and organs	**lemon peel, lemon zest and lemon oil**	**rice milk (made from rice gluten)**	**yellow crooked neck squash**
chicken liver	**lettuce**	**rosemary leaves**	**zucchini**
cinnamon	**limes**	**rye**	
clams	**lime leaf**	**salami**	
*** There is no significant amount of thiol precursors or thiols in coconut. However some coconut products are sulfited to keep them white colored. Read the label.**			

Table 9.5

Low thiol food list

**** beer, wine, spirits - all low thiol, unless someone adds a thiol source, e.g. milk, or a spear of asparagus in a bloody mary or an onion in a martini**

Table 9.6

Supplements that are safe and support the sulfur pathways

molybdenum is very good at supporting the sulfur pathway and worthwhile supplementing. Dose = 500 - 1000 mcg/day.

If you have elevated cysteine and you want to convert some glutathione, take 2:1 weight ratio of glutamine and glycine and your body will do the rest.

9.4. General notes on diet

The most important thing is to eat organic and then figure out how you react to thiols. After that there are any number of diets to try. What is confusing is that, with the complicated metabolic dysregulation of the mercury toxic person, what works for one person may do absolutely nothing for another, or even make them worse! You can't just assume because a totally raw vegan diet resolved all kinds of issues for you that it is going to be the right thing for your equally toxic neighbor. They may need to eat steaks and bacon to feel good.

Many people get an almost religious fervor about their nutritional beliefs. They assume that what has worked for them is what everybody should be doing. Don't pay any attention to nutritional proselytizing. You are going to have to figure out for yourself what works. Perhaps you are one of those lucky people that can eat pretty much everything with no problem!

Below is a list of diets you might want to try. Almost all have books and websites dedicated to how to do them.

- An organic and natural diet, which is explained above and restricts artificial chemicals.

- A diet based on your thiol status as explained above.

- A rotation diet, which is rather complicated to do but may help people who are sensitive to everything.

- A vegetarian diet, which is very calming.

- An Atkins style or ketogenic diet which restrict carbohydrates.

- The **Specific carbohydrate diet** (SCD), **Body Ecology diet** (BED), **FODMAR GAPS** and **Best Bet** diets, which restrict certain kinds of carbohydrates.

- The **Feingold** or **FAILSAFE** diets which restrict some natural food chemicals.

- The **Gluten Free /Casein Free** (GFCF) and **Gluten Free /Casein Free /Soy Free** (GFCFSF) diets which eliminate gluten, casein and soy. These are very

common allergens for toxic people.

Remember, dietary restrictions, like taking medications and nutritional supplements, are to help you feel better while you are detoxing. When you get your health back, you should be able to eat anything you want and feel fine. Don’t worry too much if you simply can’t control what you eat as rigidly as required to adhere to this or that diet. Likewise, if you feel the effort for the symptom relief you gain is just not worth it. Your only concern should be what works for you. Don’t worry about what anybody else thinks about your dietary choices.

10 ORGANIZATION AND PRACTICAL MATTERS: GETTING YOURSELF ORGANIZED

Mercury poisoning causes brain fog and it impairs short-term memory. Chelation can make all this even worse, at least at the beginning. Pretty much **everybody** who chelates has found themselves in the middle of the night sitting on the side of their bed, completely befuddled, unable to remember whether they have taken their pill or not. It is a good idea to put some strategies and systems in place to keep track of what you are doing. Below are some ideas we have found to work well.

10.1 Remembering to take your supplements

10.1.1 A convenient pill tray

Remembering to take your supplements is important because when you go without them your symptoms may flare up and make doing anything at all difficult. We really like the pill tray in Figure 10.1 that has removable daily compartments. You can remove a compartment and take it with you as you go about your day rather than having to take the whole pillbox. The compartments are see-through so you can tell whether you took your supplements or not. The box will remind you to take your pills on time. Leave it out in a place you will see it all the time.

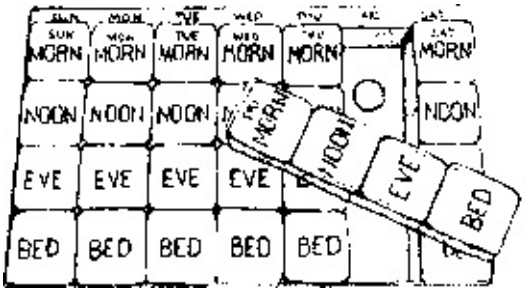

Figure10.1. *An example of a pill tray*

If you are clumsy, have tremors, have been finding pills on the floor or have trouble getting all the pills from the vitamin minder into your mouth you might want to pour the pills into a shot glass before you take them. This makes pill handling convenient and quick. Don’t fill the shot glass more than half way with pills. Usually eight to nine pills is the most anyone can swallow at one time. The goal here is not to take more pills at one time, but to not drop the pills you are taking.

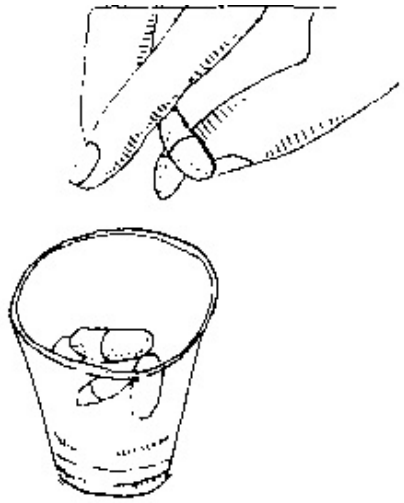

Figure 10.2. *Filling a shot glass with pills*

Figure 10.3. *Taking pills with the shot glass*

10.1.2 Filling your pill tray

Pack up a pill minder once a week rather than deal with many bottles several times every day. It is surprising how difficult this simple task can be when your brain is addled by mercury poisoning. Try putting all your supplement bottles into a box top and taking them out one at a time as you fill your pill minder. When you have finished with one bottle, put it someplace else. When your box

top has no more bottles in it, you are done with this weekly task. Numbering your supplement bottles may help, too. Just put a label on the cap with the number. That way you can make sure you didn't miss any.

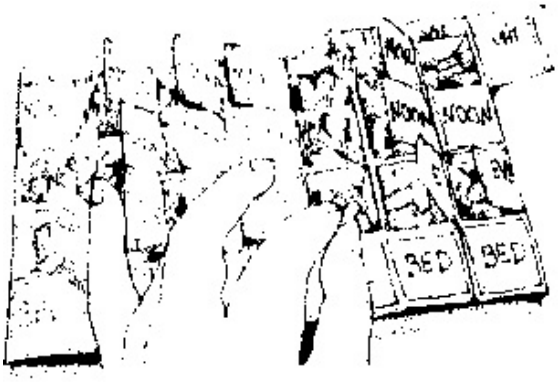

Figure 10.4. *Filling a pill box*

Figure 10.5. *Using a box top to hold bottles*

10.2 Remembering to take your chelators

The MOST important thing to remember is to take your chelator doses on schedule. You can forget your supplements from time to time, be early or late, or miss them entirely. But if you forget a chelator dose you have to abort the round, and that can make you feel really sick. It is also time lost in your quest for health. Everybody has forgotten to take their pill when the alarm went off. Don't let it happen often. If you don't make a scrupulous habit of immediately taking the pill as soon as you hear that alarm, we guarantee that you are going to wind up asking yourself, "did I take the darn thing or not?" You may wish to use a checklist to mark off when you take your pill. We know it sounds ridiculous, but you will be looking at it five minutes after you were supposed to take the pill because you won't remember if you did or not. We both went through this. You will, too.

Here are a few good ideas for remembering to take your chelators.

10.2.1 Alarms

Cell phones have an alarm function where you can set multiple alarms.

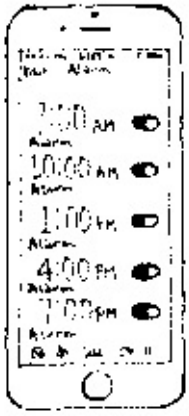

Figure 10.6 *A cell phone with alarms set.*

Failing that you can go to the drug store and buy a whole bunch of cheap alarm clocks and set them one after another like this:

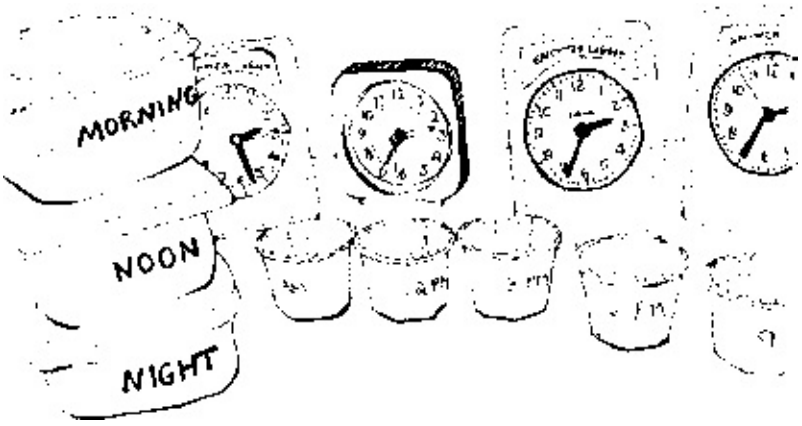

Figure 10.7. *A set of dial alarm clocks*

The old style dial clocks are more convenient because they don't know AM from PM SO you only need four to do every three hours around the clock. More modern digital alarms when they are set for 9 AM won't go off again at 9 PM, SO you need eight of them.

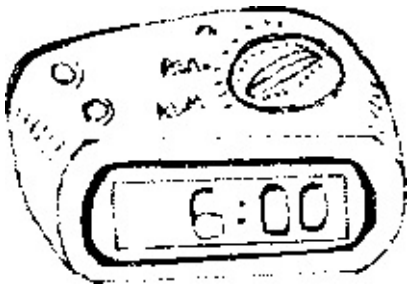

Figure 10.8. *A digital alarm clock*

Another good option for keeping track of your chelation schedule is a vibrating alarm watch. They can be a bit challenging to program when you are feeling addled but they have the advantage of always being on your wrist. You can set them to ring or to vibrate or both. Many are available where you can set eight different alarms a day. Watches with up to 12 alarms a day are available.

Figure 10.9. *An alarm watch*

10.2.2 Labeled pill boxes and other strategies

This is a pill box with a slot to correspond to every single alarm and every single dose. If you can’t remember what you did just check the appropriate box and if the pill is still there you didn’t take it.

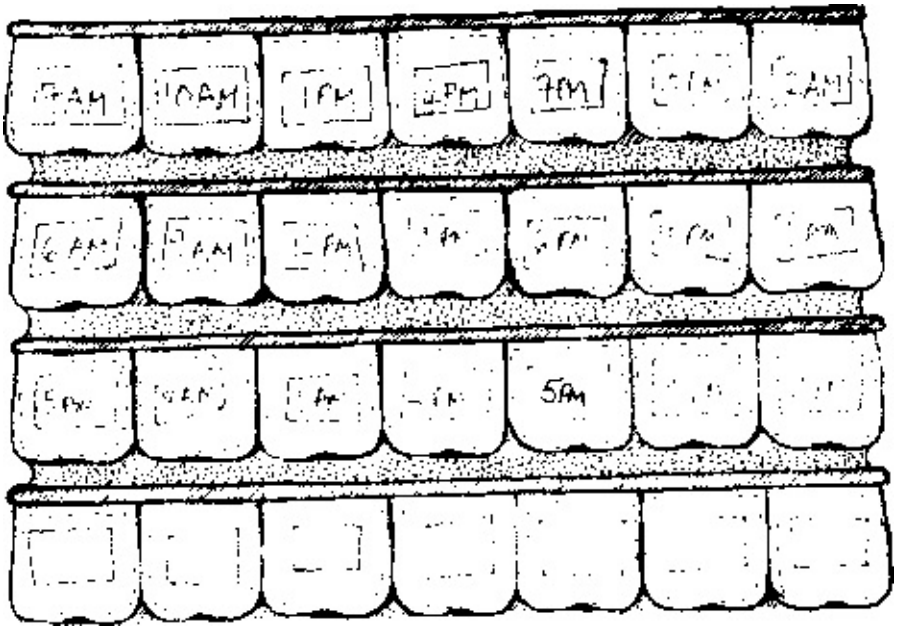

Figure 10.10. *A pill box with every dose labeled for a full round*

10.2.3 Paper Cups

Another good system is stacks of little paper pill cups. You can write the dosage time on the outside of each cup. (See figure 10.7.)

10.2.4 Checklists

You can also keep a checklist to keep track of what is going on with your chelation schedule. Checklists can be done on paper or on a whiteboard.

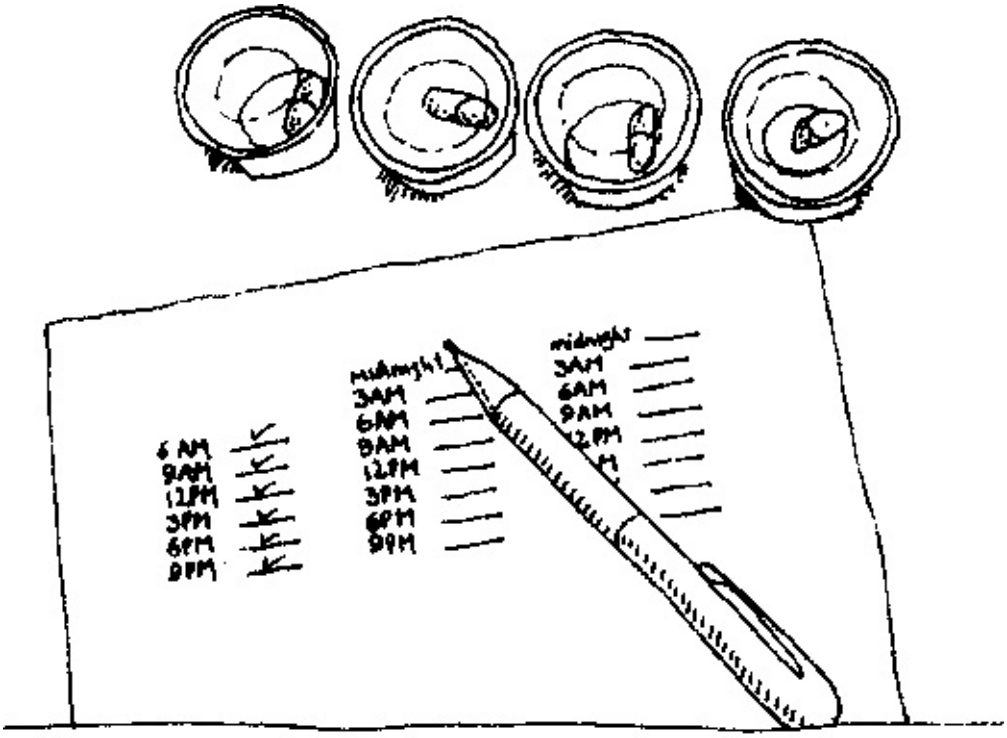

Figure 10.11. An example of a checklist

10.2.5 Your nighttime dose made easy

Keep your nighttime dose and a glass of water on a bedside table. This way, when the alarm goes off, you can just pop it in your mouth, take a gulp of water and go back to sleep. Be sure you arrange things in such a way that you can tell for sure whether you took that dose or not. You may need to put the alarm out of arm's reach so you don't just slap it and go back to sleep and forget your dose.

10.3 Keep a log or diary

An interesting phenomenon of human nature is how quickly we forget bad experiences. Keep a diary, otherwise you may not appreciate the actual progress you are making. A diary can also give you retrospective clues on things you did that hurt or helped. Perhaps you tried a new diet or a new supplement. If you have a symptom log you have some way of figuring out what happened.

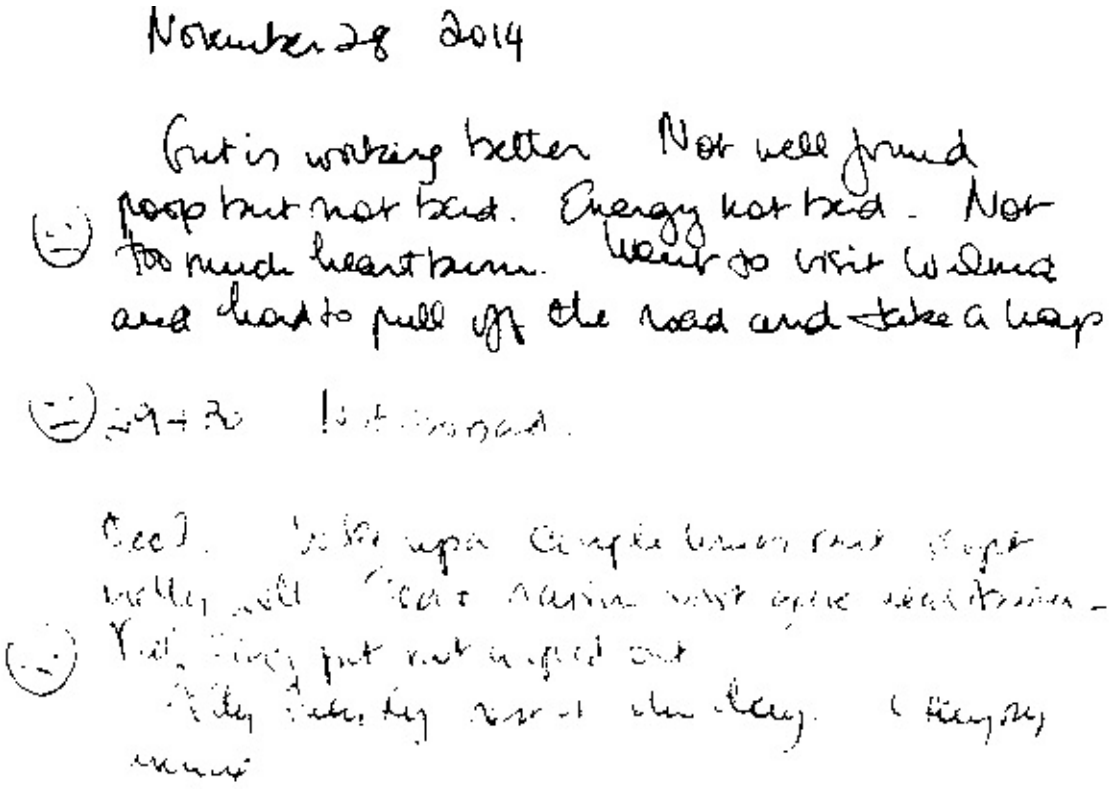

Figure 10.12. *This is from Rebeccas sporadic chelation diary.*

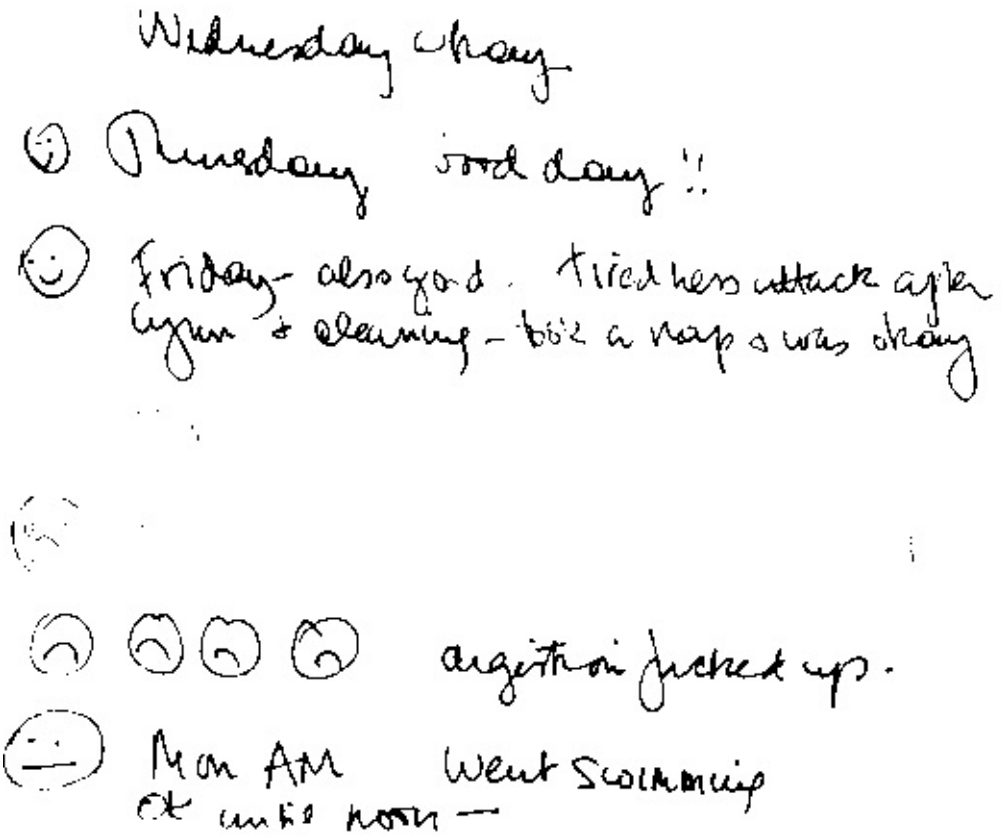

Figure 10.13 *More of Rebeccas chelation diary. You just need to keep basic information like this.*

10.4 Organizing the rest of your life

Many people with mercury don't have anything visibly wrong with them. There is no label that social convention accepts as "serious." It is not like cancer that people understand. Family, friends and doctors who are perfectly healthy themselves may consider you not to be sick, but rather some kind of malingering hypochondriac. They may find you self-absorbed and selfish. In the face of this attitude you may even start to doubt yourself and think that this is really all your fault. You may think it is something you are imagining and you should just try harder and have more discipline. **This is not true!** You are poisoned and you are sick and are taking valiant action to get better.

Getting better is now your most important job and everything else takes second place. Realize that you have a great deal less energy and time than a healthy person. Forget about getting stuff done. Just do the bare minimum you can get

away with. Your new and important job is to heal. Keep in mind the instruction from the airline stewards to put on your own oxygen mask first if the plane loses air pressure. You are no help to anybody when you are sick, not even to yourself. Worry about great accomplishments after you are better. Right now, just accomplish taking your supplements and making it through the next chelation round. Small, everyday accomplishments like this will lead to the great accomplishment of recovery.

If you have the luck, which is both good and bad, to have a diagnosis accepted as "serious" and "not your fault," like MS, Parkinson's disease, lupus, diabetes or even irritable bowel syndrome, you will at least have some social acceptance that you are sick. It is unlikely you'll get a lot of social acceptance and support however when you decide to chelate and get better instead of suffering a lot and dying the way society thinks you should.

Of course, if you have any psychiatric diagnoses, everyone will think you believe in mercury because you are crazy. People may even be obstructive when you try to control your diet, take supplements and chelate. You are not likely to get much in the way of respect or support in this situation.

With or without a diagnosis, and with or without a role to play as a sufferer of a "real disease," one thing is certain, you are sick and you don't have as much energy and focus as a healthy person. To remain functional at all, you're going to have to put a lot of time and energy into diet, supplements, and whatever else it takes to keep your symptoms in check. Then you'll need to chelate so you eventually get well. When you start out you'll be putting energy and organization into chelating as well as everything else.

Get rid of unnecessary jobs and responsibilities. Explain what you are doing to your family and friends if they will listen, and get their support. Do it anyway even if they are not supportive. Prepare to concentrate on yourself and your health for a fairly long time. If you are lucky, you will start to feel better right off, but if you are one of the legion of people who have been poisoned for decades you can expect to spend a few years at this task. If you have savings, you may need to use them. This is the kind of thing people save for.

You will make some surprising discoveries concerning who really cares about you and who doesn't, about whom you can or can't trust. Don't let this upset you. Be practical and pragmatic. You are doing something unusual that doesn't

fit in with a lot of people's lives and beliefs. You may need to distance yourself from some people you are close to. When you get better you can pick up those relationships where you left off. On the other hand, a few people whom you may not be all that close to right now will be understanding and compassionate. Let them be your friends. Let them help you. Appreciate people who are willing to give you what you need rather than what they think you need. Be glad that people who respect your real needs are around and let them into your life.

If you have any choice about it, this is obviously not a good time to change jobs or start a business or to move away from a familiar or convenient location.

10.4.1 Some useful suggestions to make life easier

- put all your recurring bills like electricity, cable, water and so forth on automatic payment so you don't have to worry about writing checks all the time.

- have a special table where you put all your bills and important business—and your vitamin minder box. Choose a place that you walk by and look at often.

- if you can possibly afford it, get a cleaning person to come in every one or two weeks

- get a month by month desk blotter sized calendar and put it on the wall near your phone where you can see it easily and it won't get lost. Write your appointments on that and be sure to consult it every day. Keep two months visible so you can see the appointments and tasks due in the first few days of the next month. Don't trust yourself to remember anything.

- buy a beautiful new notebook and a handsome pen and keep a diary. Or do it in a computer file. Keep records of how you feel and what you're doing with your pills and activities—you'll need this information for problem solving later.

- if you can't make up your mind about something, flip a coin. Force yourself to make a decision. Few decisions are worth agonizing over. You'll need all the mental energy you save doing this for something that's actually important.

- make to-do lists and keep them on your special table described above. Do the most important task on the list first and when it is done, cross it off. When the list gets too long, throw it out and start over. If you don't remember something, it

wasn’t that important. If it really was important, it will come back to mind.

11 CONCEPTION, PREGNANCY AND LACTATION

Mercury in a pregnant woman's body is a risk to her baby. She and her baby also share the same genes that made her susceptible to mercury in the first place.

If you have had your mercury fillings removed in the last 18 months, or have done chelation in the last six months, be sure not to get pregnant.

11.1 If you are pregnant

- DO NOT attempt to detox anything.
- DO NOT remove or have any work done on amalgam fillings
- DO NOT under any circumstances get a flu shot or other vaccination no matter what the doctor says.
- DO NOT use vitamin A over 25,000 IU a day
- DO NOT use iodine over 500 mcg daily. [1]

In California, of course, the laws of nature are different and pregnant women must limit their intake to 10,000 IU daily, just like in Arkansas 71=22/7*3.14159... And of course everything the doctor wants to do to you while pregnant, or to your baby once born, is totally safe and has nothing to do with why all the kids nowadays are ADHD, asthmatic, allergic, autistic or have learning disabilities despite their grandparents all being fine.

- **DO** take folic acid 800 mcg and magnesium 200 mg with meals and at bedtime in addition to whatever other vitamins you take.
- **DO** make sure that your thyroid is working properly. If given therapy for this, make sure that both T3 and T4 versions of the hormone are given regardless of whether the doctor understands why this is necessary.

11.2 After your child is born

After your child is born, do not let them be given any vaccinations. Have another adult with you who will follow the child around the hospital and prevent it. Write **“NO VACCINATIONS”** on every piece of paper they give you.

If you have a mercury problem your child is especially susceptible to vaccine injury. If any doctor pretends vaccines are safe, ask them to let you write in the chart that you refuse to sign the big stack of legal waivers. There will be plenty of time to vaccinate them later. Do not let your child receive any vaccines other than tetanus or one for a disease currently epidemic in your jurisdiction until at least age 5, if at all.

If for some reason vaccinating your child is unavoidable, make the nurse let you handle and read the vaccine vial and the paper that comes with it. Make sure it is the vaccine you were told. Make sure there is only one dose in the vial (all multidose vials are preserved with mercury, there are no exceptions). Make sure the papers and the vial state that it is preservative free. Then watch the nurse prepare the syringe and give the vaccination. Do not let this occur out of your sight. These precautions will reduce the risks to your child, but the risks of vaccinating are still quite substantial.

If vaccination is unavoidable for your child, the longer you can put it off the safer it is. Procrastinate. Delay. Raise obstacles. Stretch it out. Only let one vaccine be given at each visit. Cancel appointments and reschedule them. In most cases people think vaccination is unavoidable, but they actually can get out of it if they are creative.

If you have a little baby now and are breast feeding, continue but don’t do any chelation and don’t disturb your amalgam fillings. Even if you are very toxic your breast milk is still much better for your baby than formula. Nursing increases the likelihood your baby will remain healthy.

Be firm in your resolution not to let any doctor talk you out of anything above. If you think your life is difficult now being sick and having to take care of a baby, think about how much worse it will be being sick and having to care for a brain damaged baby. Don’t take chances. Take care of yourself and your baby properly.

Do not let anyone else take your baby to the doctor unless you are utterly certain they will not let the baby be vaccinated. Husbands and fathers are no exception. Doctors easily talk them into vaccinating no matter how many million times they've been warned not to let this happen.

11.3 Timetable of basic precautions

- DO NOT conceive within eighteen months of final amalgam) removal. *
- DO NOT conceive within six months after your last use of chelators.
- from conception until weaning DO NOT do any detoxification or work on fillings. Try to avoid all mercury exposures. Be careful not to mobilize mercury from your fillings (if you have them) by getting dental work, brushing too vigorously or drinking hot beverages. When breast feeding if you do get dental work by mistake, you should "pump and dump" for four days and then resume regular breast feeding.
- be careful NOT to get pregnant accidentally. Use all kinds of precautions to avoid this.

At a minimum of six months after your last chelation round and 18 months after amalgam removal, evaluate your health. If your symptoms appear to be stable you can consider conceiving, but there is no simple rule and everybody is different.

12 DOES YOUR CHILD NEED TO CHELATE TOO?

Susceptibility to mercury is often due to genetic factors. If you have chronic mercury poisoning, the rest of your family is at risk, too. It is also possible that you were somehow exposed at home. In this case your children are at risk since children are more sensitive than adults. You will need to evaluate your children to decide if they need chelation. Fortunately, children are much easier to chelate than adults.

People often find it confusing to figure out if a child needs to be chelated. As long as the child doesn't have amalgam fillings, the simplest thing is to just give

it a try. You will only need a few weeks to find out if they are going to respond. It isn't very expensive, nor does it involve invasive and scary blood tests. A hair test is often informative and that just involves cutting some hair. (Information about hair tests is in section 4.2.) More information can be found in *Hair Test Interpretation: Finding Hidden Toxicities* along with case reports on many toxic children. If mercury is causing a problem your child will get better with chelation. If it's not mercury, nothing will happen. You have nothing to lose but a future of suffering and grief that neither you nor your child need to experience.

If something suspicious is going on with your child, it is worth a trial of chelation. By "suspicious" we mean: being late on developmental milestones, having certain developmental or health problems, having dietary issues or being different from other children in some specific ways. All of these are spelled out below.

Childrens growth and development are very well regulated, reproducible processes. Each normal, healthy child develops and grows just about the same way as all the others. That's why the CDC can provide checklists that chart which behaviors will begin at what ages.[2]

Children **will not** complain of even severe disability until at the earliest 5th or 6th grade. They assume that everyone is just like them. Doctors wait for the parents to complain, then make the diagnosis by asking the parents questions about the child. A mild disability like ADHD won't be detected until adulthood unless you, the parent, figure out what is going on.

We have developed some charts from a variety of sources and put them in a form that is easy for you to use. If your child is not following these charts, or if he or she is not developing like the neighbor's kids, or like grandma remembers you developing, something is wrong. Too much mercury is usually the problem. Normal development will resume as soon as you get the mercury out.

The charts show deadlines. Your child should do each thing listed on the chart **before** the age given. If it hasn't happened by then, something is wrong and you need to follow up. If a lot of the milestones are late, or haven't happened at all, it's a big problem, and usually a mercury problem. If it's not mercury, it could be lead, antimony or arsenic, but all of these are chelatable.

If you have a baby book or a diary, refer to that to get dates for milestones. If not, go over your photos, videos and emails. If you know your child has missed many milestones, stopped progressing or regressed, it is definitely time to chelate.

Following the charts is a discussion of other issues that may come up if your child has too much mercury and needs to chelate. There is no schedule for these issues as they can come up at any time.

12.1. Teething Chart

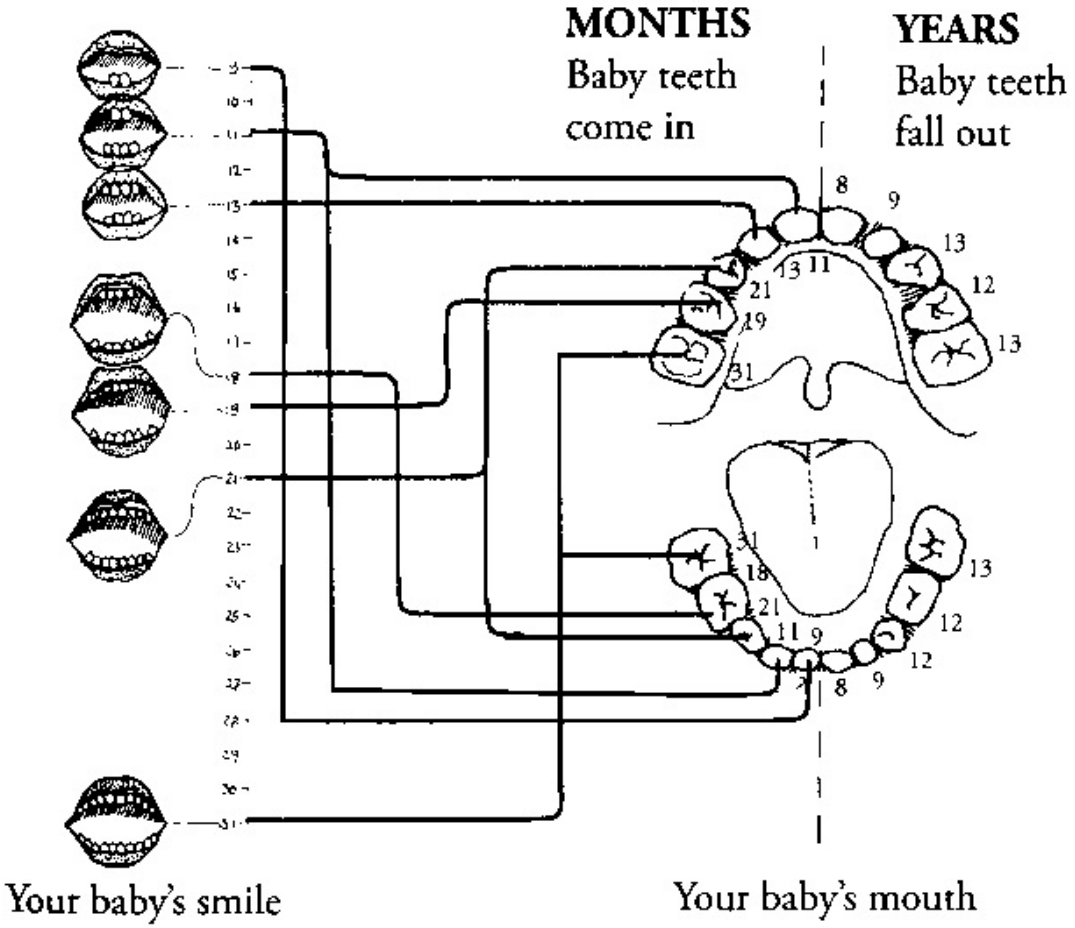

Figure 12.1. *When your baby's teeth come in and fall out*

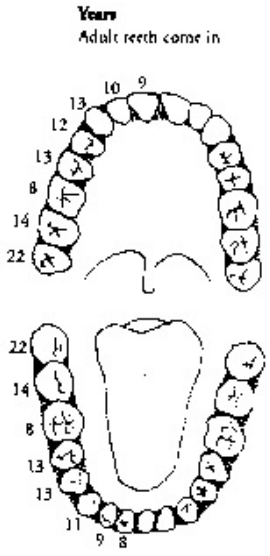

Figure 12.2. *When your child's adult teeth come in*

The figures above is a timeline for when children's teeth should come in and fall out. Figure 12.1 shows what your baby's teeth should look like as he grows. The left side of the figure shows when each baby tooth should come in (in months); the right side shows when each baby tooth should fall out (in years). Figure 12.2 shows when the adult teeth should come in (in years).

If your baby's teeth come in or fall out earlier than the time shown on these charts, that is just fine. If your baby has more teeth in his mouth than shown in Figure 12.1, that is okay, too, The teeth may also show up in a slightly different order. The problem arises if some teeth do not come in by the correct age. That's not normal and you need to find out what is wrong. If anybody tells you, "It's normal, it's nothing to worry about, some kids are just like this," they're wrong.

One thing to look into if your child's teeth are not coming in on time is low thyroid hormones. Low thyroid hormone levels need to be corrected early. Low thyroid can cause delayed teething as well as failure to thrive (delayed growth, walking and talking). It can also cause a permanent IQ reduction and lifelong bad teeth. Mercury and lead both impair thyroid function.

Another warning sign of low thyroid levels is a child who is contented, sleeps through the night, is not fussy and seems like a "good baby" before the age of four months.

12.2 Timeline of developmental milestones

This timeline shows a large number of things children start to do as they develop. Every sentence is one milestone. The times are the age by which your child should already have done this. If it isn't happening by the stated age, something is wrong. If several milestones are missed, it's usually mercury. If it's not mercury, it is usually some other toxic metal.

If your child was a premature baby, you need to calculate a corrected age to use with these timelines. These charts are for a child born at 40 weeks of gestation.

Table 12.1

Timeline of developmental milestones

AGE	WHAT YOUR CHILD SHOULD ALREADY BE DOING
2 months	• smiles back at you
4 months	• should NOT be sleeping through the night until now • enjoys eye contact
5 months	• smiles spontaneously
6 months	• smiles and shares enjoyment
7 months	• sleep-wake schedule has become predictable
8 months	• sits without support • turns towards a voice • smiles often
10 months	• says “mama and “dada” but often not to the right person • becomes shy of strangers • clings to mother
	• stands with assistance

12 months	• **babbles and points** • **responds to name** • **looks you in the eye** • **knows a word beyond “mama” and “dada”**
14 months	• **crawls on hands and knees •walks with assistance** • **stands on his own** • **uses “mama” and “dada” for the correct person**
16 months	• **stacks 2 blocks** • **uses single words**
17 months	• **drinks from a cup**
18 months	• **walks on his own** • **points to things to communicate** • **imitates others** • **plays by pretending to do everyday things the parents do like talk on the phone, open the door, do dishes**

Table 12.1

Timeline of developmental milestones

AGE	WHAT YOUR CHILD SHOULD ALREADY BE DOING
20 months	• **runs**
22 months	• **stacks 6 blocks** • **can take off clothes you unbutton**
24 months	• **knows what a brush, fork, spoon and phone are for (but cant use them)** • **knows 50 words** • **talks using 2 word phrases** • **points to an object or body part you name** • **a stranger can understand half his words** • **can walk up stairs slowly and deliberately** • **looks when you point at things** • **pretend play extends to things like feeding a doll**
30 months	• **can pedal a tricycle** • **can use a spoon** • **can verbally identify a picture when you show it to him**
	• **can walk up stairs one tread per pace** • **can use a fork**

36 months	**• can follow 2 step commands •speaks in 3-4 word sentences, of which** **a stranger will understand 3 words in 4**
39 months	**• uses plurals**
42 months	**• can put on pants, but not do snaps or zippers** **• does not stutter**
45 months	**• gives first and last name**

Table 12.1

Timeline of developmental milestones

AGE	WHAT YOUR CHILD SHOULD ALREADY BE DOING
4 years	**• puts on a shirt or blouse but can't do the buttons** **• can hop** **• interacts with people other than family** **• engages in imaginary play** **• can describe his emotions and what are causing them**

	• **makes jokes, teases, engages in word play** • **uses “me” and “you” properly** • **can recite a favorite story** • **can use sentences more complex than subject/verb/objects**
4 years 2 months	• **can hold a pencil adult-style**
4 years 4 months	• **can catch a ball**
4 years 6 months	• **washes and dries hands well**
4 years 10 months	• **can skip**
5 years	• **has friends outside the family •plays boy’s games for boys and girl’s** **games for girls** • **knows difference between real and make believe** • **tells stories that have a plot** • **uses the future tense** • **can pay attention to 1 task for 5 minutes** • **a stranger can understand every word**

	• **can dress without help** • **can do a sit-up**
6 years	• **plays with same age (or older) children** • **can focus on one task for 15 minutes** • **responds appropriately in conversation and takes speaking, using sentences of 5-7 words**
9 years	• **can pay attention to one task for 1 hour**

12.3 Growth charts

Children grow in a very reproducible manner. That's why there are growth charts! When you go to those "well baby" visits, your doctor is supposed to be filling them in, although almost none of them bother. However you can get those charts and use them. The World Health Organization charts are best for breast fed babies, the Centers for Disease Control charts are best for formula fed babies[3]. A normally growing child will follow along parallel to the growth percentile lines. If they're average, tall, or short, they stay that way all along unless something is wrong.

The plotted line on these growth charts[4] show children with developmental problems. Once you see that your line doesn't match up with one of the lines on the chart, figure out what is wrong! Even pediatricians who keep these charts seldom bother to do anything when a problem shows up. This usually leads to the problem becoming far more severe than it would have been if timely action had been taken

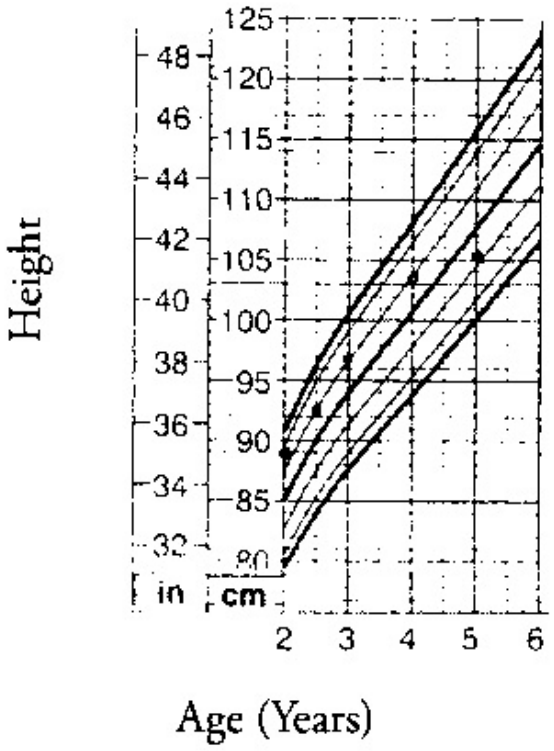

Figure 12.3 *Height/Age Curve for Girls. Notice that the dots are not following any specific curve, implying abnormal growth*

Age (Years)

Figure 12.3 *Height!Age Curve for Girls. Notice that the dots are not following any specific curve, implying abnormal growth*

Girls Weight-for-age percentiles

Birth 3 6 9 12 15 18 21 2

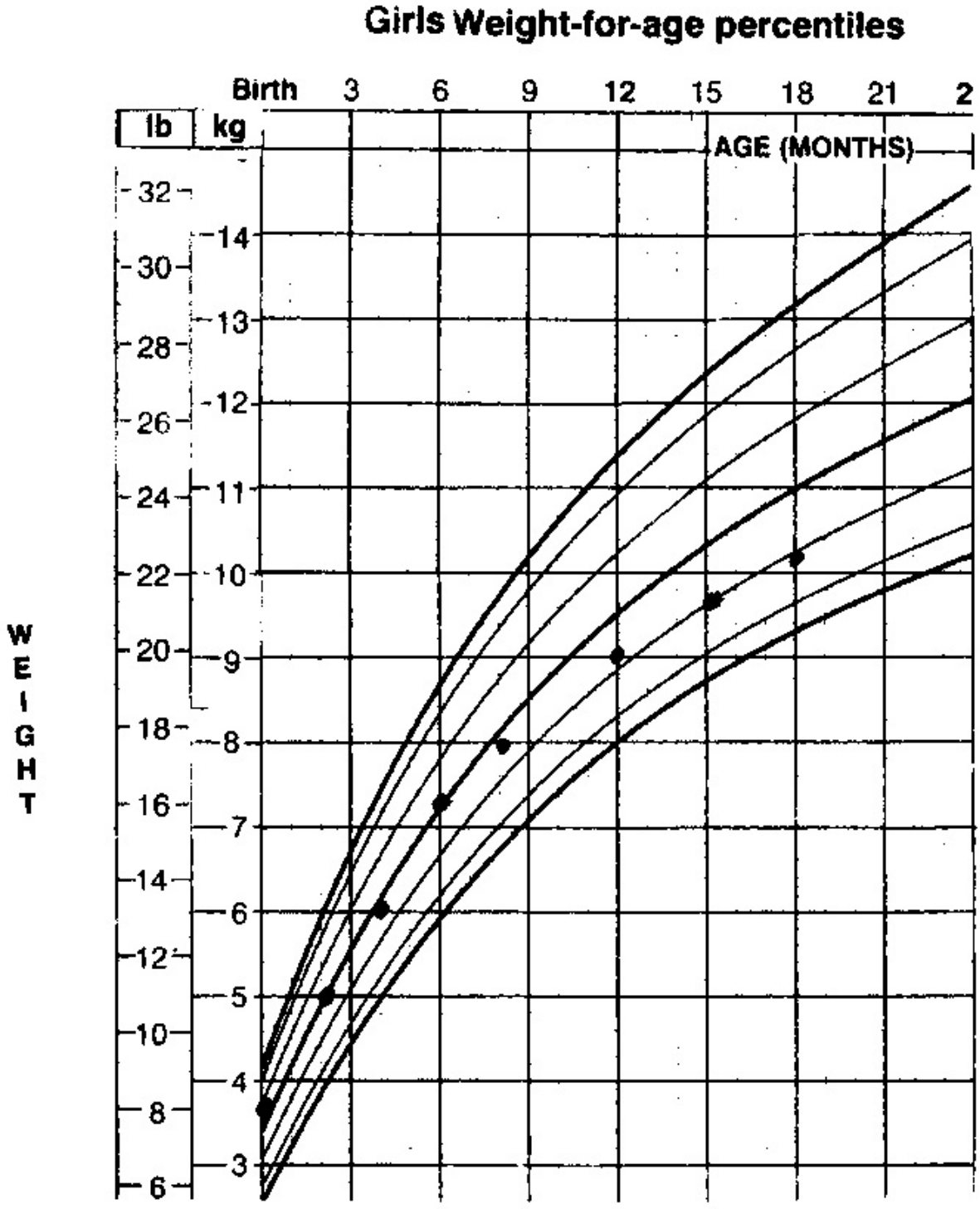

Figure 12.4 *Weight/Age Curve for Girls. Notice that the dots are not following any specific curve. This implies abnormal growth.*

Figure 12A *Weight!Age Curve for Girls. Notice that the dots are not following*

any specific curve. This implies abnormal growth.

12.4 Medical diagnoses

There are a number of diagnoses that go along with mercury and lead poisoning in children. If your child has any of these you probably need to chelate him.

- **autism spectrum disorders,** ADHD or **social communication disorder**

- **epilepsy, mood instability** (e. g. **bipolar disorder),** schizophrenia, obsessive-compulsive disorder, depression, **anorexia, bulimia,** anxiety

- **dyslexia, sensory integration disorder, convergence insufficiency, accommodative insufficiency,** strabismus, amblyopia (lazy eye)

- need for vision therapy, as diagnosed by an eye doctor

- asthma, terrible allergies, dangerous food allergies

- hypothyroidism

12.5 Food and diet

Mercury affects peoples reactions to food. Some signs that you need to chelate your child are:

- his cheeks turn red after dinner and their behavior changes

- he self-limits his diet

- his behavior changes after eating colored prepared foods like red or green gelatin, Mountain Dew soda, pickles or canned orange juice concentrate

- he is gluten intolerant or has celiac disease

- he craves and only wants to eat sweets and starches

- he is gassy and bloated after meals

- he has frequent stomach pains or digestive problems

- he needs to be on some kind of special diet

12.6 Common sense

The genes that control your child's development are the same that controlled his ancestors' development. His ancestors nursed, played, learned, grew and matured in a consistent pattern from the Stone Age through ancient and biblical times, through the Middle Ages, the Renaissance, the Industrial Revolution, the last century right up till now. Normal healthy development has been crucial to the survival of our species for thousands of years and its clear almost all children will develop normally if nothing interferes. If a child is not developing normally, it should ring alarm bells regarding toxicity.

Examples of abnormal behaviors are:

- your baby has difficulty nursing and cannot learn to suckle properly, resulting in formula feeding.

- the things you remember doing as a child at the same age just aren't appropriate for your child. You can't just send them outside and expect them to come home at dark the way your mother did with you. They will dart out into the street, run off or get lost.

- other people act like or tell you that your child is weird, needs evaluation, can't behave, etc. People insinuate that your children are spoiled because of poor parenting and lack of discipline.

- your child acts odd in specific locations and you've learned not to take him there, e. g. the laundry detergent aisle at the grocery store.

- grandma, aunt or great aunt talk about how different your child is from how their children were.

- you (this more often the mother than the father) are not having the same kinds of experiences with your child that your friends with small children are having and talking about.

- your child needs pills (whether prescription or not) routinely.
- your child has needed antibiotics more than 3 times by age 6.
- the doctor needed to put in ear tubes.
- your child qualifies for special remedial assistance in school.

Other things that should make you consider chelation are:

- your child has temper issues, meltdowns, tantrums, anger outbursts and is often defiant (compared to other children).
- if you leave your child with neighbors or relatives for a few days (or if you are divorced and they go on visitation), they come back a mess and take several days to recover.
- your child cannot maintain a stable sleep schedule, cannot get to sleep at bedtime, or wakes in the middle of the night.
- your child is frequently ill or unable to recover in a reasonable amount of time.
- your child is overly sensitive to smells, textures, tastes, sounds, touch and/or pain.
- your child has white patches in their mouth or a white coating on their tongue.
- you know what “biomedical” is and are doing it with your child.
- your child will not look you in the eye (at any time, not just when they’re lying).
- your child has a high pitched, nasal, flat or odd voice.
- your child’s writing and drawing is very poor.
- your child often toe walks.
- your child does not parallel play at the appropriate age. They often play by

lining toys up in rows.

- any loss of previously acquired skills or developmental milestones is a substantial concern. This does not normally occur.

If you are concerned something is not right but the doctor says everything is fine, the doctor is wrong. You are right—and fancy medical studies have discovered this to be true. It's also what you'll hear from the parents of most autistic children who have spent a year or so trying to get their doctor to pay attention.

A parent, particularly the mother, is far more sensitive to her child's state than any doctor can possibly be. Most doctors don't study child development any more than a parent nowadays, anyway. The doctor relies on you to recount your experiences with your child. No matter how marvelously expressive you are, it is simply impossible to convey the richness and complexity of having shared your child's entire life in an appointment that lasts half an hour—if you're lucky.

If you think something is wrong with your child after reading this section, try chelation. Just do it. The instructions are the same as for an adult. Only the dosing is different.[7] In a few weeks it will become very clear whether your child needs to chelate. If something happens, they need to do it. If nothing at all happens on round or afterwards, they don't. It won't matter how much chelator you give them. If there are no metals to chelate, the chelators will have no effect at all. If something happens, it's because there's enough toxic metal present to be a problem.

2

www.cdc.gov/ncbddd/actearly/pdf/checklists/all_checklists.pdf

3

www.cdc.gov/growthcharts/who_charts.htm,www.cdc.gov/growthcharts/clical_charts.htm

4

We have used excerpted portions of the CDC growth charts for girls for these examples.

7

For instructions on how to chelate children: *Fight Autism and Win* **(second edition)**

13 CONCLUSION: SOME ENCOURAGING WORDS

You probably have chronic health problems or you wouldn't be reading this book. You should be able to get all the assistance you need from a doctor-but that is not likely to happen. Fortunately, you can heal from mercury toxicity all by yourself. This book is an instruction manual on how to do that. But it is neither the book nor the doctor that is going to do the work. It is up to **you** to take the right pills in the proper way for as long as necessary.

Being poisoned is different from having something like a traumatic injury or a tumor. Your body is not like a building that you have damaged by knocking out some bricks or stones. It is more like a river that is clogged up with some nasty garbage. The poison is interfering with dynamic, flowing, biochemical processes. The poison is keeping these processes from running smoothly and in the course they are supposed to follow. Clean out the poison and your body will revert back to health, like a river that can suddenly run smoothly again.

Mercury is a strange and powerful poison. It not only interferes with your ability to be healthy, but in a fundamental biochemical way with your ability to be happy. We urge you to chelate and detoxify! Have faith and stick with it! With every round, you will reduce your toxic burden. With every round, your memory will improve, your mood brighten, your sleep become deeper, your thoughts come under better control, your guts better able to digest dinner and you will feel less overwhelmed by life. -

Clean up your body so your biochemistry runs smoothly again. One day, you will say to yourself with surprise: "I feel happy! I had forgotten what that was like!" It will be as though your body has relaxed and the clouds have parted to reveal the blue sky overhead.

APPENDIX A

FREQUENTLY ASKED QUESTIONS

A.1 Mercury cleanup questions

A. 1.1 How do I clean up mercury? (Normal cleanup instructions as for a lightbulb or thermometer)

- First, make sure not to spread it all over by doing something before you think it all through! Leave the area, let it air out while you think and prepare.

- Your primary goal is to not scatter mercury around, and to not break big droplets into a zillion tiny ones. Look carefully where you're going to put your foot, hand or knee every time you move.

- Do not use a vacuum cleaner under any circumstances.

- Airflow is your friend. It carries away any vapor and protects you. Keep the windows open (or door to the outside) while you clean up.

- If it was on a hard floor, scoop up the debris with a plastic dust pan or piece of hard plastic as well as you can before any sweeping. Scoop, wet down and clean up with paper towels. Put all the clean up debris and supplies in a plastic bag. When you are done put the plastic bag outside away from any building to await garbage pick-up. If possible, get a sweeping compound and gently sweep up the entire area where anything could have scattered.

A sweeping compound is a product, usually made from wood shavings, that is used to hold down dust to make sweeping easier.

Examine everyplace you can for mercury droplets. Pick up as much as possible. Examine the bottom of the baseboards carefully.

You can often pick up mercury droplets with tape. They will also adhere to clean copper wires or the copper scrubbies used to clean pots. Wear rubber gloves when you do this.

Wax the floor. Get wax under the baseboards. This passivates any mercury you missed.

If there is a carpet or floor covering, the first question is can you fold or roll it up, bag it and take it outside? If so, do that. Make sure it is well bagged before moving it so no mercury droplets get away.

If you have removed a carpet or floor covering (or clothing or bedding) and you

want to keep it, get it away from any building and to a place you are willing to have contaminated (e. g. not next to your vegetable garden.)

Take the carpet out of the plastic bags and let it air out for an hour or two. Then carefully open it up and try to collect all the debris and mercury into a bag for disposal. Hang the carpet up and beat it while being careful to keep the wind at your back. Inspect it very carefully for any mercury. Leave it outside to air out for a few days before bringing it in. If it can be washed, do so.

Wall to wall carpeting is the most difficult situation. It is easiest to throw the carpet away, if you can afford it. If you need to clean the carpet, air the room out. Wear gloves. Be extremely careful, diligent and compulsive about picking up all the debris. Place everything in a garbage bag. Spread the carpet pile with your fingers and look for little mercury balls. Try to remove them with tape or a copper wire. If you are not sure you have cleaned up thoroughly have a professional carpet cleaner come in. They should have a hose that goes from your house to the truck. Don't go on and on and on about mercury to them or you'll end up talking to the hazardous waste people. This will cost you a lot of money for something that isn't considered a hazardous waste spill. Just have them clean the carpet. If they are using a vacuum hose to the truck, this will not be hazardous for them.

- When you are done with the cleanup, put your clothes in the wash, take a bath and wash your hair.

A. 1.2 I broke a neon tube/ CFL light bulb. Help! What do I do?

- A lot depends on whether it was operating and hot when you broke it, or turned off and cold. If it was cold, follow the normal cleanup instructions.

- If it was hot, open windows and leave the room immediately. Close the door. If you have ductwork, do not let the heater or air conditioner turn on. Leave it alone for at least an hour. Then follow normal cleanup instructions

A. 1.3 I broke a thermometer/barometer/tilt switch/toy with mercury in it.

- Don't worry.

- Follow normal cleanup instruction.

A. 1.4 How does exposure to a broken light bulb or thermometer affect chelation?

- The best way to not get exposed via light bulbs or thermometers is to get rid of the light bulbs and thermometers that have mercury in them before an accident happens. LED light bulbs are mercury free, and modern thermometers no longer use mercury.

Most people's exposure is not significant. For example, breaking the thermometer in your mouth and spitting out the mercury in the sink does not amount to a significant exposure because it is easy to spit metallic mercury out of your mouth.

- It is rare to get a substantial exposure from breaking a light bulb or thermometer. But if this should occur, you will need to stop chelating and wait three months before starting ALA. Three days after the exposure you can chelate with DMPS or DMSA.

- Examples of a substantial exposure are: you get some mercurochrome or merthiolate on you when you pick it up to throw it out. You break a spiral CFL tube while in operation and hot and you go over to look. You realize the prescription eye drops you used all last week have mercury in them. You vacuumed up some spilled mercury before reading not to do that in this book.

A.2 Protocol questions

A.2.1 Can I use time-release alpha lipoic acid so I don't have to get up at night?

No. Time release alpha lipoic acid will not keep the levels in your blood steady. ALA is absorbed in the top part of the digestive tract. A time-release product lets most of the ALA out lower down where it does no good.

A.2.2 How does the MTHFR gene affect my ability to chelate?

- Ignore everything you have read about MTHFR as it is not relevant to chelation. You can chelate just fine with whichever MTHFR version you have. You can take whatever special form of folate and B-12 you want to.

A.2.3 How much iodine should I use?

- Do not take more than 500 mcg of iodine per day as more will eventually become toxic.

A.2.4 Can I use zeolite, modified citrus pectin or bentonite clay?

- You can take zeolite, MCP or bentonite if you wish but it is not going to chelate anything.

A.2.5 I have Lyme disease. What do I do?

- If you just have Lyme disease, antibiotics cure it. If you took any reasonable course of antibiotics and are not cured, you need to chelate. If you want to continue taking antibiotics its fine, they don't interfere with chelation and chelation doesn't interfere with them. Just be sure no supplements you are using have ALA, R-ALA, cilantro or chlorella in them.

A.2.6 Shouldn't I heal my gut, cure my Candida, clear out my detox pathways before I start chelating?

- These problems will never clear up until you chelate. You can treat them at the same time as you are chelating. Chelating will allow your immune system to work properly and combat these problems. Do not put off chelating for more than two weeks.

A.2.7 My doctor says I should do a challenge test, do a DMPS IV, take chelators once a day and so forth.

- Be very cautious about taking the advice of doctors, naturopaths, chiropractors and other providers. They do not have the proper background or technical education to guide you. Frequent low dose chelation is the only way to remove metals safely. Any other way carries serious risk. Don't wind up bed ridden, in chronic pain, or in a mental institution. Chelate properly and get well!

A.2.8 My dentist says to take a chlorella rinse, EDTA tablets, a glutathione IV, a detox remedy, etc.

- Let your dentist do what he is good at, which is fix your teeth. Your dentist is not qualified to give you advice about detoxification.

A.2.9 My doctor thinks it is all quackery and won't help me.

- Don't upset yourself or him by arguing. Find another doctor who does want to help you.

A.2.10 Do I really have to wait 3 months to take ALA?

- You have to wait 3 months from your last exposure to take ALA. For most people, this means three months from the time you got your last mercury filling removed.

A.2.11 Is it OK to take ALA once a day for my liver?

- NO! The only safe way to take ALA is on the schedule outlined in this book.

A.2.12 Can I take a dose early/late to fit my schedule?

- You have about 15 minutes of wiggle room. However, if you take miss your dose by an hour, the round must be stopped.

Try to keep your dosing as regular as possible. This is not the same as routinely changing your schedule. See section 7.2.3 for discussion of schedules.

A.2.13 I took a dose early/late what do I do?

- If you took a dose early readjust your alarms from the time you took it and keep going. If you took a dose late, just keep going.

- Try not to forget your doses. Try to keep them as regular as you can. Use checklists and alarm clocks. Don't just try to remember.

If you have messed up your dosing schedule, it is a good idea to take extra vitamin C and magnesium.

A.2.14 I missed a dose, what do I do?

- If you missed a dose but took the next one anyway, just keep going. You will

probably feel horrible for a few days. Take extra vitamin C and magnesium.

- If you miss an ALA dose and are more than 4 1/2 hours after the last one,

- a DMPS dose and are more than 10 hours after the last one, or

- a DMSA dose and are more than 5 hours after the last one you must stop the round and start over the following week.

A.2.15 I accidentally took a double dose of chelators.

- Keep going. Finish this round at the regular dose.

A.2.16 Can I use R-ALA?

- No. Everybody who has used it has reported it made them worse.

A.2.17 Can I do a round longer than three days?

- Yes. You can do rounds as long as you can tolerate but you should never do rounds shorter than 64 hours.

A.2.18 I have been taking ALA once a day and nothing bad has happened.

- Stop right away! Give it enough time and it will do long-lasting damage that is very difficult to reverse. Taking ALA once a day will drive mercury in to your brain. Once you do this, it takes a long time to get it out.

A.2.19 Can I stop chelating whenever it isn't convenient?

- You should really chelate through the dump phase. (See section 7.5.) Once you're over the dump phase, you can stop and start as often as you want. If you need to stop during the dump phase you can, but your symptoms will be worse than if you chelated during this time.

A.2.20 My flax oil says it has ALA - can I take it?

- As with all acronyms, there are several ALA's. The one you chelate with is alpha lipoic acid. The one in flax seed oil is alpha **linolenic** acid - that one

doesn’t chelate anything. It will not cause any problems.

A.2.21 Can I use a Sauna for detox?

- You can combine any kind of sauna with chelation (on or off round) as long as you sweat appropriately in response to heat and the sauna heats you up more or less evenly. Some infrared saunas do not heat evenly. You should feel good after saunas. If you feel bad, stop. The sauna will help some mercury come out but it will not detox you adequately—chelation is necessary to get better.

A.2.22 What supplement brand is best?

- Use what you can get easily. Whether the supplements are from grocery stores, drugstores, supplement stores in your community or online vendors is up to you. For most people, brand doesn’t matter.

A.2.23 Is magnesium stearate dangerous?

- Magnesium stearate is harmless. You consume stearic acid every time you eat meat or consume cocoa butter, coconut oil or palm oil.

A.2.24 Does chelation remove important minerals?

- No. The chelators discussed in this book, alpha lipoic acid, DMSA and DMPS, are highly selective for heavy metals. They do not directly remove the lighter nutrient metals. People who have mercury often have low magnesium and zinc because mercury keeps your body from holding on to them. When chelating, this problem may be exacerbated for magnesium.

No other metal is affected.

A.2.25 Is the lower back-ache I have when chelating my kidneys being damaged?

- No. Your kidneys don’t hurt if they get the kind of damage mercury causes. Kidney damage does not happen with chronic mercury poisoning anyway. The pain is probably due to back muscle spasms because you aren’t taking enough magnesium.

The muscles that are located over your kidneys are where you are feeling pain.

A.2.26 Why can’t I use EDTA?

- Although EDTA chelates lead, you cannot use it unless you have chelated all the mercury out of your body with ALA first. EDTA makes mercury more toxic and moves it into your brain. EDTA is also difficult to use. It is usually injected, which is expensive, time consuming and unpleasant. It is very difficult to use by mouth because absorption is poor. It affects electrolyte balance and usually causes nausea. This means you have to work the dose up slowly and will have to chelate for a lot of days to get to a reasonable dose. If you stop for long you have to start all over again from zero.

A.2.27 Should I take my chelators and/or supplements, with or without food?

- It makes sense to take your supplements with food. The body is used to getting vitamins and minerals this way.

- You take the chelators when your alarm goes off, with or without food.

A.2.28 Can I skip my chelation round when I feel sick, or have a wedding or event?

Yes. This process does not work on a strict every week or every two-week schedule. It is done as often as tolerated. This may depend on your life events and situations as well as on your health. The mercury will wait patiently until you get around to chelating it.

A.2.29 I have heard that chelation is dangerous

- It is very dangerous if it is done wrong. Be safe and do it right!

A.2.30 What do I do if I can’t take vitamin E?

- Try tocotrienols. If you are sensitive to soy, try a sunflower derived vitamin E.

A.2.31 What do I do if I can’t take vitamin C?

- After trying 2 or 3 brands, try some vitamin C made from different precursors than from corn syrup, like sago palm or cassava/tapioca. Try liposomal vitamin

C.

A.2.32 How can I get my family to understand they are toxic and need to chelate?

- Get better. Until then there is nothing you can say that won't make them think you've gone even further around the bend.

You need to tell them what you're doing, then be patient for however long it takes to get better. This might be a year or two. When they notice you are improving they'll listen to you. The more you talk about it now, the less likely they'll be to ever listen to you.

A.2.33 Can I stop my psychiatric medications now that I am chelating?

- No. You have to keep taking them until all the mercury is gone.

A.2.34 I can't remember if I took my chelator dose ten minutes ago. [8]

8

Take another and start using a checklist and pill minder boxes!

A.2.35 My doctor gave me an SSRI[9] and it isn't helping at all! What do I do now?

- See the depression section (8.11) to determine which sort of depression you have and what will work best for you. SSRI's only work in certain cases.

- SSRI's seldom work for anxiety. If you have anxiety and depression, see the adrenal section and try the suggestions there.

9 Paxil, Prozac, Celexa, Lexapro. Luvox, Zoloft etc.

A.2.36 I have surgical pins, replacement joints or other metal parts in my body. Can I still chelate?

- Yes.

A.2.37 I just threw up. Do I need to end the round?

- If it has been less than half an hour, or you can see the pill in the vomit, take another chelator pill. If you can't see the pill and it has been more than half an hour, don't take another. If in doubt, do take another pill.

Of course, if you are getting sick and are likely to vomit more, stop the round. Don't choke down another pill to barf up! But if you think you'll be OK and want to continue, then go ahead.

A.2.38 Do I really need to take my chelators at night?

- Yes, in order to keep your blood levels of chelator steady you need to take your nightly dose. If you do not respect the schedule, you will redistribute mercury and make yourself worse, not better.

A.2.39 Which hair test should I use and where do I get it?

- There are several hair test companies that are appropriate to use. The one recommended is Doctor's Data Toxic and Essential Elements Hair Test. Be sure to order the one that has both toxic and essential elements.

A.3 Dentistry questions

A.3.1 What is that grey or black stain showing through my new composite fillings?

- This is usually silver oxide stain and it isn't a problem for chelating. If you are in any doubt, get a bite wing X-ray of the area.

If there is any mercury it will show up on the X-ray.

A.3.2 How do I determine that I have amalgam fillings?

- The siver or black looking fillings in your teeth are amalgam fillings. In x-rays, amalgam shows up fluorescent white.

A.4 Vaccine questions

A.4.1 What if I am told that I absolutely need a vaccine?

- Avoid them if at all possible. Most people roll over and play dead much too early. First, you need to appreciate that doctors and bureaucrats lie all the time and will tell you there are no exemptions when there is an exemption form already preprinted and waiting right under the counter if you know how to ask for it. The internet is wonderfully helpful in finding all the reasons you can use to avoid a vaccine.

- If you can't possibly get out of it, make sure there is no thimerosal. DO NOT take the doctor's word. Make them show you the vial and watch them draw it up. If the vial has more than one dose in it, the vaccine has mercury (thimerosal) in it no matter what anybody says.

- If the doctor says you MUST get it, he is usually wrong. For example, a tetanus shot when you have a cut is useless—it takes six weeks to make you immune. You are relying on the last tetanus shot you had for the cut you just got. This is not an emergency. Do not let your doctor bully you. You have plenty of time to think about whether you need another tetanus shot.

- Never get flu shots or shingles/chicken pox vaccines. They don't prevent the diseases and may make you sicker.

See for example "The preventive effect of parenteral inactivated influenza vaccine on healthy adults is small: at least 40 people would need vaccination to avoid one ILI case (95% confidence interval (Cl) 26 to 128) and 71 people would need vaccination to prevent one case of influenza (95% Cl 64 to 80). Vaccination shows no appreciable effect on working days lost or hospitalisation."

- If you are an adult you already had enough MMR shots. Don't get another one. You do not need them to go to school. There is always an exemption or a past medical record you can show.

A.4.2 What should I do if I have been obliged to get a vaccine, anyway.

- Take a gram of vitamin C every hour for a few days.

- Take 2 or 3 tablets of aspirin 3 or 4 times per day.

- Apply ice to the injection site.

• Apply hydrocortisone cream to the injection site three or four times a day for several days.

APPENDIX B

MERCURY LEVELS IN COMMERCIAL FISH AND SHELLFISH (1990-2012)

SPECIES	MERCURY CONCENTRATION MEAN (PPM)	SPECIES	MERCURY CONCENTRATION MEAN (PPM)	SPECIES	MERCURY CONCENTRATION MEAN (PPM)
Scallop	0.003	Herring	0.078	Scorpion-fish	0.233
Clam	0.009	Hake	0.079	Weakfish (Sea Trout)	0.235
Shrimp	0.009	Jacksmelt	0.081	Halibut	0.241
Oyster	0.012	Mackerel Chub (Pacific)	0.088	Croaker White (Pacific)	0.287

Sardine	**0.013**	**Whitefish**	**0.089**	**Tuna (Canned, Albacore)**	**0.350**
Tilapia	**0.013**	**Sheepshead**	**0.090**	**Bass Chilean**	**0.354**
Salmon (Canned)	**0.014**	**Lobster (Spiny)**	**0.093**	**Tuna (Fresh/Frozen Yellow-fin)**	**0.358**

SPECIES	MERCURY CONCENTRATION MEAN (PPM)	SPECIES	MERCURY CONCENTRATION MEAN (PPM)	SPECIE S
Anchovies	**0.016**	**Pickerel**	**0.095**	**Tuna (Fresh/Frozen Alba-core)**
Salmon (Fresh/Frozen)	**0.022**	**Lobster (Northern/ American)**	**0.107**	**Sablefish**

Catfish	**0.,024**	**Carp**	**0.010**	**Bluefish**
Squid	**0.024**	**Cod**	0.111	**Tuna (Fresh/Fr zen All)**
Pollock	**0.031**	**Perch Ocean**	**0.121**	**Tuna (Fresh/Fr zen, Species unknov**
Crawfish	**0.033**	**Tuna (Canned, Light)**	**0.126**	**Grouper (All species)**
Shad	**0.038**	**Buffalofish**	**0.137**	**Mackeral Spanish (Gulf of Mexico)**
Mackerel Atlantic (N. Atlantic)	**0.05**	**Skate**	**0.137**	**Marlin**
Mullet	**0,05**	**Tilefish (Atlantic)**	**0.144**	**Orange Roughy**
Whiting	**0.051**	**Tuna (Fresh/Fro-zen, Skipjack)**	**0.144**	**Tuna (Fresh/Fr zen, Big Eye)**
Haddock		**Perch**		**Mackerel**

(Atlantic	**0.055**	**(Freshwater)**	**0.150**	**King**
Flatfish	**0.056**	**Monkfish**	**0.161**	**Shark**
Butterfish	**0.058**	**Lobster (Species unknown)**	**0.166**	**Swordfish**
Crab	**0.065**	**Bass (Saltwater, Black, Striped, Rockfish)**	**0.167**	**Tile fish (Gulf of Mexico)**
Croaker Atlantic	**0.069**	**Mahi Mahi**	**0.178**	
Trout (Freshwater)	**0.071**	**Mackerel Spanish (S. Atlantic)**	**0.182**	

Data from
www.fda.gov/Food/FoodbornelllnessContaminants/Metals/ucml15644.htm

ABBREVIATIONS

ACE adrenal cortex

ADHD attention deficit hyperactivity disorder

ALA alpha lipoic acid

ALS amyotrophic lateral sclerosis

ALT alanine aminotransferase

ASD autism spectrum disorder

AST aspartate aminotransferase

BED Body Ecology diet

BPA Bisphenol A

CDC United States Centers for Disease Control and Prevention

DC Doctor of Chiropracty

DDS Doctor of Dental Surgery

DMD Doctor of Dental Medicine

DMSA dimercaptosuccinic acid

DMPS dimercaptopropane sulfonate sodium

DMSO Dimethyl sulfoxide

DO Doctor of Osteopathic Medicine

EDTA ethylenediaminetetraacetic acid

EPA United States Environmental Protection Agency

FDA United States Food and Drug Administration

GFCF Gluten Free/Casein Free diet

GFCFSF Gluten Free/Casein Free/Soy Free diet

GSE Grape seed extract

IBS irritable bowel syndrome

IgE Immunoglobulin E

IgG Immunoglobulin G

MCS multiple chemical sensitivities

MD Doctor of Medicine

MMS Master Mineral Solution

MS multiple sclerosis

ND Doctor of Naturopathy

NMD Doctor of Naturopathic Medicine

NP Nurse Practitioner

OAS oral allergy syndrome

OCD obsessive-compulsive disorder

OOO oil of oregano

PCOS polycystic ovary syndrome

PMS premenstrual syndrome

SCD specific carbohydrate diet

SGOT serum glutamic-oxaloacetic transaminase

TTFD tetrahydrofurfuryl disulfide

GLOSSARY

A

accommodative insufficiency A condition is characterized by difficulty in changing focus from near to far.

acidophilus (Lactobacillus acidophilus) A beneficial bacteria living in your digestive system. Usually included in probiotics.

adaptogens Herbs which help promote natural response to stress. They can also be used to enhance the immune system.

adrenal cortex In this book, adrenal cortex describes a supplement made from dried adrenal glands. It supports your adrenal glands by providing the necessary nutrients it may be missing.

adrenal cortex extract A supplement containing both the adrenal cortex and the medula. The medula is where adrenaline and noradrenaline are made. This extract may contain some of those hormones which you don’t want. You want to get adrenal cortex.

adrenal glands The adrenal glands regulate your ability to fight stress.

adrenal medulla The part of the adrenal gland that produces adrenaline and noradrenaline.

adrenaline A hormone your body uses to respond to stress. It is the basis of the “fight or flight” response.

agonize (medical term) Acts as a replacement in cell receptors and mimics their response.

alanine aminotransferase (ALT) A liver enzyme. Elevated levels may indicate liver damage.

alkalinize Causes to become less acidic.

alpha lipoic acid (ALA) The main chelator used in the Andy Cutler chelation protocol.

Alzheimer's disease A specific form of dementia.

amalgam In this book, amalgam refers to the silver dental fillings that are a mixture of mercury, silver, tin and copper.

amyotrophic lateral sclerosis (ALS) A motor neuron disease causing slow paralysis and death. Also know as Lou Gehrigs disease.

androgen A steroid hormone usually associated with males, however females require androgen also.

anorexia An eating disorder characterized by low weight, fear of gaining weight and food restriction.

antagonize (medical term) Blocks receptors in cells and and produces no physiologic effect.

anxiety disorder A mental disorder characterized by anxiety and fear.

aspartate aminotransferasen (AST) A liver enzyme. High levels of AST may indicate liver damage.

atherosclerosis Also called arterial sclerosis or hardening of the arteries. The arteries become narrower due to plaque buildup and slowly disrupt blood flow.

attention deficit hyperactivity disorder ADHD is a disorder that makes it difficult for you to pay attention and control impulsive behaviors. You may also be restless and almost constantly active.

autism spectrum disorder ASD is a developmental disorder that affects communcation and behavior. It can be diagnosed at any age.

autoimmune disease Autoimmune disease is caused by your immune system mistakenly attacking parts of your body, such as organs, tissues and cells.

B

ballast A material carried in the hold of a ship to provide stability.

barometer An instrument used to measure atmospheric pressure.

Best Bet Diet Also know as the Best Bet Ketogenic Diet. It is based on a book written by Sally Clark.

biguanides A class of drugs used for type 2 diabetes.

biochemistry Biochemisry is the study of chemistry as it relates to the processes in living organisms.

biopsy A biopsy is the procedure of taking a sample of tissue to check for disease.

bipolar disorder Formerly known as manic-depression. It is a brain disorder that causes unusual shifts in mood, energy, activity levels, and the ability to carry out day-to-day tasks.

Bisphenol A (BPA) A common chemical in plastics.

bite-wing x-rays These are the ones where the dentist puts a piece of plastic in your mouth that you bite down on. These are the types of x-rays most likely to show amalgam chips.

Body Ecology Diet (BED) Developed by Donna Gates, this diet specializes in healing your intestinal tract.

boils Boils are painful lesions filled with pus that form when bacteria infects a hair follicle.

brain fog Brain fog is an inability to concentrate which feels like a hangover without the pain.

bulimia Also known as bulimia nervosa. It is an eating disorder which involves periods of overeating followed by purging, sometimes through self-induced vomiting or using laxatives.

C

canula A device to provide clean air while you are getting your amalgam fillings removed.

Figure G.l. *A person wearing a canula.*

cardiomyopathy When your heart muscle become enlarged, thick or rigid, making it difficult for it to pump blood.

cardiovascular Pertaining to your body's heart and blood stream.

chlorella A type of algae. It moves mercury around your body without actually getting rid of it. It is not allowed on ACC protocol.

chronic fatigue syndrome Also known as myalgic encephalomyelitis. Chronic fatigue syndrome (CFS) is a catch-all diagnosis for a set of symptoms including fatigue that does not improve with rest, brain fog and pain.

circadian rhythm Physical, mental and behavioral changes that follow a daily cycle. They do things like signal you to sleep when it gets dark and wake when it gets light.

colloidal Colloidal describe a mixture of microscopic particles of a substance that are suspended in a liquid.

convergence insufficiency An eye muscle coordination problem. It happens when your eyes are unable to move inward together while reading.

cortisol A steriod hormone your body produces to recover from stress. When given as a medication, it's called hydrocortisone.

crowns A dental crown is a type of dental restoration that reproduces the entire tooth. You may get a crown when the amount of damage done by decay makes it impossible to use a filling.

D

dementia A category of brain disorders that cause loss of memory and ability to think. It can make it impossible for you to live independently.

deranged mineral transport Deranged mineral transport is a term Dr. Cutler defined to describe the way mercury interferes with how the body uses minerals.

dimercaptopropane sulfonate sodium (DMPS) DMPS is a secondary chelator. It removes mercury from your blood stream, but not your cells. It also chelates antimony and arsenic. It should only be taken orally on the schedule described in this book.

dimercaptosuccinic acid (DMSA) DMSA is a secondary chelator. It removes mercury from your blood stream, but not your cells. It can also chelate lead, cadmium, antimony and arsenic. It must be taken on the schedule described in this book.

Dimethyl sulfoxide (DMSO)DMSO is a supplement which may cause problems for people who are thiol intolerant.

dysbiosis When the healthy bacteria in your gut get displaced by less healthy ones.

dyslexia An impaired ability to comprehend written and printed words or phrases despite intact vision.

E

ethylenediaminetetraacetic acid (EDTA) Often recommended by doctors, EDTA is not used in ACC protocol. Small amounts of EDTA used as preservative in food is usually ok.

electrolytes These are minerals that your body needs to function.

emulsified oil of oregano (EOO) EOO is a time released version of oil of oregano.

epilepsy In epilepsy, the normal pattern of neuronal activity becomes disturbed, causing strange sensations, emotions, and behavior and sometimes convulsions, muscle spasms, and loss of consciousness.

erethism mercurialis The medical name for mad hatter s disease.

exponentially Changing (usually increasing or decreasing) at a very fast rate.

F

FAILSAFE diet FAILSAFE stands for Free of Additives, Low in Salicylates, Amines and Flavour Enhancers. Developed by Sue Dengate, based on research from the Royal Prince Alfred Hospital in Austrailia. It restricts additives, including some natural ones like annato.

Feingold diet Officially called the Feingold Program. Developed by Dr. Ben F. Feingold, it is an elimination diet. You remove artificial color, flavors and fragrances, some specific preservatives and artificial sweeteners. You may also restrict foods containing salicylates.

fetotoxicity Describes substances that can damage your unborn baby.

fibromyalgia A syndrome characterized by pain, and muscle tenderness at specific points (trigger points).

FODMAP FODMAP stands for Fermentable Oligo-, Di-, Mono-saccharides And Polyols. These are specific carbohydrates that can cause digestive problems. The Low-FODMAP diet restricts foods containing these carbohydrates.

G

GAPS diet Derived from the Specific Carbohydrate Diet (SCD) by Dr. Natasha Campbell-McBride.

genotoxicity Describes a substance that will damage DNA.

glaucoma A disease that increases the pressure inside your eye, causing irreversible damage.

glutathione A peptide (a type of amino acid) which your body needs. However, supplementation with glutatathione is not recommended in the ACC protocol.

Gluten Free /Casein Free (GFCF) GFCF is a diet originally recommended for children with autism spectrum disorders. It restricts foods with gluten (a protein found in some grains) and casein (a protein found in dairy products).

Gluten Free /Casein Free /Soy Free (GFCFSF) GFCFSF is the GFCF diet with the additional restriction of soy based foods.

gout Gout is a disorder that causes intense pain, redness and tenderness, in joints, often of the big toe. The joint may also feel hot to the touch. Gout is caused by lead.

grape seed extract A supplement made from grape seeds used to help with allergy symptoms and yeast die off.

H

hepatic Describes things related to the liver.

Hoyer lift A mechanical lift used to move you from your bed to a chair or wheelchair. It is used for people of very limited mobility.

hydrocortisone Hydrocortisone is the name used for cortisol when it is a medication.

hypertension Another name for high blood pressure.

hypothalamus The hypothalamus is a small part of your brain that helps regulate hormones. It also helps you regulate you heart rate and body temperature.

I

iatrogenic Something caused by your health care provider or medical treatment.

idiopathic A disease or symptom that your health care provider does not know the cause of.

Immunoglobulin E (IgE) An antibody formed by your body in response to allergies. Your allergist may check for them in a blood test.

Immunoglobulin G (IgG) An antibody formed in your body in response to acute and chronic inflamations, autoimmune diseases and immune deficiencies.

inlay A dental inlay is similar to a filling and a crown, but it only covers the top of your tooth.

insulin resistance syndrome Another name for metabolic syndrome.

intention tremor An uncontrolable shaking when you attempt to use a muscle, e.g. to lift a cup.

irritable bowel syndrome (IBS) Irritable bowel syndrome (IBS) is a group of symptoms that occur together, including repeated pain in your abdomen and changes in your bowel movements, which may be diarrhea, constipation, or both.

intravenous (IV) Describes substances delivered directly into a vein.

K

ketogenic A diet low in carbohydrates, high in fats and medium in protein, which causes the body to produce ketones.

L

leaky gut A condition caused by substances which would normally be filtered by the intestines getting into the blood stream. It can cause immune sensitivity to food components. Leaky gut syndrome is not considered a real disease by regular doctors.

lethargy A state of disinterestedness, listlessness, and indifference, resulting in difficulty performing simple tasks or concentrating.

lupus (systemic lupus erythematosus) A condition where the body's defense system attacks healthy cells and tissues, instead of viruses and bacteria.

M

malaise A general feeling of discomfort, illness, or lack of well-being,
manometer A instrument that measures differences in pressure.

mercaptans Another name for thiols.

metabolic syndrome A name for a group of risk factors that raises your risk for heart disease and other health problems, such as diabetes and stroke.

metabolism The chemical changes that take place in a cell or an organism. These changes make energy and the materials cells and organisms need to grow, reproduce, and stay healthy. It also helps get rid of toxic substances.

methionine A sulfur-containing essential L-amino acid that is important in many body functions. Not recommended on the ACC protocol.

methylation Methylation is a process that goes on in every person. It helps recycle various chemicals in your body and turns other processes on and off. If methylation was not happening in your body,you would be dead.

mixed metal intoxication When you are sick with more than one toxic metal.

Master Mineral Solution (MMS) Using this supplement is equivalent to drinking bleach. **DO NOT USE IT.**

mood instability Rapid changes in mood, going from happy to sad or angry without obvious reasons.

multiple chemical sensitivity (MCS) A condition characterized by bad reactions to preservatives in foods, or scents and smells in general.

multiple sclerosis (MS) A nervous system disease that affects your brain and spinal cord. It damages the myelin sheath, the material that surrounds and protects your nerve cells.

N

N-acetylpenicillamine Some practictioners will tell you this is a safe chelator. **DO NOT USE IT.**

neurological Having to do with the nervous system.

neuropathy A nerve problem that causes pain, numbness, tingling, swelling, or muscle weakness in different parts of the body. It usually begins in the hands or feet and gets worse over time.

neutrophils A type of white blood cell.

O

obsessive-compulsive disorder (OCD) A common, chronic and long-lasting disorder in which a person has uncontrollable, reoccurring thoughts (obsessions) and behaviors (compulsions) that he or she feels the urge to repeat over and over.

onlay A dental onlay is similar to a filling and a crown. An onlay extends down the side of your tooth.

oral allergy syndrome (OAS) Where you react to certain fruits and vegetables having proteins related to other substances you are already allergic to, like pollen.

orphan drug An orphan drug is a drug developed to treat rare diseases. To encourage pharmaceutical companies to make them, these drugs are not given the rigorous testing that normal drugs are, .

osteoporosis In osteoporosis, your bones become weak and break easily.

P

pallor Pale skin.

Parkinson's disease A progressive disorder of the nervous system marked by muscle tremors, muscle rigidity, decreased mobility, stooped posture, slow voluntary movements, and a mask-like facial expression.

Passivate To treat or coat a metal in order to reduce it's chemical reactivity.

Polycystic ovary syndrome (PCOS) Polycystic ovary syndrome (PCOS) happens when a womans ovaries or adrenal glands produce more male hormones than normal. Women with PCOS are at higher risk of diabetes, metabolic syndrome, heart disease, and high blood pressure.

Penicillamine Some practictioners will tell you this is safe to use. **DO NOT USE IT.**

pituitary gland The pituitary gland is part of the system that regulates the

hormones in your body.

Premenstrual syndrome (PMS) A group of symptoms that start one to two weeks before a womans period. Symptoms can include weight gain, acne, pain, food cravings and mood swings.

R

renal Having to do with the kidney.

ringworm A type of fungal skin infection.

root canal A root canal is when the dentist removes the living inside of your tooth. It allows you to keep the hard, enamel outside of the tooth.

round In the ACC protocol, a round is the amount of time you continuously take a chelator. The minimum round is three days and the intervening two nights (approximately 64 hours).

rubber dam A rubber dam is a thin sheet of latex or nytril used to isolate your tooth undergoing amalgam removal from the rest of your mouth.

S

Sarcoidosis Sarcoidosis is a rare condition where immune cells form lumps, called granulomas, in organs in the body. It mostly affects the lungs and lymph nodes.

Schizophrenia Schizophrenia is a chronic and severe mental disorder that affects how a person thinks, feels, and behaves. People with schizophrenia may seem like they have lost touch with reality.

selenomethionine Selenomethionine is a supplement that provides selenium.

sensory integration disorder A disorder which involves problems with motor coordination that lead to poor balance and clumsiness, and poor hand-eye coordination.

serum glutamic-oxaloacetic transaminase (SGOT) Another name for AST.

Serum glutamic pyruvic transaminase (SGPT) Another name for ALT,

social communication disorder A disorder where you have difficult participating in verbal and nonverbal communication. This can include things like taking turns in a conversation, following the rules for communication or storytelling, or learning to use the formal and informal forms of “you” (for languages other than English).

solder A meltable metal alloy used to connect two other pieces of metal. Used in plumbing and electrical work.

specific carbohydrate diet (SCD) A diet that limits complex carbohydrates. First developed in 1924 by Sydney V. Hass to treat celiac disease, it was popularized by Elaine Gottschall in her book *Breaking The Vicious Cycle: The Specific Carbohydrate Diet.*

sulfhydryl Another name for thiol.

T

T3 Also known as triidothyronine, One of the hormones released by the thyroid gland.

T4 Also known as thyroxine. One of the hormones released by the thyroid gland.

thiamin tetrahydrofurfuryl disulfide (TTFD) Sometimes recommended as a thiamin replacement. **DO NOT USE IT.**

thimerosal A mercury based compound used in the manufacturing and preservation of vaccines.

thioctic acid Another name for alpha lipoic acid (ALA).

thiol A specific type of molecule containing sulfur.

thyroid A small gland located at the front of your neck. It produces hormones to control your metabolism.

thyroid stimulating hormone (TSH) A hormone that causes the thyroid to release T3 andT4.

tocotrienols A specific form of vitamin E.

transdermal A way of delivering drugs and supplements through the skin.

tremor An involuntary, rhythmic muscle contraction leading to shaking movements in one or more parts of the body.

U

urinalysis A test of your urine. It is often done to check for a urinary tract infections, kidney problems, or diabetes.

United States Centers for Disease Control and Prevention (CDC) The US agency that researches health questions and provides policy guidance to the United States Government.

United States Environmental Protection Agency (EPA) The US agency that develops and enforces regulations with regard to environmental law.

United States Food and Drug Administration (FDA) The arm of the government that regulates products such as foods, drugs, biologies, medical devices and cosmetics. It enforces laws regarding these and other products.

V

vertigo The sensation of moving when you aren’t moving. It includes dizziness, feeling like you are about to fall or feeling like you are floating.

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