

2008

# Lipid Detoxification

Clearing fat soluble toxins from cellular lipid structures.

A dietary strategy for detoxification of fat-soluble metabolic toxins including Agent Orange, Dioxin and DDT.

[www.wholehealthnetwork.com](http://www.wholehealthnetwork.com)



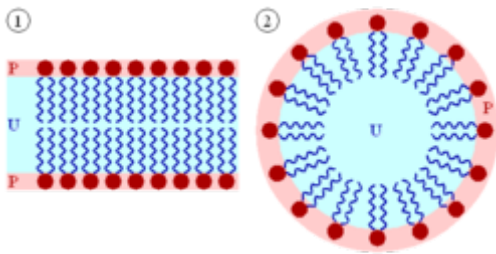
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## Lipophilic Toxins

Your body is made by cells. Molecular fats or lipids are essential to cell biology and structure. Most, if not all essential cellular structures rely on lipids for some aspect of function or structure. Lipids and water are the chemical basis of human life.

[Lipos is Greek for fat.](#) Over the past fifty or so years widespread and deceptive, and defamatory information regarding the bio-essential lipids has been pervasive in popular media and medical culture. People have become afraid of dietary fat often with serious results. Fat is a huge topic, and we're only going to talk about a small area of lipid chemistry.



There are two general kinds of toxin identified by their solubility. Solubility is a result of molecular electrical properties that derive from the chemical structure:

- **Hydrophilic** – are water soluble. Hydrophilic toxins are more easily disposed by the body because the body absorbs and releases water in large quantities. This turnover enables the body to dispose of water soluble toxins quite readily;
- **Lipophilic** – are fat soluble. Lipophilic toxins are much more difficult to dispose because the body retains fat because it is so important to life. Lipid or fat turnover is inhibited because fat is both an essential building material, and a preferred energy source. Waste fat is burned for energy, stored as essential reserves, and finally used to absorb more fat.

Contrary to popular belief, our bodies *are* able to dispose of lipophilic toxins under the appropriate conditions. Unfortunately due to widespread [lipo-phobia](#), these conditions are unpopular in medical dogma, popular press and fad-diet literature.

DDT, Dioxin, and Agent Orange are *lipophilic toxins*. They pollute the lipids or fats in your body and make

you sick. Toxins stored in fats are difficult to release. Most treatments make symptoms worse.

Our use of term *lipophilic toxin* throughout this document, refers to the a spectrum of toxins including Dioxin, Agent Orange, and all of the Agent colors used during the Viet Nam war as defoliants. Generally these toxins share a chemical structure of two benzene rings, chlorine molecules on the end with oxygen molecules between the benzene rings.

Since plants have much less fat than humans, a very small amount of lipophilic toxin is fatal to plants because a small amount of poison fatally damages the plant's metabolism. This is why they are effective defoliants and kill plants more quickly than animals.

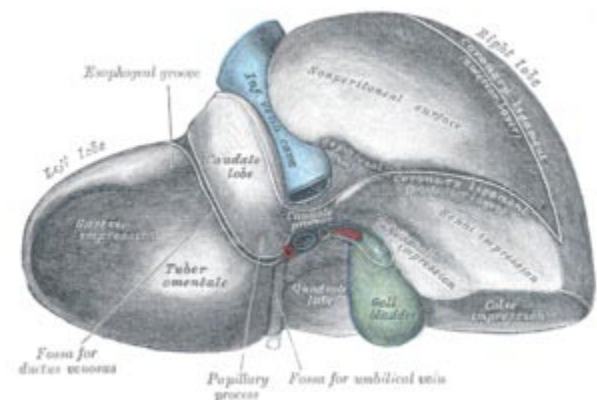
## Detoxification

Physiologically, our bodies are designed to dispose of damaging chemicals. Generally these molecules are toxins. There are many.

Lipophilic toxins pollute the lipid system. The liver, the largest organ in your body which lies underneath the lower rib cage, from the right armpit across the back, is responsible for selecting friend and foe for every molecule circulating in your body.

If you look at the word liver, its root is the word "live". The spelling is neither accident nor joke. When you liver is sick, you are too.

The liver is able to regenerate after 75% destruction. This is wonderful because it means that many people can recover and live normal lives after their liver recovers. The trick is to establish the bio-metabolic conditions to re-establish normal liver function.



In the case of lipophilic poisons – this isn't easy. Lipophilic poisons run in a closed circuit.

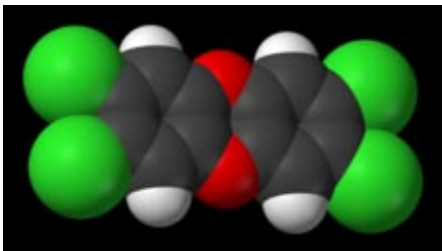
The liver's job is to dump toxins. The liver is made of mostly fat. Fat loving toxins quickly re-enter fat, so when the liver releases a lipophilic toxin, the liver itself becomes polluted.

The normal outcome is a sick liver, and diminished liver function. There is a very popular list of liver related illnesses, including diabetes, heart disease, cancer and so on. Most, if not all of these diseases, have immunological and toxicological cofactors. Basically, if your liver is working well, you won't have a serious disease.

Lipophilic detoxification is really tricky because the body and liver do a near perfect job of lipid recycling.

## Cellular Pathology

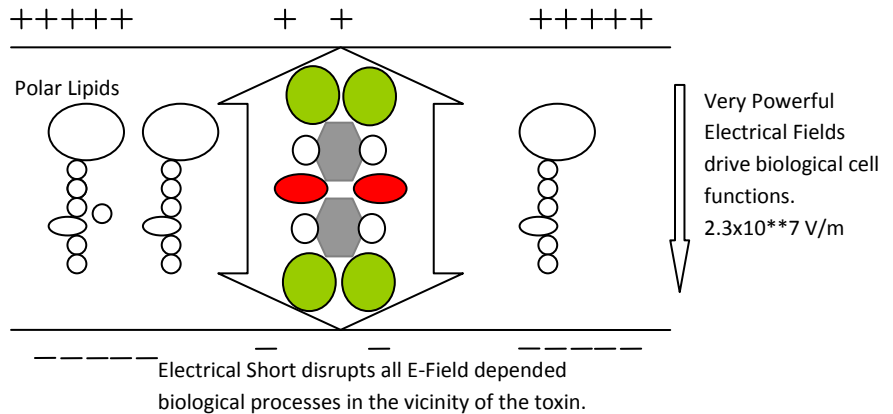
The dioxin molecule is physically and electrically bi-symmetric and lipophilic. This means that it invades fat, and is a weak dielectric.



These two factors account for the cellular pathology by creating an electrical dead spot in the cellular lipid membranes, in the proximity of the toxin. In other words, the Dioxin shorts-out the cell membrane.

The cell membrane has a powerful electrical field, the most powerful known to man. Briefly, the cell membrane is about 3-10 nanometers. A voltage of 70mV across this very short distance creates hugely powerful electrical field of  $2.3 \times 10^7$  v/m.

Lipophilic toxins in this field carry electricity, and short out the cell membrane, inhibiting the many bio-



essential functions that depend on voltage for vitality and function. There are many specialized structures on the cell membrane including insulin receptors, likely explaining the diabetic tendency, lipoprotein and glycolipids structures, likely leading to immune-competence deficiency underlying the tendency for cancer.

This model explains variety of symptomatic phenomenon:

- Diminished vitality;
- Sensitivity to electrical fields;
- Revolving systemic symptoms;
- Highly variable symptoms.

Individuals exposed with lipophilic toxins exhibit inconsistent symptoms.

Lipophilic toxins affect each cell in the same way by creating a "dead zone". But the location of the toxin "dead zone" in the cell membrane dictates the specific cellular dysfunctions for the cell. This creates a variable cellular pathology, and explains why affected individuals have highly variable symptoms.

For an organism made of several trillion cells, each having floating "dead zones", symptoms tend to be continuous but inconsistent.

This phenomenon presents an enigma for doctors who are trained to diagnose disease by symptom patterns.



In other words lipophilic toxicity presents as a set of rotating symptoms, which are defy conventional diagnostic algorithms.

In western medical practice individuals shifting symptoms tend to be tagged as a **“hypochondriac”** or **“difficult patient”**, and are often dismissed as untreatable because of the absence of a definitive diagnosis. In many cases they are denied medical care.

## Dead Zone Diagnosis

More importantly, our hypothesis suggests a definitive method for diagnosis of lipophilic toxicity.

Cellular “dead zones”, are bio-electrically measurable as decreased cellular resistance and decreased cellular capacitance, particularly in the liver. In simple terms, affected individuals will present with below normal capacitance and or resistance using bio-impedance measurements.

In this model, diagnosis is independent of symptoms. We assert that lipophilic toxicity is measurable as a deviation from norm based on bio-electrical measurements.

A positive diagnosis will probably present as a decreased phase angle indicating compromised cellular bio-electric parameters.

More importantly, the bio-impedance is an objective and proven means measure the results of therapeutic intervention:

- Non invasive – connect a wire to the hand and foot;
- Can measure the liver by sensor placement;
- Symptom independent because it measures cellular parameters – an increase in vitality is independent of revolving symptoms, and symptom severity;
- Indicates shifts in morbidity probability, both negative and positive. In other words gives a very solid indication whether the patient is getting better or worse as a result of therapy.

## Bio Impedance Metric

[Bio-impedance is a mature technology that measures cellular vitality and pathology.](#) Bio-impedance is a non-invasive technology. It is commonly used in “body-mass-index” sensors which indicate the body’s fat percentage. This limited application produces a quantitative valuation of systemic fat percentage, and hydration status.

More advanced forms of this technology provide an accurate form of vitality-meter. Since lipophilic toxins compromise cellular vitality, bio-impedance measurement offer a symptom-independent, and therefore objective means to measure the results of lipophilic detoxification and therapeutic intervention.

The electrical characteristics are very well known and are the basis of every modern electrical device, computer, telephone, and radio.

Bio-impedance measures the electrical characteristics of the body:

- Resistance
- Capacitance
- Impedance

Collectively these measurements generally produce a quantitative measurement which is highly [useful for determining cellular vitality.](#)

Values produce have differential and normal references:

- The normal reference indicates the value of a healthy individual relative to the test subject – which gives an idea how ill the person is to begin with;
- Differential measurements indicate how the individual varies from the initial value, indicating the therapeutic effect of any interventions.

## Potassium Depletion

Individuals with lipophilic toxicity normally exhibit chronic and severe potassium deficiency. This finding does not fit conventional biological modeling.

## Lipophilic Detoxification

Louis Kervran, explained the phenomenon of potassium depletion in the early 1960's. He was chairman of the French academy of sciences for many years. The US Army Research center confirmed his findings in 1978.

When sodium and oxygen molecules traverse the strong E-Field of the cell membrane they fuse into potassium. This is commonly known as the "sodium – potassium" pump. It accounts for the continuous inflow of sodium and outflow of potassium.

Lipid-toxic cell membranes lack the E-Field intensity necessary to fuse the oxygen and sodium molecules into potassium. Systemic weakness results in intracellular sodium excess, and a systemic potassium deficiency.

### Potassium Deficiency Symptoms:

- Acne
- Constipation
- Depression
- Edema
- Excessive water consumption
- Fatigue
- Glucose intolerance
- High cholesterol levels
- Insomnia
- Mental impairment
- Muscle weakness
- Nervousness
- Poor reflexes
- Muscle weakness
- Confusion
- Irritability
- Fatigue
- Heart problems
- Chronic diarrhea
- Regular, intense exercise
- Use of certain diuretics

Since potassium salts comprise the majority of bile salts, which are essential to digest dietary lipids, long term electrical dysfunction disables fat digestion which in turn damages fat-soluble nutrient absorption. So one fat problem creates another fat problem, so there is almost no way the body can fix the first fat problem.

## Version 3

The major observation is that VERY HIGH levels of dietary potassium supplements are required to enable the body to recover digestive competence. High dose Potassium supplementation is necessary but not sufficient factor for lipophilic detoxification in most cases.

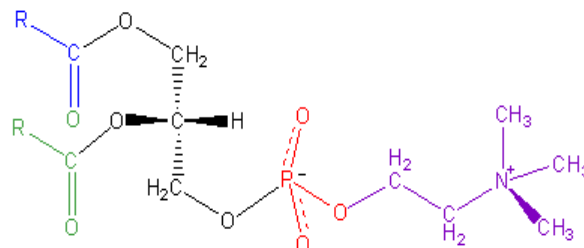
## Biological Strategy

The lipophilic detoxification strategy uses some very basic chemistry – and works like changing the oil in your car.

The model is simple. Think about the oil in your car's engine. When the oil is dirty, you change it, replacing dirty oil with fresh. The old dirty oil is drained and discarded. If you put a cup of dioxin in your car's engine, and changed the oil, very little dioxin would remain after even a single oil change.

The human body is different. You can't drain the oil. Lipophilic cleansing gradually replaces the cellular lipids by over-supplying ideal lipids. It is like adding a little fresh oil to your car every day, and letting the overflow escape to dispose of the dirty oil. The oil gets cleaner, just not all at once.

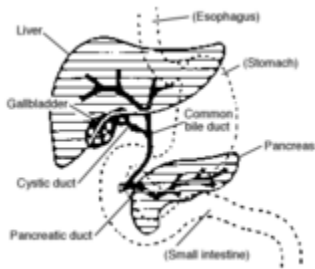
About 80% of the food-components that enters your body go to the liver first. The portal vein traverses the gut and collects food from the intestines. The portal vein splits and about 80% of the portal blood flows to the liver. This means that 80% of everything you eat goes directly to the liver.



The liver produces bile. Bile is soap. Bile soap is made of used-up fats or lipids mixed with bile salts. Bile salts are heavily alkaline materials. Your bathroom soap is a mixture of fat and alkali salts. Soap is a surfactant and it



dissolves up fats. Potassium salts are a major component of bile.



Eating fat causes your liver to release bile, which is made of fat, to dissolve the fat that you ate. The gut, small and large intestine, choose which fats to reabsorb. Excess fat is not absorbed, and is passed in the stool. Some lipids are released through the skin also.

Lipophilic cleansing is a three part problem:

1. Get the liver to release lipophilic toxins into the bile;
2. Trigger the bile release so the lipophilic toxins reach the gut;
3. Prevent the lipophilic toxins from being re-absorbed.

In American lifestyle, these essential conditions rarely exist together. As a result the body rarely, if ever, gets the chance to release lipophilic toxins.

## The Phospholipid Key

There is a special class of molecules are called [phospholipids](#). These molecules are special because they are bio-identical to cell membranes. The cell membrane is the exterior coating of the cell. When a phospholipid capsule touches a cell membrane, the capsule is integrated into the cell wall, or adsorbed.

The therapeutic key to phospholipids nutrients is that they have nearly 100% cellular integration. This means that dietary phospholipids are almost guaranteed to become part of a cell. Indirectly this means that they will dilute cellular lipids, and consequently any toxins resident inside those lipids.

Moreover, most ingested phospholipids go directly to the liver, and integrate with liver cells diluting toxins where dilution is most needed. In other words phospholipids deliver the perfect stuff exactly where it's needed.

Physiologically, phospholipids enter the bloodstream without digestion. Since they don't require digestion, and enter cells directly, they are ideal for supporting lipid dilution, and consequently lipid-toxin dilution:

- Direct delivery of unpolluted lipids to the cells enabling controlled dilution of polluted cellular lipids;
- Direct delivery of anti-oxidants to the cellular material, particularly the ability to deliver therapeutic quantities of glutathione, an anti-oxidant usually damaged by digestion to the liver.

## Lipid Turnover

Most cells in the body, excepting adipose tissue and beta-oxidation dominant cells, maintain lipid balance by various forms of ongoing lipid exchange. This means that when cells absorb lipids, they will release an equivalent amount in order maintain lipid balance. There are several forms of lipid turnover:

- **Cell turnover.** When healthy cells divide, they grow themselves by absorbing nutrients. Existing lipids are retained, and new ones are absorbed until the cell splits. In an environment rich in unpolluted nutrients, the embedded toxicity in the original cell is diluted by the clean nutrients that integrate into the daughter cells;
- **Lipid Exchange.** Non-dividing cells absorb and release lipids as part of the metabolic exchange. The released lipids generally contain some lipophilic toxins depending on the ability of the toxin to escape the outgoing lipid;
- **Dermal, skin, release.** Oily skin and hair are a result of the topical release of lipids. Dermal excretion of lipids serves to lubricate and protect the skin and serves as a backup exit path for excess lipids.



Phospholipids participate heavily in both processes. In the case of cell turnover, clean building materials make for cleaner daughter cells. In the case of lipid exchange, the cells lipids are diluted by the new clean phospholipids.

## Lipophilic Toxins and Energy Metabolism

Physiologically lipids are building materials and an energy source. Use of polluted lipids for energy metabolism disrupts essential cell functions and causes other health issues.

Cellular mitochondria use a combination of sugars and fat, depending on the specifics of the cell and the metabolic factors. The fat to energy pathway is called the [Beta-Oxidation pathway](#). The sugar energy pathway is called the [citric acid cycle](#). Generally the body uses both of these pathways for cellular energy production.

The Beta-Oxidation pathway uses fat for cellular energy. The unfortunate result of converting fat from lipid to CO<sub>2</sub> and H<sub>2</sub>O, frees the solute lipophilic toxins to relocate from it's modestly-harmful lipid-bound home to mitochondrial lipid structures, permanently damaging the cellular energy factory, or to other essential cellular lipid structures within the cell.

## Detox-Retox Disaster

In other words burning fat aggravates the lipophilic toxin problem. This pattern is prime cofactor in the rotating pattern of cellular dysfunctions for individuals exposed to lipophilic toxins.

Do not use regular detoxification to treat lipophilic toxicity. Over activation of the Beta-Oxidation pathway causes *severe illness* for lipophilic toxicity. It moves toxins from storage to cell mitochondria where they can do severe damage to the cell.

Relocation of lipophilic toxins from non-essential fuel fats to essential cell structures is a recipe for disaster. While a few people may have hearty enough elimination systems to successfully detoxify, they are the strong minority, and probably didn't get sick in the first place.

In other words... Don't try an off the shelf detoxification program for lipophilic toxins.

Releasing toxins that have no place to go is in invitation for disaster. This phenomenon explains why:

- Individuals who use normally successful detoxification protocols get so sick that they have to abandon the program;
- Detox strategies haven't become standard treatment for lipophilic toxicity disorders.

Mitochondrial dysfunction driven by recycled lipophilic toxins is a probable culprit in a wide range of symptoms of individuals suffering from lipophilic toxicity.

## Observing Results

As with any program, it's essential to track results. As with any program there are high-tech and low tech approaches. We'll start with the low-tech strategies because they're available to everyone.

## Low Tech

Pay attention to the way you feel. Curiously a record, either with pencil and paper, or computer is the most powerful medical diagnostic tool known to man.

A written record is very important because humans are unable to remember pain. You can remember you felt lousy, but you will not be able to remember qualitatively how poorly you felt at an earlier time.

Journaling also lets you identify trends. This program is designed to be gradual. This means that your health changes will occur over a period of weeks or months. It is very unlikely that you'll wake up one morning and feel great. Generally you will start a trend of feeling less poorly than you did yesterday.

Quantitatively assigning numbers to the way you feel “now” will create a reasonably objective ongoing record. When you look back two months, it will be generally apparent whether you’ve made progress, or not.

[Here is a link to a spreadsheet to help with journaling.](#)

A camera is also very helpful. Take a picture of your face before you start. The eyes, skin color, skin tone are very useful telltales for system toxicity. Dark circles under the eyes, yellow whites, dull eye sheen, and skin tone all reflect vitality.

A before/after picture can say a thousand words about whether your health is improving.

Skin pruned is another helpful telltale. Since liver toxicity often results in systemic sterol deficiency, the skin often lacks the ability to resist water. Take a long hot bath and note how long it takes for your fingers to prune up. The longer pruning takes, the more healthy your skin.

## High Tech

High tech approaches are available which will help to measure progress with detoxification.

## Bio Impedance

Bio impedance is a technique of measuring the electrical characteristics of the body.

The body is connected to a resonant circuit. The device produces a set of electrical values for resistance, capacitance, inductance, and phase angle. These parameters are strongly indicative of cellular health. For example a child has a phase angle of about 10 degrees, while an eighty year old has a phase angle of 4 degrees.

Fresh fruit has a high phase angle; aged fruit has a low phase angle. We believe that lipophilic toxins create electrically dysfunctional zones in the cell membrane which interfere with normal cellular metabolism and exchange. Bio-impedance is an excellent candidate to measure the degree of dysfunction resulting from lipid chemistry perturbations.

Cellular electrical properties are heavily dependent on the lipid-bilayer electrochemical properties, and are quite sensitive to the delicate relationships of lipids, electrolytes and water that make up the body. An increase of the phase angle clearly indicates a change in cellular health.

## Heart Rate Variability

Dynamic electrocardiography provides an accurate and very inexpensive mechanism to measure overall health.

Contrary to popular belief, heartbeats are irregular. The irregularity of heartbeat, within limits, represents the adaptive behavior of the autonomic nervous system.

HRV scoring is a strong and accurate indicator for all-cause morbidity. Normalization of HRV is strongly indicative of an increase in health status. The Standard Deviation Norm to Norm, SDNN, is optimal in the range of 120 ms, indicating that the heart beats are generally regular, but timing varies by a little over a tenth of a second.

As the SDNN below 20 ms the patient is under stress and adaptive capability is compromised. SDNN above 200 indicates over-compensation and also is a telltale for health risk.

## Urine Protein Levels

Urine protein levels are helpful indicators for liver and kidney function and give quantitative indications of shifts in the toxic load, digestive efficiency, and waste elimination systems.

## Fat versus Fiction

Most people will lose weight with this program.

The nutrition program is very similar to the [Atkins Eating program](#), widely credited with significant gain loss for many people,. The principle of the Atkins program is the displacement of carbohydrates with nutrient dense foods, particularly protein. The normal result of a nutrient dense high fat diet is weight loss. This program emphasizes high quality lipids in place of proteins.

## Lipophilic Detoxification

This program is exactly opposite of the anti-fat diets, and cardiology dogma of the last several decades.

Surprisingly a high fat, balanced diet often helps to normalized cholesterol and triglycerides levels, and helps prevent heart disease.

## The Reasons for Fat and Carbohydrate

This program balances carbohydrates with fats intake.

The eating includes both fat and carbohydrates to support normal cellular energy production with three goals:

- The elevated high fat intake provides dilution for released lipophilic toxins;
- Elevated fat intake reduces the likelihood that polluted lipids will be used in the beta-oxidation pathway – releasing lipid-bound toxins inside the cells;
- Normal carbohydrate intake enables utilization of the citric acid pathway to limit the dependence on the beta-oxidation pathway.

## Digestion is Critical

Many people suffer from dysfunctional digestion.

Telltale signs for digestive insufficiency:

- Flatulence or gas -- indicates either pancreatic enzyme deficiency or overgrowth of inappropriate flora in the lower gut due to acid deficiency in the stomach;
- Belching usually indicates inadequacy of Hydrochloric Acid in the stomach. Gastric reflux is a common symptom. Supplement your digestion with ACID. Antacids relieve symptoms because they neutralize stomach acid. It's important to recognize that belching comes from bacteria in the stomach which ferment food into Carbon Dioxide which escapes with belching. Adequate stomach acid kills bacteria and stops the belching or reflux by eliminating the source. Quenching the stomach acid lets the bacteria pass into the gut and causes downstream digestive problems.
- Diarrhea or loose bowels. The typical cause of loose bowels results from inadequate bile flow.

## Version 3

Normally, acidified food enters the duodenum to be quenched by alkali bile from the liver. Inadequate bile production or flow allows acidic partially digested food to enter the gut, causing the gut to discharge the food rapidly to avoid damaging the sensitive gut lining. Rapid gut transit, combined with the absence of bile, result in systemic lipid and lipophilic-nutrient deficiency and catabolic metabolism. Poor quality sleep is typical.

It is very important to reestablish normal digestion during this process. The eating program naturally provides raw materials for natural digestion. Unfortunately, this doesn't mean that you will automatically get good digestion by following the eating program.

## Weekly Shopping List

Detoxification begins at the grocery store. This is the approximate weekly amount of high-lipid foods. Please note that this is a lot of food. This is a CALORE-ENHANCED eating program – not a diet.

Fish and seafood are okay to eat too, as long as the meal includes an adequate amount of butter, cream or other fat.

Note that major items are very high in fat.

<b>Grocery Item</b>	<b>Amount</b>	<b>Supplies</b>	<b>Notes</b>
<b>Butter</b>	2 pounds	Supplies butyrate and good quality sterols.	
<b>Eggs</b>	2 dozen	Natural source of sterols, nutrients and phospholipids and albumin.	Do not cook yolk.
<b>Marbled Steak</b>	2 lbs	Natural source of high quality protein & fat	Rarer is better
<b>Salt cured Bacon</b>	2 lbs	Natural source of fat. Use the bacon fat to cook with – do not discard.	Avoid nitrates if possible. High quality butchers use salt to cure meat.
<b>Cream</b>	1 Quart	Butyrate & good quality sterols.	Whipped cream is okay too.
<b>Sour Cream</b>	1-2 lbs	Butyrate & good quality sterols.	
<b>Onions</b>	3 lbs	Clean carbohydrates & antioxidants	Cooked or raw
<b>Potatoes</b>	2-5 lbs	Clean carbohydrate source for citric acid cycle	
<b>Fresh/Frozen Berries</b>	2 lbs	Natural anti-oxidant source and good taste.	Shop by color or Sam's Club has 6 lb bags of fresh frozen berries.
<b>Fresh Fruit</b>	2 lbs	Anti-oxidants and complements to lipid diet	Shop by color and what looks good. No white. Eat raw.
<b>Fresh Vegetables &amp; fruit</b>	10 lbs	Natural anti-oxidants, natural fiber, & flavor.	Shop by color pick what looks good to you.
<b>Yogurt</b>	1 quart	Natural source of acidophilus	NO ARTIFICIAL SWEETENERS
<b>Maple Syrup or honey</b>	½ quart	Natural source of polysaccharides and sweetener	Natural sweeteners are okay, strongly prefer diverse natural polysaccharides.
<b>Prune Juice</b>	1 gallon	Natural laxative	

## Recommended Kitchen Equipment

- Good quality blender
- High sided frying pan with a lid

- Half gallon plastic or glass vessel to store fast meal - eggnog

## Spices and adjuncts

These aren't essential, but they can help good tasting taste even better.

- Nutmeg
- Vanilla
- Sea salt or real salt (not regular table salt)
- Black pepper
- Cajun spice (great on steak or potatoes)
- Rosemary (great with potatoes)

## Foods to Avoid

Avoiding foods will be pretty easy because the list above will provide high quality calories for individuals.

If you're hungry snack on yogurt, or fruit and berries with cream.

Bread is okay as long as you eat it with a lot of butter. Use bread with a high fiber content.

Avoid List	Reason
Vegetable Oils	Heat extraction ruins the fats. Hexane residues are hepatic toxins.
Margarine	Pure source of trans fats.
Olestra	Source of unnatural bio-unusable lipids that do not contribute to healthy metabolism.
Artificial Sweeteners	NutraSweet & Aspartame degrade into formaldehyde, a lipophilic toxin
Junk food	Loaded with toxin of all sorts.
Carbohydrates without fat	Raw calories are

## Supplement Strategy

This supplement strategy is designed to maximize absorption of phospholipids and to enable lipid bowel and skin clearance.

The pattern is simple. Consume the phospholipid cocktail on



Meal	Consume
Waking	<a href="#">Phospholipid Cocktail</a>
Breakfast	<a href="#">Yogurt</a>
Lunch	<a href="#">Lipid Dense Meal</a>
After Lunch	<a href="#">Fiber Cocktail</a>
Dinner	<a href="#">Lipid Dense Meal</a>
After Dinner	<a href="#">Fiber Cocktail</a>
Bedtime	<a href="#">Lipid Snack</a>

## Definitions

**Phospholipid Cocktail** – put ½ cup of fresh/frozen fruit/berries in the blender. If frozen add ½ cup of orange juice and blend or puree. Use maple syrup, honey or a small amount of sugar if additional sweetness is desired. Stop blender. Add phospholipid supplement to the mixture and stir. **DO NOT BLEND THE PHOSPHOLIPIDS.** Blending will damage the structure and decrease the effectiveness.

The following table provides for a gradual increase in phospholipid supplementation. If you get anything more than mild detoxification symptoms, do not increase the phospholipid intake. Stay at the same level until the symptoms are gone.

	Amount	Time
Level 1	1 Tablespoon	Minimum two days
Level 2	2 Tablespoons	Minimum two days / ongoing

Incremental dosing helps avoid detoxification overload. Generally, toxins released by diluting cellular lipids will enter normal lipid cycle.

The phospholipid cocktail is taken in the morning. Most of these phospholipids go directly to the liver cells and integrate within a few hours. Integration will trigger a gradual release of polluted lipids. The polluted lipids will be converted into bile and stored in the gall bladder until the next meals, lunch and dinner.

**Yogurt.** You can buy whole-fat yogurt from the grocery store. Flavored varieties are fine as long as they don't say: "LOW FAT". Also, be sure to check the ingredients to make sure they DON'T say "NutraSweet, aspartame, sorbitol, or any other artificial sweetener".

Yogurt is a fermented from milk using with acidophilus and organisms that support digestion. The yogurt will help to maintain digestion and nutrient absorption for individuals with compromised digestion. It provides a wide range of high quality nutrients also.

**Lipid Dense Meal** – The lipid dense meals are high in fats. The [recipes](#) below have suggestions for lipid dense meals. These meals are satisfying for most people.



The purpose of the high-fat meals is twofold:

- First, the high fat meals cause bile to be released from the liver and gall bladder as part of normal digestion. Bile release is triggered when fat is in the stomach. The bile enters the duodenum and neutralizes the acidic, and breaks the dietary fats, and other fat soluble elements into bio-usable components. The bile release enables the liver to dump toxins into the gut;
- Second, the high fat content dilutes the bile with toxins in the gut reducing the percentage of toxins that will be re-absorbed by digestion.

**Fiber Cocktail.** The fiber cocktail contains soluble fiber which bulks in the gut.

The fiber cocktail is made of prune juice and soluble fiber. Pour 4-8 ounces of prune juice in a glass and stir in two tablespoons of psyllium fiber. Drink quickly before the mixture thickens. If diarrhea results, reduce the prune juice to 4 ounces.

The cocktail serves two purposes:

- Bulking absorbs toxins and fats released during the meal inhibiting absorption;
- Fiber bulk expands and causes the earlier high fat meal content to move more quickly through the intestines;
- The fiber also helps prevent constipation which may accompany the high-fat diet.

**Lipid Snack.** The lipid snack is bowl of fruit with cream or whipped cream. Fruit with high quality ice cream like Hagen Daas, Breyers, or other ice cream devoid of artificial sweeteners is acceptable.

The lipid snack is designed to give a final bile release and help sleep.

## Recipes

Eggnog	1 dozen eggs; 2 cups cream; 3 Tbsp maple syrup; 1 Tsp nutmeg;	Put ingredients into blender and blend gently for 30 seconds, or until thickened. Do not blend excessively or the cream will become butter.
Bacon & Potatoes	1 pound bacon; 1 large onion; 2-4 potatoes	Fry bacon leave fat in pan. Cut onion into medium sized pieces, Cut potato into medium sized pieces (baked potatoes work better) add onion and potato to pan and fry in bacon fat.
Steak	1 nice steak	Sprinkle with salt and pepper. Grill or fry. Rare is better. Eat as much of the fat as you can
Baked Potato & garlic	Medium sized potato.	Put washed potato in oven at 425. Do not wrap in foil. Cook for 35 minutes. For faster cooking put a metal butter knife through the middle of the potato and cook with the knife inside the potato. The knife carries the heat inside the potato.  Bake the garlic bulb, unpeeled, with the potato. When done cooking remove the peeling and eat the garlic as a vegetable.  Eat the potato with at least ½ stick of butter and as much sour cream ¼ cup of



		sour cream.
Eggs	3+ for a meal	Put eggs in a skillet and cook until whites are solid. Yolk should be liquid. The phospholipids in the yolk are more beneficial when uncooked.
Berry/Fruit Dessert	1 cup Berries ¼- ½ cup heavy cream	Put berries/fruit in a bowl and pour on cream. Add honey or maple sugar to taste.
Whipped Cream	Put ½ cup cream; 1 Tablespoon sugar 1 teaspoon vanilla	Put cream, sugar, and vanilla in a metal bowl and blend with a wisk or hand mixer. Pay attention because if you blend it too much you'll get sweet butter.  If you get sweet butter, then you can use it with bread.

## Supplement Support

There are a wide range of supplements which may help this program. Generally speaking, any sort of detoxification program should be delayed until after the obvious symptoms associated with lipophilic toxins are gone.

Overdoing detoxification without the high-lipid turnover makes most people pretty sick. You may want to use a conventional detox program to see how toxic you still are by starting at about 10% the recommended dosages and working your way up over a period of ten days.

## Other strategies that may be helpful:

Adjunct	Purpose
Bile Path Flush	To clear bile path. Very important for success
Milk Thistle	Helps with liver cell turnover and protects regenerated cells from toxins
B-12	When oxygen transport is deficient, low Saliva pH
B-6	When Urine pH is higher than Saliva pH
Glutathione	To protect liver cells from oxidative damage and bind released toxins
Lipoic Acid	Lipophilic & Hydrophilic antioxidant
Vitamin C	To bind hydrophilic toxins that may release during cleanse
Digestive enzymes	To improve digestion caused by liver/pancreas dysfunction
Bile Flow Aids	Thin bile and improve detoxification process
Betaine / HCl	Enhance stomach acid to aid digestion and prevent reflux. Start gradually. If a single Betaine/HCl increases gastric distress do not use.



## Expectations

This is a complicated subject. Here are a handful of things you may experience during this process:

- Better sleep
- Some weight loss
- Weight gain
- Oily skin (as toxins leave)
- Loose bowels

## Alerts & Suggestions

If you start to feel sick then do not increase any levels.

If you feel like you've been on the program a long time and want to take a break, that's okay. Take a day off, but be sure to get back on the program tomorrow.

