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A life saving breakthrough
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Liver And
Live Longer !*

Dr Sandra Cabot
www.liverdoctor.com



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- Being Overweight
- Abdominal Bloating
- Poor Digestion
- Frequent Fatigue
- Headaches
- Unpleasant Moods
- Bad Breath and Coated Tongue
- Irritable Bowel Syndrome
- Sluggish Metabolism
- Overburdened Immune System
- Excessive Bodyheat
- High Cholesterol
- Gall Bladder Disease
- Fatty Liver
- Allergies
- High Blood Pressure
- Sugar Cravings
- Intolerance to Alcohol
- Excess Alcohol Intake
- Inability to Lose Weight

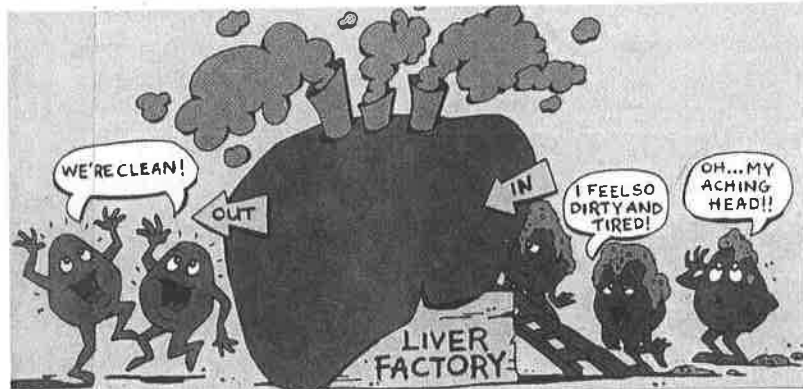
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Do you simply enjoy the good life too much?

If you answer **YES** to several of these questions then

YOUR LIVER NEEDS HELP!

LOSE WEIGHT FEEL GREAT WITH DR CABOT'S LIVER PLAN!



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The Liver Cleansing Diet
USA Edition
Sandra Cabot MD

This book will be a revelation to those suffering from poor health, liver disease and/or excessive weight. I have dedicated it to all those people.

The information and procedures contained in this book are based upon the research and the professional experiences of the author. The Liver Cleansing Diet has helped hundreds of thousands of people all over the world. As of the year 2008, over 2 million copies have been sold world wide.

The recommendations in this book are not intended as a substitute for consulting with your own physician or other health care provider. All matters pertaining to your physical health should be supervised by a health care professional.

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About the Author

Dr Sandra Cabot is a consultant to the Australian Health Advisory Service, has regularly appeared in national TV shows, and is developing her own series of health DVDs. She writes for national health magazines and is a much sought after public speaker on nutritional medicine and hormonal disorders.

Sandra is sometimes known as the "flying doctor" as she frequently flies herself to many of Australia's country towns to hold health forums. Sandra is an Angel Flight Pilot in Australia and dedicates her aircraft and some of her time to the air transport of financially and socially disadvantaged Australians.

During the 1980s Sandra spent considerable time working as a volunteer doctor in the Department of Obstetrics and Gynecology in a large missionary hospital in the Himalayan foothills of India.

With the publication of The Liver Cleansing Diet in the United States of America, Sandra is at last able to share her significant experience and knowledge with men and women all over America.

The Liver Cleansing Diet book has sold over 2 million copies world wide and is published in the following languages - Arabic, German, French, Polish, Spanish and Russian.

Dr Sandra Cabot's books are available in America from bookstores and from SCB International Inc by calling 623-334-3232.

Dr Cabot has an office in Phoenix Arizona and you may phone her nutritionists, naturopaths and nurses on 623-334-3232 or visit www.liverdoctor.com for more help and information.

5. Do I need to take nutritional supplements while on the 8 week diet?

If you are female it is a good idea to take supplements of calcium, as it is a dairy-free diet.

6. Once I finish the eight-week menu plan of the Liver Cleansing diet can I eat red meat?

If you like red meat you may eat it, provided it is fresh, lean and well cooked. Restrict red meat to no more than four times weekly.

7. Will the Liver Cleansing Diet help me if I have liver disease?

Yes, the Liver Cleansing diet will help those with liver diseases such as fatty liver, liver cysts, liver pain and congestion, hepatitis, sclerosing cholangitis, primary biliary cirrhosis, autoimmune hepatitis, cirrhosis, and gall bladder disease.

8. Does this book ONLY apply to people who want to lose weight?

No, The Liver Cleansing Diet will not result in weight loss, unless you are overweight, as it balances your metabolism. Many sick people are underweight and by improving their liver function will increase their appetite and maintain or gain weight. By improving your liver function the load upon the immune system is reduced and many illnesses caused by inflammation or chronic infections will be gradually overcome.

If we haven't answered all your questions and you need further information, please write to Dr. Cabot and her team of naturopaths at SCB Inc., P.O. Box 5070, Glendale AZ, 85312 or visit us on the Internet at www.liverdoctor.com or www.weightcontroldoctor.com

Chapter 2

Who can benefit from the Liver Cleansing Diet?

Everyone can benefit from the Liver Cleansing Diet as it is designed to improve overall health and immune function. Those who are in greatest need of this diet are persons with the following health complaints.

1. Excessive Body Weight

The most accurate way of determining just how overweight you are is a ratio called the Body Mass Index (BMI). The BMI is worked out by dividing your weight by your height squared (height multiplied by height). Body Mass Index (BMI) is a scientific way of determining how overweight you are.

$$\text{BMI} = \frac{\text{WEIGHT (KILOGRAMS)}}{\text{HEIGHT x HEIGHT (METERS)}}$$

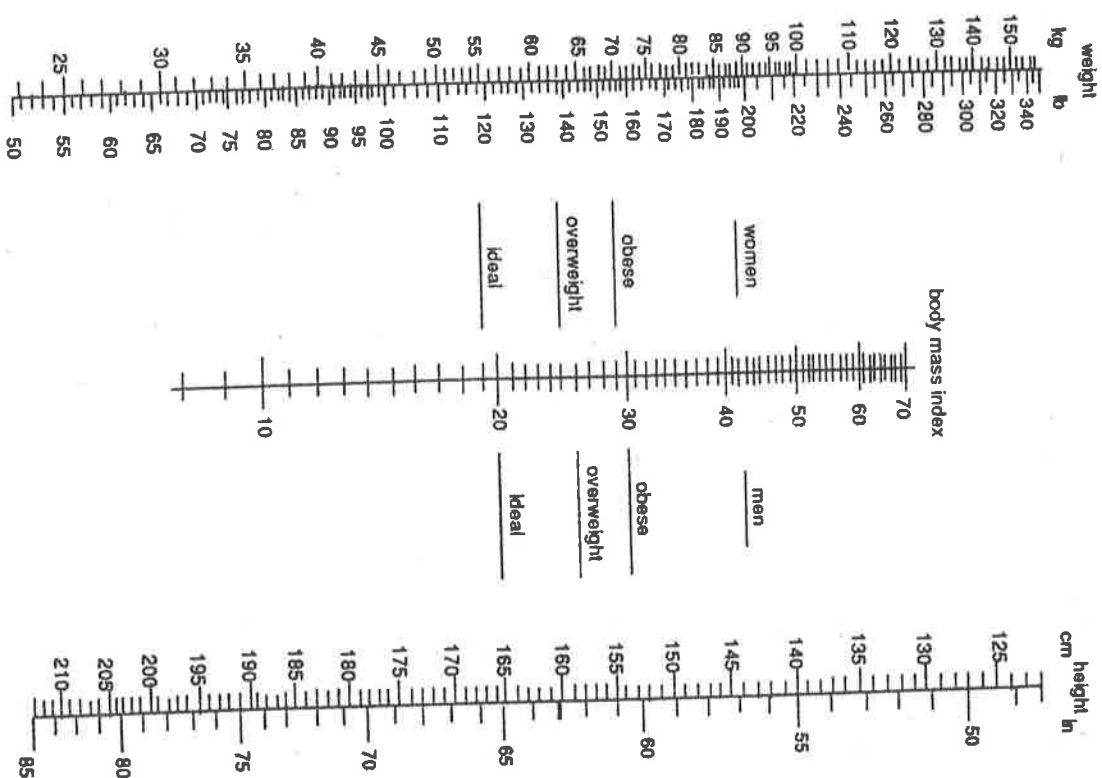
For example if you weigh 75 kilograms and are 1.69 meters (1.69 centimeters) tall then your

$$\text{BMI} = \frac{75 \text{ kilograms}}{1.69 \times 1.69 \text{ meters}}$$

$$= \frac{75}{2.856}$$

$$= 26.26 \text{ (use a calculator)}$$

NOMOGRAM FOR BODY MASS INDEX



If you don't like equations you can easily work out your BMI from the scale on page 26. To use it, place a ruler between your weight (undressed) and your height (without shoes). Then read your BMI on the MIDDLE SCALE.

If you are female you should aim to keep your BMI between 19 and 25 depending upon your build (higher values are found within this range for those with large and heavy bones). For males BMI should fall in the range of 20 to 26.

Overweight is considered between the upper limit of normal BMI (25 for women and 26 for men) and a BMI of 29. Obesity is defined as a BMI greater than 29.

If you keep your BMI within the normal range you will reduce your risk of cardiovascular disease, many degenerative diseases, diabetes, and cancer, and will enjoy increased longevity and a higher quality of life. The LCD makes this easy because any time you find your weight creeping up above the upper limit of BMI you can just return to the delicious menus in this book and your liver function will improve. After a few weeks weight loss will occur automatically, as fat metabolism becomes more efficient. There will be no need to painstakingly weigh foods or count calories, as the aim of the LCD is not to restrict your food intake. Rather, we want to merely divert you away from liver-toxic foods to Liver Cleansing and liver-healthy foods so that your liver can recommence its work of fat metabolism.

2. Liver Disease

Liver disease can take many forms and have many causes and some people have liver disease for which the medical profession can never find a cause; this is called idiopathic disease.

The most common causes of liver disease are:

- A diet too high in refined carbohydrates
- Alcohol excess
- Viral hepatitis (infections with viruses A, B, C and others)
- Drug abuse (especially intravenous)
- Adverse reactions to prescribed medications and drugs (such as analgesics, anti-inflammatory drugs, antibiotics)

and anti-fungal drugs, cholesterol lowering drugs, diabetic drugs and immuno-suppressant drugs).

- Auto-immune diseases such as Lupus, Crohn's disease, Ulcerative Colitis and gluten intolerance
- Infections such as HIV (AIDS), malaria and tuberculosis

Exposure to occupational and environmental toxins, such as insecticides, pesticides and organic solvents. Many aromatic and chlorinated solvents are carcinogenic. They build up in the fatty areas of the body including the liver and brain. Certain occupations expose you to a higher concentration of liver toxic chemicals. Such occupations are shoe manufacturers, pest controllers, insecticide users, workers in the plastic and rubber industries, furniture and cabinet makers, hndldressers, nail technicians, dry cleaners, and painters.

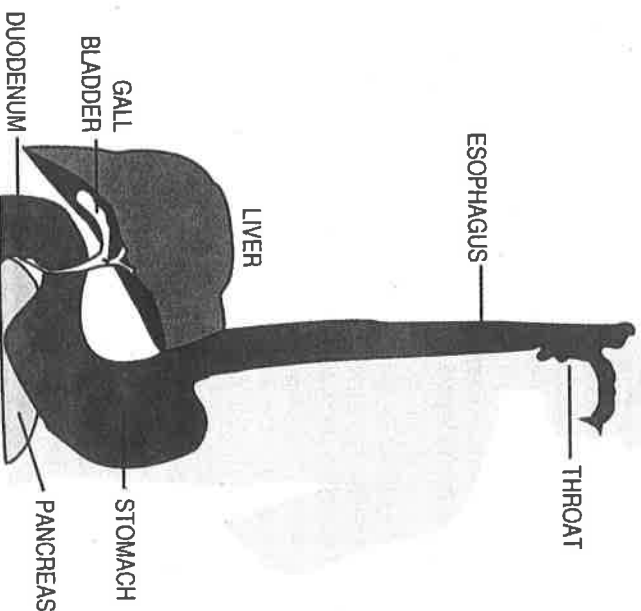
The liver is a common site of cancer and many primary cancers from other body organs eventually spread to the liver where they grow, destroying the surrounding liver tissue. The liver is also a common site for a cancer to start, which is logical, as it bears the brunt of all the toxic foods and chemicals that we ingest over a lifetime.

I have also seen several cases of polycystic liver in which the liver was so grossly enlarged with huge cysts that it filled the entire abdomen. Polycystic liver disease is a genetic defect that is inherited although it is not common.

Many liver diseases are short lived or acute and this is because the liver has remarkable powers of self repair and regeneration and a complete recovery usually occurs. However, if the liver is severely damaged or the noxious influence attacking it is sustained or chronic, such as in some cases of viral B and C hepatitis or persistent alcohol excess, then the liver has less likelihood of complete recovery. After many years of chronic inflammation, the liver can become severely scarred and distorted - this is called cirrhosis.

A very common cause of unexplained (idiopathic) liver disease seen in affluent societies today is a diet high in unhealthy processed fats and refined carbohydrates. After many years on such a diet the condition of "fatty liver" may occur where the liver is swollen with fatty deposits. Fatty liver

is a degenerative disease of the liver where the liver cells are literally choked to death by globules of fatty substances within them. These patients have a total inability to metabolize fats and suffer with weight excess. Thankfully it is possible to reverse a fatty liver - see www.liverdoctor.com



Tests for Liver Problems

If you suspect that your liver is not working properly or may be diseased ask your doctor to check your liver. The liver can be seen with various imaging techniques, such as an ultrasound scan, CAT scan or MRI scan. These scans are performed by a radiologist. These types of scans of the upper abdomen will show the size, texture and shape of the liver, gallbladder, spleen, and pancreas. They are also able to check for cancer or tumors in the liver.

Blood tests can check levels of serum bilirubin and bile acids, which may be elevated in certain types of liver and

gallbladder disease. If the bilirubin is too high you may also notice that your bowel actions are very pale and that your urine is a darker color.

Blood tests to measure the levels of the liver enzymes may show abnormally high levels if the liver cells are damaged or ruptured, causing them to release their intracellular enzymes into the bloodstream. These liver enzymes have specific biochemical names and their descriptions and normal levels are found on page 244.

In the early stages of liver disease, where there is only minimal damage to the liver cells, there is often only a very slight elevation of the liver enzymes called AST and ALT, which can be detected in blood tests for liver enzymes.

In those who consume excessive alcohol a common finding in the blood test is an elevation of the liver enzyme gamma-GT. This is often an isolated finding and the other liver enzymes are usually normal, at least in mild cases of liver damage from alcohol excess.

In patients with chronic liver disease, fatty liver and in some with gallbladder disease there is often an increase in the levels of the blood fats - HDL cholesterol and triglycerides. This is to be expected because the liver is the major organ for overall fat balance and metabolism. Some of these patients develop a fatty liver and may also have yellow or pale colored fatty lumps growing just under the skin around the eyes and nose and on the limbs. These subcutaneous lumps of fat are called xanthomas and if these are starting to grow under your skin, they are probably accumulating in other parts of your body such as your liver, heart, pancreas and arteries (atherosclerosis). These diseases of fatty degeneration are choking your vital organs and blood vessels and are due to the inability of your liver to metabolize the unhealthy fats and carbohydrates that you have been feeding it for too long. Thankfully the LCD can reverse this process, as it will restore the ability of your liver to burn fat efficiently once again. Those with a fatty liver and/or high blood fats should also take a liver tonic containing taurine and lecithin (see page 76), to improve liver function.

Other tests can be done to check the ability of the liver to manufacture its vital proteins. These are tests for the proteins

called albumin, prothrombin and various globulins and they show characteristic abnormalities in those whose liver function is abnormal (see page 244).

This may sound rather technical; however your doctor can easily do all these tests from one or two small vials of your blood.

In the early stages of liver disease there may be no dramatic symptoms and thus you and your doctor may be totally unaware that there is an underlying problem with your liver. Often the early stages of liver disease are found coincidentally on a routine blood test that includes tests for liver function.

Chronic liver disease passes through a long period of minimal and vague symptoms until the final stages of jaundice and mental confusion appear.

In my medical practice where I do a lot of routine blood tests in overweight patients, I often find slight elevations in liver enzymes, which signifies mild impairment of liver function and slight liver damage. This can easily be reversed with the LCD and specific liver tonics as discussed on page 80. I have found that it is very difficult for many of my overweight patients to lose weight even though they may be eating only normal amounts of food, unless I first improve their liver function. Once they are five to six weeks into the LCD, their liver-function tests are usually back to normal and the process of weight loss takes on increased momentum. Yes, the liver is the strategic organ for those who have found it very difficult to lose weight or simply just to maintain a healthy weight as they get older.

3. Gallbladder Disease

If you have gallstones (either old, new or recurrent gallstones) you should definitely follow the LCD, as this way of eating will correct the chemical imbalance in your bile that is leading to gallstones. In many cases of gallstones it is possible to completely dissolve them, provided you can stick with the principles of the LCD in the long term. In those who have had their gallbladder removed it is still important to follow the LCD and the twelve vital principles to improve liver function found on pages 53 to 64. This is logical if you think about it, as it was

the poor quality of bile that was made by an overburdened liver on a poor diet that led to the gallstones. This imbalance will remain if you don't eat liver-friendly foods and even though the gallbladder has been removed, problems often crop up again in a nearby area causing such things as dilated bile ducts, liver cysts, liver pain, pancreatitis, biliary tract disease, or fatty liver. I have found that many patients gain weight after removal of their gallbladder because they develop a fatty liver and/or their liver function remains suboptimal.

Other problems helped by the Liver Cleansing Diet

When I first designed the LCD with the aim of helping those with stubborn weight problems or liver disease, I did not realize that I would get to observe its powerful healing effects on many other seemingly unrelated health problems. On many occasions I have been amazed to watch this diet, over a period of four to twelve weeks, overcome problems that in the past I may have felt obligated in the first instance, to treat with drugs. In many patients drugs can be avoided through the use of this diet, although in some acute problems, drug therapy will be necessary and the LCD can be used simultaneously. Let me recount to you such a case history; the details are factual but the patient's name has been changed.

Christine, a 40-year-old woman, came to see me because she wanted to lose weight (she weighed 89 kilograms = 14 stone = 196 pounds, and was 167.5 cms = 67 inches tall, putting her BMI at 31.72.). Christine also felt depressed and exhausted although she did not have an unduly stressful life. She was alarmed when I told her that her blood pressure was moderately elevated at 175/100 and that her liver was slightly unhappy with minimal elevation of liver enzymes and high levels of LDL cholesterol. She said to me that she could expect her mother to have these problems, but not herself, as she still considered herself young. Her diet was typical of someone with these problems-she loved ice cream, margarine, deep fried foods, sugar, white bread, chips, donuts, diet sodas and the occasional takeout with the kids. She had only two pieces of fruit per week and 90 per cent of her vegetables were cooked.

I started Christine on the Liver Cleansing Diet and ordered some tests to see why her blood pressure was up. I said that if her blood pressure remained high I would need to start her on anti-hypertensive medication. Well, I did not realize that I had shocked her so much. When she returned eight weeks later she told me that she had left our first visit feeling like an old woman with multiple ailments! This had given her the motivation she needed and Christine had religiously followed my LCD for eight weeks. To my amazement Christine's blood pressure was now completely normal at 125/75, which is phenomenal considering it had been through the roof just eight weeks before. She was more impressed by the fact that she had lost 29 pounds and felt energetic and even tempered.

After I had examined her I said, Wow - this is fantastic! I'm going to talk about you on my radio show this Sunday to let everyone know just how powerful the LCD is. After this radio show we had over one hundred inquiries for my diet. Since then, I have had other patients reduce their blood pressure, even with only modest weight loss in the early stages of the LCD, so that I have come to understand that healthy liver function is vitally important if you are trying to reduce your blood pressure. I now recommend the LCD for all my patients with **high blood pressure**.

Those with **general digestive problems** such as abdominal bloating, indigestion, poor appetite, alcoholic gastritis, recurrent nausea and/or vomiting of unexplained causes, and irritable bowel syndrome, will find this diet invaluable and often curative. In those with **irritable bowel syndrome** the LCD may need to be modified, as sufferers are unable to tolerate small seeds, nuts, and grains unless they are first passed through a grinder (a small coffee grinder or high powered blender will do). Those with irritable bowel syndrome will need to grate some of their harder salad vegetables (such as carrots and beets) and they should avoid or reduce gluten containing products.

Anyone with persistent gastro-intestinal symptoms should see a doctor, and preferably a specialist gastro-enterologist, as there is always the possibility of bowel cancer and this must be excluded before natural therapies can be relied upon exclusively.

Problems that are caused by an imbalance in the immune system will always, and often dramatically, improve with a diet that cleanses and improves the function of the liver.

The most common problems to manifest when the immune system is under siege are:

Skin rashes, allergies such as hay fever, hives and asthma, autoimmune diseases, some types of arthritis, frequent infections, and the epidemic of chronic fatigue syndrome.

Orthodox medicine tends to focus on suppressing the symptoms of these diseases with drugs such as cortisone creams, tablets or inhalers, anti-inflammatory drugs, antibiotics and immunosuppressant drugs. This may be necessary in acute severe cases, but in the long term such drugs may over burden the liver whose job it is to break down these drugs into harmless metabolites. These drugs can sometimes cause liver disease. This is a paradox because diseases of the immune system will be aggravated by anything that stresses or damages the liver. This is logical because a healthy liver is needed to stop toxins and micro-organisms getting past its filter and deeper into the body. The liver cells (hepatocytes) are extremely busy making sure that protein and other foods are fully broken down before they find their way into our general circulation. If the liver is not an effective barrier, toxins and incompletely digested foods find their way into our blood stream and are carried deeper into the body where they must then be dealt with by the immune system. These toxins can then damage the cells of other body organs and inflammation in its many forms can begin. **So we can see that although the immune system protects our body from many dangers, it is the liver that protects the immune system from overload.**

All of my patients with allergies are put on the LCD and I have had many success stories enabling people to gradually discontinue drugs that they have previously needed to suppress allergic symptoms. Why suppress the sneeze and wheeze when one can remove the cause?



"HEY, WHAT YOU NEED IS A GOOD DOSE OF LIVER CLEANSING!"

If you are taking medications for allergies such as hay fever or asthma do not discontinue them without the supervision of your local doctor because these medications can only be reduced very very slowly as you gradually improve.

The vast majority of people with **chronic fatigue syndrome** (CFS) will get a big improvement after eight weeks on the LCD. This is because if the liver is continually overworked the general energy level in the body is drained. This is wonderful news for these poor patients who have often given up hope after years of being told that there is no proven treatment for CFS, because the cause is unknown. In my experience a cause can always be found if you have a curious mind and put on your "Sherlock Holmes cap"; the cause is usually dietary, hormonal, environmental, genetic, or stress related, and several of these factors may be acting together to make the disease worse. They all need to be addressed and in CFS patients, depression and stress will have to be treated, as well as the liver. The power of eating Liver Cleansing and liver-friendly foods is tremendous and is the basic foundation upon which the recovery from CFS depends.

Another problem for which I am continually consulted is that of frequent **headaches and/or migraines**. Many of these patients have seen neurologists and chiropractors and have tried drug

after drug; some spend nearly every day zonked out on pain killers which, of course, are toxic to the liver.

Acetaminophen if taken for long periods, or in high doses, is particularly toxic to the liver. Not many people realize that chronic headaches, including migraine headaches and cluster headaches, can usually be greatly reduced or even prevented by cleansing the liver. Chinese doctors have long known of the association between headaches and the liver and I have observed that if the headaches are associated with nausea and/or vomiting then they are a sure sign that your liver needs improving.

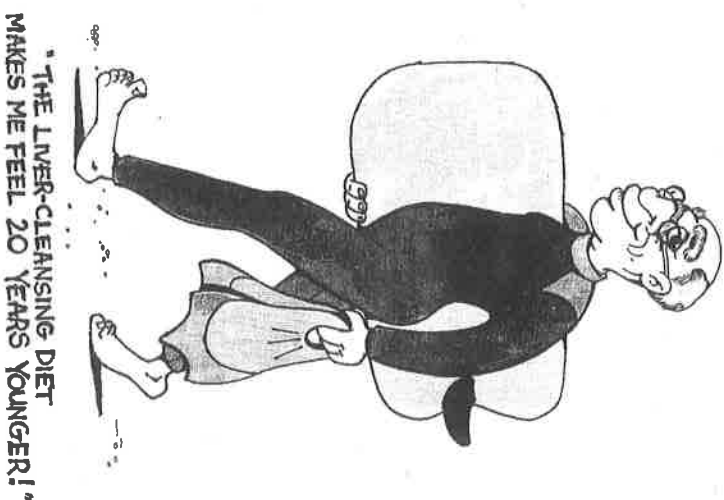
My recommendations are that if you suffer with headaches follow the principles of my LCD and take a magnesium supplement and a liver tonic everyday. Also make sure you drink 10 glasses of water and some raw vegetable juices daily. This program will gradually but greatly reduce the frequency and severity of your headaches.

Women on Hormone Replacement Therapy (HRT) or the oral contraceptive pill often experience weight gain and/or side effects because the hormones place an extra work burden on their liver. Hormones taken orally induce the liver to make more proteins, such as sex hormone binding globulin (SHBG), and increased clotting factors. The liver must also work harder to break down the hormones in HRT and the contraceptive pill and this uses up extra liver energy which can lead to weight gain. Some types of synthetic progesterone found in HRT or the pill can cause an increase in the bad type of cholesterol (known as LDL) and triglyceride fats. This is why they increase the risk of blood clots.

Oral forms of HRT are more likely to stress the liver. Conversely hormone patches or creams are much easier on the liver and do not promote weight gain. Natural progesterone lozenges and creams are much better for the liver than synthetic progesterones. Women on HRT or the pill who are gaining weight and/or feeling tired, will find that these problems will be greatly reduced by following the LCD and taking a liver tonic.

The LCD will help to repair liver damage in those who drink too much **alcohol** or those who have used recreational drugs. Those who are carriers of the hepatitis B and/or C viruses will have less chance of developing chronic liver disease if they follow the principles of the Liver Cleansing Diet.

Older persons will find the LCD a great tool for **increasing longevity** and vitality and staying off the degenerative diseases that unfortunately have become so common in our ageing populations. The liver definitely needs more help after the age of fifty-five, as liver weight and volume decreases with ageing. Liver blood flow decreases and the liver cells often grow larger to try and compensate. The liver becomes less able to cope with drugs, liver synthesis of proteins is reduced, and the incidence of cholesterol gallstones increases with age. To offset these changes try to follow a liver friendly diet, take a liver tonic and keep your exposure to multiple prescription drugs and alcohol to a minimum.

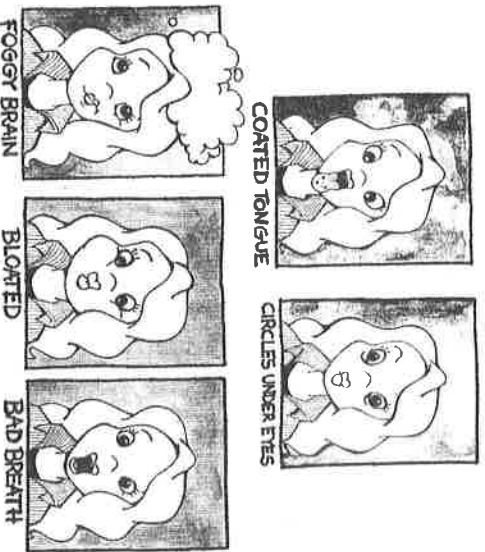


Chapter 3

What are the symptoms of an unhappy liver?

The signs of liver dysfunction vary tremendously, from very subtle symptoms to major incapacitating symptoms. In the very early stages of liver disease there are often no obvious symptoms and the problem is often discovered by accident on a routine blood test when liver enzymes are found to be elevated.

Symptoms of mild liver dysfunction may occur, even though all blood tests of liver function are "normal". The conventional blood tests that doctors use routinely to check the liver are not very sensitive - they check more for liver damage rather than liver function. Raised liver enzymes are found in blood tests only after liver cells have been damaged causing them to release their intracellular enzymes. So even though the blood tests for your liver enzymes and liver proteins may be normal, this does not mean that your liver is working as well as it could or should for you to feel really well. If you have vague and non-specific symptoms for which the doctor can find no cause, I suggest that you follow my LCD, as the liver is the major producer of energy in the body.



Often the first biochemical sign of liver dysfunction is raised levels of blood fats, giving readings of fasting cholesterol over 212 mg/dl and triglycerides over 177 mg/dl.

The symptoms of mild liver dysfunction

Common symptoms are **poor digestion**, **abdominal bloating or nausea** especially after fatty foods, **weight gain** around the abdomen, and **constipation**. So-called "**irritable bowel syndrome**," (where the bowel actions are irregular and vary from diarrhea to constipation), which is associated with abdominal swelling and flatulence, is often due to a sluggish liver.

If you wake up in the morning with bad breath and/or a coated tongue, your liver definitely needs help. The LCD is an effective cure for these embarrassing symptoms.

If the liver is sluggish, excessive amounts of toxic metabolites find their way into the blood stream and can affect the function of the brain leading to **unpleasant mood changes, depression, and a "foggy brain"**. Your concentration and memory will not be as good as it used to be when your liver was able to maintain the correct biochemical composition of your blood. Patients who have followed the LCD always tell me that they feel calmer and mentally clearer, as their liver function improves.

Poor liver function can trigger or exacerbate allergic conditions such as hay fever, sinus congestion, hives, skin rashes, and asthma. This is particularly so for persons who begin to suffer with allergies for the first time in middle age. In my experience these conditions gradually improve when foods and toxins that overload the liver are eliminated.

I have observed that patients with auto-immune diseases (e.g. systemic lupus erythematosus, polyarthritis, polyarteritis, and other connective tissue disorders) have often suffered with allergies prior to manifesting the symptoms of auto-immune disease. I have also noticed that in auto-immune problems the patient's diet is usually high in foods containing synthetic chemicals such as artificial flavorings, sweeteners, aspartame, artificial colorings and preservatives (found in

diet colts, candies, ice creams, packaged cookies, chips and snack foods). These chemicals build up in the liver and eventually escape the protective filtering barrier of the liver cells and flow into the blood stream. These chemicals then become incorporated into the cells of various body organs, muscles, and joints and so our own tissues gradually become "chemicalized". Our immune system can no longer recognize these chemicalized cells as a natural part of our body, but instead sees them as foreign and worthy of destruction, so it produces antibodies to attack our own cells. This is the genesis of auto-immune disease and explains the paradox that our own immune system is fooled into attacking the very tissues it was originally designed to protect.

Gluten is also a common cause of auto-immune disease and gluten free grains should be tried in such cases.

If you suffer with an auto-immune disease you will definitely need the LCD to de-chemicalize and detoxify your body. I have had many patients with auto-immune diseases, (such as Hashimoto's thyroiditis, auto-immune hepatitis, lupus or inflammatory bowel disease) who have had a complete cure of their disease both symptomatically and by blood testing after following the LCD and taking the correct mineral and vitamin supplements.

Atoxic or sluggish liver can cause headaches and unfortunately the pain killers that are often required can cause a further stress on the liver. I have found that the LCD and raw juicing can be an effective preventative for a large variety of headaches including migraines, tension headaches, cluster headaches, hormonal headaches, and non-specific headaches. It is also vital to take a liver tonic and a good magnesium supplement everyday to prevent headaches.

Poor liver function can manifest as high blood pressure and/or fluid retention, which may be difficult to control with drug therapy alone. This is because the liver breaks down the adrenal hormone called aldosterone. Excessive aldosterone causes retention of sodium and low potassium and these electrolyte imbalances raise the blood pressure. The liver also controls the level of blood fats and if these become excessive, the blood becomes too sticky or viscous, and this raises the blood pressure. I have seen the LCD bring down very

high blood pressure to completely normal levels without any drugs being required. High blood pressure is very dangerous and increases your risk of heart attacks and strokes and you must always remain under the regular supervision of your own doctor. The LCD can control many cases of essential hypertension and reduces the risk of cardiovascular disease, which is the leading cause of death in affluent nations. You must not stop your blood pressure medication unless your own doctor agrees to this.

If you follow the eating habits espoused in my Liver Cleansing program, you will eat your way to good health and longevity, in contrast to most of humanity who "dig their grave with their teeth". The LCD is a safe and nutritious way of eating; however, if you have any medical problems such as high blood pressure or diabetes, you must not stop your medication without your own doctor's approval.

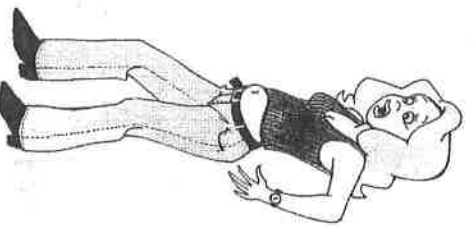
Another symptom of an unhappy and/or fatty liver is that of hypoglycemia or unstable blood sugar levels. This can cause wild fluctuations of blood sugar (glucose) levels causing fatigue, dizziness, light headedness, moodiness, headaches, fuzzy vision, sweating and cravings for sugar. These sugar cravings are extreme and many sufferers become literally addicted to sugary things like chocolate and ice cream; they have no control over these sugar cravings, just as an alcoholic has no control once the first sip of liquor is taken. Little wonder that people with hypoglycemia usually have a weight problem.

A healthy liver turns excess dietary sugar (glucose) into a storage form of sugar called glycogen, which is stored in the liver until needed. When the blood sugar levels drop, the healthy liver quickly releases glucose into the blood stream from its stored glycogen, thereby averting a rapid drop in blood sugar levels. So one can see the connection between a sluggish liver and unstable blood sugar levels; this can lead to sugar addiction, fatty liver, weight excess, diabetes, and candida infections.

Nutritional medicine improves the liver's ability to control blood sugar levels and is an effective weapon against sugar addiction and diabetes.

Poor liver function commonly manifests as an inability to tolerate fatty foods in your diet. If you eat too much processed fat and/or carbohydrate it will get turned into unhealthy fats

such as triglyceride and bad cholesterol (LDL cholesterol). Your liver will try to pump some of this unhealthy fat out of your body through the bile into the small intestine. This will raise the cholesterol content of your bile and can result in gallstones made of hard cholesterol. If your liver is not working efficiently it will not manufacture enough bile salts to keep biliary cholesterol in solution and so gallbladder stones may result. Thus poor liver function can result in **gallbladder disease and gallstones** and painful liver cysts. Gallbladder disease causes intolerance to fatty foods, nausea, vomiting, and upper abdominal pains which may radiate into the back and into the right shoulder.



BLOATED

Another symptom of a sluggish liver is fatigue which may progress to **chronic fatigue syndrome**. In most cases I find that the dietary history will give me the clue to the cause of this syndrome. Generally these patients are eating too much unhealthy refined carbohydrates and not enough protein or raw vegetables and fruits. As we have seen before, the liver and the immune system are intimately related; just like a married couple they are codependent; each one's happiness depends upon the other. To overcome chronic fatigue syndrome we must take the load off the overworked immune system by cleansing the liver.

A common symptom of an overworked or toxic liver is **excessive body heat**, which may be associated with sweating and/or offensive body odor. If you feel overheated, it may not just be hot flushes or the climate, and chances are, your liver needs a spring clean! Skin problems such as **itching skin**, dermatitis, brown liver spots or skin rashes are another common symptom of liver dysfunction.

If your liver function is below par you will find that your **tolerance to alcohol** and various drugs such as antibiotics is becoming less. You may start to feel drunk after only two beers and have a bad hangover the day after only one or two drinks at the bar. You may start to become highly allergic

to various prescription drugs that previously could be taken with impunity.

The perspective of Chinese doctors

In traditional Chinese medicine the liver is considered to be an extremely important organ and it is classified as one of the five main body organs, known as "zhang organs", which have a storage function. Chinese doctors teach that the smooth flow of body energy (or "qi") can only occur if the liver action is healthy. Many people with chronic fatigue syndrome have an underlying liver problem. The Chinese call the liver the "General of the army of the body", in charge of body strategy and harmony. They say that although the heart stores the spirit, it is the liver that can unbalance the spirit.

This can work both ways so that emotional stress can impair the functions of the liver, and disharmony in the liver can have adverse effects upon the emotional state. This can lead to irritability, anxiety, and deep depressions with suicidal tendencies. You may have heard the phrase, "He is a bit liverish today!", in other words stay away, as this person is in a very bad mood. The toxic liver state brought about by the abuse of alcohol or drugs may lead to not just a hangover! You may feel irritable, moody, perhaps aggressive, and definitely depressed. You may also have these symptoms if your liver is in a stagnant or sluggish state because of incorrect diet. Many cases of depression could be treated effectively with a Liver Cleansing Diet and liver herbs, enabling the gradual withdrawal of anti-depressant medication or a reduction in the dose required. The Chinese have a liver remedy with the delightful name of "the free and easy wanderer" that they use for depression and it contains the Chinese herb Mao Yan Wan. We can all become free and easy wanderers, and slim and beautiful wanderers as well, if only we will take care of our livers: the Liver Cleansing Diet and the liver herbs in my liver tonics will enable you to do this. A good liver tonic (see page 58) will definitely help to bring back the free and easy old you.

According to the Chinese, a stagnant liver results in "fermenting and heat", which causes "fire to rise." This increase in liver fire

Chapter 4

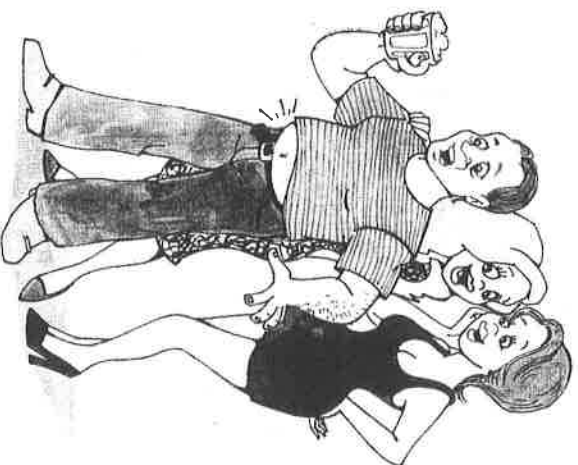
Liver physiology and function

leads to overheating of the whole body, agitation, poor sleep, dizziness, headaches and anger. The Chinese call this "gan ho". The English term "gung-ho" comes from this and describes someone who is too pushy and hyped-up. Do you feel like this sometimes? Chances are your "liver is on fire" because it is full of toxins or unhealthy fat.

The Chinese teach that the liver controls the harmonious flow of energy in the digestive tract, and if it fails to do this, too much food energy enters the stomach and the spleen causing abdominal swelling and nausea. The Chinese always treat excessive weight conditions by improving liver function; however, they have had many more centuries than Western civilizations to come to this understanding.

Chinese doctors attribute poor nails and muscle and tendon stiffness to liver weakness. They also assess the state of the liver from the patient's eyes with dry, red, and/or itching eyes being caused from excessive heat in the liver. If your eyes are bright and clear this augurs well for your liver.

"HEY...PSSST!! THIS GUY NEEDS LIVATONE!"



The liver is an extremely busy and hardworking organ, as evidenced by its huge blood flow; blood passes through the liver at a rate of around 3 pints per minute.

The healthy liver is such a busy organ that its activities create a large amount of heat, increasing body temperature. That's why you will often feel hot after a large meal.

The liver is sheltered by the ribs and is tucked away in the right side of the upper abdomen. It has two anatomical parts called "lobes" and the right lobe is approximately six times larger than the left. The right and left lobes of the liver are separated by fibrous tissue known as the Falciform ligament.

As said before, the liver is the largest organ in the body, so if you say to one of your friends "hey did you know that your liver is larger than your brain" you are not insulting them!

The liver is not only unique by virtue of its large size, but also by its dual blood supply. It is the only organ to have two separate sources of blood supply:

1. The hepatic artery bringing freshly oxygenated blood from the heart.
2. The portal vein bringing blood from the stomach and intestines, which is laden with nutrients from your food.

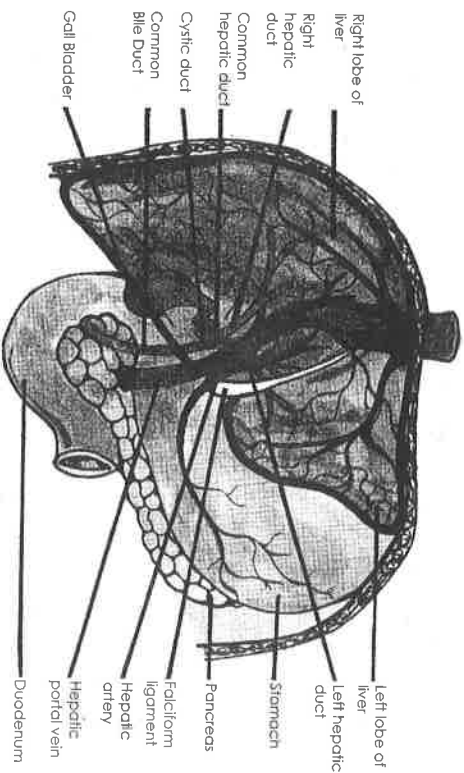
The hepatic artery and portal vein enter the liver together, through a fissure (split) in its base called the porta hepatis, and at this point divide into branches to supply the left and right lobes of the liver. Once inside the liver, these blood vessels keep dividing further like the branches of a tree bringing blood to every part of the liver. These tiny branches of blood vessels eventually empty into microscopic spaces between the rows of

liver cells. These spaces are called sinusoids and they are vitally important for Liver Cleansing and nourishment. The sinusoidal spaces are lined by special cells such as fat storing cells, pit cells, endothelial cells, and the most amazing cells of all, the Kupffer cells. The Kupffer cells are highly specialized and are not easy for your liver to replace. One could say the Kupffer cells are the trash collection service of the liver, and we all know what happens to our neighborhood if the local council's trash collection service goes on strike. Kupffer cells are mobile and look somewhat like a tiny octopus, as they travel around cleaning up the blood and lymphatic fluid inside the sinusoid. Kupffer cells engulf and ingest dead cells, cancer cells, yeasts, viruses, bacteria, parasites, artificial chemicals, incompletely digested proteins, and dangerous foreign particles. Once the Kupffer cell has its dangerous victim ingested, it chews it up and puts it to rest. If these Kupffer cells are worked too hard for too long, they may become overloaded with toxins, so that the liver's task of keeping your blood stream clean is no longer achieved. In such cases many different symptoms of poor health may occur, especially allergies, headaches, and chronic fatigue. Enter to the rescue - The Liver Cleansing Diet, which reduces the toxic load upon the liver.

After courising in and out among the columns of liver cells, the sinusoids empty into central veins, which in turn empty into larger hepatic veins that carry blood away from the liver back to the heart. Thus the cleanliness of the blood returning to your heart is dependent upon the efficient functioning of your liver cells and sinusoids.

What is bile ?

The liver produces a yellow-green substance called bile, which is necessary for the emulsification and absorption of fats from the small intestine. The liver cells produce bile and secrete it into tiny ducts which lie in between the clumps of liver cells; these tiny ducts that collect the bile are called bile canaliculi and they in turn join into larger ducts that join to form the right and left hepatic bile ducts, which in turn join to form the common bile duct.



The gallbladder is a storage sac that connects to the common bile duct. Bile is transported to the intestine via the common bile duct. Bile is a liquid consisting of water, bile salts, cholesterol, bile pigments, lecithin, lipids, and electrolytes. Bile salts are made by the liver cells from cholesterol, which either comes from the diet or is synthesized by the liver. Bile salts are made from cholesterol through a sequence of chemical reactions in the liver cells so forming the primary bile acids cholic and chenodeoxycholic acids. These bile acids are combined with the amino acids taurine and glycine. This combination is called a conjugated bile acid. A bile salt is a bile acid that has lost a hydrogen ion and gained a potassium or sodium ion. Yes the production of bile in the liver is a very finely tuned process and can be deranged by a poor diet, and also by deficiencies of the amino acid taurine.

Cholesterol itself is found in bile as a byproduct of bile-salt metabolism. Excess amounts of cholesterol can be found in the bile if the diet is too high in damaged and processed fats and sugar. This type of diet often leads to gallstones which form from the high amounts of cholesterol in the bile. Normally bile cholesterol is kept in a soluble form by combining with bile salts and lecithin to form soluble particles called micelles. If there is too much cholesterol in the bile it will not be able to stay soluble and may precipitate into gallstones.

Bile pigments such as bilirubin give the bile a yellow-green color. If the bile ducts or liver cells are damaged so that bilirubin cannot be excreted in the bile (and thus through the intestines into the bowel actions), the bilirubin pigment builds up in the body giving the skin and eyes a yellowish color-this is called jaundice.

Because taurine is so important to the production and function of bile, all good liver tonics should contain taurine as well as liver tonic herbs - see page 76



The liver is very versatile and performs a host of metabolic and regulatory functions. Let's take a quick look at these, as they will amaze you!

The liver:

1. **Regulates carbohydrate metabolism**-it turns glucose (sugar) into glycogen for storage in the liver. Liver glycogen can release glucose into the blood to maintain normal blood sugar levels if needed. If the body is low in carbohydrates the liver can manufacture more carbohydrates from fat or proteins.

2. **Has storage functions**-stores glycogen, vitamins A and D, iron and copper and many of the B complex vitamins (including the very important vitamin B12).

3. **Regulates protein metabolism**-the liver manufactures many body proteins such as albumin and blood-clotting factors such as prothrombin and fibrinogen that cause the blood to clot when needed. It makes Sex Hormone Binding Globulin (SHBG), which is the protein that binds the steroid sex hormones. A healthy liver is essential for a good sex drive (libido) and if your liver is producing excessive amounts of the protein SHBG your libido may be poor. Many people who have followed the LCD have told me that it has improved their libido!

The liver makes many proteins for the purpose of transporting substances (such as fats, iron, hormones, and drugs) around the blood stream. One particular liver protein called High Density Lipoprotein (HDL) is checked frequently in blood tests, as a high reading is beneficial in reducing your risk of heart disease. This is because HDL transports cholesterol out of the blood vessel walls back to the liver for excretion.

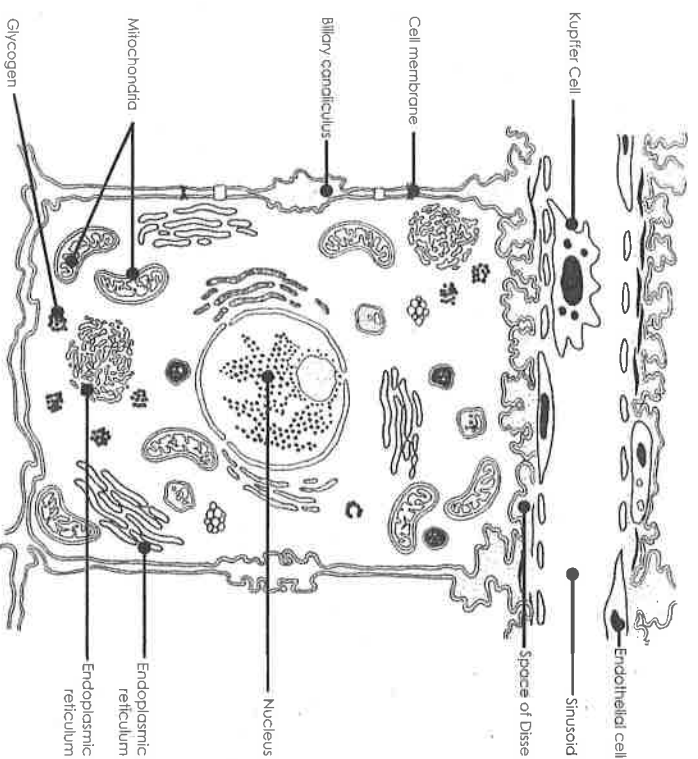
Thus a healthy liver is required for healthy blood vessels as it prevents excess cholesterol from building up in the blood vessels and this prevents hardening of the arteries. So you can understand why a healthy efficient liver can prevent heart attacks, high blood pressure and strokes.

4. **Detoxifies many toxic substances and chemicals.** The liver detoxifies by adding a substance to a toxin for its elimination or deactivation. It metabolizes or bio-transforms drugs, steroid hormones, and waste products of the body such as toxic ammonia. Ammonia is formed in the body from the breakdown of protein and a healthy liver is able to break it down into urea, which is then excreted via the kidneys. The most important enzyme system in the liver's detoxification process is the cytochrome P-450-dependent microsomal oxidase system.

Thankfully, you don't need to remember this system of liver enzymes, but it's important to know that it is highly dependent upon antioxidants like vitamin C and taurine, and most of us don't get enough of these.

More than ever before in the history of mankind, human beings need to have healthy livers to break down the thousands of toxic chemicals that have insidiously crept into our environment, water supply and food chain. The liver is the gateway to the body and in this chemical age its detoxification systems are easily overloaded. Plants are sprayed with toxic chemicals and animals are given potent hormones and antibiotics.

Picture of a liver cell (hepatocyte) and its organelles



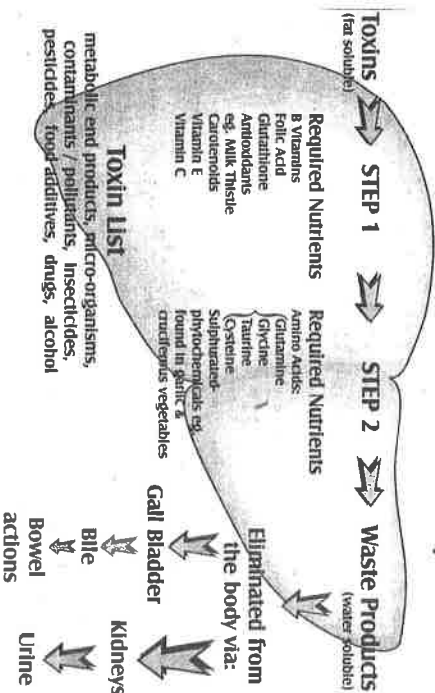
The liver is our internal cleanser

Under the microscope the liver appears as a huge filter or sieve, which is designed to remove toxic matter such as dead cells, cancer cells, microorganisms, chemicals, fat globules and sludge from the blood stream as it flows through the liver filter.

Many of the toxic chemicals that enter the body are lipid (fat) soluble, which means they dissolve only in fatty or oily solutions and not in water. Lipid soluble chemicals have a high affinity for fat tissues and cell membranes, which are made of fatty substances. In these fatty parts of the body, toxins may be stored for years being released during times of stress, exercise or fasting. During the release of these toxins, symptoms such as headaches, poor memory, stomach pain, nausea, fatigue, dizziness and palpitations may occur.

The liver is designed to convert fat-soluble chemicals into water-soluble chemicals – only after this conversion is done can toxins be excreted from the body via watery fluids such as the bile, sweat, saliva and urine. This conversion is done by a complex system of enzymes that exist inside the liver cells.

Detoxification Pathways



If these detoxification pathways become overloaded there will be a build up of toxic chemicals in the body.

Many of these toxins are fat-soluble and accumulate in fatty body organs such as the brain and endocrine (hormone) glands. This may result in symptoms of brain dysfunction and hormonal imbalances such as infertility, breast pain and lumps, menstrual disturbances, reduced sperm count, adrenal gland exhaustion and early menopause. Many of these chemicals are carcinogenic and have been implicated in the rising incidence of many cancers.

Chapter 5

The Twelve Vital Principles To Improve Your Liver Function

If the liver filter and/or detoxification pathways become overloaded, this will cause toxins, dead cells, cancer cells, fat globules and microorganisms to build up to undesirably high levels in the blood stream. This increases the workload of the immune system. The immune system becomes overloaded and irritated causing it to produce excessive inflammatory chemicals, and in some cases auto-antibodies, because it is in a hyper-stimulated state. This may lead to symptoms of immune dysfunction such as allergies, inflammatory diseases, swollen glands, recurrent infections, chronic fatigue syndrome or auto-immune diseases.

Immune dysfunction is common in today's chemically overloaded environment and is exacerbated by nutritional imbalances inherent in processed and high carbohydrate diets.

Unfortunately, symptoms of immune dysfunction often get treated by suppressive drugs, and rarely does anyone think about the liver. This seems an incredible oversight because it is obvious that the simplest and most efficient way to cleanse the blood stream and take the load off the immune system is by improving liver function.

Principle One

Listen to your body - don't eat if you are not hungry; have a raw juice, a piece of fruit, a small raw vegetable salad, or a glass of water instead. This applies even at meal times when you are on the LCD. Conversely, don't put up with hunger pains; if unfulfilled they can lead to an ulcer or hypoglycemia.

For too many people place their meal times around the clock; in other words eating becomes a habit and people will eat at say 8 a.m., 1 p.m., and 7 p.m., come rain or shine, appetite or not. It's much healthier to place your meal times around your hunger in the same way that children do, and pay less heed to the clock. If you are in the habit of eating regular meals when you are not hungry, your liver will be working far too hard and will basically suffer with excessive wear and tear just like arthritic joints that are overused.

Many people, especially those who grew up during the post-second World War depression years were made to feel guilty if they did not finish eating everything on their plate, even after their hunger was fully satisfied. For the well-being of your liver it is much better to stop eating the food on your plate once you begin to feel full and no longer have an appetite.

I suggest that you stop "thrashing your liver" into an early state of exhaustion and you will add many years to your life.

Principle Two

Drink at least ten to twelve glasses of filtered water daily as this helps to cleanse the liver and kidneys and aids with weight loss.

CARROT CAKE

- 1 cup all-purpose flour
- ¼ teaspoon baking soda
- 1 teaspoon baking powder
- ½ teaspoon ground cinnamon
- ½ teaspoon ground nutmeg
- ½ teaspoon salt
- ¾ cup raw sugar
- 2 large free range eggs
- ½ cup cold-pressed oil – walnut or coconut oil
- 1 cup grated carrot
- 13 oz canned crushed pineapple (drain and discard juice)
- ¼ cup chopped walnuts

Preheat the oven to 350°F. Thoroughly mix together all the ingredients except the carrots, pineapple, and walnuts. Then fold in the carrots, pineapple, and walnuts. Grease and flour a cake tin. Bake in the oven for 35-40 minutes.

COCONUT ICE CREAM

- 3 eggs – at room temperature
- 3 egg yolks at room temperature
- ½ teaspoon vanilla essence
- ¾ teaspoon of stevia powder
- 1 cup canned coconut cream
- 1 cup plain natural soy yoghurt

Using a double saucepan with hot water in base over a medium heat, place egg yolks, eggs, vanilla, stevia in top section. Using an electric beater, whisk on medium speed for about 5 mins or until thick, pale and heated through. Remove from heat and whisk until cool, then add coconut cream, combine well before adding yoghurt. Pour into pan, cover with food wrap then freeze until just starting to firm. Remove from freezer, break up with fork into a bowl and whisk again until smooth. Return to pan, cover with food wrap and freeze for several hours until very firm. Serve with berries or fruit of your choice. ¾ cup of sugar can replace the stevia. In diabetics ¾ cup of xylitol can replace sugar. A low carbohydrate delicious ice cream that is high in protein

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Liver Cleansing Diet

Chapter 10

Hepatitis

Hepatitis is a general term used to describe inflammation of the liver. This means that there are too many inflammatory substances being produced in the liver, which damage the liver cells. Liver cells are known as hepatocytes - hence the term hepatitis. Your doctor will be able to diagnose hepatitis by doing a blood test to check the level of your liver enzymes. If the liver enzymes are elevated this means you have some degree of liver inflammation (hepatitis) occurring.

What causes Hepatitis?

It can be caused by excessive alcohol, toxic chemicals, incorrect diet, fatty liver, adverse reactions to some prescribed drugs or medications, autoimmune diseases, some diseases of the biliary system (the bile ducts) and viral infections. Viruses, which attack liver cells, are known as hepatitis A, B, C, D, E, F and G viruses. Other viruses, of both new and old varieties, can also attack the liver and cause inflammation of the liver cells.

Hepatitis A

Hepatitis A is also known as infectious hepatitis. It is easily spread through food or liquids, cutlery, bed linen and skin exposed to faeces contaminated with the virus. Transmission can be avoided by adopting high standards of personal hygiene especially in the preparation of food. International travelers to some countries are at risk of catching hepatitis A and should consider preventative vaccination. While traveling, drink only boiled or bottled carbonated water, avoid eating raw fish and shellfish, and use disinfectant soaps for the hands.

The hepatitis A virus attacks the liver producing an acute illness with symptoms of nausea, loss of appetite, vomiting, fatigue and jaundice. This illness usually lasts for several weeks and

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Liver Cleansing Diet

resolves quickly once the virus is cleared from the body. Unlike hepatitis B or C, a chronic illness does not develop from the hepatitis A virus. The hepatitis A virus does not cause cirrhosis. There is now a vaccine, which is highly effective in preventing hepatitis A.

Hepatitis B

This is a common viral infection of the liver and worldwide there is estimated to be over 400 million carriers of the hepatitis B virus. The hepatitis B virus can be transmitted between humans by blood or sexual secretions. It is one of the most common sexually transmitted diseases in the world. The use of condoms with new sexual partners will protect you. Good hygiene is imperative in reducing the spread of the hepatitis B virus because it can enter the body in many ways - through sexual contact, sores and cuts in the skin, body contact sports, sharing infected needles, razor blades and toothbrushes. Do not share these items, wash your hands regularly with hot water and soap, and cover open wounds in the skin. Hepatitis B virus can also be transmitted where improperly sterilized equipment is used for tattooing, ear piercing and acupuncture. General social contact in the work place will not spread the hepatitis B virus. It is not generally spread by food, sweat, tears, coughing, sneezing or kissing. The virus is killed by disinfectants (including bleach) and boiling water. You may become infected from a carrier of the virus who does not know that they have the virus in their body because often it does not produce any symptoms of illness.

What are the symptoms of Hepatitis B infection?

After initial contact with the virus, symptoms take around 60 to 90 days to develop. Symptoms may include yellow discoloration of the skin and eyes (jaundice), loss of appetite and nausea, abdominal pains, fatigue, fever, and joint pains. Although these unpleasant symptoms may last for many weeks to months, recovery without any long-term effects is the usual outcome. In a small percentage of people, the virus remains in the body long-term and is infectious to others; these people are known as carriers. This chronic form of hepatitis B may

silently damage your liver as the years go by, and a significant percentage of chronic carriers will develop liver cancer or cirrhosis. This is particularly so if the carrier has a poor diet and unhealthy lifestyle, which compromises the immune system. Those carriers who are positive for the "e antigen" of hepatitis B are more likely to develop liver disease.

Prevention of hepatitis B

Since 1983 a genetically engineered vaccine against hepatitis B has been available. Vaccination is a good idea for those who are at a high risk of catching hepatitis B such as health care workers, hemo-dialysis patients, homosexual men, injecting-drug users, prostitutes, the sexually promiscuous, children, infants born to infected mothers, sexual and household contacts of infected persons. Because hepatitis B is such a widespread infection it is recommended that children be routinely vaccinated against this virus.

Hepatitis C - the hidden epidemic

Hepatitis C is a very common infection and infection with the Hepatitis C virus (HCV) is the fastest-growing infectious disease in America, and this upward trend is set to continue. One out of every sixty Americans living in the USA is infected with the HCV, while in many parts of Asia, infection rates are much higher than this. It is estimated that 5 million people in the USA have hepatitis C, however many of these people do not know that they carry this virus.

The HCV was first identified in 1988. The HCV is 10 times more infectious than the HIV (the virus that causes AIDS). In the 1980s and 1990s, AIDS was the major public health challenge for community based doctors, but since the year 2000, hepatitis C has acquired this dubious honor. There are approximately 4 times as many people infected with the HCV than there are with the virus that causes AIDS. The hepatitis C virus (HCV) is a very tiny RNA virus, which contains genetic material surrounded by a protein envelope. This virus invades the human cells and takes over the cell's manufacturing structures to replicate itself. The human cell is thus converted into a factory for replicating

hepatitis C viruses, which spread gradually throughout the body to the blood, lymphatic system, liver and the fluid around the brain and spinal cord.

Even if the virus is cleared from the blood it will usually be able to hide in other parts of the body. The hepatitis C virus is very clever and is able to make changes in its own genetic material. The HCV is continually changing its identity and this makes it extremely difficult, and sometimes impossible, for the body to create a sustained attack against it, and in this way it can survive long term because it cannot be detected by the body's "immune radar"; in this way it can be considered to be a "stealth virus." For the same reason it has not been possible to develop an effective vaccine against the HCV.

There are 6 main strains or types of HCV, and around 60 subtypes have been identified. The most aggressive strain is type 1, subtype b (otherwise known as type 1b), and it often responds poorly to anti-viral drugs.

Do you need to be tested for Hepatitis C?

If you received a blood transfusion or blood products before routine screening of donor blood was introduced (prior to February 1990), or if you have ever shared equipment (needles, spoons, swabs, tourniquets, etc) for injecting any drugs, it is important that you ask your doctor for a blood test to check for hepatitis C. If you have been tattooed, had body piercing or needle-stick injuries, you should also consider being tested for hepatitis C.

Blood Tests for Hepatitis C

Tests for Hepatitis C Antibodies

This test checks for the presence of antibodies that your immune system forms against the hepatitis C virus (HCV). If you test positive for antibodies this means that at some stage you have been infected with the HCV and your body has made antibodies against it. After initial infection with the HCV

it can take up to 6 months before your body makes antibodies against it. If you are positive for antibodies this does NOT mean that you are still infected with the HCV or that the virus is still hiding in your body. The test for hepatitis C antibodies is not 100% accurate and false readings (both negative & positive) can occur.

Tests for Hepatitis C Virus (HCV)

If you test positive for hepatitis C antibodies your doctor will do additional blood tests to see if the hepatitis C virus (HCV) is still present in your body. One such test is called HCV b-DNA which stands for hepatitis C virus branched DNA. This test is also known as HCV RNA b-DNA. This test is not very sensitive and will only show the virus if it is present in fairly high levels (viral loads above 350,000 per ml). If you have smaller amounts of the HCV in your blood it is possible to have a negative HCV b-DNA test even though you are still infected with the HCV.

There is another test to find the HCV in your blood which is called the PCR (Polymerase Chain Reaction) and this is much more sensitive, as it can detect much smaller viral loads as low as 1000 per ml of blood.

Liver Function Tests

Most of the standard or routine blood tests that your doctor will order to check "liver function" are in reality only able to detect liver damage. These tests are not sensitive enough to accurately reflect liver function. These tests will usually be abnormal in liver disease, however they can still give normal readings in some cases of significant liver disease.

A routine blood test for liver function will be processed by an automated multi-channel analyzer, and will check the blood levels of the following:

- **Total Bilirubin**
Normal range is 3 - 18 umol/L (0.174 - 1.04mg/dL).

- **Liver Enzymes**

AST (aspartate aminotransferase) which was previously called SGOT. This enzyme can also be elevated in heart and muscle diseases and is not liver specific.

The normal range of AST is 5 - 45 U/L.

ALT (alanine aminotransferase) which was previously called SGPT and is more specific for liver damage.

The normal range of ALT is 5 - 45 U/L.

AP (alkaline phosphatase) is elevated in many types of liver disease but also in non-liver related diseases.

The normal range of AP is 30 - 120 U/L.

GT (gamma glutamyl transpeptidase) is often elevated in those who use alcohol or other liver toxic substances to excess.

The normal range of GT is 5 - 35 U/L.

The reason why all or some of these enzymes become elevated in cases of liver disease is that they are normally contained inside the liver cells (hepatocytes); they only leak into the blood stream when the liver cells are damaged. Thus measuring liver enzymes is only able to detect liver damage and does not measure liver function in a highly sensitive way.

- **Blood Proteins** (manufactured by the liver)

Total protein: Normal range is 60 - 80 g/L (6 - 8g/dL).

Serum albumin: Normal range is 30 - 50 g/L (3 - 5 g/dL).

Serum albumin is a good guide to the severity of chronic liver disease. A healthy liver manufactures the protein albumin, and falling levels show deteriorating liver function.

Gamma globulin protein levels may be abnormal in chronic liver disease.

Prothrombin time assesses the ability of the liver to manufacture clotting factor proteins.

Functional Tests of the Liver

Tests that assess the liver's function in a more sensitive way, especially its detoxification abilities are available. These tests are called a Functional Liver Detoxification Profile. During these tests the liver is challenged with caffeine, salicylate and acetaminophen in oral doses. Samples of urine and saliva are then collected at timed intervals and sent to the laboratory where the levels of the excreted forms of these drugs are measured. These tests assess the ability of the liver to detoxify and eliminate drugs and other chemicals. They can be conducted in the patient's home and are simple to perform. They are expensive and may not be covered by your insurance. They are NOT essential to have to monitor your progress and conventional liver function tests are far more important. These specialized tests of the ability of the liver to detoxify are available from:

Great Smokies Diagnostic Laboratory
North Carolina, USA
Phone: 800-522-4762
www.gsdcl.com

Liver Biopsy

This is the procedure where a needle is inserted through the abdominal wall into the liver to remove a sample of the liver tissue. A liver biopsy procedure and post-operative observation period takes on average 18 hours although you do not need a general anesthetic. A liver biopsy is not considered to be a major procedure although there is a small chance of post-procedure complications such as infection or internal bleeding (hemorrhage). The death rate from such complications is 1 in 10,000 patients undergoing a liver biopsy. Liver biopsy is an accurate way to determine if your liver tissue looks healthy or if you have cirrhosis. The liver tissue is examined by a specialist pathologist under a high powered microscope.

Long Term Effects of the Hepatitis C Virus.

The amount of long term liver damage caused by the hepatitis C virus varies from person to person, and those with a strong immune system and a healthy diet and lifestyle will have a much better outcome.

In those who become infected with the HCV we find the following approximate outcomes:

- 20 percent of people will completely eliminate the virus from their bodies within 3 to 6 months (much like we overcome the flu virus).
- 60 percent of people will develop a long-term (chronic) infection that may not cause any problems or may go on to varying degrees of liver damage.
- 25 to 40 percent of people will suffer serious liver damage, such as cirrhosis (liver scarring), although this takes around 20 years to develop. In this group, 10 to 15 percent will remain stable and be able to survive with their disease, while 20 to 30 percent will go on to develop liver failure and/or liver cancer.
- 5 percent of patients with cirrhosis (due to the HCV) will get liver cancer.
- 1 percent of all patients infected with the HCV will develop liver cancer

There is no black and white proof that anti-viral drugs will improve the outcomes above and it is not easy to predict who will develop cirrhosis or liver cancer. Thus it is vitally important to improve your own outlook by following a healthy diet and lifestyle and using nutritional and herbal therapies. It is reassuring to know that most patients with HCV die with their infection and not because of it or its complications.

Anti-viral drug treatments for Hepatitis C

When a patient is diagnosed with hepatitis C the biggest decision he or she has to make is whether to take anti-viral drug therapy. This is always a complicated and personalized decision that can only be made after you have educated yourself about all your options and worked closely with your

primary care physician and liver specialist (hepatologist). The decision is complicated by the fact that the outcome of this disease can be so variable among individuals. Although hepatitis C is a slowly progressive disease, many untreated carriers of the HCV never develop complications of cirrhosis, liver failure and liver cancer. If you are a healthy carrier of the HCV the decision can be harder because for many of these patients the side effects of the interferon are much worse than the symptoms of infection with the HCV. There are no drugs available that can guarantee to eradicate the HCV, but certain combinations of anti-viral drugs can reduce viral replication thus possibly delaying or reducing liver inflammation.

Interferon by itself

Interferon is given by injection 3 times a week for 12 months but schedules can vary. There are several types of interferon drugs and they act to boost the immune system to fight the HCV. Interferon will suppress HCV infection in around only one quarter of patients who take it for 12 months. After successful treatment with interferon, there is almost a 100% recurrence rate of the HCV infection, and repeat treatment will be needed. Success rates are improved significantly if you are diagnosed early and receive aggressive anti-viral treatment for 12 to 24 months.

Interferon therapy is more successful if you don't have cirrhosis, have a lower viral load in your blood (PCR test) - less than 2million/ml and have HCV Genotype 3 or another genotype other than genotype 1.

Rebeton

Rebeton is a combination of the anti-viral drug called Rebetol (Ribavirin capsules) plus Interferon (Intron-A). Intron-A is a type of alpha interferon that must be injected and acts to strengthen the immune system and fight the HCV. Intron-A is usually injected three times a week and is taken with Rebetol capsules twice daily; this combination is usually taken for 24 to 48 weeks. We have found that combination therapies work

better than single drugs. Rebetron combination therapy offers new hope for HCV carriers who have relapsed after treatment with other anti-viral drugs. Patients treated with the Rebetron combination therapy were 10 times more likely to clear the virus compared to patients treated with Intron-A alone.

Why do we need nutritional medicine to fight Hepatitis C ?

1. More than 50% of all patients infected with the Hepatitis C Virus (HCV) do not get good long term results from standard treatment which consists of interferon with anti-viral drugs. Treatment with these drugs lasts only 48 weeks; so you must ask yourself, what are you going to do after this time?

2. The HCV can hide in various parts of the body, such as the liver, even when you cannot detect the virus in the blood stream; thus a blood test will show the viral load is zero, which may give you a sense of false cure. If the HCV reappears in the blood stream after "anti-viral drug cure" then nutritional medicine is essential for a good outcome. According to two recent Spanish studies the HCV can remain in the liver even when a patient has an undetectable viral level in their blood stream. In one of these studies reported in The Journal of Infectious Diseases July 2006, liver biopsies and blood specimens were taken from 12 patients who had HCV antibodies but had been negative for the HCV RNA (viral load) for 12 months. Despite their negative blood tests the HCV was found to be present in the liver in 10 of these patients.

The other study reported in the journal Clinical Infectious Diseases in November 2006, looked at 20 patients who tested negative for the HCV in their blood after interferon/ribavirin treatment. In 19 of these 20 patients, the HCV was still present in the liver tissue, as determined from a liver biopsy in these 20 patients.

Thus you can see that even in the vast majority of "successfully drug treated patients" the HCV survives and waits for another time to attack you, especially when you let your immune system become weak and run down.

3. The HCV can become resistant to the anti-viral drugs which then become useless.

4. Research into vaccines against the HCV (mainly synthetic prophylactic and therapeutic vaccines) is still in its early stages and more funding is needed. According to the experts an effective preventative vaccine against the HCV is not likely to become available until around the year 2018.

5. Fatigue is a common symptom of infection with the HCV. The liver provides the body with energy and if it is damaged, the liver cannot store glucose or make proteins effectively – thus the muscles become weak. Treatment with anti-viral drugs causes worsening of the fatigue, depression and insomnia. This is where nutritional medicine can really make a huge difference.

6. Thyroid problems often co-exist with HCV infection and nutritional medicine can support thyroid function.

7. HCV infection is a chronic disease that must be managed for life, otherwise it can lead to cirrhosis, liver failure and liver cancer. There is a shortage of liver donors for liver transplants.

8. Excess weight often results in fatty liver which greatly reduces liver function and health. Fatty liver can co-exist with HCV infection and will worsen the liver damage caused by the HCV.

9. Excess iron deposits in the liver can damage the liver and reduce liver function. It is found in those with the genetic disorder of iron overload (hemochromatosis) or those with very high levels of iron stored in the body. High levels of iron in the liver can co-exist with HCV infection and will worsen the liver damage caused by the HCV. In such cases it is vital to have blood removed regularly (venesection) and this must be organized by a specialist doctor.

To overcome all of these problems, anti-viral drugs can only play a limited role. To treat the underlying causes we need to turn to the power of nutritional medicine. Over the past two

decades there have been enormous advances in information in the scientific and medical literature linking incorrect nutrition to disease states. Research gives great insight into the nutritional factors in illness. Dietary changes and the appropriate use of nutrients, juices and herbs will reduce the risk of chronic liver disease.

In many cases it is impossible to eradicate the hepatitis C virus from the body and patients find it difficult to tolerate drug side effects. It is therefore not surprising that sufferers are turning towards nutritional and herbal therapies to fight the virus. Natural therapies will not usually be able to eradicate the virus from the body; however they will definitely help to prevent the virus from damaging the liver. This approach is very successful and can keep the virus in a dormant or harmless state so that it does not damage liver cells.

Although nutritional medicine cannot 'cure' HCV infection, by using my program for Hepatitis C, many people have experienced a great improvement in their liver function and have reduced the risk of associated conditions such as cancer, cirrhosis and liver failure. This program needs to be adhered to basically as a way of life.

Weight Loss and Hepatitis C

Weight loss in overweight people with chronic HCV infection will improve liver function. This was found by researchers in Queensland Australia who followed a group of people with chronic Hepatitis C and fatty liver. These patients were put on a 3 month weight reduction program and it was found that the weight loss led to a reduction in fatty liver, improved liver enzymes and improvement in fibrosis, despite persistence of the virus. Reference: GUT 2002; 51:89-94

Hepatitis C - A Survival Guide for Everyday Life

When one is faced with the prospect of living with the HCV for the rest of their life, it can be devastating on a psychological level. One of the main reasons for this is that it is difficult to deal with uncertainty, especially when you feel powerless to

change anything yourself. Well it does not have to be like this because you have the ability to protect your body from this virus to a very significant degree, even if the virus remains in your body.

In my experience as a medical doctor, I like to condense things down to vital strategies and for any chronic illness and/or infection these are -

- Make it show results within 4 to 6 months
- Make it achievable for busy people
- Keep it simple and basic, as most people are not capable of making or willing to make huge changes to a diet and/or lifestyle that they enjoy
- Keep it affordable especially for those on a budget
- Keep it honest with realistic expectations

Nutritional Medicine is your best strategy

Thank God that the liver is able to repair and regenerate itself because this is what enables many hepatitis C sufferers to completely turn their life around. Because of this amazing design feature of the liver, there is always hope.

It is important to understand that the chemotherapy of Interferon/Ribavirin is designed to eradicate the HCV. This chemotherapy does NOT directly help the liver. In other words it will NOT improve liver function or directly promote liver repair. Thus even if you have used or will use this type of chemotherapy, it is foolish to disregard the power of nutritional medicine.

Nutritional medicine can effectively improve liver function and stimulate the regeneration of new healthy liver cells, as well as repairing damaged liver cells. We have many testimonials from hepatitis C patients who have achieved this using our simple and practical strategies. This is evidence based medicine, as there is a huge amount of research that shows that the use of specific herbs, vitamins, minerals and foods can improve liver function and the immune system.

My nutritional program is most beneficial for ALL types of hepatitis including hepatitis C, hepatitis B, auto-immune hepatitis and fatty liver.

You should always seek guidance from a doctor before trying anything and your response to treatment should be monitored by a health care professional. If you have any questions you can always contact our Health Advisory Service via email at www.liverdoctor.com or telephone my office in Arizona on 1-623 334 3232.

Vital survival strategies for Hepatitis C sufferers

A 38-year old man with hepatitis C phoned the American office of our Health Advisory Service in Phoenix Arizona during October 2003 and complained to one of our naturopaths that he found our approach to hepatitis C too difficult. He was genuinely upset, as he wanted to improve his health quickly, because he had a very high viral load count and a virulent genotype of the HCV.

He had the typical dilemma of whether he should take chemotherapy or not, in view of the awful side effects he was sure to endure, as well as the slim chances of success he was given because of the nasty genotype he had. So he wanted to try nutritional medicine first to see if he could avoid the chemotherapy. However he found the dietary strategies in the Liver Cleansing Diet Book, too strict, rigid and foreign for his lifestyle and tastes. He also thought that he would have to take 10 different tablets/supplements to improve his chances of success, and he was unable to afford the cost of this. No wonder he felt angry, confused and powerless!

So here is my reply to this relatively young man, who in all probability faces a lifetime living with the nasty hepatitis C virus - You do NOT have to make sweeping or huge changes to your diet and/or your lifestyle - only a few vital changes/additions are required

- You do NOT have to take lots of different expensive supplements or products
- You will see results within 4 to 6 months, which will manifest as an improvement in well being and energy. Many of our patients will achieve a reduction in their liver enzymes and viral load within 4 months, which translates into an improvement in liver function.

The vital strategies which you need to follow are -

- Include salads in your diet - made with fresh raw vegetables such as tomatoes, shallots, sliced red onion, cucumbers, broccoli, lettuce, endives, radicchio, fresh green herbs (such as parsley, mint, cilantro, basil, thyme, oregano, dill, chives etc), celery, red radish, avocado, shredded cabbage, grated carrots and grated beets and grated horseradish, ginger etc. You can use a dressing of cold-pressed olive or flaxseed oil, apple cider vinegar and/or lemon and lime juice. Try to have a large salad 5 days a week, or ideally every day. Try to eat foods rich in natural sulphur containing compounds such as onions, garlic, leeks, shallots, free range eggs and cruciferous vegetables (broccoli, brussels sprouts, cauliflower and cabbage).
- Increase your consumption of essential fatty acids found in foods such as freshly ground flaxseed, avocados, raw nuts and seeds, legumes, cold pressed vegetable and seed oils and oily fish such as salmon, sardines and tuna. Essential fatty acids will repair the membranes surrounding the liver cells and reduce inflammation.

- Make yourself raw vegetable and fruit juices regularly. Include some fresh raw herbs in the juice such as mint, parsley, coriander, basil, thyme and oregano, as these herbs have powerful anti-viral effects and liver healing effects. You will need a juicer with a slow grinding action to effectively juice herbs or wheedgrass. Ideally you should juice everyday, however even if you make raw juices only two or three days a week, you will see tremendous benefits. Raw juicing is vital - you will need a juice extracting machine, which is a worthwhile investment. One worthwhile trick is to make several gallons of raw juice at one time and freeze it in plastic containers so you can have a fresh supply of juice everyday for a week. The juice will retain its active healing properties if you drink it as soon as it has thawed out.

A basic juice to improve liver function can be made with equal parts of - apple, orange, carrot, beet, tomato, lemon, cabbage of different colors - one week choose a purple/red cabbage and the next week choose a green cabbage. Don't forget to include some fresh green herbs in the juice. Small amounts of red onion and/or garlic and ginger can be used in the juice for extra anti-viral effects.

It is good to use different combinations of vegetable and fruit juices and for delicious and powerful healing recipes I recommend that you get my book titled "Raw Juices can save your Life." Believe me its true, raw juicing has turned the lives around of many of my patients.

Dr Cabot's Vegetable Soup Recipe to heal the liver

These are a great healthy standby and are easy to digest and absorb. You may use any vegetables of your choice and use miso or vegetable stock to flavor. You can add any type of beans, chickpeas and lentils to provide phytoestrogens, which have an anti-cancer effect.

Here is a liver cleansing and liver healing soup recipe-

- 8 cups water
- 2 tablespoons of cold pressed olive oil
- 2 potatoes, chopped
- 3 tomatoes, chopped
- 2 carrots, chopped
- 2 beets, chopped
- ¼ cabbage, chopped
- 2 stalks of celery (including the tops), chopped
- 1 large red onion, chopped
- 1 inch finely chopped and peeled ginger root
- 1 clove garlic, minced (optional)
- 1 bunch sliced kale or beet greens, chopped
- 2-3 artichoke hearts (fresh or canned in brine)
- 2 cups shiitake mushrooms, fresh or reconstituted and sliced
- 1 whole reishi mushroom (remove when cooked)
- ¼ cup arame or wakame seaweed, chopped
- 2 cups of cooked beans, chickpeas or lentils
- Add small amounts of celery seed, turmeric, pepper and miso (or tamari) to taste

In a large saucepan add the oil and bring to a moderate - high heat

Add the celery (plus tops), ginger root, turmeric, tomato, potato, carrots, beets, onions, celery seed and garlic and some pepper

Stir continuously so the vegetables do not stick to the bottom. When the vegetables begin to brown, carefully add the water

Bring to the boil

Reduce the heat to a simmer

Add the seaweed, mushrooms, artichoke hearts, lentils/beans/peas and stir

Simmer for about 2½ hours

Licorice root (Glycyrrhiza Glabra) contains an active ingredient called glycyrrhizin that is used widely in Japan as an anti-viral therapy for patients with HCV. It can be used intravenously as a product called "Stranger Neo-Minophagen C". A study in the medical journal Cancer, April 15, 1997, found that it may reduce liver cancer in patients with HCV. You can buy licorice powder in health food stores and can make a hot tea by using a pinch of the powder stirred into hot water; sweeten with honey or stevia. Do not over use the powder (1/2 an ounce or 3 teaspoons of licorice powder over 2 to 3 weeks is generally safe). Excess doses of licorice can result in fluid retention, high blood pressure or loss of potassium.

Reishi Mushrooms

This mushroom has been used for hundreds of years by Asian herbalists to improve the function of the liver. Its beneficial effect is due to the bitter triterpenoids it contains. Traditionally Reishi mushrooms have been used as a booster to the immune system and a cleanser of the liver and blood. Studies have found Reishi is a safe and non toxic mushroom. The mushroom is hard and fibrous and can only be used to brew a tea or as part of a soup (see our liver healing soup recipe on page 255)

Excess Iron Caution

Make sure that your body's total iron content is within normal limits. This can be confirmed with a simple blood test known as "iron studies". Men and post-menopausal women may have an excess of iron, which even if slight, can increase liver damage. Hepatitis viruses thrive in high-iron environments and surplus iron can cause immune dysfunction. If your blood tests show that you have too much iron in your body I suggest that you avoid eating liver and iron-enriched cereals, vitamin pills containing iron, and cooking in iron pots.

Hepatitis C - in summary

Excellent results have been achieved by using nutritional programs in many patients with chronic viral infections of the liver. This can also reduce damage caused by any long-term systemic viral infection, including the AIDS virus. The most important strategy is to begin such a program as early as possible and to stay on it long-term. It is possible to restore normal liver function in many chronic viral hepatitis sufferers provided they also stick to a drug free life-style. Nutritional medicine can prevent the virus from damaging the liver and can induce repair and regeneration in the liver.

The good news is that of all the organs in the body, the liver is most able to repair and regenerate itself. At the very least a significant improvement in liver function and well being will always be achieved, provided you do not wait until end-stage liver disease has set in.

The Amazing Health Benefits of Selenium

Selenium is the most important mineral for the immune system and the liver to function at their optimal level; indeed without adequate selenium in your body, your immune system will remain vulnerable to attack. It's amazing to think that despite the profound importance of selenium to human health many people remain deficient in this life enhancing mineral. Yes selenium deficiency is common in people of all age groups from the very young to the very old.

What are the symptoms and consequences of selenium deficiency?

- Frequent colds and flu
- Increased susceptibility to infections of all types
- Incurable warts
- Increased risk of auto-immune diseases
- Increased allergies and chemical sensitivities

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Cirrhosis

Basically cirrhosis of the liver means hardening and scarring of the liver. Cirrhosis is the term used to describe several stages of liver disease where chronic inflammation of liver cells has caused a build up of scar tissue in the liver. Scar tissue is tough fibrous tissue, which replaces damaged liver cells. This scar tissue is not functional and cannot do the work of liver cells.

A cirrhotic liver is hardened with scar tissue, which reduces its blood supply. There is not enough healthy liver tissue left to perform the metabolic and detoxification processes that the liver must perform to keep the body healthy.

Cirrhosis of the liver is the fourth most common cause of death among people aged between 30 and 50. Chronic hepatitis (caused by the hepatitis B and C virus) is gaining on alcohol as the leading cause of cirrhosis.

With millions of people worldwide suffering with cirrhosis, it is impractical to rely exclusively on expensive and in short supply, liver transplants as the ultimate cure.

Causes of cirrhosis include:

Excessive alcohol consumption, chronic hepatitis B and C infection, autoimmune liver diseases such as auto-immune hepatitis and primary biliary cirrhosis, aggressive forms of fatty liver, metabolic disorders such as Wilson's disease, Alpha1-Antitrypsin Deficiency disease, and Hemochromatosis (iron overload) and adverse reactions to some drugs such as methotrexate.

Strategies to help those who already have cirrhosis -

- Increase the intake of **antioxidants**, which reduce inflammation in the liver. The most important anti-oxidants are natural vitamin E 400 to 1000 IU daily, vitamin C 1000 mg three times daily, and selenium 100 to 200 mcg daily. Vitamin E can soften existing scar tissue and therefore improve blood flow to the liver, which is essential for regeneration of the liver cells. Vitamin E assists in the maintenance of high levels of glutathione, which is the most powerful liver antioxidant to prevent cirrhosis.

A clinical study of hepatitis C sufferers not responding to interferon therapy, showed that nearly 50% improved significantly with 800 IU daily of vitamin E. Use only natural vitamin E, which is known as d-alpha tocopherol.

Natural beta-carotene is another antioxidant that is able to improve liver function, and can be taken as part of a liver tonic. It is vital to also obtain plenty of beta-carotene and its related carotenoids from eating a wide variety of raw brightly colored orange and yellow fruits and vegetables. Beta-carotene is converted in the body to vitamin A, when and if needed, and vitamin A toxicity cannot occur from Beta-carotene. Beta-carotene, other carotenoids and vitamin A, exert a vital anti-cancer effect in those with cirrhosis. This will reduce the risk of cirrhotic livers developing cancer. Those with liver disease need to be careful not to take excessive amounts of vitamin A and should not take more than 10,000 IU daily.

Raw juicing provides an excellent source of antioxidant pigments and vitamins. Drink two glasses of raw vegetable juices daily.

Many people with cirrhosis have a problem with bruising or excessive bleeding because the liver does not manufacture sufficient clotting factors. This can be helped by the daily consumption of a fresh juice made with a mixture of raw dark green leafy vegetables. Good vegetables to use for this purpose are spinach, kale, beetroot tops, parsley, mint, basil, watercress and wheat grasses, which are high in vitamin K.

- **Take a liver tonic** that contains the essential nutrients to support the liver's ability to break down toxins such as "Livatone Plus" This will reduce the damage that toxins can inflict upon liver cells.

- **Be careful with protein.** Obtain most of your protein by combining grains, raw nuts, raw seeds, sprouts and legumes. The cirrhotic liver cannot handle large amounts of concentrated protein and for this reason minimize the consumption of red meat, pork and poultry. If you eat too much animal protein, ammonia levels will build up in the

blood stream causing mental fatigue and confusion.

If your liver function is very poor and/or you are in liver failure you will have to avoid the recipes in this book that contain meat and poultry. You may have to avoid all animal protein (including eggs, seafood, red meats, white meats), and confine your protein sources to legumes (beans, peas, lentils), grains, cereals, seeds, sprouts and nuts.

Legumes are also a good source of the amino acid arginine, which helps the liver to detoxify ammonia.

If you are not eating any animal products you will need to take supplemental **Taurine** 1000mg twice daily and vitamin B 12 100 mcg daily. Make sure that you remain under the supervision of your specialist and a good dietitian.

- **Avoid constipation** by consuming plenty of raw fruits and vegetables, and grind fresh seeds (flaxseed, pumpkin, sesame and sunflower seeds etc) and almonds in a coffee grinder or food processor, and mix with oat bran to increase intestinal fiber. This fiber will speed the passage of toxins out of the bowels and reduce the ability of these toxins to recirculate back to the liver.

If the bowel function is poor because of constipation and excess populations of unhealthy bacteria, this can lead to excessive fermentation of the bowel contents, which will increase absorption of toxic ammonia from the bowel back to the liver. A healthy liver can convert nitrogen into urea, which is excreted in the urine. In patients with end stage cirrhosis the liver is not able to handle these high levels of ammonia and toxic brain symptoms may occur. In this situation bowel function should be improved by increasing raw food fiber and taking supplements of the healthy *Lactobacillus* bacteria or plain acidophilus yogurt. Enemas and colonic irrigations can also help if there is severe constipation and auto-intoxication from the bowel.

- **Take lecithin** in the form of granules (must be fresh and refrigerated) with your cereal in a dose of 2 to 3 tablespoons daily. Lecithin will increase choline levels in the liver. Choline increases the liver enzyme called "collagenase," which is very effective in breaking down collagen (scar tissue) in the

liver, which reduces cirrhosis.

Some patients with cirrhosis find that the anti-oxidant Alpha-lipoic acid in a dose of 300mg to 600mg daily is helpful. S-Adenosyl-L-Methionine and N-Acetyl Cysteine (NAC), may help to maintain the levels of the liver antioxidant glutathione.

Minimize the use of liver-toxic medications, especially liver toxins such as alcohol, analgesic drugs (especially paracetamol, also known as acetaminophen) and narcotics, statin cholesterol-lowering drugs, anti-inflammatory drugs and antibiotics. Avoid using household and workplace chemicals such as insecticides, pesticides, chlorine, bleach, paints, glues and solvents.

It is possible to reverse the early stages of cirrhosis and that's why it is vital to have annual checks of liver function so that cirrhosis can be picked up early.

It is not fair to deprive an overweight child of all these things all the time, as all children enjoy the taste of sugar and high carbohydrate foods. The vitally important thing is to allow these types of foods occasionally as a treat – a special occasion. Do not reward good behavior with these types of foods; it's wiser to allow these treats on the weekend and/or during holidays and parties. Otherwise children will associate good behavior with unhealthy food and this will influence their choices later in life.

Shopping/Grocery list for Liver Lovers

If possible try to buy produce that is locally grown and in season and is fresh and free of chemical preservatives. Organically grown produce is ideal if your budget allows this, but it is not imperative to consume only organic foods and this is not always possible, so do the best you can. Your local health food store will be a good source of information in these matters.

Liver friendly foods

- Raw and dried fruits
- Raw vegetables. Vegetables that are highly liver cleansing because of their high sulfur content are cruciferous vegetables (broccoli, Brussels sprouts, cabbage, cauliflower) and garlic and onions. Fruits and vegetables with deep bright pigments such as orange, yellow, red, purple and green colors are very cleansing (eg. carrots, pumpkin, citrus fruits, red cabbage, red and green peppers). Other liver cleansing varieties include mushrooms, potatoes, yams, avocado, olives and sea weeds
- Raw nuts, such as brazil, almonds, hazelnuts, cashews and walnuts
- Raw seeds such as flaxseed (linseeds), sunflower, sesame, pumpkin seeds
- Legumes, which consist of beans, lentils and chickpeas. These can be eaten cooked or sprouted.
- Sprouts – alfalfa, mung bean, wheat grass, barley grass are a good source of chlorophyll which is liver cleansing.
- Grains – whole grains such as wheat, buckwheat, rye, barley, oats, quinoa, rice.
- Breads – whole-grain, multi-grain, stone ground, pita,

- sourdough and gluten free bread
- Biscuits – crisp breads and crackers made from whole grains or gluten free flour that are free of hydrogenated vegetable oils. Avoid sweet biscuits.
- Pastas made from whole-grains or gluten free flour
- Chicken – preferably free range and/or organic and don't forget to remove the skin
- Eggs – preferably free range and/or organic
- Seafood such as tuna, salmon, sardines, mackerel (oil fish), fresh fish fillets and shellfish. Canned fish is healthy. Avoid eating seafood raw, smoked or deep-fried.
- Spreads for breads/biscuits – hummus, tahini, nut spreads (brazil, almond, cashew, natural pea nut butter etc), honey, natural fruit jams, fresh avocado, Baba ganoush, tomato paste, olive paste and aioli.
- Cold pressed vegetable, nut and seed oils – eg. olive, walnut, peanut, macadamia nut, avocado, flaxseed, safflower, sunflower, grape seed and cold pressed coconut oil.
- Beverages: unsweetened soy milk, almond milk, oat milk, rice milk, canned coconut milk, water (filtered, rain or purified), bottled or canned vegetable juices with no added sugar and tea (regular, green or herbal). Ground coffee but only one to two cups daily
- Herbs and Spices if desired – jalapeno pepper, celery seed, peppercorns, chervil leaf, anise seed, chili, ginger, cilantro leaf, coriander seed, curry, cayenne, bay leaves, caraway seed, lemon thyme, marjoram, mustard seed, turmeric, basil, parsley, paprika, nutmeg, lemongrass, dill leaf and seed, thyme, mint, oregano, basil, horseradish, cumin seed, star anise, galingal, cinnamon, saffron, rosemary, fennel seed and others if they are natural.

Shop wisely with liver consciousness

Love your liver and live longer!

References

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Gluten Free Information

<http://www.wignet.com/1007-9327/12/1503.asp>

Conversion tables for recipes and cooking.

OUNCES

GRAMS

1	28
2	57
3	85
4	113
5	142
6	170
7	198
8	227
9	255
10	283

For additional amounts select the appropriate conversion above and multiply or add or both.

ie. 15 ounces

= 10 ounces (283 grams)

+ 5 ounces (142 grams)

= 15 ounces (425 grams)

POUNDS	KILOGRAMS	FAHRENHEIT	CENTIGRADE
1	0.45	200 degrees F	93 degrees C
2	0.91	250 degrees F	121 degrees C
3	1.36	300 degrees F	149 degrees C
4	1.81	350 degrees F	177 degrees C
5	2.27	400 degrees F	204 degrees C
6	2.72		
7	3.17		
8	3.63		
9	4.10		
10	4.54		

For other temperature conversions, use the following formula;
F to C: subtract 32, then divide by 1.8
C to F: multiply by 1.8, then add 32

MEASURE

1 teaspoon =
1 tablespoon =
1 cup =
1 pint =
1 quart =
1 gallon =

KITCHEN MEASURES

OUNCES

0.17 ounces =
0.5 ounces =
8 ounces =
16 ounces =
32 ounces =
128 ounces =

MILLILITERS

5 milliliters
14 milliliters
227 milliliters
454 milliliters
908 milliliters
3632 milliliters