

Detoxification with Chlorella

by

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<http://www.nutrition4all.co.uk/recommends/chlorella.html>

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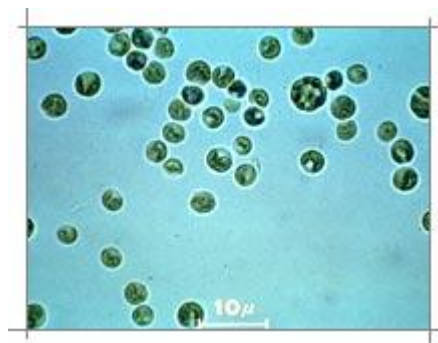
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Please visit the site below to subscribe for free health tips (normally weekly).

<http://HealthyEatingForHealthyLivingTips.com>

The site below contains more information on Chlorella

<http://www.nutrition4all.co.uk/recommends/chlorella.html>

IMPORTANT INFORMATION – DISCLAIMER

Complementary therapy and self-help are no substitute for diagnosis by a qualified medical practitioner.

This book has been designed to provide information on complementary health issues. The information provided is NOT medically diagnostic.

Your doctor or medical practitioner should be consulted at all times as your prime source of medical care and also to check any action you decide to take after reading this book.

In particular you should NEVER stop taking prescribed medication without the consent of your doctor.

While every care has been taken to provide accurate information, readers take responsibility for the use of information published here, and on any associated sites.

Why do we need detoxification?

Visit the "cleaning" section of your nearest super-market and you'll find a vast array of products designed to clean – indeed sanitise – the environment in which we live. There are creams, sprays, anti-bacterial cleansers and a whole range of products devoted to protecting us from "dirt". Hand-sanitising gels adorn the walls of hospitals and canteens to protect us from "infection".

With such an emphasis on cleanliness in our high-tech world, you may be surprised to find this ebook promoting the need for detoxification. In fact the plethora of chemical substances to which we are exposed just serves to **increase** the vast number of "foreign" substances we expect our body to process and eliminate safely.

Consider this random list of harmful substances to which our ancestors would not have been exposed: pesticides and herbicides sprayed on our foods, cigarette smoke (inhaled actively or passively), petro-chemical exhaust fumes as we walk by the road, artificial sweeteners, food additives for flavouring, preserving and colouring, antibiotics and hormones fed to the animals we eat, amalgam fillings in our teeth, fluoride and other chemicals in the water supply, aluminium added to make powdered foods such as flour more easy to pour, pharmaceutical drugs, plasticisers from cling-film and plastic bottles, cosmetics, shampoos and shower gels - the list goes on.

An incredible 50,000 chemicals are now released into our environment and ingested, breathed in or absorbed into your body day after day. It has been estimated that in the USA 25% of the population have some level of toxic metal poisoning.

Researching my old files for material to include in this "Why" section I found a clipping from the United Kingdom's "Daily Mail" about Mollie, 11-years old, a "normal child in today's Britain" with 35 toxic chemicals in her blood. Mollie and her family, from Devon, were among 7 families who had agreed to be tested for 104 man-made chemicals by the Word Wildlife Fund. Mollie looks the picture of health, yet in her blood, amongst other toxic substances, were phthalates that had been banned at least a decade before she was born, showing the persistence of these substances in our environment. Other findings of the report included:

Chemical Group	Present in...	Possible effects
Brominated flame retardants (BPDEs)	Furniture, electrical goods	Learning disorders and memory problems
Organo-chlorine pesticides	Meat, poultry, dairy products and the oily fish regularly recommended as part of a healthy diet!	Cancer, premature birth and genital abnormalities
PCBs (polychlorinated biphenyls)	Electrical goods and plastics that may be used as food containers	Brain damage and liver cancer.
Perfluorinated compounds	Non-stick pans, water resistant clothing	Bladder cancer
Phthalates	Soap, make-up and plastics	Genital defects in boys, asthma and birth defects

It's almost impossible to avoid exposure to these toxic substances - but who knows what damage they are doing? Children are particularly vulnerable while their bodies are still developing.

Nature equipped us with an amazing detoxification system to remove waste and process harmful substances for elimination through your liver, bowel, kidneys, skin, lungs and sweat glands, and it makes sense to keep these organs working at their peak performance.

Unfortunately, in many cases, the toxic load to which we are now exposed is in danger of overwhelming these natural mechanisms.

How can you tell when your natural systems are overloaded?

When your car is clogged up with carbon it doesn't perform at its best. As you drive it, you will start to feel that it's sluggish and needs attention. No matter how good your input of gas and oil, you won't get the performance you want. It needs a service, to have the carbon cleaned out, after which the car seems like new. If you don't pay attention to the warning signs and give it a service, eventually it will probably "conk out".

Compare your body's cells to the parts of your car. When they are clogged up with acid, sugar, mucous, pus, etc, you will feel listless and lacking in energy yet you do not sleep well. Your complexion is bad, your eyes are dull, you suffer from aches and pains, B.O., bad breath, you are nervous and irritable, lack concentration, you feel indifferent - everything "seems wrong".

Another sign to watch out for is weight gain without obvious cause. Sometimes, in an effort to protect you from a chemical overload, the body will "wrap up" chemicals in fat cells or water.

You too need a clean out, to purge the cells and remove the accumulated toxins. A detox is much like a spring clean or car service for the body.

Ignore the initial warning signs and you may develop more obvious and serious problems, such as acne, psoriasis, irritability, hyper-activity and aggression, allergies, chronic fatigue, headaches and migraines, arthritis, even heart disease and cancer.

If you suspect you have a problem caused by exposure to toxic metals such as cadmium (a neurotoxin from cigarette smoke), aluminium (in foil, pans and powdered foods), mercury (in fillings), lead or arsenic, you may want a definitive test. A hair mineral analysis, is an inexpensive test you do at home then send the sample off to a specialised laboratory for testing. From the best services you will receive a report showing not only your load of toxic minerals, but also the levels of nutrient minerals and their ratios to each other. These ratios are important because some nutrients can protect against the adverse effects of toxic minerals. Proteins, selenium and sulphur-containing amino acids are also helpful in combating mercury.

Once you see that your toxic / nutrient ratios are out-of-kilter, you have objective proof (if your symptoms are not enough indication) that you need a detox.

A nutritional protocol

There are many suggested detox diets, but the following is a 7-day plan recommended by Patrick Holford, founder of the London Institute for Optimum Nutrition where I qualified as a nutritionist. It is best begun on a weekend when you haven't much going on. The main steps are:

- Walk for 15 minutes or more each day
- Drink at least two litres of purified, distilled, filtered or bottled water per day
- Include half a pint of fruit or vegetable juice. Dandelion coffee is well-known for liver support
- Eat plenty of coloured fruit and green vegetables
- Foods that boost liver function include sulphur containing foods such as onions, garlic and legumes, complete proteins such as eggs, vegetables such as broccoli, Brussels sprouts, beets, carrots, artichokes and spices such as cinnamon and turmeric
- Avoid all wheat products, meat, dairy, eggs, salt, hydrogenated fats, artificial sweeteners, food additives and preservatives, fried foods, spices and dried fruit
- Restrict grains to a maximum of two servings per day
- Eat fish – salmon, mackerel, sardines, tuna, but not more than once a day (it's important to include protein to aid the detoxification process)
- Oils – use extra virgin olive oil for cooking and in place of butter
- Include a handful of raw, unsalted nuts and seeds: almonds, Brazils, hazelnuts, pecans, sunflower seeds and flaxseeds
- Use silymarin and a good quality daily supplement to support the detox

If you have any health problems, or are taking any prescription medication, do check with your GP first.

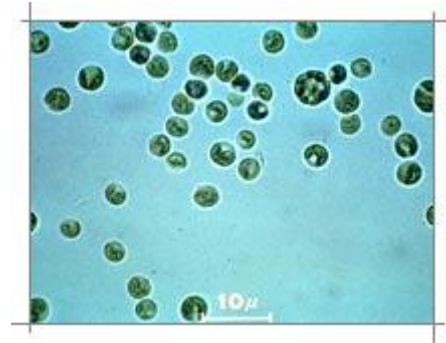
While watching your diet is important, it's a paradox that much of the food on sale will add to our bodily load of pesticides, additives and preservatives - so may be doing more harm than good. Remember the organo-chlorine pesticides found in oily fish in the Daily Mail article, or the waxes on citrus fruits or the chemical alar (Daminozide) sprayed on apples and later found to produce tumors in mice.

And although you might hope that a healthy diet would provide at least a basic nutritional value, modern farming methods and poor diet generally mean that our food today is far less nutrient dense than 50 years ago. For this reason, most complementary therapists, and an increasing number of conventional medics, now recommend supplementation to support health.

I shall now introduce you to Chlorella, one of nature's superfoods, and show how it is ideally suited not just as a general supplement, but also as an ideal addition to any detoxification program.

Just a minute – what's Chlorella?

Chlorella is a single-celled fresh-water algae superfood and is thought to be one of the planet's earliest life-forms. Since the 1960's Chlorella has been popular in Japan as a multi-supplement taken to maintain health through optimal nutrition. Chlorella is a true plant and a real food that is so nutrient-dense it has been dubbed nature's perfect food because it contains virtually all the nutrients the human body needs for optimal health.



It is the most researched of all the algae. Initially this research focused on improving our understanding of photosynthesis, but since the 1970s the health benefits of Chlorella have been documented in a now vast collection of studies.

Regular Chlorella users report experiencing more energy, improved physical appearance and protection from disease and illness. It has antioxidant functions that help with anti-aging and is rapidly gaining a wider reputation as an excellent all-round supplement that provides many of the nutrients needed for good nutrition and detoxification support in one convenient form.

Chlorella is rich in proteins and contains beta carotene and the B vitamins, including B₁₂ of which there are few plant sources; so Chlorella is particularly useful as part of a vegan or vegetarian's diet. Similarly, it is a good plant source of iron.

With by far the highest chlorophyll content of any known plant, (5 to 10 times greater than any other plant) Chlorella quite literally is an engine for converting the sun's goodness into living cells through the miracle of photosynthesis. Chlorella is so efficient at converting sunlight into plant matter that it can double its biomass every twelve hours - an astonishing feat considering the protein rich (60%), nutrient dense food that results.

Yaeyama is a strain of Chlorella Vulgaris, thought to be superior because it is more nutrient dense. Here are some of the features that make it such a perfect superfood.

- Approximately 60% protein including 19 amino acids and all eight amino acids considered to be essential for human health
- More than 20 bio-available vitamins and minerals
- A good plant source of iron and vitamin B12 which can be difficult for vegetarians to obtain from a meat-excluding diet
- Especially rich in beta-carotene a powerful antioxidant which is also very easily converted into a plant source of vitamin A.
- Because of its ability to promote excretion of toxins, Chlorella also plays a significant role in environmentally induced cancer prevention
- A good source of fibre from its triple-level cell wall, yet highly digestible
- Highest known source of RNA/DNA Nucleic acids essential for energy production, cell structure and function
- Rich in unsaturated fatty acids (around 80% of its total fatty acid content)

In the following outline of the nutritional profile of Yaeyama Chlorella you will quickly recognize many of the components of your good quality multi. As with every non-genetically manipulated vegetable which has been cultivated outdoors, each single value of Chlorella's composition varies from season to season by an average of 10% and more.

The Nutritional Profile of Yaeyama Chlorella (per 100g)			
Protein	56 ~ 72g	Unsaturated Fat (Vegetarian source of Linoleic and Linolenic Acid)	7 ~ 20g
Available carbohydrate	1 ~ 4.5g	Sodium	50 ~ 150mg
Vitamin C	30 ~ 150mg	Iron	70 ~ 200mg
Dietary fiber	5 ~ 18g	Chlorophyll	1,800 ~ 4,800mg
Moisture	3 ~ 6g	Calcium	110 ~ 330mg
Potassium	600 ~ 1,500mg	Magnesium	200 ~ 500mg
Carotene	36 ~ 150mg	Vitamin A	6,000 ~ 25,000µg
Vitamin B1	1 ~ 3mg	Vitamin B6	1 ~ 3mg
Vitamin B2	3 ~ 6mg	Vitamin B12	0.01 ~ 0.03mg
Vitamin B3	20 ~ 50mg	Vitamin E	7 ~ 21mg
Chlorella extract (CGF)	1,200 ~ 2,800mg	Folic acid	1.2 ~ 3.6mg
Digestibility	80 ~ 85%		
Rich in carotenes, vitamins and minerals it produces its own antioxidant glutathione. Chlorella is also high in flavonoids, which help strengthen the walls of blood vessels.			

Natural, not synthetic

Chlorella is a food, from a plant source, so the vitamins and minerals it contains are present in their natural forms - as nature intended. The benefit of this is that nutritional uptake is better than that of commercial products which, being synthetic, do not function as well as naturally formed nutrients.

Most of the supplements sold in pharmacies, grocery stores, and online are synthetic vitamins, and are just part of the vitamins that occur naturally in food. In addition, synthetic vitamins, produced by "discount" suppliers, will almost certainly contain "filler" substances that may include artificial colourings from coal tar, hydrogenated fats (hydrogenated soybean oil) or even sawdust. Such substances can be harmful in

the worst case, or just deplete your body of other nutrients and tax your kidneys before being excreted uselessly through your urine

In nature vitamins do not exist as single components that act independently; they are composed of several different components – enzymes, co-enzymes, and co-factors – that must work synergistically to produce their intended biologic effects.

Vitamins found naturally in whole-foods such as Chlorella come with all of their necessary components, in the form the body expects, and so smaller quantities can be more effective.

Usage

Chlorella is available in powder or tablet form. While the powder is more versatile and can be included in recipes, many users prefer the convenience of tablets.

Start with 1g mixed with water or juice (half a teaspoon powder) or 5 tablets per day and increase gradually to the recommended daily intake of 3g to 8g powder / 15-40 tablets. You can take all at once or in smaller amounts as desired. For detox and heavy metal chelation, best results are achieved when taken on an empty stomach.

Do not take Chlorella at the same time of day as prescription medication. Please seek the advice of a qualified healthcare professional if you are combining Chlorella with essential medication.

As an aside, If you're wondering what you might do with a powder, visit the site below and go to the recipe links on the right hand side menu. Having only considered the tablet form myself, I was agreeably surprised by the versatility of the powder in recipes.

http://www.nutrition4all.co.uk/recommends/chlorella_tablets.html

Contraindications / side effects to the use of Chlorella

While extolling the benefits of Chlorella, there are a few words of caution. Although it is one of the safest supplements on the market, a few contra-indications and possible side effects should be mentioned:

- Pregnant or nursing mothers should check with their health professional before taking ANY nutritional supplements, however reports of the dangers of taking high levels of vitamin A in pregnancy were related to retinol, the animal form of the vitamin. Beta-carotene (the plant form in Chlorella) is a safer alternative.
- Anyone taking blood-thinning drugs such as Coumadin (warfarin) should not take Chlorella without the advice of their healthcare professional because some Chlorella supplements contain high amounts of vitamin K that will affect blood clotting.
- Anyone already experiencing problems coping with detoxification (e.g. on an anti-Candida diet) should start Chlorella slowly, so as not to increase their detox load too quickly.
- Caution is advised for anyone known to be sensitive or allergic to iodine.

- If you have a very sensitive digestive system or may be one of the very few people who have a micro-algae allergy, please check with your healthcare practitioner before using Yaeyama Chlorella.

If any of the above applies to you, please check with your GP or health professional before you use Chlorella.

- In the unlikely event that anyone experiences an allergic reaction with symptoms such as breathing problems, chest pains, hives, rash, and itchy or swollen skin they should stop taking the supplement and seek immediate medical advice.
- Some people may experience an increased sensitivity to sunlight or sunburn.
- Other mild side effects reported include slight bloating and nausea which usually disappear after a few days of use. In the very rare case of that you experience prolonged vomiting, nausea, intestinal pain or constipation, discontinue use and seek healthcare advice.
- Some people initially experience changes in bowel motions, headaches, spots and tiredness during the early stages of a cleanse. These can be signs that your body is responding to the cleansing and detoxification process.

The above warnings are mentioned for complete safety. However, overall, Chlorella has found to be extremely safe and gentle, with very few adverse reactions, when usage is built up gradually as recommended.

In addition to being a valuable basic supplement for every-day use, Chlorella is one of nature's most powerful natural detoxifiers and specially recommended for use during a detoxification program. Read on to learn why.

Chlorella for detoxification

According to Simon Bandy, writing in the "Nutrition Practitioner": Chlorella is a rich natural source of chlorophyll, the "green blood" of the plant kingdom, with a structure very similar to haemoglobin, which carries oxygen in our blood. Chlorophyll cleanses and purifies the blood stream, kidneys, liver and bowel. It can also help prevent bad breath.

Chlorella has been successfully used to detoxify uranium, Chlordecone (a harmful chlorinated hydrocarbon insecticide), PCBs (polychlorobiphenyls) and dioxin.

In modern times dioxin has become a universal poison. Chlorophyll derived from Chlorella (and Chlorella itself) inhibits dioxin absorption emanating from the gastrointestinal tract and accelerates dioxin excretion.

The liver is our major organ of detoxification for toxic chemicals, drugs, alcohol, pesticides and food additives. Let's have a brief look at the processes involved and how Chlorella is involved.

The liver as an organ of detoxification

Although the liver has a multitude of vital roles, its major function is detoxification, the process whereby "foreign" substances are rendered harmless and prepared for excretion. Unwanted chemicals are broken down in two distinct pathways (known as phase I and II).

The technical details of these pathways are beyond the scope of this book, but in a nutshell, certain chemicals including caffeine, insecticides and hormones are first processed in phase I, ready for further processing in phase II. The nutrients required by this Phase I process include vitamins B2, B3, B6, B12, folic acid, flavanoids, phospholipids and amino acids (which combine to form proteins).

Unfortunately the Phase I detoxification process produces high levels of harmful free radicals. A free radical is any atom or molecule that has a single unpaired electron in an outer shell. They cause cellular aging and biological damage, and are neutralized by anti-oxidant nutrients including vitamins A, C, E and beta-carotene.

Phase II of the liver detoxification handles chemicals such as nicotine, aspirin, histamine, oestrogen and sulphites, neutralising them with the support of glutathione, flavonoids and amino acids to render them harmless and ready for excretion. (Flavonoids are antioxidants found in plants, and give them their vivid colours.)

If the harmful free radicals produced by phase I cannot be adequately neutralised by anti-oxidants, then the phase II detoxification process will be adversely affected.

In short, for the liver's phase I and II detoxification processes to function well, antioxidants, B-vitamins, flavonoids and amino acids are essential. These nutrients are all found in Chlorella.

Chlorella and heavy metal poisoning

If hair analysis, or any other test, reveals high levels of heavy metal poisoning and imbalanced mineral ratios, you will no doubt want to consider how to promote their excretion.

There have been several scientific studies (see references) on the use of Chlorella to detoxify mercury, copper, cadmium and lead. It was also used successfully in Taiwan in cases of arsenic poisoning due to a contaminated water supply. You can read more about some of these cases at: <http://www.juergenmairmann.ca/articles/chlorella.php>

Smokers are exposed to the toxic mineral cadmium. Zinc, iron, calcium, selenium and vitamin C (constituents of Chlorella) protect against cadmium and help remove the toxin from the body. Zinc deficiency actually increases cadmium uptake, so it is important to have an adequate supply of zinc in your diet and supplement.

It is essential to take a good quality supplement, like Chlorella, that contains antioxidants, B-vitamins, minerals such as magnesium, zinc, iron and sulphur containing amino acids. A good level of fibre is also important because it will bind to toxins and escort them out through the gut.

Chlorella has a tough triple-layer outer cell wall which binds to toxins such as cadmium, lead and mercury, carrying them out of the body. Although some say that this cell wall reduces the digestibility of Chlorella, it is in fact an advantage because of this high fibre content. A patented process that is now used to break down the cell wall has increased digestibility to 80% and above, which is very high.

Chlorella also contains alginic acid which binds to heavy metal toxins (for instance lead and mercury) and prevents them being absorbed. Evidence has also been found that alginate aids excretion of lead which has already been absorbed and protects against mercury. Selenium, contained in sea-foods and seeds, offers the best mercury protection.

Chlorella and the lymph glands

Another important benefit Chlorella brings us is normalization of the flow of fluids through the body. About 15% of the fluid in our body is blood, the lymph systems carry another 70%. Blood is moved through the body's circulatory system by the heart "pump"; while nearly 500 nodes cleanse and filter lymph fluid as it circulates throughout the body. Both systems are fundamental to our health. If the flow of these fluids through the body and brain (in the case of blood) is restricted, the body's ability to function properly is affected and we can experience debilitating effects.

We often hear of people unable to raise their arms or turn their heads. These symptoms are often due to a problem with obstructed flow of lymph fluids. The superior nutritional balance afforded by Chlorella can help to normalize the flow of the essential liquids in our metabolic pathways.

Chlorella and the bowel

Although the liver is our major organ of detoxification, if you ask the lay-person what is the body's main method of eliminating waste products, they will probably answer "The bowels / colon". If you have ever been unfortunate enough to have been constipated for even a few days you will sympathize with the general feeling of discomfort and misery this can bring.

If constipation continues more than a day or so and recurs frequently, or if you find blood in your feces, you should visit your GP or health professional to check that there is no serious under-lying condition.

Constipation is the result of waste material moving too slowly through the large intestine, leading to infrequent or painful elimination. It may be caused by reabsorption of fluid due to dehydration or changes in gut flora. Bowels should be moved at least once per day – ideally once for every meal! If bowel function is poor harmful toxins accumulate in the body and may cause many different problems such as bad breath, body odour, coated tongue, depression, diverticulitis, fatigue, wind, headaches, indigestion, piles, hernia, insomnia, obesity, varicose veins or far more serious problems.

Poor waste elimination and blocked intestines can also reduce absorption of nutrients and medication so no matter how good your diet, you can't absorb food correctly.

The cause of constipation is usually insufficient fibre or fluid intake, but other factors include lack of exercise, advanced age, poor diet, muscle or structural disorders. It may be a side effect of iron supplements or certain prescription medicines. **If you suspect the latter, do not change any medication without your GP's approval.**

So here are the constituents of Chlorella that can support bowel health.

- **Fibre** - Chlorella has high fibre content, because of its cellulose triple-layer outer cell wall, which binds to toxins and escorts them out through the gut.
- **Essential fatty acids** – needed for digestion and stool formation
- **Magnesium** – works with calcium to regulate muscle tone
- **Vitamins A, C and E** – aids colon membrane healing
- **Vitamin B-complex** – vital for digesting food into correct form to generate energy
- **Vitamin B12** – aids digestion, prevents anaemia, healthy nervous system
- **Chlorophyll** – eliminates toxins and odours

The above features of Chlorella make it an excellent support for maintaining bowel health and promoting regular elimination of waste and toxic products.

Conclusion

The main take-away message of this ebook is that in our modern world it is virtually impossible to avoid being exposed to an ever increasing toxic load.

Chlorella is an affordable and readily available food-form dietary supplement that has extraordinary, scientifically documented, detoxification powers. (See references.)

While this ebook has focused on the detoxification processes supported by Chlorella, remember that this remarkable superfood also works to counter many of the effects of sub-optimum health due to sedentary life styles and/or poor nutrition when you just feel "under-par", before being able to put your finger on a specific health problem.

Used at this stage, or ideally even before, Chlorella is the perfect superfood that can be taken so that "prevention is better than cure".

As a regular user myself for several years, I commend it to you.

Learn more about the benefits on the site below

http://www.nutrition4all.co.uk/recommends/chlorella_benefits.html

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