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## **So you want to know about Low Carb High Fat (LCHF) ...**

Well let's start with a bit of history.

Up until about 30 years ago most Western societies ate a diet containing plenty of saturated fat in the form of butter, milk, cream and fatty meats. Then on the basis of some flimsy research, the U.S initially, followed by other countries, decided to adopt a low fat diet. It seemed to make sense and was an easy concept to sell – fatty foods lead to fat people with fatty arteries leading to cardiovascular disease.

The only problem is that it hasn't worked! In the last thirty years coinciding with the switch to a low fat diet, the incidence of obesity and Type 2 diabetes has steadily increased.

The reason for this is that the cause of obesity and diabetes is probably excess carbohydrates rather than excess fat. The low fat mantra and its associated food pyramid has resulted in increased carbohydrate intake in the form of grains, cereals, bread, pasta, rice etc. In addition, in many "low fat" foods when the fat was removed, the manufacturers replace it with carbs such as high fructose corn syrup to improve the taste.

To understand all this we need to look at what happens when we eat carbs. When eaten, carbs are broken down to their simplest form – glucose - in the gut and absorbed into the bloodstream. To keep the blood glucose levels down, the hormone insulin is secreted from the pancreas. Insulin, which is the hormone that is absent in Type 1 diabetes, causes the glucose to be taken up by tissues such as liver

and muscle as glycogen to provide energy. However insulin causes excess carbohydrate to be stored as fat

Most young people metabolise carbohydrate quite well, but over time especially when exposed to large amounts of carbs, many of us becomes carbohydrate or insulin resistant. In other words insulin becomes less effective, with the result that blood sugars are elevated (Type 2 diabetes) and obesity develops.

So it makes sense to reduce carbohydrate intake. At the same time it is important to replace the carbohydrate with an alternative energy source – fat. Fat has been demonized over recent years but there are good fats and bad fats. Certainly the trans fats found in margarine and vegetable oils should be avoided, but there is no evidence that saturated fat is associated with cardiovascular disease.

A diet low in carbohydrates and high in “good” fats, has been shown to be very effective in weight loss. There is also evidence that it reduces the likelihood of developing Type 2 diabetes, fatty liver and possibly other diseases such as dementia, Alzheimers disease and some forms of cancer.

An LCHF diet includes lots of tasty enjoyable foods such as eggs, meat, dairy and green vegetables (see next page for more details). The first thing you notice on an LCHF diet is reduction in hunger because you are not getting spikes of blood glucose levels – they are far more constant. Many people also comment that their gastrointestinal symptoms – abdominal discomfort, bloating - are reduced.

The first week or two of LCHF can be difficult while the body adapts to using fat rather than carbohydrate as its major source of fuel. You may experience cravings or some abdominal discomfort and bloating, but these usually only last a week or two. Once you have adapted, your energy levels will usually improve, you will be markedly less hungry, abdominal symptoms such as bloating will disappear and you will start losing weight. There are lots of enjoyable, tasty foods that are suitable for a LCHF diet so sustaining the diet is not a problem.

# EATING LCHF

## EAT NATURAL FOODS & AVOID PROCESSED FOODS

### **EAT ALL YOU LIKE ...**

- Eggs
- Meat – beef, lamb, pork, chicken (preferably pasture fed not grain fed)
- Bacon
- Fish esp cold water fish (salmon, sardines)
- Vegetables that grow above ground – incl all cabbage (cauliflower, broccoli, cabbage and Brussels sprouts). asparagus, zucchini, eggplant, olives, spinach, mushrooms, cucumber, lettuce, avocado, onions, peppers, tomatoes
- Berries – strawberries, raspberries, blackberries, blueberries
- Dairy – full fat milk, cream, butter, cheese, Greek yoghurt
- Drinks – water, coffee, green tea, beef broth
- Nuts – almonds, walnuts, Brazil nuts, hazelnuts, macadamia

### **Cook with ....**

- Olive oil
- Coconut oil
- Butter

### **AVOID ...**

- Sugar - soft drinks, candy, juice, sports drinks, chocolate, cakes, buns, pastries, ice cream
- Breakfast cereals
- Bread and related products (biscuits, crumpets, muffins, cakes)
- Rice
- Potatoes and other starchy vegetables
- Pasta
- Margarine
- Beans and legumes
- Most fruit (exc berries)
- Fruit juices
- Flavoured yoghurts
- Beer

### **Don't cook with ....**

- Vegetable oil
- Seed oils (canola, sunflower, safflower, cottonseed, grapeseed oil etc)

### **Have occasionally**

- Alcohol – red or white wine, spirits
- Chocolate – >70% cocoa

## **FREQUENTLY ASKED QUESTIONS (FAQs)**

### **What is the difference between Paleo, Atkins and LCHF**

Paleo is a diet based on the way our ancestors used to eat. It is similar to LCHF, the main difference is that Paleo does not include dairy. Atkins is in effect an LCHF diet.

### **What is a Banting diet?**

The Banting diet is another name for LCHF named after William Banting who first described it in the 19<sup>th</sup> century.

### **What effect will the LCHF diet have on my blood lipids?**

Adopting an LCHF diet usually results in a significant decrease in triglycerides and an increase in HDL (good) cholesterol. Total and LDL cholesterol usually remain about the same. It results in increased particle size which has been associated with reduced risk of cardiovascular disease.

### **I am a Type 1 diabetic, is LCHF good for me?**

Adopting an LCHF diet will give better glucose control and most likely lead to reduction in the amount of insulin required. This should only be done in consultation with the doctor managing your diabetes.

### **Is there enough fibre in the LCHF diet?**

Seeds, nuts and green vegetables provide sufficient fibre.

### **Do I need to eat extra salt**

Because so many processed foods have added salt, reducing the amount of these foods, significantly reduces salt intake. You may wish to add salt to your food.

### **How low should I go with my carbohydrate intake**

The average Westerner consumes around 300gm of carbs per day. Everyone should aim to reduce that amount. The lower your carb intake, the more effective your weight loss and an intake of 30-50gm should lead to significant weight loss. For those just wanting the health benefits of LCHF without weight loss then a carb intake of around 50-100gm/day is appropriate.

### **What is nutritional ketosis and the ketogenic diet?**

Ketosis is a state where due to the minimal intake of carbohydrate the body's main energy source is ketone bodies - a product of fat metabolism. Ketosis is usually associated with a carb intake of less than 50gm/day.

### **Does the brain need glucose?**

Even with minimal carb intake the body can maintain sufficient blood glucose for the brain through a process called gluconeogenesis. However it has also been shown that the brain can function perfectly well using ketone bodies as its primary energy source. In fact an LCHF diet has been the recommended treatment for many years for childhood epilepsy and is now being investigated in the management of other brain disorders.

### **Can I eat LCHF in restaurants?**

It is very rare that a restaurant menu does not contain LCHF options such as meat, fish or vegetables. When ordering main dishes that usually come with potatoes, just request extra vegetables instead.

### **Are any fast foods suitable for LCHF?**

Fast foods are generally of poor nutritional quality, however possible options include salads, hamburgers without the bun, and Asian dishes without rice.

### **What fruit can I eat?**

Most fruit contains fructose - a carbohydrate even more harmful than glucose. Berries are the most suitable fruit. Fruit juices are full of sugar and should be avoided.

### **Can an athlete perform well on LCHF?**

An endurance athlete can perform just as well if not better of LCHF as fat is a very efficient fuel and, unlike carbohydrate, there is no limit to its stores. For high level intermittent activity such as football, basketball etc, it may be necessary to supplement with carbohydrate before and during competition, but it is a matter of trial and error.

### **Does a high consumption of meat lead to increased risk of cancer?**

There have been some concerns about an association between high red meat intake and some cancers, but the evidence is not convincing. It is probably only when overcooked. One should eat a mixture of red and white meat as well as fish.

### **Can I eat LCHF while pregnant?**

There is no risk to pregnancy from an LCHF diet.

### **What about children?**

Restricting carbohydrates during childhood helps prevent childhood obesity which frequently leads to adult obesity. Childhood diseases such as ADHD have been linked to excessive carbohydrate especially sugar intake.

## **LCHF Resources**

### **BOOKS**

*The Diet Delusion* (in USA Good Calories, Bad Calories) by Gary Taubes  
*Why We Get Fat : And What to Do about It* by Gary Taubes  
*The Real Meal Revolution* by Tim Noakes et al  
*The Big Fat Surprise* by Nina Teicholz  
*Fat Chance: The Hidden Truth About Sugar, Obesity and Disease* by Dr. Robert Lustig  
*Pure White and Deadly: How Sugar is Killing Us* by Robert Lustig  
*Wheat Belly* by William Davis  
*Grain Brain* by David Perlmutter  
*The Art and Science of Low Carbohydrate Living: An Expert Guide to Making the Life-Saving Benefits of Carbohydrate...* Jeff Volek & Stephen Phinney  
*The Art and Science of Low Carbohydrate Performance* by Jeff Volek & Stephen Phinney  
*New Atkins for a New You* by Westman, Volek & Phinney  
*Cholesterol Clarity: What The HDL Is Wrong With My Numbers?* by Jimmy Moore  
*The Great Cholesterol Con* by Dr Malcolm Kendrick  
*Escape the Diet Trap* by Dr. John Briffa  
*Death by Food Pyramid* by Denise Minger  
*Salt, Sugar, Fat* by Michael Moss  
*The Primal Blueprint: Reprogramme your genes for effortless weight loss, vibrant health and boundless energy* by Mark Sisson  
*The Paleo Diet: Lose Weight and Get Healthy by Eating the Foods You Were Designed to Eat* by Loren Cordain  
*The Paleo Diet for Athletes* by Loren Cordain and Joe Freil  
*The Paleo Solution* by Robb Wolf  
*Your Personal Paleo Code* by Chris Kresser  
*I Quit Sugar for Life* by Sarah Wilson

### **MOVIES**

Cereal Killers <http://www.cerealkillersmovie.com>  
Fat Head [www.fathead-movie.com](http://www.fathead-movie.com)

### **YOU TUBE VIDEOS**

Tim Noakes  
[http://www.youtube.com/watch?v=5IYVldztWWs&feature=youtu.be&desktop\\_uri=%2Fwatch%3Fv%3D5IYVldztWWs%26feature%3Dyoutu.be&app=desktop](http://www.youtube.com/watch?v=5IYVldztWWs&feature=youtu.be&desktop_uri=%2Fwatch%3Fv%3D5IYVldztWWs%26feature%3Dyoutu.be&app=desktop)  
Grant Schofield <http://www.youtube.com/watch?v=j9Ovfw7mKR0>  
Gary Taubes <http://www.youtube.com/watch?v=IDneyrETR2o>  
David Perlmutter "Grain Brain" <http://www.youtube.com/watch?v=w2c2Oq-Pi2o>  
William Davis "Wheat Belly" <http://www.youtube.com/watch?v=UbbURnqYVzw>  
Jeff Volek <http://www.youtube.com/watch?v=GC1vMBRFiE>  
Peter Brukner <http://www.youtube.com/watch?v=JMuD4Z-Oxys>  
Peter Attia – diabetes <http://www.youtube.com/watch?v=UMhLBPptlrY>  
Robert Lustig – sugar <http://www.youtube.com/watch?v=dBnniua6-oM>  
<http://www.youtube.com/watch?v=m8dWNBescOw>  
Mary Vernon <http://www.youtube.com/watch?v=kaquSijXJkQ>

Chris Kresser <http://chriskresser.com>  
Gary Fettke <https://www.youtube.com/watch?v=TVIPcl1pCj0>  
<https://www.youtube.com/watch?v=BtH7Y4eNV2s&feature=youtu.be>

#### **PODCASTS**

Tim Noakes on endurance exercise <http://www.youtube.com/watch?v=iFxz7YFjycg>  
Tim Noakes and Peter Brukner <https://soundcloud.com/bmjpodcasts/high-fat-for-health?in=bmjpodcasts/sets/bjasm-1>

#### **WEBSITES**

<http://www.dietdoctor.com/lchf>  
<http://lowcarbdiets.about.com>  
<http://robbwolf.com>  
<http://www.marksdailyapple.com>  
<http://garytaubes.com>  
<http://lavinlavidalowcarb.com>  
<http://eatingacademy.com>  
<http://authoritynutrition.com>  
<http://denversdietdoctor.com>  
<http://www.artandscienceoflowcarb.com>  
<http://www.drbriffawellness.com>  
<http://www.naturalketosis.co.uk>  
<http://www.iquitsugar.com>  
<http://www.NoFructose.com>

#### **SCIENTIFIC PAPERS**

Summary of 23 studies on LCHF and weight loss  
<http://authoritynutrition.com/23-studies-on-low-carb-and-low-fat-diets/>