

## Food for thought – Low Carb High Fat diet

Recently, Runners World headlined an article concerning a 'new' diet for runners: low-carb, high-fat (LCHF). This lively account of training for, and running, a marathon under this regime makes interesting reading. Just to put the record straight though, LCHF isn't a new idea, particularly for ultra-endurance events.

Long before ultra's were recognised, Arctic explorer Frederick Schwatka and 12 Inuit companions embarked on a record-setting 3,200-mile sled journey across the frozen tundra in 1879. To fuel themselves during the 11 month expedition, the men killed and ate reindeer, musk oxen, polar bears and seals. In short, their diet was tons of fat and practically zero carbs.

More recently, it has been recognised that runners can store about 2,500kcal in the form of glycogen (i.e. carb) and that will fuel them for about 2 hours of exercise. Even the leanest athlete carries a reserve of about 50,000kcal as fat, however, and it is hypothesised that fat adaptation could be a very useful strategy to augment fuel stores during endurance events.

The early studies on fat adaptation did show that endurance performance could be equalled. For example, cyclists achieving more than 80% of their calorie intake from fats performed just as well in a 2.5 hour time trial as they did on a traditional high carb diet. But, and it's a very significant but, their sprinting capabilities were compromised. They had increased their fat burning metabolism at the expense of their carb burning.

It has been shown that the fat adaptation diet actually reduces one of the key enzymes involved in the pathway that produces energy from carbs. In sports that require high intensity performance, this is too great a sacrifice to make.

One of the supporters of the LCHF diet is Tim Noakes, sports scientist and author (Lore of Running; The Real Meal Revolution). He is one of the scientists who consider that the fat adaptation strategy comes into its own for ultra events, i.e. endurance beyond the marathon. With the increase in popularity of long races without aid stations, a strategy that doesn't involve carrying gels or other sources of carbs has obvious advantages.

Individual athletes have achieved some great performances on high fat diets: Ben Greenfield completed Iron Man Canada in under 10 hours in 2013, whilst consuming almost no carbs; racewalker Evan Dunfee qualified for the Rio Olympics and broke the Canadian 50km record last December after training on a high fat diet.

Dunfee is part of a controlled study in elite racewalkers that is ongoing in Australia. The final results will make interesting reading but it is worth noting that not everyone can cope with the high fat diet. Dunfee switched back to carbs two weeks before his

race and another member of the study group felt terrible throughout the training period and then dropped out of the race.

Almost all runners are accustomed to high carb diets. It is a big decision to switch to a high fat diet. Even the fans of LCHF diets tend to include carbs in a cyclical pattern or as race preparation. As amateur athletes, or recreational runners, we should also recognise the role that food and drink play in our lives outside of running – thinking of pies, beer/wine and cake to mention just a few items, and the social events that surround food!

Reference: <http://www.runnersworld.co.uk/nutrition/can-eating-more-fat-make-you-a-better-runner/14630.html>

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