



## **WILLIAM BANTING: The Father of the Low-Carbohydrate Diet**

**Whether we like it or not Low Carb Diets are here to stay. It matters not if we blame Atkins, Willett, the Hellers or even Suzanne Summers there is going to be someone who will be touting Low Carb Diets for our patients and there will be controversy. But where it all start.**

### **Part III The Banting Diet Is Confirmed**

Banting's Letter on Corpulence travelled widely. In the 1890s, an American doctor, Helen Densmore, modelled diets on Banting.

She tells how she and her patients lost an average 10-15 lbs (4.5-6.8 kg) in the first month on the diet and then 6-8 lbs (2.7-3.6 kg) in subsequent months 'by a diet from which bread, cereals and starchy food were excluded'. Her advice to would-be slimmers was: 'One pound of beef or mutton or fish per day with a moderate amount of the non-starchy vegetables given above [tomatoes, lettuce, string beans, spinach and such] will be found ample for any obese person of sedentary habits'.

Dr. Densmore was scathing of those others of her profession who derided Banting's diet. She says of them: 'Those very specialists who are at this time prospering greatly by the reduction of obesity and who are indebted to Mr. Banting for all their prosperity are loud, nevertheless, in their condemnation of the Banting method'.

#### **Real-life tests**

In 1906, Dr. Vilhjalmur Stefansson, a young Harvard anthropology teacher who later became a world-famous explorer and anthropologist, revolutionized polar exploration by crossing the Arctic alone and living off the land with the Eskimos. It was not quite what had been planned. Stefansson had gone on ahead of the Leffingwell-Mikkelson Expedition and had missed a planned rendezvous at Herschel Island. He was left to spend an Arctic winter with the Eskimos eating a diet composed only of meat and fish. Unlike the diet he had been brought up on, it contained no plant material whatsoever.

It was a golden opportunity for the young scientist to conduct an experiment into the effects of an Eskimo diet on a European unaccustomed to it. The usual Eskimo meal consisted of briefly stewed fish washed down with water. It was so different from what he was used to that at first Stefansson was repelled by it. To try to make the fish more palatable, he tried broiling it. This resulted in his becoming weak and dizzy, with other symptoms of malnutrition. Stefansson reasoned that with such a restricted diet the body had to have not just the fish but the other nutrients that had been leached out into the water. And so he tried harder. Eventually he became so accustomed to the primitive diet that, by the time he left the Eskimos, Stefansson managed as well as them. On this regime, Stefansson

remained in perfect health and did not get fat.

The experience had a profound effect on Stefansson. Like Banting before him, he became interested in the possibilities of diets high in proteins and fats and low in carbohydrates. It seemed to him that a balanced diet in which there was relatively little meat, 'balanced' by larger amounts of potatoes, bread, rice and other starchy foods followed by sweet desserts and sugared coffee might be balanced in the wrong direction. And so, like Banting, Stefansson questioned the established ideas on diet. Unfortunately, he had no more success than Banting. Although he became famous and his position as an anthropologist was unassailable, still no one took any notice of his ideas on nutrition.

Some years after his first experience with the Eskimos, Dr. Stefansson returned to the Arctic with a colleague, Dr. Karsten Anderson, to carry out research for the American Museum of Natural History. They were supplied with every necessity including a year's supply of 'civilized' food. This they declined, electing instead to live off the land. In the end, the one-year project stretched to four years, during which time the two men ate only the meat they could kill and the fish they could catch in the Canadian Arctic. Neither of the two men suffered any adverse after-effects from their four-year experiment. It was evident to Stefansson, as it had been to Banting, that the body could function perfectly well, remain healthy, vigorous and slender if it used a diet in which as much food was eaten as the body required, only carbohydrate was restricted and the total number of calories was ignored.

### **The first clinical dietary trial**

In 1928, Stefansson and Anderson entered Bellevue Hospital, New York for a controlled experiment into the effects of an all-meat diet on the body. The committee which was assembled to supervise the experiment was one of the best qualified in medical history, consisting as it did of the leaders of all the branches of science related to the subject. Dr. Eugene F. DuBois, Medical Director of the Russell Sage Foundation (subsequently chief physician at the New York Hospital, and Professor of Physiology at Cornell University Medical College) directed the experiment. The study was designed to find the answers to five questions about which there was some debate:

1. Does the withholding of vegetable foods cause scurvy?
2. Will an all-meat diet cause other deficiency diseases?
3. Will it cause mineral deficiencies, of calcium in particular?
4. Will it have a harmful effect on the heart, blood vessels or kidneys?
5. Will it promote the growth of harmful bacteria in the gut?

The results of the year-long trial were published in 1930 in the Journal of Biological Chemistry and showed that the answer to all of the questions was: no. There were no deficiency problems; the two men remained perfectly healthy; their bowels remained normal, except that their stools were smaller and did not smell. The absence of starchy and sugary carbohydrates from their diet appeared to have only good effects.

Once again, Stefansson discovered that he felt better and was healthier on a diet that restricted carbohydrates. Only when fats were restricted did he suffer any problems. During this experiment his intake had varied between 2,000 and 3,100 calories per day and he derived, by choice, an average of eighty percent of his energy from animal fat and the other twenty percent from protein.

One interesting finding from a heart disease perspective was that Stefansson's blood cholesterol level

fell by 1.3 mmol/l while on the all-meat diet, rising again at the end of the study when he resumed a 'normal' diet.

But the published results had little effect on the people trying to lose weight in 1930. A diet that allowed as much meat as one could eat and also allowed a large proportion of fat must contain lots of calories. To the average slimmer, lots of calories meant putting on weight.

### **The evidence mounts**

In 1933, a clinical study carried out at the Royal Infirmary, Edinburgh studied the effects of low- and high-calorie diets, ranging from 800 to 2,700 kcals.

Average daily losses:

- ? high carb/low fat diet - 49g [like a modern slimming diet]
- ? high carb/low protein - 122g
- ? low carb/high protein - 183g
- ? low carbohydrate/high fat - 205g

Drs Lyon and Dunlop pointed out that:

'The most striking feature of the table is that the losses appear to be inversely proportionate to the carbohydrate content of the food. Where the carbohydrate intake is low the rate of loss in weight is greater and conversely.'

In other words, the less carbohydrate was eaten, the greater was the amount of weight lost.

In 1955 Dr Albert Pennington in the USA also found that: 'weight loss appeared to be inversely related to the amount of glycogenic materials in the diet. Carbohydrate is 100 per cent, protein 58 per cent and fat 10 per cent glycogenic.' (In other words, the more a food increased insulin production, the less weight was lost – and in this respect, to lose weight, again carbohydrate was worst and fat best.)

Pennington continued: 'The recommended diet is a calorically unrestricted one, very low in carbohydrate, high in fat and moderate in protein. Neither fat nor protein is restricted, however.'

Pennington's diet was so successful that it was reported in Holiday magazine, where it became known as 'The Holiday Diet'.

Professor Alan Kekwick and Dr Gaston Pawan had similar results: In a trial at the Middlesex Hospital, London, overweight patients:

- ? lost the most weight on a high-fat, low-carbohydrate diet
- ? lost the least weight on a high-carbohydrate, low-fat diet
- ? Lost weight even at 2,600 calories a day – but only on a high-fat diet.

In 1959, Dr John Yudkin, Professor of Nutrition and Dietetics, Queen Elizabeth Hospital, University of London, confirmed Kekwick and Pawan's findings when he showed that a diet with unlimited protein and fat, but with little or no carbohydrate was far more effective in causing weight loss than a calorie-controlled, low-fat diet.

During the 1950s, another British physician, Dr Richard Mackarness, found that the low-carb, high-fat diet was so successful with his overweight patients that he wrote a book that was in print for nearly twenty years – a feat almost unheard of in the slimming book industry.

As time passed and praising the value of fat became politically incorrect, it became more difficult to get such trials published. Nevertheless, it did happen occasionally.

Published in the year 2000, a prospective study was conducted to evaluate the effect of a low carbohydrate, high-protein/fat diet in achieving short-term weight loss. Researchers at the Center for Health Services Research in Primary Care, Durham, North Carolina, reported data from a six-month study that included fifty-one individuals who were overweight, but otherwise healthy. The subjects received nutritional supplements and attended bi-weekly group meetings, where they received dietary counselling on consuming a low-carbohydrate, high-protein/fat diet. After six months, they had lost, on average, more than ten percent of their weight and (remember this for later) their total cholesterol dropped by an average 10.5 mg/dl (0.27 mmol/l).

Twenty patients chose to continue the diet after the first six months, and after twelve months, their mean weight loss was 10.9 percent and their total cholesterol had decreased by 14.1 mg/dl (0.37 mmol/l).

Dr William S. Yancy, M.D. admitted that:

'This study of overweight individuals showed that a low carbohydrate, high-protein/fat diet can lead to significant weight loss at one year of treatment.'

All these recommendations and evidence could have saved a great deal of grief, trauma and ill-health if two other doctors had been listened to in 1994.

Writing in the British Medical Journal, Professor Susan Wooley and Dr David Gardner highlighted the role of the professional in people's increasing weight. They said:

'The failure of fat people to achieve a goal they seem to want – and to want above all else – must now be admitted for what it is: a failure not of those people but of the methods of treatment that are used.'

In other words, blaming the overweight for their problem and telling them they are eating too much and must cut down, is simply not good enough. It is the dieticians' advice and the treatment offered that are wrong. Wooley and Garner concluded:

'We should stop offering ineffective treatments aimed at weight loss. Researchers who think they have invented a better mousetrap should test it in controlled research before setting out their bait for the entire population. Only by admitting that our treatments do not work – and showing that we mean it by refraining from offering them – can we begin to undo a century of recruiting fat people for failure.'

But of course there is a 'better mousetrap'. William Banting wrote of it nearly a century and a half ago.