



Cambridge Weight Plan gives improved nutritional status and maintained bone health as well as effective weight loss and weight maintenance in older obese people with knee osteoarthritis.

Nutritional status may be impaired in older people through inadequate intake and reduced absorptive capacity. Among obese people repeated cycles of self-selected, weight-reducing diets with restricted food selection may also result in poor nutritional status. Formula weight loss products, with bio-available components providing the full daily requirement, have the potential to improve nutritional status but this has hardly been investigated. In the Copenhagen study on weight reduction in elderly people with osteoarthritis of the knees, vitamin D levels after a 16-week weight-reduction programme were about one-third higher than at baseline (Christensen P, et al. 2011). Vitamin B12 was significantly raised by about 15% and ferritin was slightly but not significantly raised. Bone mineral density and bone mineral content determined by DEXA scanning were maintained, whereas with weight loss some reduction would have been expected. These recently published findings now add a new dimension to the results published so far.

A Cambridge Weight Plan dietary programme with a one-year maintenance programme used in older obese people with knee osteoarthritis has been shown to:

- Reduce body weight effectively: more than 12% of initial body weight at 16 weeks (Riecke BF, et al. 2010)
- Reduce symptoms (pain) effectively, enabling more activity
- Maintain body weight loss for one year (Christensen R, et al. 2010)
- Improve vitamin D status (at the end of the 16-week weight loss programme)
- Maintain bone density and bone mineral content (at 16 weeks)

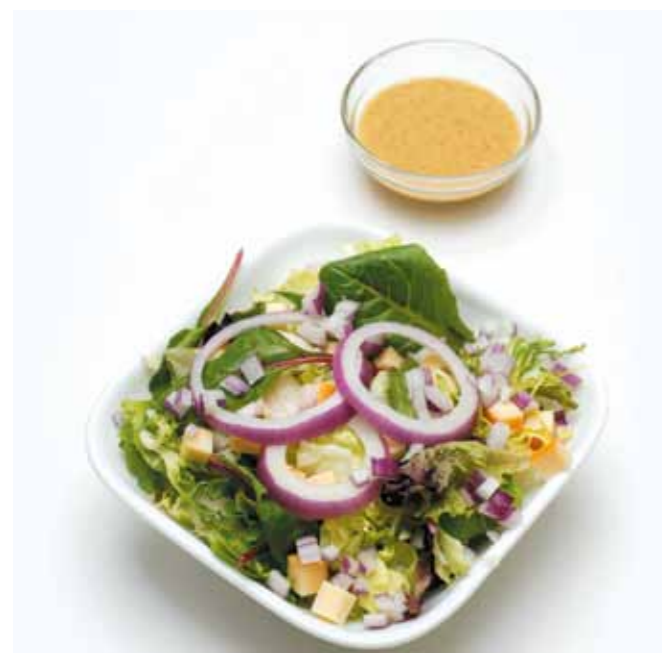
Cambridge Weight Plan gives effective weight loss and symptomatic improvement in just four months, with improved nutritional status and maintained bone health in older obese people with knee osteoarthritis.

References:

- Christensen R, et al. Efficacy of Dieting or Exercise versus Control in obese osteoarthritis patients after a clinically significant weight loss: pragmatic randomised controlled trial. Abstracts EULAR 2010 Rome June 2010
- Riecke BF, et al. Comparing two low-energy diets for the treatment of knee osteoarthritis symptoms in obese patients: a pragmatic randomised clinical trial. *Osteoarthritis and Cartilage* 2010 Feb 17 [E pub ahead of print] 10/1016/j.joca
- Christensen P, et al. Improved nutritional status and bone health after diet-induced weight loss in sedentary osteoarthritis patients: a prospective cohort study *European Journal of Clinical Nutrition* (2011) doi:10.1038/ejcn.2011.201

It's in the genes

New research suggests that the old adage of “eat less; exercise more” may not be enough to combat the strong biological and genetic factors now known to be associated with overweight and obesity.



Firstly, scientists headed by Kathleen Keller, a professor at Penn State, attempted to discover whether some people have a genetic predisposition to prefer fatty foods. From a cohort of 317 individuals they discovered that the 21% of them that had the “AA” version of the CD36 gene self-reported a preference for dressings with a higher fat content. During the experiments the participants with the “AA” version of the gene consistently reported the taste of dressings as “creamier” than those participants with other versions of the gene.

The researchers concluded that having a genetic predisposition to prefer or enjoy the taste of high-fat foods, more than someone with a different gene version, could be detrimental to a person's health in today's world of convenient high fat food, as low-fat alternatives would appear to be much less palatable and unfulfilling than their fatty counterparts, leading to a difficulty in adhering to low-fat weight loss regimens.

Meanwhile, at the Cincinnati diabetes and obesity centre, researchers have discovered a link between a high-fat diet and the action of leptin in the brain. Leptin is a hormone that is released from fatty tissue and its main function is to help inhibit appetite. Unfortunately, the researchers have discovered that eating a high fat diet actually reduces the action of Leptin in the brain, which can lead to increased food intake for an individual and therefore lead them to gain weight.

Evolutionarily speaking, our predispositions to prefer fatty food and gain weight is a legacy of a past where food was scarce and therefore it was important to eat as much as you could – when you could – to improve your chances of survival. These same survival mechanisms when operating in a world of plentiful, cheap, energy-dense food (such as we find in most developed nations today) could be a direct contributory factor to the prevalence of overweight and obesity, as our biology works against our efforts to maintain a healthy weight.

Dr Seeley, head of the research team concluded:

“As we understand the molecular interaction between what we eat and these brain circuits that regulate our body weight, we can design interventions that reduce the body weight that our bodies defend.”

Finally some good news for dieters!

A new study conducted by Tel Aviv University has concluded that eating a sweet dessert at breakfast time (examples given were chocolate cake or a biscuit) actually aids weight loss and leads to better maintenance of lost weight.

The researchers suggest that dieters who completely abstain from indulgent food run the risk of psychological cravings, which may become too strong to ignore. Couple this with the feelings of hunger or deprivation that often accompany a dieters daily struggle and it is easy to see how dieters “fall off the wagon.” The researchers argue that allowing an indulgent treat every day leads to less temptation to cheat, and therefore better weight loss and maintenance in the long run.

The researchers argued that there are good reasons why breakfast is the best time of day to indulge – the body's metabolism is naturally more active in the morning to give us our energy required for the day – therefore it is easier to “burn off” the extra calories. Ghrelin, the hormone that increases hunger, is also most successfully regulated at breakfast time, helping to keep hunger at bay for the rest of the day.

The study aimed to determine whether meal time and composition impacted weight loss in the short and long term. For the study, a hundred-and-ninety-three clinically obese adults without diabetes were put on an intake of 1600kcal a day for men or 1400kcal a day for women. One group was given a low-carbohydrate diet, including a small breakfast of around 300kcal; the second group was given a 600kcal breakfast – higher in carbohydrate and protein and including a dessert item.

At the halfway point of the study, the average weight loss was 33lbs across both study groups, however, by the end of the study (32 weeks) the weight loss in the first group averaged 11lbs per person, while in the second group it averaged 48lbs.

The researchers concluded that the higher amounts of carbohydrate and protein in the second groups' diet plan contributed to feelings of satisfaction and “fullness”, which encouraged the second group to stick to the plan, and the addition of a sweet item successfully removed the cravings for sweet or unhealthy foods later in the day. **“Curbing cravings is better than deprivation for weight loss success”**, concluded the head of the research team Professor Daniela Jakubowicz.

Source: <http://www.afau.org/site/News2?page=NewsArticle&cid=15967>



Diabetes case study:

Charlotte can now manage her diabetes using diet alone

Charlotte had struggled with her weight for many years: a typical yo-yo dieter she tried many different diets to try and maintain a healthy weight, however, the pounds always crept back. At 65 years old her weight was limiting her mobility, and she suffered from Asthma, Chronic Bronchitis and COPD. She was first diagnosed with Type 2 diabetes in 1994 and by 2011 her GP had to add an insulin injection to her medication regime to help control her blood sugars. At this time her weight was 109kg giving her a BMI of 41.

Her son Andy had lost over two stone on Cambridge Weight Plan and suggested she contact a local Consultant to see if she was suitable. Cambridge Weight Plan has a specific medical protocol for customers with diabetes, due to the complexity of their condition and the risk of destabilising their blood sugar levels. Cambridge Consultants must undergo extra training to support customers with diabetes and follow the protocol (briefly outlined in fig 1.) to safeguard customers' health.

Charlotte started on Step 5 of Cambridge Weight Plan on 7 January 2011. Step 5 offers 1500kcal a day, using a combination of one Cambridge product (shakes, soups, porridges or bars) of around 140kcal, and three calorie-controlled, low GI, balanced meals created from an allowed foods list. As per protocol, she continued on this Step for two weeks to minimise the risk of destabilising her blood sugar levels before stepping down to Step 4 of the Programme (1200kcal a day), using a combination of two Cambridge products and three meals of the type described above. After another two weeks she stepped down again to Step 3 (1000kcal a day) and it was at this Step that Charlotte remained for the rest of her weight loss journey. Customers with Type 2 diabetes on a combination of medication are not allowed to follow a Programme that provides less than 810kcal a day (Step 2 of Cambridge Weight Plan). However, the Plan allows for a greater flexibility and individual customers are free to choose a Step that complements their lifestyle, and still be assured of safe and effective weight loss.

Over the coming months, as Charlotte's weight reduced, her GP carefully monitored her insulin levels until withdrawing it completely in September 2011 (see fig 2). This was a milestone for Charlotte and made her more determined to reach her healthy goal weight, which came in January 2012, along with a withdrawal of her other diabetes medication (Metformin). Over twelve months Charlotte has lost an amazing 41.5kg, taking herself from a BMI of 41 to a BMI of 25.5 and is now able to manage her diabetes using diet alone.

Figure 2.

DATE	WEIGHT (Kg)	BMI	AVERAGE BLOOD SUGAR	MEDICATION
07.01.2011	109	41	5.2	Metformin 500mgs BD, Insulin 30 units OD
17.01.2011	107	40.3	3.2	
21.01.2011	107	40.3	3.3	Insulin reduced to 28 units
08.02.2011	106	39.9	4.4	
27.02.2011	103	38.8	3.9	Insulin reduced to 26 units
13.03.2011	101	38	4.2	Insulin reduced to 22 units
21.04.2011	99	37.3	4.6	
02.05.2011	99	37.3	3.8	
15.05.2011	96	36.1	4.5	Insulin reduced to 18 units
31.05.2011	95	35.8	4.9	
11.06.2011	94	35.4	4.7	Insulin reduced to 16 units
24.06.2011	91	34.3	4	
05.08.2011	85	32	4.7	Insulin reduced to 6 units
23.08.2011	83	31.2	4.5	Insulin reduced to 4 units
02.09.2011	80	30.1	5.8	Insulin stopped
11.09.2011	79	29.7	6.4	
27.11.2011	71	26.7	5.5	
31.01.2012	67.5	25.5	Not known	Metformin stopped

We asked Charlotte how her life had changed since losing the weight. She commented:

“My life has changed dramatically. I used to feel like an old lady and I needed a walking stick to get around. When I tried to exercise any incline was a big effort, and I would often have to stop and catch my breath. I've always loved walking, and now I can walk without a stick and I feel like I'm sprinting! I no longer need to use my inhaler like I used to and I can keep up with my grandchildren. I even enjoy taking a walk into town instead of having to take the bus, and I can walk and talk at the same time, which was impossible before I lost the weight. My life has completely changed.”

Figure 1.

Brief summary of Diabetes Protocol for Cambridge Consultants

- Consultants must attend follow-up training before agreeing to support any customers with diabetes
- Customers who are on any medication with a hypoglycaemic risk must be prepared to check their blood sugar levels daily for the duration of their weight loss
- Customers must agree to step down in two weekly intervals (provided their blood sugar level is stable after that time) to a suitable programme for their condition
- Consultants must provide updates on weight, medication, blood sugar levels and any other important information to the trained medical advisors at Head Office weekly for the first four weeks then fortnightly thereafter for every customer with diabetes. (The medical advisors are also available to give extra advice and support if needed)
- If a customer has Type 1 diabetes they are not allowed to undertake a programme that provides less than 1000kcal a day
- If a customer has Type 2 diabetes treated with more than just Metformin they are not allowed to undertake a programme that provides less than 810kcal a day
- If a customer has Type 2 diabetes treated with Metformin only or controlled by diet they are allowed to undertake any Cambridge Programme including a VLCD, and due to the minimal risk of hypoglycaemia do not need to “step down” or monitor their blood sugar levels



What is Cambridge Weight Plan?

Formerly known as the 'Cambridge Diet', the programme is synonymous in the minds of many healthcare practitioners with very low-energy diets (VLEDs).

Developed by Dr Alan Howard as a formula VLED, this does remain the greater part of its present day usage. However, about ten years ago it evolved into a more flexible series of dietary energy intake levels (1500, 1200, 1000, 810, 615, 440kcal/d), allowing titration of energy intake against the client or patient's response.

This is interesting historically, because in the late nineteenth century a step-wise titration upwards of dietary energy was offered to people with diabetes, following a fast to clear the urine of reducing sugars. Now, this

remarkably precise titration process (precise because it includes formula food products rather than non-formula foods alone) can be applied with a step-wise reduction or increase of energy intake according to need.

Very low-energy diets (VLEDs) give the most effective weight losses, but sometimes a part formula and part food diet can achieve remarkable weight loss. Dietary adherence tends to be poorer at the higher energy intake levels and patients tend to be hungrier, but nevertheless energy intake levels above 800kcal/d can give good results.

The gradually accumulating scientific literature on the efficacy of VLEDs indicates that it is highly likely that the potential applications of VLEDs and part-food, part-formula food low-energy diets (LEDs above 800kcal/d) will be more widely appreciated. The 2000s may well be the decade of bariatric surgery, but the 2010s could be the decade of effective diets.

Contact us ...

If you would like to know more about Cambridge Weight Plan, please contact Teresa Collier, Medical Sales Manager, on **07584 503527**.

