

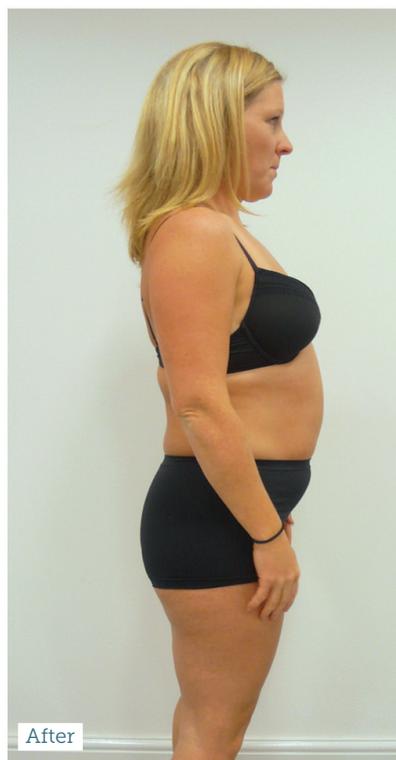
Combining cavitation with diet and exercise

Dr Martyn King discusses the benefits of the 3D-Lipolite medical program

In England, 61.3% of adults are overweight or obese, putting them at higher risk of getting type 2 diabetes, heart disease and certain cancers. Excess weight can also make it difficult for people to find and keep employment, and can affect self-esteem and mental health. Health problems associated with being overweight cost the NHS more than five billion pounds every year. Weight loss is a thriving industry, with global equipment sales for body contouring devices surpassing billion dollars last year in the UK. Technology has rapidly advanced, but to achieve a significant weight loss, the answer lies not only in technology and procedures, but also with a focus on diet and exercise. Our body strives to balance blood sugar levels in a narrow therapeutic range by a variety of hormones, yet often our diet is fighting against

this process. If blood sugar levels go too high, this leads to arterial damage and conversion to fat. If levels go too low, this leads to low mood, tiredness and poor concentration. The key to an optimum diet is through balancing blood glucose levels by eating the right amount of food at the right times. Calories are important in weight loss, but restricting calorific intake too much is detrimental as it can lead to reduced muscle mass and strength, reduced bone mineral density and increased fracture risk. Exercise has to be appropriate and tailored on an individual basis. Excessive exercise for someone who is overweight or not used to exercise is likely to result in strain on the cardiovascular system. Non-surgical technologies available for treating fat and cellulite include cryolipolysis, cavitation, radiofrequency, light treatments and vacuum rolling. Cryolipolysis is based on the principle that fat cells are destroyed by low temperatures, whereas the dermis and epidermis are somewhat resilient. Fat cells are targeted by thermal conduction through the skin and frozen to at least -5°C , where they are destroyed and removed by the body over a few weeks. Cavitation is the application of low frequency ultrasound, which produces a strong wave of pressure that specifically targets the membranes of fat cells. The cell membranes vibrate

and disintegrate, leading to the death of the adipocyte. Radiofrequency energy can be targeted to the sub-dermal fatty layer where it is converted into heat and leads to cell destruction. It also targets collagen fibres causing contraction. A clinical study was carried out to investigate the effectiveness of combining technology, prescription diet, physical exercise and biometric monitoring to achieve optimum weight loss. The study was conducted at Cosmetic Skin Clinic by myself, Dr Martyn King, and Sharon King RN NIP. Ten patients were recruited into the study after a medical assessment. Initial recordings were taken, including blood investigations, biometric measurements (Tanita Segmental Body Composition Scales), Health and Wellbeing scores (The Warwick-Edinburgh Mental Well-Being Scale), urine testing, blood pressure and photography. Each patient had a unique treatment plan based on their targets, Basal Metabolic Rate (BMR) and exercise capabilities. The diet program, created with the aid of a nutritionist, centred on eating 25% starchy carbohydrate, 25% protein, 45% greens and 5% dressing for main meals. The diet consisted of a milkshake at 7am, a snack at 10am, a soup sachet at 1pm, a milkshake at 4pm





and a meal at 7pm. If required, a further snack was allowed at 10pm. The soups and milkshakes contained a special formulation developed specifically for the study to encourage weight loss and provide essential vitamins and nutrients. The essence of the diet was to maintain a healthy, balanced blood glucose level throughout the day without peaks or troughs. Patients were advised to try and have something to eat or drink every three hours. A combination of technologies was used to target specific body areas. The majority of treatment consisted of cavitation, although cryolipolysis and radiofrequency were also used where it was deemed beneficial. During the program the average number of treatments received by each patient was 17.1. Exercise was agreed using the F.I.T.T. principle (Frequency, Intensity, Time and Type) and concentrated on different domains (aerobic exercise, resistance training, functionality, mobility and flexibility). Physical activity was assessed using the Borg scale, which

subjectively gauges perceived exertion, and ranges from six (no exertion at all) to 20 (maximum exertion). Exercise ranged from getting out of a chair without using the arms, to intense gym sessions with a personal trainer. Patients attended on a weekly basis for their treatment, with medical assessments carried out monthly. At the end of the four-month period final measurements were taken. The average starting weight of the patients on the study was 104.2kg and the average weight loss obtained was 12.6kg (range 7.7-24.3kg), which equates to an average percentage loss of 12.5% (range 9.0-21.2%). The average reduction in waist circumference was 13.8cm (range 7.0-26.5cm) and hip circumference 11.5cm (range 6.5-22.5cm). Blood pressure measurements improved on average by 13.4mmHg systolic (range -2-34mmHg) and 7.8mmHg diastolic (range -2-27mmHg). Total cholesterol levels showed an average 1.1mmol/L point reduction although HbA1c only showed a 0.07% change. Health and wellbeing scores

demonstrated a 15.6% improvement from baseline. A main benefit of the combined treatment was the ability to contour the body. Exercise and diet can produce weight loss but patients are often left with sagging skin, or they may have not lost weight from the desired area. This can be targeted using non-surgical technology. The program, now available to clinics, comes with specific training on the diet and exercise regime required to ensure weight loss occurs effectively and safely. Clinics and patients receive web-based or printed booklets explaining diet allowance, suggested snacks, recipes and exercise programmes. Due to the success of the program, patients were offered to continue the trial for a further two months and then participation in a maintenance phase. This consisted of continuation on the prescribed diet with supplements, and continuing with the exercise program but without weekly treatments. They will continue to be monitored by the clinician on a monthly basis. Most diets fail to maintain weight loss long-term, but we hope that the maintenance phase will enable our patients to do just this.

Dr Martyn King is owner and director of Cosmedic Skin Clinic and medical director of Cosmedic Pharmacy. He



is chair of the Managing Aesthetics Complications Expert Group, and member of the British College of Aesthetic Medicine. Alongside his wife Sharon King, Dr King ensures that Cosmedic Skin Clinic's training academy provides independent training in all aspects of aesthetic medicine.

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Dr Martyn King has a commercial interest in the 3D lipolite medical weight loss program, which combines technology, diet and exercise and is the basis of the clinical study outlined in this article.

3D lipolite
program
A New Three Dimensional Approach to
Clinical Weight Loss and Body Contouring