PROFESSOR TRIM'S WAISTLINE

THE PROFESSOR'S FEATURES

SPRING 2005

Meal replacements (MRs) for weight loss

Do they work, and are they safe?

Meal replacements (MRs) are commercially available over-the-counter, low energy products used for weight loss. They are generally in the form of liquids, powders or bars that are fortified with vitamins, minerals and some nutrients.

Although desperate for treatments that work, MRs haven't been adopted unquestioningly by all clinicians. So why, you may ask, has the Professor deemed to use them in his latest program for men?

The answer lies not just in expediency, but in recent scientific findings based around their use.

The Professor's Point

German scientists have shown that people who live in an area with a high level of greenery are three times more likely to be active and 40% less likely to be obese. Those who live with lots of graffiti, litter and dog poo are 50% less likely to be active and 50% more likely to be obese (BMJ, 2005, 19th Aug). (Who says science is not creative?)

Reasons for past concern

Meal replacements have traditionally be made up of rather bland 'milkshape' type powders with little concern for total nutritional balance. They have also been promoted as a total replacement for all meals during the day. Finally, there has been little emphasis put on supervision, hence often leading to a 'bounce back' weight gain if discontinued after weight loss.

All of these problems have now been addressed. A new generation of meal replacements has taken advantage of the latest developments in food technology to not only provide nutritional balance, but add a healthy mix of new nutrients and ingredients, such as omega 3 and 6 fatty acids, protein and calcium. These not only provide better nutritional balance, but in some cases modify hunger, or increase energy loss.

The use of total MRs, while still viable in some cases of extreme obesity, has now also been superceded by partial meal replacements (PMRs) of one to two meals a day with at least one full meal consumed as part of a normal diet. Research shows that PMRs used twice a day are best for weight loss, while once a day is enough for weight loss maintenance.

Experienced supervision is now also regarded as vital for success with MRs. Using these can lead to a quick drop in metabolic rate. If a full weight loss program is not built around this, it can lead to a long-term gain in weight when the practice is discontinued.

Research evidence

While research on meal replacements was limited until about a decade ago, there have been a number of good studies reported since then. Several show weight losses (ie. up to 10%) for up to 5 years, without any ill effects. Comparisons with structured diet programs show MRs are about twice as effective. They also provide greater patient satisfaction, probably because of the hunger suppressing effects that are not found in a low calorie diet. MRs are also cheaper than a normal meal – or even a diet meal – and hence can be used by those on a strict budget. Research with poor Mexican Americans shows they work well and are affordable in this group.

Reducing food volume, which is the main function of MRs, has a quick effect on blood sugars. Hence they are ideal for diabetes. Blood sugars can drop within two weeks and at least one study shows this stays low for up to five years while they are being used. Work with people in stressful jobs, such as firemen and police officers shows they are also effective here.

All of these findings have been summed up in several reviews of MR use. In fact there are few other weight loss treatments that have such proven outcomes. This has been picked up by US researchers who are now four years into a 12 year study called look AHEAD (Action for Health in Diabetes), with over 5,0000 diabetic subjects. The first results from this, expected at the World Obesity Conference in Sydney in 2006, are expected to further push the MR line. Already, findings from several studies are showing positive benefits from MRs without apparent side effects.

This bodes well for the use of these products as a tool in the weight loss battle.

For reference:

Keogh JB., Clifton PM. The role of meal replacements in obesity treatment. *Obesity Review*, 2005;6:229-234

Heymsfield SB and others. Weight management using a meal replacement strategy: meta and pooling analysis from six studies. *International Journal of Obesity*, 2003; 27(5):537-49.

in this issue

Getting the best from your meal replacements

Here are some suggestions for optimizing the weight loss effects of meal replacements:

- Use once or twice a day instead of meals that are most easy to replace;
- Mix shakes with low fat or skim milk, if not satisfying with water;
- Use quality products that are properly nutritionally balanced (see table);
- Use fruit and low calorie foods as snacks;
- Use 2 replacements per day more often for weight loss, then 1/day for maintenance;
- When full meals are taken, make sure these are still low energy and not large in portion sizes.

Examples from the Frontline:

Ted Anderson from Mona Vale NSW who has lost over 15kg in 6 months says meal replacements have been the big breakthrough for him: "They're convenient, but also filling," he says. "Surprisingly, my wife, who thought I was just going through another fad, now uses them regularly herself."

Greg Nielsen from Epping says meal replacements help keep him on track; "It's easy to just take in too much in this day and age. With meal replacements, you know you're not pigging out, but you're also not craving food."

John Mesites from Manly says MRs now make weight loss easier: "These weren't around when I did GutBusters years ago, but they make it a hell of a lot easier now. You don't feel like you're giving up anything."

Which MRs?

There are really only three MR versions recommended by the Professor (none of which he has any commercial interest in).

Dr McCloud's is the brand name given to a product produced by a Queensland GP, and only available through doctors. It has a large number of flavours and types – perhaps too many to make an easy choice.

Optifast, is the oldest of the commercial MRs, but is suffering by not having changed its formulation for years. It's also a bit bland, but does have different flavours, and has been tested for safety over time.

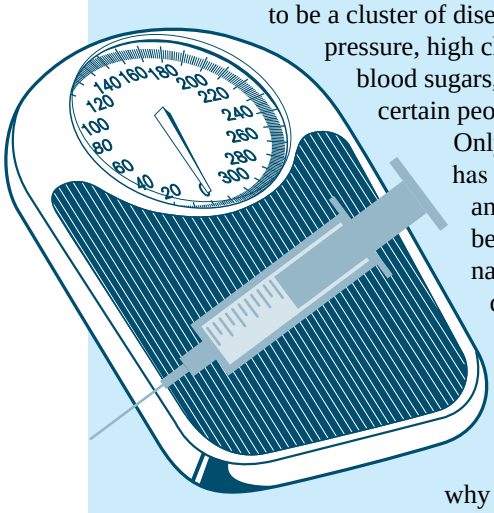
KicStart is produced by a Sydney-based pharmacy product development team. It is well balanced, perhaps the most tasty, and has extra ingredients like omega 3/omega 6 fats in a healthy ratio. There is currently only one flavour, but flavour sachets are soon to be added to 'custom make' your own taste.

You can expect to pay about $2 per sachet or meal, and these generally come in boxes (except Dr McCloud's) of around twenty four.

Obesity and the Metabolic Syndrome

The bad news is that being overweight can cause disease. Now the even more bad news is that there is a group of these diseases that occur more commonly together in overweight people, which can lead to even bigger problems.

The Metabolic Syndrome was first mentioned in a seminal medical presentation in the 1980s. It was thought to be a cluster of disease risks like blood pressure, high cholesterol, and high blood sugars, that grouped together in certain people.



Only recently, this cluster has been officially defined and categorized. It has been give a number of names such as 'the deadly quartet' (because it was also linked with abdominal obesity), or the 'insulin resistance syndrome' (which seems to be the reason why it leads to later disease).

However 'Metabolic Syndrome' has become the official term. This leads to another new disease categorization linking obesity with diabetes, and variously called 'diabesity' (as most, but not all type 2 diabetes is associated with obesity).

Testing for the Metabolic Syndrome

Diabetes scientists meeting in Brussells recently have pulled together a number of definitions of the metabolic syndrome to come up with one universal description and cut-offs. The new definition defines anyone who has the following as having the syndrome:

- Central Obesity (defined as a waist circumference greater than or equal to 94 for Europid men and greater than or equal to 80cm for Europid women, with ethnicity specific values for other groups).

Plus, any two of the following:

- raised serum triglyceride levels (>1.7mmol/L)
- reduced serum HDL cholesterol (<1.03 mmol/L in males and <1.29 mmol.L in females)
- raised blood pressure (systolic >130mmHg or diastolic >85mmHg) or treatment of previously diagnosed hypertension.
- impaired fasting blood sugars 9>5.6mmol/L) or previously diagnosed type 2 diabetes

Take home message:

Metabolic syndrome, which consists of a pot belly and 2 other risks, is a cause for concern.

For reference:

Zimmet PZ and others. Mainstreaming the metabolic syndrome; A definitive definition. *Medical Journal of Australia*, 2005;183(4):175-176.

TAUGHT N' TRIM

Coffee consumption may help diabetes

Read the health literature and you'll invariably find what NOT to eat or drink if you want to stay healthy. So a review of findings of all the major studies into the effects of caffeine on diabetes comes as a bit of a surprise.

Caffeine, which has been implicated over the years in everything from cancer to heart disease, is one of the most studied substances on the planet. It was first used by Arab monks in the middle ages, to help them stay awake during their prayer vigils. Since then it has been adopted but just about all cultures – hence the interests in its effects.

But almost a century of research has shown no significant adverse benefits, if taken in moderation. Now the findings are swinging around the other way. Researchers in the US have taken the best, controlled studies of caffeine and diabetes, encompassing almost 200,000 people, and looked at the association with diabetes. They found there was a 35% less risk of getting the disease in those that drink up to 6-7 cups a day. The results were consistent across several countries.

A second recent study however has qualified these findings. Researchers at New York University studying over 7,000 people over 7-8 years found that although the coffee-diabetes link existed, it was only in over 60 year-olds, and only in those who had lost weight. Also it didn't occur with instant coffee, only ground or percolated.

Either way, it seems that coffee doesn't have to be taken off the list for diabetics. As it is known to have some slight positive effect on weight loss, it gets a second nod.

Take home message:

Caffeine could be helpful for diabetics.

For reference:

van Dam RM, Hu FB. Coffee consumption and risk of type 2 diabetes: a systematic review. *Journal of the American Medical Association*, 2005 July 6;294(1):97-104.

… and dark chocolate could also help with blood pressure

In a second surprise finding, researchers at Tufts University in the US have found that dark chocolate could also have positive effects on diabetes as well as reducing blood pressure.

The theory behind this is that dark chocolate, which comes from cocoa has a high level of antioxidants known as 'flavinoids'. These also exist in fruits, vegetables, tea and red wine. They have been taken out of white chocolate however and hence this is a perfect way to test comparisons.

Tuft's researchers got 10 men and 10 women to eat 3.5 ounces of dark or white chocolate for 15 days. They then crossed over to the opposite for the next 15 days and measured a range of health factors.

There was a significant drop of about 10 points for both systolic and diastolic blood pressure after the dark chocolate, but not after the white. The 'bad' (LDL) cholesterol also decreased by around 10%, and several other measures of insulin resistance, which is a pre-cursor to diabetes, also decreased after the dark chocolate.

Chief investigator Jeffrey Blumberg claims this is not an excuse for pigging out on chocolate; "Rather, we are identifying specific flavonoids that can have a benefit on blood pressure and insulin sensitivity," he said.

The most effective flavinoid rich chocolate is also bitter sweet and is not likely to be eaten in large amounts. It's also probably not the best choice for weight loss – at least unless other foods are significantly curtailed.

Take home message:

Dark chocolate (not white), could help reduce blood pressure.

For reference:

Grassi G and others. Cocoa reduces blood pressure and insulin resistance and improves endothelium-dependent vasodilation in hypertensives. *Hypertension*, 2005; 46: 398-405.

Being active to go

Some scientists really give you the sh…ts. But recent work by Dutch researchers with middle-aged men gives the expression new meaning (*Scandinavian Journal of Gastroenterology*, 2005 Apr;40(4):422-9). Taking two groups of constipation sufferers, the scientists subjected one group to a 12 week physical activity program, and the other to their normal lifestyle for 12 weeks, after which they were then also give the physical activity. Both groups were given dietary advice at the same time to help their constipation. Bowel function, measured by a radiographic technique and a number of other measures too dirty to think about, showed physical activity had a significant effect in reducing constipation. There were no changes in food intake. Pass the joggers and flush the laxatives!

Cholesterol lowering margarines do work

Since the introduction of the new plant sterol margarines, more than 20 clinical studies on their effects on cholesterol have been conducted. One study published in Food Technology indicated that consuming two grams of the sterols daily could slash the risk of heart disease by 25%. Another study published in the American Journal of Clinical Nutrition revealed that phytosterols interfered with cholesterol absorption by 33% to 42%. The Food and Drug Administration in the US has thus approved the following claim for phytosterols: *"Foods containing at least 0.4 gram per serving of plant sterols, eaten twice a day with meals for a daily total intake of at least 0.8 gram, as part of a diet low in saturated fat and cholesterol, may reduce the risk of heart disease."* What they haven't said is that these can still cause weight gain – so using after losing might be best.

THE PROFESSOR'S PRACTICE

In the last issue we looked at some behavioural factors associated with weight loss. This month we turn to biological factors and what they can mean.

Accept (and understand) your physical limitations

A continued drive to achieve physically what may not be possible, can lead to the kind of psychological problems that are characteristic of many female 'weight control' programs. Everybody should be aware of their genetic limitations and be happy to work to these – including being comfortable at a higher than normal, but healthy, level of body fatness.

Change the things you can, but accept the things you can't change

Despite the hype surrounding weight loss programs, there are two types of influences on body fat levels: those that can be changed, and those that can't. These are listed in the table below.

Factors influencing body fat levels

Even within those things that can't be changed, there are different levels of success for different individuals. Genetic differences in hunger levels for example, can make it much harder for one person to resist food than another. Some of this may be genetically determined (which is amongst those things that can't be changed – at least as yet), some may be behaviourally determined, and so are able to be modified. The importance of individual differences however is now being much more appreciated at the scientific level. It gives a hint to people that they're not always to blame for their own excess fat.

Accept some increases in body fat with age

It's natural to add a little fat to the body with the increasing years – even as young as 40. The reasons for this, scientists think, are:

- a decreased sensitivity of fat cells to the hormones which stimulate fat breakdown (probably due to a decreased number of receptors on fat cells)
- a decreased overall metabolic rate
- reduced muscle mass
- decrease of a muscle protein that helps bind fat into muscle for use as energy
- decreased spontaneous physical activity, or the activity normally carried out throughout the day
- increased eating (although this is often under-reported)

The good news is that moderate fat gains with aging don't appear to be as dangerous as those in the young. They can be worse though if the gains are too much (i.e. more than 20lbs over the weight at age 20), so some caution is still needed.

Don't be afraid to pump a bit of iron as you get older

There's controversy about the benefits of weight training (WT) in body fat loss. Some exercise scientists suggest it may be better than other forms of exercise like walking, because it helps maintain, or even increase, muscle mass. This in turn, can add to the metabolic rate (because muscle is 'active'), and thus, theoretically at least, burn more energy.

In practice, the answer is less clear. Several studies using weight training have found no effect on body fat loss. Others find an effect, but only in certain people such as younger men. It's also questionable whether the time spent in WT may be better for most people spent carrying out more fat burning aerobic activity.

Several groups of researchers have tested the effects of WT on older men and women, all showing improvements in strength and fitness. Weight loss effects have been less obvious, but this may be because of increases in appetite that have gone with the programs. In any case, there is some support for the use of weight training with aging for maintenance of body composition.

Things that CAN be changed		Things that CAN'T be changed	
Food	Fat Sugar	Genetics	Fat/lean Active/inactive Lean
Drink	Alcohol	Level of obesity	Overweight
	Soft drink		Obese
	Fruit juice	Age	Young
Movement	Work		Middle aged
	Leisure		Old
	Recreation	Gender	Male
Metabolism			Female
Habits			

Calculate your required daily food intake

You can estimate the amount of food you need daily to stay at the same weight by detailed and complicated laboratory analyses, or it can be estimated through formulae, such as those below for males and females.

Resting Metabolic Rate (RMR):

Males: 66 + (6.22 x wt(lbs)) + (12.7x ht(inches)) - (6.8 x age)
Females: 655 + (4.36 x wt(lbs)) + (4.32 x ht(inches)) - (4.7 x age)

From the estimated metabolic rate, you can see that even a 50kg woman requires around 1200kcals per day to balance metabolism in the resting state. So any diet of less than 1200kcals is likely to lead to weight loss.

Special calculations are then needed to estimate the extra requirements for physical activity carried out throughout the day. Again, the general consensus is that for even a sedentary person, the RMR should be multiplied by about 1.2, whereas an extremely vigorous person may require a multiplier of more. A table showing the energy required at different levels of exertion is shown below:

Chair or bed-bound	RMR x 1.2
Seated with no option of moving and little exercise	RMR x 1.4 - 1.5
Seated work with requirement to move around but little strenuous exercise	RMR x 1.6 - 1.7
Standing work (e,g, housework, shop assistant)	RMR x 1.8 - 1.9
Strenuous work or highly active leisure	RMR x 2.0 - 2.4

The final figure here is the number of calories per day you need to stay at the same weight. Consuming less will lead to weight loss.

Check your genetic limitations

Although not a guaranteed measure of heritability, the following test can give you an indication of whether genes influence your weight level and why weight loss may be so difficult for you.

		Score
1. As far as you know, were either or both of your parents significantly overweight for most of their lives?		
	Neither/don't know	0
	Yes, one parent	1
	Yes, both parents	2
2. Do you have any brothers or sisters who have been significantly overweight for most of their lives?		
	No	0
	Yes, one	1
	Yes, more than one	2
3. When did you first become overweight?		
	After 20	0
	During my teens	1
	Before my teens	2
4. How difficult do you find it to take off weight?		
	Not difficult at all	0
	Reasonably difficult	1
	Very difficult	2
5. Where do you mainly get fat when you put on weight?		
	On the stomach	0
	On the hips and buttocks	1
	All over	2

Scores: **0-4:** No apparent genetic involvement. **5-7:** Moderate hereditary component. **8-10:** There appears to be a significant hereditary component to your weight problem. This means you may need special help for effective weight loss.

TRIM'S TRIVIA

Being overweight can change your stature

It's probably just common sense, but researchers in Brazil (*Clinical Biomechanics*, July 62005) have found that being overweight is likely to lead to stature changes that can cause a bad back. They tested both obese and non-obese men who were given a load to carry at one time and no load at another while walking a set distance. In measuring intervertebral disc height, they found both groups were affected by carrying the load, but the obese men's spines took much longer to recover even when they weren't carry an extra load. Their own internal load was enough to do the damage.

Nicotine replacements lead to less weight gain when quitting

A big fear of many smokers is that if they quit, they'll stack on the beef. Indeed evidence suggests this is true because of (a) a decrease in metabolism (b) an increase in taste and (c) less diversive activity with the hands after quitting. But some help comes from a study of post menopausal female quitters in Minneapolis who were given nicotine patches or a placebo patch for two week after quitting (*Addictive Behaviour*, 2005 Aug;30(7):1273-80.). The nicotine patch group gained an average of around 0.5kg, while the placebo group gained over 1kg. Surprisingly, the nicotine group actually ate more than the others, suggesting that patches have an effect on maintaining metabolism after cigarettes.

Aging means losing fitness quicker

Comparing the effects of detraining in older and younger men, researchers in the UK have found that the effects of aerobic fitness decrease quicker if training is not maintained in older, compared to younger men (*British Journal of Sports Medicine*, 2005 Aug;39(8):561-4.). Research with older and younger women, suggests a similar phenomenon in gaining fitness (*European Journal of Applied Physiology*, 2005 Jul 20). The positive benefits of aerobic exercise are shown in reduced insulin resistance (a pre-cursor of diabetes) for up to 72 hours in young women, but this is not the case in older women. Unfortunately age is one of those risk factors that just can't be changed.

Maintenance the best way to keep kilos off

The importance of maintenance has been accentuated in a new American Study to Prevent Regain (STOP Regain) developed by Dr Rena Wing, one of that country's leading weight control experts. Preliminary results from the study, which offers counselling and face-to-face contact as well as Internet support, show that 42% of people given little help other than a newsletter in the maintenance stage, regain 2.2kg (5lbs) or more, 6 months after starting a program. Of those given counselling, only 26% regained that amount, as did 32% of those given ongoing advice over the Internet.

Participants were highly motivated upon entering the program, having lost an average of 44 lb — about 20% of their total body weight — in a variety of ways. The most common methods were Weight Watchers, their own diets, or a meal replacement.

Take home message:

All weight loss programs should involve significant maintenance components.

For reference:

Wing R. North American Association for the Study of Obesity, 2004 Annual Scientific Meeting: Abstract 96-OR.

...and the best advice for keeping it off

He's said it in these pages before, but the Professor's statement is worth repeating: 'Anyone can lose weight. It's keeping it off that's the problem'. So how is this best done? And is it different to the initial stage of losing?

The best evidence comes from the study of those who have done it successfully over the long-term. Entrants in a US Weight Loss registry, comprised of over 5,000 people who have lost at least 14kg and kept this off for at least five years, should provide some clues.

In the first place it seems that weight regain, is less likely, the longer this is kept off. After 2 years, the game gets easier, but before this, the risks of regain are great as the body tends to want to get back to the weight it once new, and which it thinks is best for long term survival (in case of famine).

Secondly, a diet low in energy density (particularly fat) achieves the best benefits. Although it is possible to lose through any combination of nutrients that reduce volume (ie. low carbohydrate, low protein), over 95% of the registry find reducing fat the easiest.

Third, you will need a lifetime commitment to long-term physical activity. As the risk of regain is greater for anyone who has been overweight, the ex-obese need more of this than someone who has never had a weight problem. Sixty to 90 minutes of accumulated activity is the amount now considered essential to prevent regain.

Fourth, and perhaps paradoxically, those who eat breakfast keep their lost weight off better than those who don't. This is probably because they eat less for the rest of the day.

Fifth, self-monitoring, by measuring and recording what you do, like steps per day etc., seems to have a positive effect on long-term losses. And finally, having techniques for dealing with stress, that reduce the risk of compensatory eating in these situations seems to help.

Once you have lost the weight, putting these six things together should help you keep it off longer – hopefully, until that fateful day when weight loss becomes automatic!

The Professor's Points

- *Lots of different species live longer when fed less food (calories). Some, like the fruit fly, live longer when fed less of different types of calories, like sugar vs yeast (PloS Medicine, 2005;2(8):721-723). This begs the question whether certain nutrients may be more important for longevity in humans – a question now being put to the test in the U.S. Stand by for the 'Fruit Fly Diet Plan'.*
- *The state of Oregon was the only state in the US not to increase its levels of obesity in the last year. Experts are putting this down to urban design and the fact that many more Oregonians ride push-bikes to work than in other states. Could it also be that Oregon is about as far away from the White House as you can get, while still being in the country?*

PROFESSOR TRIM'S TABLE TALK

SWEET CHILLI AND ONION DIP

(Makes approximately 3 cup servings)
Fat = <1g/serve

1 medium onion, roughly chopped
1 tbs water
200g low fat cottage cheese
2 tbs sweet chilli relish
½ tsp onion powder
½ tsp paprika

1. Mix together onion and water in a microwave safe container
2. Cook on high for 3 minutes, or until onion is tender. Rinse onion in cold water to cool.
3. Meanwhile, process the cottage cheese until smooth and all lumps are removed.
4. Place in chilli relish, onion powder and paprika and well drained onions and process until finely chopped (but not smooth)
5. Serve chilled with crudites or rice crackers.

TALKING TURKEY WITH TRIM

… where the Professor takes the bit between the teeth to answer your queries about weight loss.

Q. How much should I realistically expect to lose if I go serious on a weight loss program like yours?

A. It would be easy for me to say 'as much as you want'. But that would also be wrong. It would not only be wrong because it won't necessarily happen, but because your expectations can actually help to determine your success. Let me elaborate.

The average overweight person would ideally like to lose up to 35% of his or her body weight. How much they can lose will depend on a number of factors, like genetics, how long they have been overweight, and what they do to try to lose it. The average weight loss though is around 8-10%, which is enough to get a big increase in health (in fact a 5% lose of weight will result in about a 30% decrease in disease risk).

In a recent long-term Italian study however (*Journal of Internal Medicine*, 2005 Sep;258(3):265-730), it was found that holding too high expectations leads to less long-term success. The researchers found that this was the only predictor of success at the start of the program. Paradoxically, those who expected to lose less at the start, actually wound up losing more after 3 years.

The message from all this? Don't wish for too much and you might actually get more.

Q. I'm a big bloke. Always have been. But my doctor tells me I'm perfectly healthy. So is there any real reason for me to lose weight?

A. Probably not. But there may be good reason for you not to put any on! And this might require doing what other people do to take it off.

The fact that you've always been big suggests a genetic cause for your obesity. This would then make it harder for you to lose weight than someone without this genetic link (of course it's always possible, but even if we locked you up and threw away the key, you'd probably still die heavier than Jack Spratt!).

The fact that you're (metabolically) healthy means that you are probably one of the small group who can be overweight without this affecting their health (see item on back page). However, if you do nothing to try to at least maintain this weight, in the modern environment you'll continue to gain. Ultimately then, you might pay a price mechanically ie. in sore knees or hips or damaged feet etc. This would then make it harder to be active and would mean that you may put on even more which could then become dangerous.

Keeping active is also important to maintain your metabolic health. Studies with Sumo wrestlers for example show that while they're training they have very low levels of internal or 'visceral' fat – which is one of the most dangerous types of fat. When they retire from wrestling, their visceral fat increases rapidly, and so does their health risk, possibly explaining the early death rate in this group. For all these reasons trying to maintain weight by being active is necessary, but don't sweat on not losing too much.

Q. I've been told about a new type of surgery for weight loss which is very non intrusive and somehow uses small shocks on the stomach. Can you tell me something about this?

A. Yes. Something. But not everything, because it's still very early days for this. The process involves sewing a small electrode onto the outside of the stomach wall, with a tiny battery pack left inserted just below the skin. Every now and then the battery kicks in and sends a small jolt of current to the stomach wall. Somehow this - and this is all it takes – leads to a reduction in food intake.

Why should this happen? We don't know why. However we do know that this is probably also the way laproscopic banding of the stomach works. We used to think that this just reduced the size of the stomach pouch and hence allowed you to eat less food, but researchers have found an alteration in hormones associated with hunger resulting from the band. Hence it's thought that tactile simulation of the external stomach wall (not something that's easy to do from the outside!), is enough to reduce hunger levels.

The new technique is currently being trialed and may not be available for a year or two – so don't go crazy on the ice cream. However, early tests that were carried out suggest that although it may not be quite as effective as lap banding, it is a simpler operation and requires less pre and post operative preparation. We'll keep you and your stomach in touch (touch! tactile! stomach! Get it? Sorry).

Q. As a diabetic I can understand how glycaemic index is important for diabetes, but I notice you're now concentrating on this for weight loss. How does this work?

A. Good question. In fact it's one where I have been forced to swallow a little humble pie myself (I'm getting to quite like the taste of this by the way!). Glycaemic Index (GI) is a measure of the speed of absorption of different carbohydrates into the bloodstream. The comparison measure is glucose, which is very quickly absorbed and which is therefore given a measure of 100. Foods that are low GI generally have a score less than about 50, and those with high GI generally above about 60.

Now this is obviously useful for diabetics, because a high GI food will raise blood glucose (sugars), much more quickly than a low GI food. But how does it affect weight?

Recent research suggests that carbohydrates that are digested slowly lead to a greater feeling of satiety. This probably comes about because hunger is related to blood sugar levels (as well as other factors) and when this drops below normal (as it does after the quick rise from high GI foods), there is a tendency to want to eat more. Simple, isn't it?

A little less simple is the possibility that low GI foods may also increase metabolic rate and therefore help you 'burn off' more fat. There's less evidence for this, but it's a distinct possibility. For this reason most good weight control experts (yes, it's true, I'm not the only one?) are cautiously recommending low GI diets.

To find out what foods make this up, and to get a measure of your favourite foods, go to www.glycemicindex.com.

PROFESSOR TRIM'S REAR END

(For men only) Does hard = healthy?

It's well known that one of the adverse effects of being overweight for men is erectile dysfunction (ED). This is often also associated with other disease. So does not having the problem indicate the presence of good health? Could it differentiate the OMNIs and NOMOIs discussed elsewhere on this page?

According to Dr Steven Lamm, author of a new book called *Sexual Fitness for Men: The Hardness Factor* this is definitely the case. In fact he claims the quality of an erection may indicate the level of a man's health. Says Lamm in an interview carried on the medical website WebMD: "*Once men understand the connection between health and virility, they will take better care of themselves*."

Lamm believes that being overweight and smoking are the two biggest causes of erectile and sexual problems in men. He claims improvements can be made at all ages.

Below are some relevant quotes:

On why ED occurs with age

"Erections change over time, they change with every decade of a man's life, as every other organ changes. That organ has to age and be affected by illness and vascular disease and stress as any other organ."

On the value of lifestyle change

"If he is able to exercise and lose weight at the same time, he's going to free up some testosterone which will now enhance his sexual performance and his libido."

On how often

"…every man (should) have an erection every day of his life. This is not intended to mean that he needs to be having sex every day, it means that he should be biologically healthy enough to have an erection every day because that would imply the integrity of his blood vessels, his nerves, his hormones and his brain."

What types of exercise help?

"Any exercise which increases his cardiac output, the ability of his heart to pump blood, will be extremely helpful. If he does exercises that involve the lower part of his body, involving the quadriceps and hamstrings and lower back, you're going to promote blood flow to the pelvic region."

On drug use (Viagra, Cialis etc)

"A lot of men don't appreciate that you actually need sexual stimulation for these drugs to work. Taking the medicine is not going to induce an erection. What the medicines do is facilitate an erection in an appropriate setting, so stimulation is absolutely necessary in order for the erection to occur. As men get older they actually need more sensory and physical stimulation in order to achieve an erection."

On the 'hardness' diet

"*First thing is reduce your portions – start having less to eat. Let's reduce the fat in your diet. When you eat fat, what you're basically doing is stunning your blood vessels. If you stun the blood vessels, they can't open and close and they can't be as elastic as they would be under normal circumstances. If you draw blood on somebody who has had a big meal, the blood is milky, it's opaque. That's due to the triglycerides that are circulating. You want to try to reduce the total amount of fat and sugar in the diet. …On the other hand, if you enrich your diet with foods of color — green, orange, red, fruits, vegetables, fiber — I think you are actually going to enhance the quality of your health and subsequently, the quality of your sex life*."

On other supplements

"*You want to start to use some of the antioxidants, the Pycnogenol, the arginine, the omega-3s. And niacin is a fantastic substance that raises your good cholesterol and lowers your bad cholesterol. Have some green tea, probably the healthiest drink I know of*."

On sex and longevity

"*It appears as though the men who have more regular sex seem to be healthier and seem to live longer. There's the good news -- good sex may actually cause good health. And the reverse may be true as well*."

For more information:

Lamm S. www.thehardnessfactor.com ***or*** www.WebMD.com**.**

The Professor's Comment:

"Go for it Lammy!!"

OMNIs and NOMOI's: Proof that fat doesn't always mean unhealthy, and lean doesn't always mean healthy

One of the problems obesity experts have in convincing people to lose weight is a small group for whom weight is not a health problem, and another group who suffer the problems of being overweight without actually *being* overweight.

The first group has recently been identified as OBMNIs (Obese but Metabolically Normal Individuals). These people generally have a healthy family history (although often with weight problems), with parents and siblings living to a ripe old age. When measured by their doctors, they have healthy blood fats, sugars and blood pressure. Hence pressure on them to lose weight may actually be more damaging than the weight they carry.

A second group are labeled NOMOIs. This stands for Not Overweight but Metabolically Obese Individuals. They have the reverse problem to the group mentioned above. While being physically lean, their metabolic measures (fats, sugars and blood pressure) are what might be expected of an obese individual. Such people are generally inactive. They have lower superficial levels of body fat but higher internal, or 'visceral' fat which is perhaps the most dangerous. It means fat around the organs, like liver, kidneys etc., and this is the first form of fat pushed into the blood stream in response to physical or mental stress.

It's not clear what proportions of the population are OMNIs or NOMOIs, but some research suggests OMNIs make up 10-12% of the obese population, and NOMOIs 13-18% of the non-obese.

So what does this mean in practical terms: For clinicians it signals that not all is necessarily as it would seem. Check metabolic factors in both overweight and lean individuals before prescribing treatment. For patients the message is similar: Don't despair or relax until you've had everything tested. There could be good news for some and not so good for others. In both cases though it provides some direction as to what should be done.

For reference:

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