



PROFESSOR TRIM'S WAISTLINE

THE PROFESSOR'S FEATURES

SUMMER 2006

Is quick weight loss a good thing or a bad thing?

The Jury may have come back in on a controversial topic.

The world of weight control research is in constant flux. Like studies on nutrition, there seems to be no such thing as an immutable fact. Meal replacements for example were denigrated less than a decade ago as not having long-term value. Now they're venerated as the most useful weight loss strategy after surgery. The use of phentermine (duramine), one of the oldest weight loss medications available, was regarded as counter-productive until recently. Now it has a new life as one of the best ways to get patients motivated and to break through plateaus.

Yet another axiom about to be plundered is the notion of quick weight loss. This has previously been regarded as a recipe for long-term disaster as quick loss was thought to lead to long-term gain. But according to scientists at the 10th International Congress on Obesity in Sydney, it's now an idea that should be revisited.

Professor Luke Van Gaal, a respected obesity researcher from the Netherlands, took the logical step of looking for the evidence for the deleterious effects of quick loss. He couldn't find any. He also couldn't find any direct evidence for the reverse notion. But he did find lots of support for why quick loss may actually be good.

Benefits of rapid loss

Rapid weight loss is generally defined as around 1.5–2.2kg per week, not a lot in *Biggest Loser* terms, but enough to cause a significant withdrawal from the lard bank over time. No research has actually been carried out specifically to see if this is a good thing, but there are lots of incidental findings to suggest that it is.

Quick losses from low calorie diets for example have been shown to lead to positive changes in body composition as well as positive effects on the metabolic syndrome. Those who get the quickest losses from bariatric surgery seem to have the best long-term outcome, with reductions in blood pressure, blood fats and diabetes.

Rapid losses with drugs lead to a reduction in inflammation in the arteries, and big losses lead to improvements in arthritic measures in the knee after knee surgery. In general, bigger, quicker losses are likely to have a positive effect on motivation and have been found to result in better long-term maintenance, all suggesting positive benefits from early quick loss.

Possible downsides

A theoretical downside to a quick loss is an increase in fatty liver because of

the draining of excess fat through this. However research has failed to show this. In fact about the only potential effects are an increase in gallstones and potential increase in gout. Where these are indicated, a more gradual early loss is recommended, although weight loss *per se*, over the long-term will reduce these problems.

Finally, a reduction in fruit and vegetables in a diet used for big losses which can result in a rise in homocysteine in the blood, a potentially dangerous substance for heart disease. However, this can be negated by taking a multi-vitamin supplement high in folate and B vitamins, which is recommended as standard in any quick weight loss situation.

Take home message:

Big, quick, early weight losses over 3–4 weeks in a supervised weight loss program can result in greater long-term maintenance with significant health benefits than smaller, gradual losses. A multi-vitamin supplement can help prevent any potential downside to this.

For reference:

Van Gaal L., *Quick weight loss: Good or bad?*, 10th International Congress on Obesity, Sydney, Sept 2006.

The pain of being right – again!

As regular readers to PTW will attest, the professor, in his humility, is rarely one to use the 'I told you so' defence in the face of new information. However, through an impartial intermediary, he has asked it to be documented here that the Professor Trim Program for men instigated the notion of a quick weight loss, before it became de rigueur amongst obesity aficionados. For this reason the

program has been designed in three stages, with the first stage, over 3 weeks, targeting a 3–5% weight loss to increase motivation to go on to bigger (or perhaps smaller) and better things in the following stages. Again the Professor's foresight has been rewarded – even though he claims this remains to be recognised amongst his peers. Post humus recognition remains a possibility.

Exercise, Obesity and Depression: Is there a link?

The evidence — and common sense — suggests there might be.

Obesity is a common modern phenomenon. That much is clear. But other modern phenomena are: a rise in psychological depression in the community, and a big decrease in daily levels of physical activity. Could these three things be related? Some new research by Canadian neuroscientists, coupled with some creative hypothesising by the Professor, suggests the idea is not as far fetched, as it may seem.

The basis of depression

Depression has been defined as ‘the common cold of the mind’. It ranges in extremity from mild feelings of disappointment associated with adverse life events (‘reactive depression’), to unrealistic thoughts and experiences (‘psychotic depression’). And while there is often a tendency to ascribe feelings of disappointment to depression, and that expectations have increased in modern times, there is little doubt that the rate of depression has increased considerably in recent years.

There are two main components to most depressive episodes — one psychological, the other biological — with the former often being thought to lead to the latter. One theory proposed for this is that after extended psychological depression,

nerve connections in a part of the brain associated with emotion (the hippocampus), fail to regenerate, as they do under normal circumstances. This results in a decrease in ‘feel good’ hormones like serotonin, dopamine and the endorphins, and the beginnings of a biological depressive state.

Exercise and depression

Scientists from the University of British Columbia in Canada suggest — mainly on the basis of animal studies — that exercise leads to regeneration of nerve connections in the hippocampus that degenerate with depression. Autopsies on depressed human patients show a decrease in size of that part of the brain following depression, and it’s known that stress also causes atrophy of this part of the brain.

Several studies now dating back thirty years show that exercise can alleviate depression. Studies with rats on treadmills however show that this takes about 3-4 weeks, which is about the time known for nerves in the dentate gyrus, that part of the hippocampus involved in depression, to regenerate. Coincidentally, this is about the time it takes for the newest generation of anti-depressant drugs, known as SSRIs, to begin to work.

An obvious extrapolation of this would be that a decrease in physical

activity would show up in a rise in depression in the community. Both have occurred in recent times with depression rising from around 5% in the late 1940s to 20% today and activity levels dropping by up to 60% in the last century.

...and the obesity link

Inactivity of course, is a well known cause of overweight and obesity, and depression is thought to be higher in obese patients, although it hasn’t been clear whether this is a cause or effect phenomenon. The recent findings suggest it may be causal through the inactivity link. Being inactive might lead to a decline in neural regeneration of the hippocampus, while at the same time causing increases in body weight. Depression then becomes a co-morbidity, which adds to the seriousness of the other problems.

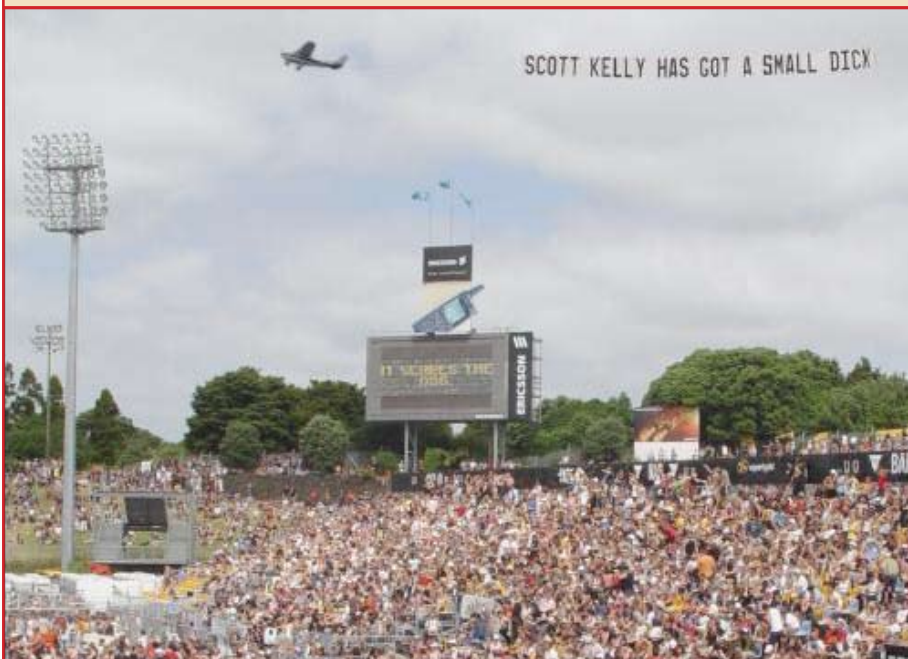
It’s an interesting theory and all the more reason to keep active. It might affect more than just your joints and your weight.

For reference:

Ernst C., and others. Anti-depressant effects of exercise: Evidence for an adult-neurogenesis hypothesis. *Review of Psychiatric Neuroscience*, 2006;31(2):84-92.

TRIM’S TIPS - 1

TREAT YOUR WOMAN RIGHT!



TRIM’S TIPS - 2

DON'T EAT UNTIL YOU'RE FULL

Because we now have unlimited access to food, there’s the temptation to go at it until you can’t eat any more. But you will have noticed that the best you’ll feel all day is just before a main meal when you’re energised by a mild hunger. Conversely, the worst you feel, is usually after a big fatty meal. The trick is to ‘become friends’ with a mild level of hunger, and savour the benefits.

Defeating Hunger

The key to successful weight loss

Hunger and sex are two of human's strongest drives. They have to be, otherwise the human race would never have survived. 'Dieting', and pretending hunger is not there, can't overcome genuine biological hunger. There are some pharmaceutical ways of reducing it, but none are very successful. Hence, it comes down to knowing what to eat and what not to eat, and what to do and what not to do to minimise the effects of hunger.

Dealing with hunger is the key to successful weight loss, and the first question that has to be asked is: 'is it real biological hunger, or just learned appetite (see below)'. Try to distract yourself, and if it doesn't go away it's real. Below are some other tips you might use:

Use meal replacements

These can be useful not only to replace a whole meal (breakfast, lunch or dinner), but to reduce the amount eaten at a main meal by having a meal replacement about an hour before that meal. Before the main meal at night is a good option because this is often the social meal where not eating with the family or friends can be difficult. Also a meal replacement before going out for dinner can reduce the 'pigging out' effect.

Eat high fibre/low energy dense foods

Increasing the volume (in bulk) of food while reducing calorific volume, can help increase satiety. Fruit, vegetables, cereal, pasta, are all low energy dense but high in mass.

Eating out

Go Japanese or low fat Asian. Don't use it as an excuse to pig-out because it's an 'exception'. The 'exception'



rule says people eat more at a sitting because they think it's only in an exception that they eat this much. Trouble is, such exceptions often occur daily.

Try spicy foods and caffeine

Canadian researchers have found that an entre of spicy foods and caffeine tends to result in less food taken in at the main meal. An ingredient called capsaicin in spicy foods also tends to raise metabolic rate and may have a double whammy on weight loss — provided these aren't flooded in coconut milk or other fatty sources.

Try a fibre supplement

Extra fibre through a fibre supplement like Metamucil before a meal can help increase the feeling of fullness and lead to less food eaten at that meal. Even extra water sometimes can do this.

Go for 'fast' protein

'Fast' protein foods are digested quickly and lead to greater satiety. The best of these is 'whey' from low fat dairy products. This can be obtained from body building formulae in health food shops as a supplement or in low fat milk. Other 'fast' proteins are soy products (tofu, etc) and seafoods.

Distinguish between appetite and hunger

Appetite goes away when distracted. Hunger doesn't. Learn the conditioning

links that cause increases in appetite in contrast to genuine increases in hunger ie. peanuts go with a beer; friday night means letting the hair down etc.

Eating late

Try to eat more food earlier in the day. This tends to keep you fuller at a time when metabolic rate is higher and therefore likely to digest the food faster. Eat cereal or bulky high fibre foods to get an even greater effect.

Cravings

Try to 'de-condition' these. For example drink water when thirsty; eat good food when hungry, so that thirst doesn't signal soft drink and hunger doesn't signal chocolate or high energy-dense foods.

Eat breakfast

Start with something small (ie. a slice of toast/small apple). Build up to fibre and protein to help stay satiated longer — and hence eat less for the day. Alternatively take a meal replacement for breakfast and have a healthy high fibre snack later in the morning.

Impulse eating

Don't have tempting foods in the house; avoid situations where impulse buying is tempting (eg. petrol stations).

Avoid salty foods and foods cooked with MSG

These can make you want more. If you don't believe it, try eating 40g of unsalted mixed nuts and see how sick of nuts you get. (On another day) try eating 40g of salted nuts and see how many you could eat. With MSG... you know the feeling after a good Chinese meal.

Snacking

Don't go for more than four hours without eating (something healthy).

Become 'friends' with a feeling of mild hunger

While intense hunger is a feeling that no-one wants, mild hunger can be quite enervating (think how much energy you have just before a big meal compared with just after). Making friends with this feeling can be something that can be learned and can help weight loss.

Is HUNGER a learned response?

If so, say food researchers, unlearning this may be the answer to some modern problems.

Hunger is one of the body's strongest biological drives. It has helped us to survive as a species over hundreds of thousands of years and through cycles of famine and feast.

But has modern day hunger become confused with a more recently acquired appetite? And if so, what does this mean for those millions of people whose health and body weight is influenced by a hunger level that's difficult to control?

These are questions currently being asked by nutrition experts as they expand their focus from the purely biological nature of hunger to include influences from the environment that have become of greater concern in the 21st century.

Hunger vs Appetite

Hunger has always been thought of as the biological drive which enables animals to replace the energy they have used up hunting for food, by the energy of the food itself. Under natural circumstances, this is usually just enough for an animal to maintain a body weight which is enough to allow it to survive some time without food, but not become too heavy to escape from predators.

Techniques of controlling hunger have only become important over the last century as food has become easier to obtain. Physiology has been thought to be the answer, and research to find the ideal hunger suppressing drug has resulted in a big push from pharmaceutical manufacturers. However, side-effects and a 'bounce-back' effect after taking these has proved a problem with the chemical solution. As a result, behavioural scientists are looking more at whether hunger (and appetite) can be modified through learning.

It's now thought that hunger can have a psychological, as well as physiological base. Early experiences with food, particularly with the use of food as a reward, could lead to a 'learned' hunger, which implies that it can then be unlearned. This appears to be connected to the notion of 'satiety', or the feeling of fullness after eating.

Satiation and Satiety

Work by British researchers in the early 1990s helped to clarify two separate components of hunger. 'Satiation' was always thought to signal fullness after eating. However, the British researchers showed that while satiation signalled immediate fullness, a second property, known as 'satiety', could be used to explain a longer-term feeling of fullness (eg after 2-3 hours).

Stimulants which affect the size of a meal eaten at the time are oral (ie. mouth feel) and gastro-intestinal. If food is injected into the stomach, rather than eaten through the mouth, there is little regulation of the amount required to satisfy hunger. Over or under-feeding can occur and it is only over days that the body adjusts to gradually regulate the input required to satisfy energy needs.

This suggests that an appetite for a certain amount of food is learned through conditioning; the body learns to 'expect' a plate full of food a certain size and unless this is eaten, hunger is not satisfied. This takes time (ie. a matter of days to occur), but can then be a strong stimulant to the amount eaten at a sitting. The body begins to anticipate the metabolic effects a food will have after its ingestion from the stimulation of its oral and gastric senses.

Unlearning appetite

If hunger can be learned, this suggests that appetite can be unlearned. However like learning to eat large portions of food, unlearning is likely to take some time. It's not yet clear whether a gradual adaptation (eg. gradually eating less) or going 'cold turkey' is the best way to do this. It's also not clear how long it may take. And there may be big individual differences.

Implication:

A change in food intake to a lesser amount and more healthy variety may just require time. Those wishing to get health and weight loss benefits may be happy to know that it won't be always as bad as the first day.

Setting Goals

The best way to get where you're going is to have an idea where that is.

Losing weight has a strong behavioural as well as physiological component and setting goals is one of those behavioural components. Here's some tips from the professor about what constitutes the best types of goals:

- **Set specific goals:** Don't just say your goal is to lose weight. Aim for a measurable waist or weight size that's feasible and realistic.
- **Set short term, medium term and long term goals:** A short term goal is for 3-4 weeks and can be based on a waist loss of around 1% per week. A medium term goal is over 3 months and might be set at around 10% of weight and/or waist loss. Your long term goal is what you want to get down to for life.
- **Make your goals realistic:** It's almost impossible for an overweight 40 year old to get back to his fighting 18 year old weight without major lifestyle sacrifices. Be content to get back close to this and make it enjoyable.
- **Make the goal appropriate:** Many doctors will take your height and weight, calculate your BMI (which is height divided by weight squared), then calculate the weight you should be to get into the right BMI. This has no doubt resulted in unheralded suicides by 150kg men who are told they have to be 55kg (by next week!). A better solution is to go for a weight decided by body fat % (see below). This way you can determine your own goals.
- **Make your goal action oriented:** If the goal is to get to a set weight or body fat %, determine the actions that will help you get to this ie. "I'll have 2 meal replacements on every second day," or "I'll leave chocolate out of the house so I won't be tempted."
- **Make it YOUR goal:** Don't let other people or the fashions of the day determine your goal for you as it's likely to be totally unrealistic.
- **Work on the barriers to achieving your goal:** There are always barriers (otherwise you wouldn't be where you are). Write down what these are likely to be and try to see your way around them.

Setting appropriate weight goals

Determining a goal weight on the basis of weight and height is not always appropriate. Men for example have a higher proportion of muscle than women, and hence a weight goal could be based on muscle, rather than fat loss. As an alternative, the Professor suggests the possible two alternatives: The first requires just a tape measure around the waist, the second a set of Bio Impedance Analysis (BIA) scales, which you can purchase off the PT website (www.professortrim.com/estore.php) if you don't already have them.

1. Setting a waist size based on BMI: calculate your BMI by measuring your weight (in kg) and height (in metres²). Aim for a waist circumference based on your current BMI as shown in the table below.

BMI category

WC (cm)	Normal (18.5 - 24.9)	Overweight (25.0 - 29.9)	Obese I (30.0 - 34.9)	Obese II/III (≥35.0)
Men	<90	<100	<110	<125
Women	<80	<90	<105	<115

2. Setting a weight goal based on body fat: This requires a set of BMI scales and either a reasonable mathematical ability or access to a good computer program. (The Professor has a special spreadsheet for this)

The formula is: Ideal Weight = Lean Body Mass / (1 - Ideal Body Fat %)

Ideal fat % is decided on a subjective basis depending on the starting level of body fat. A short term goal for a person who is 45% fat for example may be 40%, whereas for someone who is 20% fat, the long term goal may be 18%.

For more details on how to calculate goals see *Professor Trim's Waistline* (Spring 2006).

THE PROFESSOR'S SHORTS from the 10th International Congress on Obesity

Meeting in Sydney in September were over 3000 international scientists from all fields of obesity research. Their presentations produced a truckload of new findings. However for the dyslexic amongst his readers the Professor offers a summary of the best, presented from his own summing up of proceedings:

Sleep problems caused by excess weight

According to Dr Ron Grunstein from the University of Sydney over 80% of referrals for sleep apnea are obese, and some ethnic groups, such as Asians tend to develop apnea at a much lower level of body fat than Caucasians. Problems such as snoring however can be treated by even a small (ie. 5-10%) loss of weight, and this might encourage more men to become involved in a weight loss program.

Several prescription drugs can cause obesity

Although we've said it before in these pages, Dr Peter Kopleman from the University of East Anglia in the UK presented evidence to show that several prescription drugs cause weight gain, and this is often not explained to the patient. Culprits in this respect include just about all the medications for diabetes (except metformin), anti-psychotics, corticosteroids used for healing, many of the new generation of anti-depressants, and even some blood pressure medications (beta blockers). Weight gain is caused by these medications through their effect on mood, appetite and metabolism. Doctors should be encouraged to look for an alternative medication where this is the case, or weigh up (sic) the benefits of the drug vs possible weight gain.

Weight gain genes may have been changed

A new science called 'epigenetics' has developed to help explain changes that can occur to the DNA nucleotide sequence of genes early in life due to inappropriate behaviours, and which may in fact be passed on through

generations. This changes thinking on evolutionary processes and could help explain the rapid increase in obesity in modern times and why even identical twins reared in the same environment don't develop in the same way.

Mothers can be too fat as well as too thin

Although pregnant women throughout the ages have rarely been confined, modern obstetricians have tended to try to do this in order to increase the weight of the mother to guarantee the health of the offspring. Now, findings from the University of South Australia suggest that excessive weight gain in pregnancy is probably as harmful as too little weight gain. The effects not only include health problems in the mother, such as diabetes, high blood pressure and difficult delivery, but can cause obesity and diabetes later in the life of the child.

Just living could cause weight gain

While we all know the effects of food and inactivity on weight gain, Professor Stephan Rossner from the Karolinska Institute in Stockholm says there may be many other factors in the modern environment that are leading to obesity. Amongst these he includes air conditioning, increased age of pregnancy in women, medications (see above), new viruses, endocrine disturbing pollutants in the environment, decreased rates of smoking, reduced sleep and intestinal bacteria. Modern life may indeed may be more fattening than that caused by gluttony and/or sloth.



Unlocking weight loss secrets

Always on the look out for a good metaphor, the Professor this issue bows to a former student for this month's gem.

According to Jamie Hayes, CEO of the Healthy Inspirations Women's Weight Loss chain:

"People are always looking for a key to unlock the secrets of weight loss as if it needs a key to unlocking the padlock of their excess weight. But a keyed padlock is the wrong way of looking at it. It's more like a combination lock where all the revolving barrels have to be lined up, at the same time, before the lock will open. One barrel is nutrition and another physical activity. For some people one or both of these is enough, but for others you have to line up the environment, stress, personal relationships, family, work, support, accountability and other barrels before you have any chance of opening the lock. The big thing is finding out how many barrels there are for the individual and making sure they're all lined up at the same time. People struggling with their weight often say they have 'tried everything' but we find that they have never done all the key things (barrels) at the same time."

The Professor wishes he had said that (and thinks he may have – but he can't remember that night).



PROFESSOR TRIM'S TABLE TALK



SNACKS FOR SUMMER: BANANA PANCAKES

(makes 5-10 pancakes)

Fat < 0.2g/serve

- 1/2 cup wholemeal self raising flour
- 1/2 cup plain flour
- 1 tsp baking powder
- 1 cup skim milk
- 1 tsp cinnamon
- 1/2 tsp nutmeg
- 2 egg whites
- 3 overripe bananas, diced



1. Combine flours, baking powder, milk, cinnamon, egg whites and nutmeg. Mix well
2. Add the banana and mix lightly.
3. Pour batter into a lightly sprayed non-stick fry pan on medium-high heat, about 1/4 cup at a time.
4. Turn pancakes when they begin to bubble. Re-spray pan as required. Serve with honey, low-fat ice cream or maple syrup.

TRIM'S TRIVIA

Painkillers could kill pleasure as well as pain

Pain killers known as non-steroidal anti-inflammatory drugs (NSAIDs) could double the risk of erectile dysfunction in middle-aged and elderly men, according to a study in the May, 2006 edition of the *Journal of Urology*. NSAIDs include several widely used drugs, such as Ibuprofen or Nuroxin.

Previous reports have linked arthritis to erectile dysfunction, and it is not clear whether NSAIDs, which are often used to treat arthritis, or the arthritis itself causes the erectile dysfunction. A team from the University of Tampere in Finland checked this by testing 1126 men between 50-70 years of age before they started using NSAIDs and again 5 years later.

The investigators found that the erectile dysfunction rate was 93 cases per 1000 persons per year among NSAID users compared with just 35 cases among nonusers. Arthritis was the most common reason for NSAID use, and for men with arthritis the corresponding rates of erectile disorder were 97 and 52 per 1000 person-years.

The presence of arthritis without

NSAID use increased the risk of erection difficulty by only 30 percent. Hence it was concluded that NSAIDs were largely to blame for the link between arthritis and erectile dysfunction.

Soy versus milk based "meal replacements" for weight loss

In a recent study of overweight men and women, researchers compared the weight loss and blood lipid effects between reduced-calorie milk- and soy-based beverage meal replacements (*Journal of the American College of Nutrition* 2005 Jun;24(3):210-216). After 12 weeks on a 1,200-calorie per day diet which included 2 to 4 soy- or milk-based meal replacements, men and women in both groups lost about 8-9 % of their initial body weight. However, people who consumed the soy-based meal replacements experienced significant decreases in total and LDL cholesterol as well as triglycerides compared to people on the milk based meal-replacements. This study confirms previous studies documenting the effectiveness of meal replacements for weight loss but it also showed that soy based meal replacements have the added benefit of lowering blood fats.

Thought for the month

"Life is just occupational therapy between birth and death"

— Spike Milligan

...SO don't get tangled in the raffia work — The Professor

THE PROFESSOR'S CONFERENCE NOTES

From over 1200 papers presented at the World Conference on Obesity, the Professor has chosen the following findings as worthy of a brief mention:

Small loss. Big Effect.

Weight losses don't have to be great to produce a significant health effect. A 5% loss of body weight can lead to a 61% reduction in diabetes risk according to the Finnish Diabetes Study.

Weight loss increases longevity.

Reducing weight through lap-banding surgery leads to a 36% reduction in mortality as shown after 12 years in the Swedish Obesity Study (S.O.S.).

Plateaus inevitable in weight loss.

Although it's well known by anyone going through a weight loss program that losses tend to plateau after a time, scientists have been slow in recognising the significance of plateaus. Dr Neil Kind from the University of Queensland has shown that in the laboratory, as well as the real world, plateaus are an expected, and not just a common, phenomenon. He says that for weight loss to continue beyond a plateau, it may be necessary to make constant additional and incremental changes to any weight loss intervention.

Exercise trumps weight loss.

Most weight related health problems can be improved by exercise – even in the absence of weight loss, according to Dr Arthur Weltman from the University of Virginia.

We'll all be fat said Hanrahan!

On current trends, 100% of Americans will be overweight or obese by the year 2040 says Professor John Foreyt of the Baylor College of Medicine in Texas. *(Post script: The World Health Organisation has just released figures showing that 1 billion people, or 15% of the world's population are now overweight or obese)*

We nearly all are fat!

One in 6 of the world's population (over 1 billion people) are now overweight according to Dr Robert Beaglehole from the World Health Organisation. (The Professor's aside: If we could tap into that excess fat for energy, we could quickly put an end to the oil crisis.)

Sex rears its (truly) ugly head.

As if it's not hard enough being overweight (no male pun intended), researchers from Bologna in Italy have shown that sex hormones

in both males and females are decreased as a result of obesity. Low testosterone in men and high free testosterone in women may not only limit fertility and sexual ability, but could be a link to the health problems associated with the metabolic syndrome.

Coax that training habit.

"When it comes to losing weight, habit is habit and should not be thrown out the window, but should be coaxed downstairs one step at a time." (John Foreyt again).

The Professor's Poetry

Anne Aerobic

I.

Each day she sat and wondered
Just how marvelous life could be
If she just could teach aerobics
And not be a sec-ret-ary

How she longed to move her body
To the rhythm of the band
And she longed to hold those big boys
In the power of her hand

So she spent each lunch hour daily
In a class right up the front
Watching Sally-Sue Stupendous
Do he daily workout stunt

And she watched and worked and waited
Ever patient 'til the day
That the little covered wagon
Took our Sally-Sue away

And the boss, Miss Ann Amazing
Gave our heroine her chance
When she asked if she would quit her job
And teach aerobic dance

So with vim and verve and gusto
She worked seven times a day
Still the 'blow waves and the biceps' boys
Would still not look her way

And she practiced and she practiced
Every night at least 'till three
'Til she had the cutest sit up,
You would ever want to see

II.

Then just when she was wanted
By the menfolk in the town,
And just when things were looking up
Her body let her down

She got plantar fasciitis;
She got water on the knee;
She got just about the biggest
Plantar wart you'd ever see

And the pain she felt when walking
Would have been enough at that;
If the pain right through her buttocks
Didn't kill her when she sat

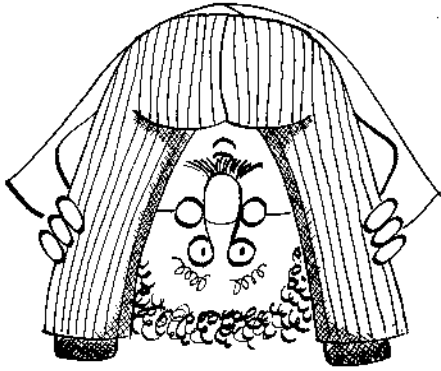
She had shin splints, migraine headaches,
Urticaria and wind!
And the microbes in the swirlpool
Made her groin feel like she'd sinned

And the 'blow-waves and the biceps' boys
Their lust was all in vain
For every time she used her leg abductors
She felt pain

So she went back to the office
Where at least she had a chance
Where the chests and arms were shrunken
And the bellies hid the pants

And although she cut her chances down
To just one man or so;
It sure beat when a hundred
Into nothing couldn't go.

THE PROFESSOR'S REAR END



Diabetes can be improved by caring for the gums

Spanish scientists have shown that diabetic patients, who often have trouble with periodontal or gum disease, can help maintain their blood sugars better if they look after their gums with such treatments as conventional periodontal root scaling and root planning by their dentist (*Journal of Periodontology*, April 2006).

Dr. Antonio Bascones from Complutense University, Madrid studied ten patients with type 2 diabetes and ten people without diabetes. All had a diagnosis of moderate generalized chronic periodontitis. After a few months of gum treatment, all showed significant improvement in gum bleeding, amount of plaque on teeth, and the degree of looseness of teeth. However, more importantly, they found an improvement in glucose control, as indicated by a drop from 7.2 to 5.7 in glycosylated hemoglobin levels, commonly called the A1c measurement. The research team suggests that there is a two-way relationship between diabetes mellitus and periodontitis, with the former producing a greater severity of periodontal disease and the latter compromising blood glucose control.

When science goes mad

Reported recently in the *New York Times* — a comprehensive article on research discussing the benefits of reduced food intake for increased health and longevity, together with photos of a decrepit looking monkey and a lithe healthy stable mate. The former has been brought up over 27 years on a 'normal' diet with the right amount of calories for its weight; the latter on 30% less calories.

This supports other work with animals (although this is the first time with primates) that shows that reduced

energy intake over a prolonged period helps to increase longevity and improve health. That much is becoming clear and would therefore suggest that people start to watch the amount they eat. But this might be too logical. Scientists interviewed by the NYT have also found that certain anti-oxidants in food and drink might add to the benefits of reduced energy. One of these, resveratrol, is being widely touted as a life extender. This is present in large amounts of red wine — all OK so far. However, instead of recommending drinking of red wine, which would be the logical thing to do, scientists are trying to make resveratrol into a pill which can be sold as a supplement.

Is it just the Professor that thinks that the damn stuff might be just as well utilized in the red wine and other real foods, and that people might be encouraged to eat and drink these things wisely rather than take them as a pill? Perhaps eating less is not such a disastrous thing either, as everyone seems to eat too much these days. But then again maybe the professor is just too old fashioned.

For reference:

New York Times, "A Prescription that may extend life", October 31, 2006.

Lifting weights is good for diabetes

Exercise in general is known to be good for both the prevention and treatment of diabetes. One of the reasons for this is the effect exercise has on shifting what are called 'glucose transporters' within the muscle cell to take up blood sugars for metabolism in the cell. It works a bit like this:

Imagine the muscle cell as a nightclub, and sugar (glucose) molecules in the bloodstream being a bunch of red-blooded men wanting to get into the night club to spend an entertaining night with a bunch of red-blooded women. The women are seated inside and need to come to the door of the nightclub to show the men in and get things going. However, the big obstacle is the big boofy doorman, who in this case is represented by the hormone insulin, who comes from a particular part of town — called the pancreas.

When insulin is present, the door opens, the glucose molecules (randy men) enter the doorway but don't know where to go until the glucose transporters (randy women) come and greet them and take them in. Then there's action and the nightclub rocks — the sugar is burned up

as energy in the muscle.

Now, researchers have found a new breed of women to do the job. Instead of the usual young lithe escorts (called GLUT4 in physiological terms), an exotic new breed (called HSGL3 — or high sensitive glucose 3 transporters) have been found to react more to weight lifting and make the club move more for people whose nightclubs are usually not happening (diabetics). The new finding suggests weight lifting, even more than aerobic exercise can make the club rock best for those with lazy doormen (insulin resistance).

Now for your homework: translate all this into totally non-understandable, but accurate, scientific language.

For reference:

Castaneda F and others. Skeletal muscle sodium glucose co-transporters in older adults with type 2 diabetes undergoing resistance training. *International Journal of Medical Science*, 2006;3(3):84-91.

Fighting Colds with Exercise — for Diabetics

If you have diabetes and are therefore more prone to colds and flu, here's another way to protect yourself during cold and flu season. Researchers from the Fred Hutchinson Cancer Center in Seattle (*American Journal of Medicine*, Oct 2006) found post-menopausal women who work out regularly seem to catch about half the colds of those who don't.

Over 12 months, 115 overweight women either participated in a moderate exercise program — 45 minutes a day, five days a week, mostly brisk walking, or they took part in 45 minute stretching sessions once a week. In the final three months of the study, the risk of colds was three times higher in the stretchers than the exercisers. Exercising during a cold is another matter. Past studies have shown that if the cold symptoms are severe, heavy exercise could cut the immunity, not boost it. Studies with marathon runners have also shown that the incidence of colds goes down more while in training, but actually increases after the stress of the event.

An even more positive side of this for diabetes sufferers is that exercise tends to 'soak up' blood sugars to be used in muscular contractions and therefore reduces the cause of the problem i.e. high blood sugars.

Clearly, like everything, exercise has a positive effect — but only up to a point!