



PROFESSOR TRIM'S WAISTLINE

THE PROFESSOR'S FEATURES

NO. 24; WINTER 2008

Don't Fear the R Word!

Why the coming economic downturn will be good for your health

Obesity and disease are intimately related. You get fat; you increase your chances of getting sick. It's that simple. And this is not just sick from chronic diseases like Type 2 diabetes, arthritis and heart disease, but from all the infectious bugs causing colds, flu and other problems.

Of course not everyone that gets fat has this problem – but that's another

As countries increase their economic growth for example, their populations begin to get fat: first the upper classes (because they can afford to eat more and do less), then the working classes, as the benefits of development (cars, TV, rich food etc) flow through. (Ironically, in the next phase the rich then begin to get thinner, as the benefits of education, and knowledge about lifestyle factors

isn't economic growth the God that politicians worship through the Church of the Electorate?

True. But this is where the story becomes more complicated. It can be made clearer however, by some recent 'natural' experiments from distant lands. Cuba, for example, although of a different political persuasion than that which would satisfy many, was thriving under Russian support in the late 20th Century – until the Russians pulled out in 1989. From then until 2000, the country underwent a major economic recession. Yet contrary to expectations, obesity decreased by 50%, heart disease by 50%, Type 2 diabetes by 35%, stroke 20% and all cause mortality by 18%. This was largely because there was less food, and people were forced to cut back their food intake by an average of around 1000 Calories a day (but still get ~1800Cals/day, which is hardly starvation level), and forced to learn how to walk again rather than pay exorbitant prices for fuel.

Nauru, a small island in the middle of the Pacific, famous for it's bird's poo, which has nourished the farmlands of Australia and New Zealand as super-phosphate, is another case in point. While Nauruans were reaping the economic benefits of super-phosphate exports, they got fat – to become the fattest nation in the world – and around 1 in 2 suffered from diabetes. In the ten years since the super-phosphate has all but gone, the Nauruans are now stony broke (3 of their 4 airplanes used to get



story, which has been canvassed in these pages before (ie. see *Professor Trim's Waistline* Autumn 2008). However in general, obesity and disease are very good friends; if not related!

Obesity and economics are also bosom buddies. In the good times, not only human, but animal populations get fat. That's not unexpected. From the human perspective we do less (physically) to get more (to eat) – the basic energy equation for getting fat – as we get richer. And this applies not just to small upturns in the economy, but to the economy as a whole.

that cause obesity, is increased in this group).

So if obesity causes disease, and the economy increases obesity, it would stand to reason that economic development increases disease. What's that you say? Run that by you again? Isn't our economic health supposed to be tied to our physical well-being, you say?

Yes, the Professor is aware, this is contrary to popular belief. Money is supposed to be good for our personal well-being, which, you would suspect is tied in with good health. After all,

also in this issue

- Four S's of Fitness + 1 = 5
 - Are we really the fattest?
 - Australia second in longevity
- [\(click titles for article links\)](#)

into and out of the country have been repossessed). But they're healthier. Obesity has decreased dramatically and diabetes has dropped from 50% to around 30% of the population.

This may all sound counter-intuitive, but a recent University of Michigan study on health and the economy in Sweden over the last 200 years has begun to clarify the issue. Using statistics on Gross Domestic Product as a measure of economic well-being, and death and infant mortality rates as measures of health, Professor Jose Tapia Granados and his colleagues found that for 150

negative. But of course economists have little interest in anything other than money. With their noses well into the growth trough, they've had little chance to look around.

The rest of us may start to wonder though, as has the Professor. If economic growth is unequivocally good for us, why are we getting fatter and sicker. Perhaps it's time to re-look at our measure of success. Maybe it isn't all money. Hence, as it's almost inevitable that an economic downturn is on the horizon, and the sobering trifecta of rising oil prices, food shortages and

Australian longevity now second highest in the world

Longevity in Australia, according to the respected Australian Institute of Health and Welfare, has now increased to an average life expectancy of ~82 years. This has surpassed Iceland as the second highest in the world, after Japan.

So how does this relate to the story on page 7, suggesting Australians are the fattest people in the world (even given the fact that this story was wrong)?

The answer seems to lie in the types of health problems associated with obesity, and the improvements in medical treatments of these. In the first place, fat may not be as big a cause of disease as we have thought in the past (see response 3 in *Talking Turkey with Trim* in this issue). It may instead be a marker of other things going wrong. Secondly, while people are living longer, they are living for longer with more disabilities, caused by the diseases associated with obesity and overweight (ie. cancers, depression, diabetes). Finally, we might expect to see longevity peak and then fall as the chronic diseases, such as diabetes and heart disease associated with obesity, tend to really kick in – although this is by no means assured as the ability to keep people alive with disabilities may testify.

The situation is paradoxical: We're living longer, but are we living better? This is a question that needs to be teased out in more detail.

The good oil on tea

It's good to know that not all that is pleasant is bad for us (for example, see the 'polymeal' in the last issue of PTW). Tea is a good example: There is increasing evidence that the polyphenols in tea have definite benefits for reducing insulin resistance and artery functioning, as hence the risks of type 2 diabetes and heart disease (*Endocrine, Metabolic and Immune Disorders* 2008;8(2):1-7). Green tea is probably best with 30-40% of dry weight being made up of a substance called 'catechins', which are a form of polyphenol, or anti-oxidants. Black tea is still respectable however with catechins making up 10-12% of the dry weight of leaves. Tea can reduce blood pressure by increasing dilation of the arteries, and, provided it's not taken with milk or sugar, has no calories and therefore is totally benign for weight loss. Under the Professor's classification system this is a GFI food (Go For It!).

THE PROFESSOR'S POINT

It will be an unpopular thing to say, but beyond a point of economic development which provides adequate food, comfort and medical support, humans seem to thrive best health-wise in economic down-turns. Seen in this light, obesity is just collateral damage in the battle for economic development. It results from our inability, or unwillingness, to adjust to all the goodies that come from economic bounty. So perhaps a pause in growth – a bit of the R word – won't be all that bad. Just in case however, the professor is unavailable if there are any calls from people identifying themselves as economists!

years everything was going along swimmingly, with only minor increases in death rates associated with economic bad times, probably due to crop failures. Then in the 1950s, things started to change with a reverse trend becoming established: increases in wealth started to be associated with decreases in health.

Economists would know this as a diminishing marginal rate of returns. It means that at some stage returns on investment decrease until they become

climate change looms large, we need to start looking for some good news. Here's some: obesity may no longer be an issue!

For reference:

1. Franco M and others. Impact of Energy Intake, Physical Activity, and Population-wide Weight Loss on Cardiovascular Disease and Diabetes Mortality in Cuba, 1980–2005. *American Journal of Epidemiology* 2007; Sept DOI: 10.1093/aje/kwm226
2. Tapia Granados JA, Ionides EL. The reversal of the relation between economic growth and health progress: Sweden in the 19th and 20th centuries. *Journal of Health Economics* 2008;(ahead of print).

PATHOS FROM THE PROFESSOR



Why non English speakers shouldn't be allowed to write ads.

Adding another S to the Four S's of Fitness

When scientists discussed exercise in the past, it was mainly based around exercise for skill related fitness ie. for increasing sporting performance. It wasn't until the release of a report by the US Surgeon General on physical activity in 1994, that it was realised that this might not be the whole story.

Exercise for fitness, it was discovered, is not necessarily the same as movement for fat loss. In the former case, the accent is on the intensity and progression of the exercise. In the latter case it has been mainly aerobic activity, or movement, at any intensity.

This is understandable as the biggest decrease in activity in recent years has been in general movement from daily living. But technological change has increased the imperative for other types of activity in relation to good health: Muscle strength for example, has decreased because we no longer have any need to lift, dig, chop or carry heavy weights. Flexibility has decreased because there is less need for bending and stretching.

So any initiative taken to decrease your weight and/or increase your fitness needs to consider health related, rather than skill-related fitness; in particular. To do this the professor has come up with a 5 point fitness test based around 5 S's (Size, Stamina, Strength, Suppleness and Stability). A description of each of these and how you can tell how you rate is given below.

Size refers to body fat. This is related to fitness, but not perfectly. It is possible to be fit AND fat and activity levels are more important than weight loss in people who just can't lose weight. All you need to do is move.

Body fat is usually (but not very effectively) measured by Body Mass Index (BMI), which is a measure of weight for height (height over weight squared) developed in the 19th century. And while this does give an indication of the fatness of a whole population, it's not a good measure at the individual level as it can discriminate against those with a higher muscle status. A better measure for home consumption is waist circumference. Try to stay below 100cm (male) or 90cm (female).

Stamina is aerobic capacity. It's a measure of the body's ability to process

oxygen under demand and is a good indication of cardiovascular (heart-lung) fitness. It can be increased by regularly moving at increasing levels of intensity.

Ideally, stamina is measured in a test to exhaustion on a treadmill or exercise bike, taking account of oxygen inhaled and carbon dioxide exhaled. However this requires sophisticated equipment and is not easy to do at home. A better simple screening question is: "Do you regularly (ie. daily or almost daily) carry out exercise for the sole purpose of improving your health, or increasing your physical fitness." If the answer is 'yes', you're likely to have an acceptable level of stamina.

Strength is, as it suggests, the ability of a muscle to produce force on contraction. Strength is improved through resistance type activities like weight lifting, rubber straps, aquarobics, exercise machines etc.

A good test for overall strength is either the strength of abdominal muscles (tested by doing full, bent leg sit-ups) or the quadriceps of the thighs (tested by standing from a chair to your full height in one movement). Test how many of each of these you can do in 20 seconds. More than 12 of either is a reasonable test of strength of these muscle groups.

Suppleness is another name for flexibility. It refers to the ability to stretch muscles through their full range. Suppleness is improved by stretching or in such activities as yoga.

As the hamstrings (behind the thighs) are a large muscle group that are important for bending and moving, a measure of the ability to stretch these is

PROFESSOR TRIM'S PRACTICE



a good indication of overall flexibility. Sitting on the floor, slowly reach forward to see if you can reach between your feet. If you can do so, or if you can exceed this, you are adequately flexible. If you can't, you need some more stretching exercises.

Stability is the final S, and is important for preventing falls, particularly in older people. It is an indication of the ability of muscles and joints to work in harmony in daily movement.

A simple measure of stability is to stand on one leg for 30 seconds. Imagine a T sign across the shoulders and down the mid-line of the body. If this wavers, during leg standing, it indicates a lack of stability. To make sure of this, then close the eyes for 30 seconds and check if it can be done without wavering. Stability is increased by learning how to stand on one leg like this for longer.

Summary

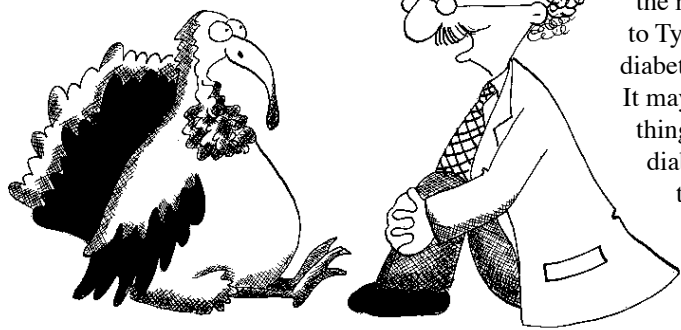
The 5 S's can give you an indication of any deficiencies in specific aspects of your fitness. These can then be worked on to improve overall fitness.

THE PROFESSOR'S JOKES ON THE JOB

The following are quotes from male patients of a Gastroenterologist acquaintance of the Professor, made while on the job, performing colonoscopies:

- "Can you please inform my staff that my head is NOT up there!"
- "Did you find any of the advice that I've been told to stick up there over the years?"
- "Can we get your nurse to do that while you take my temperature?"
- "If I ever had an inkling to be gay, you just killed it."
- "You know in Tasmania, we're now legally married."
- "Now I know how a puppet feels."
- "Before you go, can you replace my dignity?"

TALKING TURKEY WITH TRIM



Q. I've just been told by my doctor that I have 'pre-diabetes', but he didn't really explain what that means, or what I should do. He said I would eventually become diabetic, unless I started eating better. Is there anything else I can do?

A. Pre-diabetes, as it sounds, is the early stage of Type 2 diabetes, which results from a failure to be able to use glucose for energy (a bit like having a car with a gradually increasing a block in the fuel line). As humans, we are probably all pre-diabetic (Type 2 that is. Type 1 is an auto-immune disease which is probably not preventable). At least we all have the propensity to be diabetic. It's probably the environment that has prevented it from being such a common disease in the past. Today the access to virtually unlimited fatty foods and the need not to have to exercise to get this means that the disease is much more common.

But back to the question: Because diabetes is measured by a rise of sugars in the blood ('diabetes mellitus' actually means 'sugar diabetes'), there is no definitive cut-off which says whether you have diabetes or not. Cut-offs have been decided by experts who define that above a certain level, the risks of complications from the disease increase dramatically. Pre-diabetes then is a point below that, and above a healthy level, where all the indications are that this will increase, but there is still a chance that it can be reversed.

What can be done? Well, even once the disease has progressed to full-blown diabetes, it can often be reversed by a change in lifestyle. Studies in the US and Finland for example have shown that a change in 3 lifestyle factors

– losing weight, increasing physical activity levels and decreasing fat in the diet, can reverse the risk of progressing to Type 2 from pre-diabetes to almost zero. It may be an unfortunate thing to say, but type 2 diabetes should begin to be looked at as a 'disease of choice'. People who really do not wish to have

it can usually do

something about it, if lifestyle changes are made quickly and fully. And the benefits are obvious – prevention of a whole range of nasty consequences, including sudden death.

Q. Really, what do you guys know about nutrition anyway? One day you say eat this and the next day avoid it? When will you get it right?

A. The fact is that nutrition is a very incomplete science. Unlike other areas of health (like exercise), where we can specifically study muscles and their reaction, nutrition involves so much more. Hence we chip away at the edges, with small increases in knowledge occurring gradually over time, rather than anything being set in stone.

What *do* we know? Well we can limit it to a few positives: In the first place we know that fresh fruit and vegetables – of almost all kinds – are healthy and should be eaten more. We know that we eat too much saturated fat for our own good, particularly in the form of spreads like butter and margarine, oils in frying and the fatty meats and skin on birds.

We know that seafood, of just about all forms, contains healthy oils than can help prevent heart disease. But we don't know yet though whether this remains the case when seafood is farmed, as it will inevitably have to be, given that wild seafood is a finite resource.

We know that some carbohydrate rich foods that are digested slowly (called low Glycemic Index or GI foods) tend to raise blood sugar slowly and reduce hunger levels and are therefore good for people with diabetes and possibly for helping weight loss. And finally – and here's the good news – we know that alcohol in moderation (ie. 2-4 glasses per day for men and 1-2 for women) can

be beneficial for the heart.

But that's about it for nutrition. Our knowledge of exercise on the other hand is much more clear – doing it regularly is good; doing nothing is bad.

Q. How is it that my doctor keeps telling me to lose weight when I don't have anything wrong with me? He says himself that all my blood tests are perfect and I've got nothing to worry about.

A. This is a question that's been bothering many health experts. If obesity causes disease, why are about 1 in 5 obese people perfectly healthy, with no sign of any metabolic problems? One could also ask why about 1 in 5 lean people seem to have all the ill-health signs that are supposed to be associated with being obese.

The answer is complex, and not yet fully understood. For thousands of years we have known that obese people have *more chance* of being unhealthy. Hippocrates, said over two millenia ago that: "...*sudden death is more common in those who are naturally fat than in the lean*". Over the last two decades, as the population has gotten fatter with changes in the industrial environment, there has been an increase in diseases like heart disease and diabetes associated with being fat. But that may just be the point ...*associated* with being fat. This doesn't necessarily mean that being fat is the *cause*.

In fact, one line of theory is that it is not being fat, but the doing the things that *makes* one get fat, that is the problem. In other words, if you eat all the wrong foods, are inactive, don't get enough sleep and suffer from stress and depression, you may get ill, *irrespective of whether you get fat!* On the other hand, if you do all these things right, you may manage to stay perfectly healthy, *even if you do get fat*.

Of course if this is true, it would cast the fat – sorry cat – amongst the pigeons. We would have to look at our whole environment and all the lifestyle factors involved, rather than just treat fat – which may be just a sign of a bad lifestyle rather than a cause of ill-health in itself – in a different way. It would make a nonsense of programs like diets and 'biggest loser' programs as a means of improving health (in contrast to fatness).

THE PROFESSOR'S PODIUM



Exercise and sex – does the first help the second?

Lectures on physical activity invariably attract one question – normally from an otherwise unengaged male in the audience: “Does sex count as exercise?”

After 30 years of such questioning, the Professor is keen to put the record straight – if nothing else. In doing so, he has been assisted by a recent article published in the esteemed *American Journal of Cardiology* (2007;100(12):1795-801). This details work by researchers in New Jersey, who set out to compare the heart rate and blood pressure responses of a fitness testing protocol running on a treadmill, with that from a session of horizontal folk-dancing. For those interested in the intricacies of the study, the latter activity was carried out in the privacy of the testee’s (perhaps not the right word) home, during a normal encounter between consenting adults.

Men and women were both tested with remote sensors that fed back into a computer at a later date. Their responses were compared with the level of effort they were able to achieve running on a treadmill during a standard fitness test. Perhaps not surprisingly (for those male readers), heart rate and blood pressure did not rise as much in women during fragrant dilecto as men.

The heart rate and blood pressure increase on the treadmill were also higher than during sex. Times to exhaustion on the treadmill were also less than the interpersonal interaction,

as might be expected, as working at maximum in the latter case is not likely to be appropriate. Interestingly, age also rears its ugly head in both testing situations: There was a 9 second decrease in time to exhaustion on the treadmill per year of age, and a one minute decrease in length of sexual performance per year of age. However performance time in the bedroom increased by 2.3 minutes for each minute the subjects could exercise on the treadmill, suggesting a positive benefit of fitness in the romantic stakes.

Size does matter – and men still get it wrong

Men still see themselves as being more than three inches slimmer than they really are according to a recent British study. Women on the other hand still look in the mirror and see someone who is too fat.

In a study presented to Diabetes UK’s Annual Professional Conference (APC) in Glasgow, more than 500 men and women were asked to estimate their waist size. Most under-estimated by an average of 2.7 inches. Men underestimated most and saw their own waists as 3.1 inches (7.9 cm) less than they actually were.

Having a large waist is one of the main risk factors for developing Type 2 diabetes, a serious condition that can lead to devastating complications such as blindness, heart disease, stroke, amputation and kidney disease. Hence, Diabetes UK is encouraging people to measure their waist as a way of seeing if they could be at risk of developing the condition.

“Measuring up is a reality check, the first step to recognizing that you may not be as well as you feel,” says Douglas Smallwood, Chief Executive of Diabetes UK. “It can take years for symptoms of diabetes to emerge so simple indicators like waist size are important signals.”

Morgue forced to buy forklift truck for obese

Sydney Morning Herald, April 20, 2008: The proportion of obese patients requiring coronial autopsies has doubled from 15 per cent in 1986 to 30 per cent, according to a study by forensic pathologist Professor Roger Byard at Sydney’s Glebe Morgue. The proportion of morbidly obese corpses has increased from 1% to 5%. This has meant that morgue workers are at risk of back

damage and hence the morgue has been forced to buy a forklift to move and store obese bodies.

On top of the lifting problem, morgue workers say the degradation of soft tissue is speeded up in morbidly obese patients, making handling difficult. This means that autopsies have to be performed on floors, or with a pathologist leaning from a ladder, or actually standing on the trolley over a body.

The NSW government has also been forced to buy three extra-large \$150,000 ambulances fitted with hydraulic lifts capable of carrying loads of up to one tonne. This supports the finding that Australians do have a real and growing problem with obesity – although this may not be quite as bad as pointed out in the popular press (see page 7).

...and the fat will inherit the earth!

Now here’s a solution to rising petrol prices: tap into your own bio-fuel – your belly!



That’s what the master on a recent round the world bio-fuel challenge has done to prove that vehicles can run on bio-fuel. Fat, of course, is a top bio-fuel. It’s stored in the body exactly as such, to help get us through the lean periods. Every kilo holds around 8,700kcal of energy, which, if converted to fuel, would get a Mr Bean car around 10 kms. Using 100mls of fat sucked out of his body by liposuction, the master of the Round the World challenge showed it could be used to help power the boat.

The round the gut challenge, which will come next, will feature big men hooked up to the engine of small cars by an infusion line to their pot bellies, racing down the Stuart highway from Darwin to see who gets to Adelaide first. The finish line will be crossed by randy, svelte looking young men who would have commenced the challenge just days earlier in Adelaide as impotent, obese slugs. PTW would be interested in sponsoring that!

TRIMLINES

Too much exercise – just as harmful as too little?

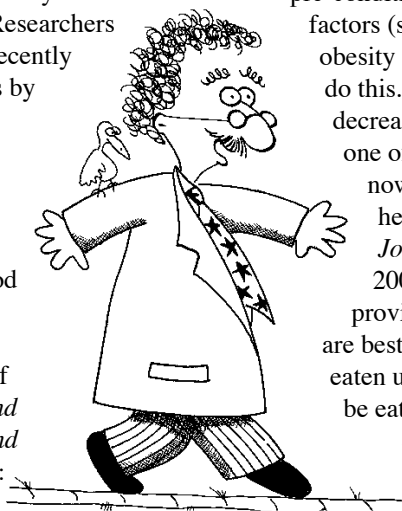
Exercise scientists in Austria have found that inflammatory markers, which are elevated in people who do little or no exercise, go up and stay up for up to 5 days after excessive exercise like a full triathlon (*European Journal of Applied Physiology*, 2008 Jun 12). The markers indicate the development of inflammation in the arteries, which is now thought to be a causal factor in chronic diseases like type 2 diabetes, heart disease and some cancers. This shows even too much of a good thing could be... well, just too much.

Diets not the answer

As if the Professor hasn't said it before (to the point of ad nauseum): American Psychologists have now cottoned onto the fact that diets don't work! In a comprehensive analysis of diets and weight loss, a group from the University of California in Los Angeles has concluded that: "It is clear that dieting does not lead to sustained weight loss in the majority of individuals, and additional studies of the effects of dieting on weight loss are not needed," ...and further that: "It appears that dieters who manage to sustain a weight loss are the rare exception, rather than the rule." (*American Psychologist*, 2007;April:220-233). Will somebody pleeeeeeese send a copy of this paper to the Editors of women's magazines all around the world!

Vigorous exercise best for cholesterol/hypertension

While nobody today is game enough to disagree that physical activity is good for health, there is some argument about the types of exercise that are best, and, more importantly, the intensity that is best to get best results. Researchers in California have recently partly answered this by showing that (a) fit people do best (b) fitness is improved most by vigorous exercise (c) cholesterol and blood pressure generally go down furthest with higher levels of fitness (*Medicine and Science in Sports and Exercise* 2008;40(6): 998-1006).



This has been expressed in another way by the professor in suggesting that it is exercise VOLUME that is the issue, where volume = frequency x intensity x duration of the activity. The type of activity will set the stage for benefit, with non weight-supportive exercise being best, but in general, it is the volume that should be noted, with type being of less relevance.

Fat is fine – up to a point

New findings using advanced genetic manipulations of mice have begun to unravel the simple formula of fat = unhealthy that has been touted by medical experts for centuries (*Journal of Clinical Investigation* 2007;117(9):2621-2637). It's long been known that people born with a disease called 'lipodystrophy' where they have no fat on the body, suffer from all the same diseases as those with too much fat (diabetes, heart disease, cancers etc). Now research has shown that if mice are bred to over-express a gene that causes fat cells to expand, they also don't suffer from these diseases – irrespective of how fat they get (at least to a point). This suggests a 'spill-over' effect of fat on disease, which is determined by an individual's genes, making it more of an issue for some people than others. It's likely to change our way of thinking about obesity. Watch for a major story on this in the next issue!

Nuts and Inflammation

The concept of 'metaflammation,' which has been discussed in these pages previously, is a hot topic in health research. In short, obesity has been thought to cause disease by causing a type of low-grade inflammation in the arteries, which leads to insulin resistance, then diabetes, heart disease etc. But researchers have recently shown that obesity may not be a necessary pre-condition, and that other lifestyle factors (some of which may lead to obesity on the way) can actually do this. Other factors tend to decrease inflammation. Nuts are one of the latter, causing these now to be re-looked at as a healthy food (*Asia Pacific Journal of Clinical Nutrition* 2008;17(S1):333-336. The provisos are: (a) that tree nuts are best (b) that these have to be eaten unsalted (c) that they should be eaten in small amounts (eg. ~40g/d). If weight is still a problem, they might still be best avoided.



PROFESSOR TRIM'S TABLE TALK

SEAFOOD SALAD

Serves 4; Fat per serve = 6.2gm

8 x scallops
8 x shelled prawns (leave tail end intact)
240gm salmon fillets (4x pieces)
Mignonette lettuce
1 x medium capsicum
1 x medium yellow capsicum
8 x asparagus spears, blanched
½ medium avocado
4 x button mushrooms, sliced

Marinade

2 tablespoons freshly chopped coriander
Lemon juice x 2 lemons
100ml balsamic vinegar
1 teaspoon fresh ginger
Lime juice x 2 limes

Method

1. Marinade all seafood in lemon and lime juice, coriander and ginger, along with a dash of salt and pepper.
2. Place seafood onto a hot BBQ grill and drizzle over marinade.
3. Cook for approximately 2 minutes and then turn. Drizzle marinade, cook for a further 2–3 minutes.

Salad

1. Arrange 3 – 4 lettuce leaves onto each plate.
2. Arrange prawns, scallops and salmon over lettuce.
3. Decorate with capsicum, avocado mushrooms and asparagus.
4. Drizzle over dressing and serve immediately.

Dressing

50ml white wine vinegar
10ml olive oil
50ml lemon juice
salt and pepper to taste

The problems with fruit juice

While fruit is recommended for good health, the Professor has long warned against the dangers of fruit juice, which is just concentrated sugars, and therefore likely to be fattening. But new findings suggest that the problems don't end there; Fructose, which is the type of sugar contained in large amounts in fruit juice may have adverse effects on other parts of the body, including the liver, and brain.

The fact that fructose, from fruit, is metabolised differently than sucrose from sugar cane or other sources, was first recognised by Dr George Bray, a well-known American obesity researcher, as far back as 2002. Bray suggested that the American obesity problem was largely due to the big jump in the use of fructose as a sweetener in the US. He pointed out that soft drinks in the US (Coca Cola and Pepsi Cola), have been sweetened by high fructose corn syrup (HFCS), rather than cane sugars, since the mid 1980s, because of a sweetheart deal by politicians with corn farmers.

Nobody took much notice, until researchers began to show differences in the metabolism of fructose and sucrose. Fructose, it seems, is metabolised more in the liver, almost like fat, and hence has different effects on the body than sucrose. And while most fruit juices have both fructose and sucrose, the ratio varies according to the fruit. Apples, for example, while one of the healthiest fruits available in whole form, have a

high proportion of fructose to sucrose, and hence are now regarded as one of the most unhealthy of fruit juices.

While research is still in its early days, the message is to eat heaps of fruit, but avoid the juice.

PS. Vegetable juices don't fit into this category as they do not contain fructose.

For reference:

Stanhope KL and others. Consumption of Fructose-, but not Glucose-Sweetened Beverages for 10 Weeks Induces Glucose Intolerance and Insulin Resistance, and Increases Visceral Adiposity in Overweight/Obese Men and Women. American Diabetes Association Annual Meeting, 2008

Fruit juice or alcohol: Which is best for weight maintenance?

Given the above eye-opener, and the controversy on alcohol and weight loss, the question now becomes, 'is a glass of beer/wine' less fattening than a glass of fruit juice?'

Amazing as it may sound, the answer is probably 'yes'. The high-energy content of fruit juice makes this 'energy-dense', and thus likely to cause weight gain.

But, if a glass of fruit juice is ~100 Calories and a midi of beer the same, shouldn't they have the same effect on weight? Probably not – for two reasons: the first is that fructose in the juice acts more like a fat and is stored more readily. The second is that alcohol is burned more efficiently than fruit juice and is never converted to fat in the body. Alcohol with a high calorie diet will result in the alcohol being metabolised and the

excess energy being stored as fat. But provided energy intake is controlled, the effects are likely to be less than that of fruit juice.

Is Australia the fattest?

Press headlines in May 2008 suggested that the obesity 'problem' was over-stated and that we don't have the problem often reported. This was based on a Sydney University study that found a levelling of obesity rates in young girls from wealthy backgrounds. The reports ignored the fact that obesity is still rising amongst poorer groups – as is always the case as countries develop.

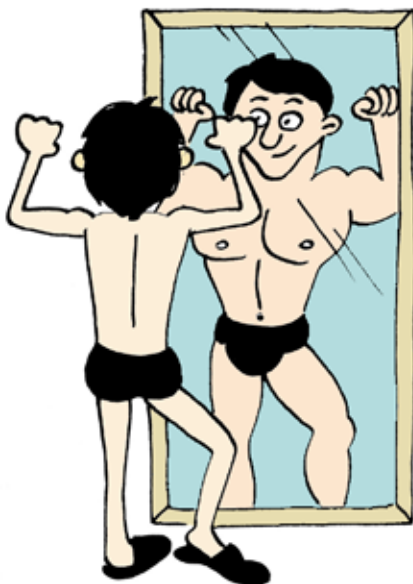
Headlines in June suggested, on the basis of a shopping centre survey, (designed to measure blood pressures) that Australia is now leading the world in obesity rates – even ahead of that lardland, the United States. The study claimed 26% of Australians are now obese, with a Body Mass Index of >30.

The main problem with this is that it's wrong. Apart from problems with the study design), obesity measured by BMI >30 in the US is closer to 33% of the population. Other countries such as those in the Mediterranean, Eastern Europe and the South Pacific are also much higher. We rank about number 15, not number 1.

There's no doubt that obesity is a problem in Australia. But if the science is not right and reporting compounds the errors with this, there will be a suspension of belief in all science. Australia is fat – but let's not give up on doing something about it.

TRIM'S TUMMY TICKLERS

Stages of a Man's Life...



YOUTHFUL OPTIMISM

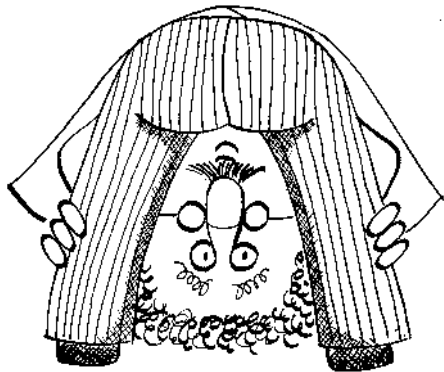


MIDDLE AGED REALITY



LIFETIME CERTAINTY

PROFESSOR TRIM'S REAR END



More inflammatory issues from the Professor

Privileged readers of these esteemed pages will recall the discussion on low-grade inflammation (metaflammation), which has been recently identified, and its association with lifestyle-related diseases, including obesity. This has resulted in an outpouring of research, attempting to find what causes pro- and what causes anti-inflammatory reactions in the body. Well here are some new ones, recently discovered:

- Eating a cup of raisins and going for a walk each day has been found to decrease inflammation in the arteries (and, by definition, reduce chronic disease risk).
- The same has been found for eating spicy foods such as curries and chillies with an ingredient known as capsaicin, and foods with particular types of anti-inflammatory polyphenols such as curcumin (in turmeric) and resveratrol (in red wine).
- Restricting your food intake by about 30% is also good, although starvation has the opposite (pro-inflammatory) effect, as does over-eating – even at a single meal.
- Similarly, physical activity reduces inflammation – after you start to get fit, but even in the very fit can have the opposite effect if it is excessive, such as in the ultra-marathons and triathlons.

On the bad (pro-inflammatory) side:

- smoking has long been known to be a problem, but second-hand smoke and even air pollution raises inflammatory markers,
- sleep deprivation, stress, depression, excessive alcohol intake (moderate alcohol is actually on the 'good' side of the ledger, 'binging' probably on the bad side), fast foods, fruit sugars or fructose as in many fruit juices, too

much salt and some drugs (cocaine and methamphetamine in particular) are all inflammatory,

- Another surprise is low humidity (as in a constantly air conditioned environment), and a recent study has even shown an inflammatory effect of the 'sick building syndrome'.

If that's not enough to feed your paranoia, watch these pages as the Professor builds an extensive data base of inflammatory stimulants associated with 21st Century lifestyle.

For reference:

Puglisi and others. Raisins and additional walking have distinct effects on plasma lipids and inflammatory cytokines. *Lipids in Health and Disease*. 2008;16:7:14.

Three-question quiz predicts CHD death

The Economist, JM Keynes once famously said in answer to a question about the future: "...in the long run, we are all dead." In the meantime, most of us would like some signs to help us stay that little bit longer on Terra Firma. From a long-term follow-up study of angina in men and women in their 40s the World Health Organization has come up with three basic questions like this about heart disease. These are:

1. Do you get pain or discomfort in your chest when walking up hills, stairs or hurrying on level ground?
2. If you get pain or discomfort in the chest when walking, do you usually stop, slow down, or carry on at the same pace?
3. If you stop or slow down, does the pain disappear after less than 10 minutes, or after 10 minutes or more?

Of course, there are many other risk factors for disease and this only shows those related to a particular type of heart disease. Still, in the words of one M. Python, "...it's a sign, by any standards".

Baby boomers' bodies hit by years of wear and tear

Doctors who specialise in disorders of the skeletal system and associated muscles, joints and ligaments are being kept busy these days, as increasing numbers of baby boomer athletes and exercise enthusiasts hit middle age and beyond.

According to US orthopedic surgeons, there is currently an epidemic of overuse or 'wear and tear' injuries in the foot, ankle, knees, hip, shoulders and elbows, in baby boomers, probably to do with biomechanics, poor flexibility,

wear and tear, and pounding on hard surfaces that come from many years of sports such as running, tennis, step aerobics and basketball.

In Australia, sport's medicine specialists are bracing for a boom in later life injuries in professional sports people now encouraged to play more and more high intensity games like Rugby, AFL, Basketball, Netball, Hockey and Soccer over extended seasons.

According to some specialists, alternative activities that put less stress on joints should be considered for later in life. While it is obviously important to remain active, the ways of doing this need to be considered. Walking remains one of the best, and convenient ways. However unfortunately this is being reduced by knee, hip and ankle injuries gained early in life.

Sacrificing the week may be lost on the weekend

For many people (men in particular), the week's eating, exercise and lifestyle pattern is quite different to that on the weekend. Attitudes and behaviours tend to be a little more relaxed towards the end of the week with socialising and less constraint on over-indulgence.

So does this matter in the grand scheme of things for weight loss? According to a group of researchers from Washington University School of Medicine, it does. In a study with 48 healthy adults over one year, they compared weight loss on a calorie-restricted diet with that on a one year-long exercise program. When they found less than expected weight losses in both groups, they couldn't understand why, as weight measured during the week seemed to be going in the right direction.

On closer examination, the researchers found that while weight decreased from Monday to Friday, it actually stayed stable on Saturday and Sunday to compensate for this in the calorie restricted (CR) group, and increased in the exercise group. It was shown that this was because the CR group increased their food intake on weekends, while the exercise group did less exercise on Sundays than any other day. It should be a warning to those taking on a different persona from Friday to Sunday.

For reference:

Racette SB, and others. Influence of Weekend Lifestyle Patterns on Body Weight. *Obesity* (Silver Spring). 2008 Jun 12.