

One of the most important books of the new millennium-if you read one book this year this should be it

## **STAYING ALIVE AFTER THIRTY-FIVE THE BARE ESSENTIALS**

### Introduction

At last, at last, some semblance of the truth at last

The idea for this book arose after many years in specialist medical practice. Like most of the rest of us I'm frequently lazy, often eat too much, have been known to drink far too much on occasion, and have neither the time nor the inclination for a routine structured exercise program. I've spent years giving advice on diet, exercise and managing emotional stress. This has largely involved the promotion of the standard schpiel found in the self-help/health section of your local bookshop (you know, just after the 'Why relationships fail' section and pretty close to the New Age area). With a touch of maturity, and the loss of the medical missionary zeal of the young and inexperienced (thank God), I came to realise that adopting the advice given required the self-sacrifice of a saint, the prissiness of an aged Victorian spinster, and the discretionary time of a pensioner. A predisposition to masochism would also be a bonus.

I have become more of a realist. I now give advice with which normal everyday people are likely to comply. I use drug therapy sensibly, focusing on the safest and most effective medications in the most practical formulations possible. I promote simplicity. This facilitates adherence. I've grown up. There is no doubt that appropriate modern medical therapy works. Having said that, a prescription for long-term drug treatment is almost never what people want to hear. They want quick fixes. Simple solutions, preferably with a New Age bias. And I would love to provide that. Honestly. Particularly because the market is huge. But I find I can't. I've seriously contemplated the issue, going as far as eating the tiny misshapen tomatoes that grow in a boggy patch around my father-in-law's state-of-the-art organic pit toilet. And that's at Xmas with a straight face. OK, I'll admit I was drunk at the time. Believe me, alcoholic premedication in industrial doses was essential.

You want a book with amazing and unsubstantiated claims about a single natural (or unnatural) product that solves a million of life's little emotional and physical problems, written by a guru, who was probably born in the Bronx but has since gone to great lengths to conceal the fact, then put this book back on the shelf immediately. Go find your book. There are literally thousands of such books in the health/self-help section, all written and marketed with you in mind. And as a result your guru is probably now a millionaire, drinks industrial quantities of Moet, smokes forty a day and has found herself a delightful and inexhaustible toyboy.

Still there? OK back to modern medicines. Yeah, most of them really work. I mean, how boring is that? Particularly when you feel well and are too young to realise that life is finite. Yip. We can debate forever whether life is long or short, but believe me it is finite. We aren't going to live forever. In our twenties and thirties when we are busy with career and family, that most useful of human defence mechanisms, namely denial, makes this hard to accept. Sure, we understand concepts of disease and death intellectually, but not at an emotional level during these decades. In our forties and fifties time seems to accelerate and all those precious sacrifices we made at work and such-like become a little

less relevant. Furthermore health starts to crumble (even if it is just the start of a second chin and an expanding waistline) and slowly but surely we realise that mortality is a long-term possibility. Our kids are usually adolescent at this stage and invariably think we are stupid, shallow, blinkered and mean (especially with the clothing allowance). And we start getting diseases. Not necessarily diseases that cause symptoms, but diseases such as high blood pressure and elevated blood fats that kill us nevertheless if untreated. So we try the transcendental meditation, seaweed extract, the herbal remedy with the unintelligible Latin name, and similar preparations. Sooner or later the natural supplements are rejected by some of us because they don't work. The remainder trundle on taking such treatment, feeling like a million dollars while high blood pressure and fats corrode their blood vessels, damage their hearts and kidneys, erode their brains, and ultimately cause overt catastrophe. Those of us who consult with our doctor are given drug therapy. More often than not however treatment is inadequate, because the patient doesn't really want to take a "chemical" and the doctor is thus pressurised not to prescribe appropriate doses, or the multiple drugs that are often necessary to control these conditions adequately. Or doesn't deal sensibly with unacceptable side effects by modifying treatment accordingly, leading to non-compliance. And dare I say it? Sometimes the doctor just isn't up to date, which is hardly surprising given the volume of new medical information published every year. And these issues continue to fascinate me. We could do so much better. A large percentage of patients with chronic medical conditions, who would benefit both in terms of survival and quality adjusted life years (QALYs-the magical years of your life when your physical and emotional health is optimal, and life is without a doubt worth living), are either on no treatment, or treatment that is suboptimal by best practice standards. It is important to note that I am referring here to patients in developed economies who have medical insurance and absolutely no limitations in terms of access to first world medical care. One aim of this book is to provide patients with the basic knowledge sufficient to treat them to a long and healthy life by demanding best care, without long-term starvation or physical deprivation. After all life should as far as possible be fun, even for us Calvinists out there. And the meek, but only if that is OK for everyone else.

Modern man is an evolutionary masterpiece designed to survive wide variations in availability of food resources. We are built to endure prolonged famine, to feast during the good times, and to generally avoid any unnecessary exercise such as walking instead of driving to the corner store. We're energy conservers by nature. We invent and cherish labour-saving devices. We have brains programmed to find sustenance and feast thereon. Our acute senses of taste and smell have been exploited by the food industry to seduce us further in these times of plenty (this is not a criticism but an observation). Portions have increased dramatically in size over the last twenty years, and the fat content (of fast foods in particular) exploited to save money and increase customer satisfaction. Fat food tastes good and satisfies. One super combo of fast food provides eighty to ninety percent of a child's daily calorie requirements. Sodas are now dispensed in six hundred ml and one-litre bottles. This increases the calorie count dramatically. Studies in children have shown that this high volume liquid calorie intake has little effect in reducing feelings of hunger. Marketing of these larger volume sodas is clearly a great way to increase sales volumes and profit in a saturated marketplace. Childhood obesity has now reached epidemic

proportions in the western world and the problem continues to grow, as do the children. Direct advertising of fast foods to the childhood market has been highly effective in exacerbating the problem and is morally dubious given the limited ability of children to make informed and rational choices (not that we adults do much better). Provision of soda machines and unhealthy fast foods in schools has compounded the problem, particularly because they are so effective in generating extra school funding.

Furthermore the western world has been exposed to continuous abundance for the last fifty years or so. This is unique in the entire human historical experience. Blame dramatic scientific advances in farming techniques. Basic foods are now relatively cheaper in the West than ever before. The advent of television and more recently the personal computer have increased the opportunity for entertainment while sitting on your butt. Most western kids watch approximately twenty-five or so hours of television a week. Television viewing and PC/computer games use have had a major negative impact on time available for physical activity and, of course, the attraction of exercise when compared to these modern sedentary delights.

OK, so what's the bottom line? Pretty obvious isn't it? No, the world is not shrinking. We are actually enlarging. Sixty three percent of American and English adults are either overweight or obese. This is double the number a generation ago, when to be frank fat people were hardly uncommon. In spite of this we are living longer. Yip. We are getting fatter, and apparently unhealthier, and yet are living longer. This is largely the result of the quality treatments now available for most common medical conditions. Preventive therapy however could have a much greater impact than is currently the case, simply because it is not prescribed as widely and adequately as it should be.

Disease patterns are changing too. Living longer has its trade offs. Forty per cent of octogenarians have significant cognitive impairment i.e. dementia. Glory, glory what a hell of a way to die: in a rest home, with a vocabulary of seven and double incontinence, while your sixty years plus children squabble over the will. OK. So we need strategies to minimise the risk of Alzheimer's disease and other causes of dementia.

Depression robs us of years both in quality and quantity. Recognition and appropriate therapy can change lives. And then all those other diseases like osteoporosis, breast cancer, prostate and unbearable in-laws. This book will enable you to understand the common life threatening diseases, to avoid them as far as possible, and to have fun along the way.

Why don't we list the common causes of death or long-term disability (the dreaded diseases) in OECD countries in descending order of frequency?

1. Ischaemic heart disease (causes heart attacks and heart failure)
2. Cerebrovascular disease (strokes and such-like)
3. Chronic bronchitis and emphysema
4. Lung cancer
5. Pneumonia and other infections
6. Neuropsychiatric disorders such as dementia

7. Road traffic accidents and violence
8. Unipolar depression /suicide
9. Diabetes mellitus
10. Gastrointestinal cancer-in particular colorectal cancer
11. Breast cancer
12. Prostate cancer

**The above is the list of diseases that are out to get us, that don't fight fair and that will eventually kill or disable 95 percent of us unless we take sensible precautions.**

Take a close look, ladies and gentlemen. These are the major threats to a long and happy life. They are real. They are life-threatening conditions. They do not respond to rational debate or political correctness and, amazingly enough, are not prevented by treatments that don't work.

It is important to recognise that these diseases are not mutually exclusive. Seventy percent of deaths in developed countries are due to heart disease and stroke, but a range of other diseases and risk factors predispose to these illnesses. Most patients with diabetes, for example, die from heart attack or stroke. Obesity predisposes to heart attack, stroke and diabetes. **Importantly, heart attacks and strokes are not less common in females. They just manifest a few years later in the fairer sex, but cause just as much disease and disability in women as they do in men.** Cancer remains the monster it always was, although the risks of the various cancers vary with gender. Depressive illness robs many people of decades of quality existence, and is thus a major cause of long-term disability. This condition is more common in women and remains a major cause of long-term unnecessary anguish and suffering. People with long-standing illness are more likely to become depressed. Smokers are predisposed to heart attack, stroke, emphysema, and a variety of cancers.

So at this stage of the book I have two choices. One is to wear the alternative New Age hat and waffle on about the wonders of ragweed thistle or mussel extract, focus entirely on this for the next few hundred pages, quote studies that wouldn't stand up to scrutiny by a preschooler, and flog the book. While doing market research prior to writing this book I was informed by several publishers that this approach is the only guarantee of success in the self-help/health arena. Bull%^&\* baffles brains, I was told. (And that comment came from a very distinguished, successful and widely regarded female publisher!) Go for it. You can never overestimate the gullibility of the public. You will sell millions. We acknowledge that you are not photogenic, but you will be amazed how much we can achieve with computer graphics these days.

But I am not going to follow that route. Even with the best of intentions, it would be unethical (pity, but there is nothing worse than an overly punitive conscience). Anyway, as mentioned earlier there is a huge market out there to deal to that type of publication already. But by God it is tempting. For the next few years however I prefer to keep my soul intact. OK call me insufferably self-righteous, but I am going to take the road less travelled. Maybe I can make a difference. Comments from one publisher suggest that it is likely to be a very, very, very small difference. But the public deserves better. So here we go.

There are a few issues that I would like to clarify before we go further. I have always been passionate about empowering patients (particularly women, who don't always get their fair share of health care), and encouraging them to involve themselves as far as possible in the management of their health. A recent article by the American Medical Association emphasised that the medical profession has not been particularly effective in promoting disease prevention. The focus of modern medical training is on treatment rather than prevention of disease. The public remains poorly informed and deserves better. This book is fact-packed and contains the best quality medical advice currently available for the above listed diseases. The book may not look large but don't expect to assimilate everything discussed in a single gulp. The book is as much a detailed reference manual as it is a three hour read. Feel free to take it along to your medical appointments. Most of the diseases addressed are complex. A simplistic and one-size-fits-all solution would be absurd. Having said that, as mentioned previously most health and self-help books focus on simple issues and quick wins. They sell. They focus on one or two solutions to solve rocket science sized problems. They appeal because they promise that a one-hour read will provide you with a guarantee of eternal life, the meaning of human existence, and a perfect solution to everything in-between. But sadly they commonly exploit and fail to live up to rigorous scrutiny.

I have used humour simply because it is part of is my personal consulting style. It helps establish relationships and improve morale. I obviously do not use humour in situations where it would be inappropriate, emotionally insensitive or offensive to do so. Please do not misconstrue this as trivialisation of the diseases discussed. They are not trivial. They are after all the major threats to human physical and emotional well-being in the new millennium. I grew up in a highly dysfunctional racist society, was drafted as a young doctor into an army fighting bitterly to maintain the status quo, and have spent the rest of my career in the frontline of medical practice. I have seen enough death and suffering (much of it preventable) to fill ten lifetimes. Humour is a sanity preserver for me. Therefore if I do come across as flippant at times I apologise in advance. It is not the intention.

Humour and absurdity are part of the human condition. We are all subject to foibles and oddities that are part of being human. I'm just as vulnerable to these as the next person. I am an awful hypochondriac. I get a headache; I think I have a brain tumour. Influenza? I think I have meningitis. My wife get chills and a fever and I ask her if she can pick up the kids and a six pack of beers on her way home from work. (Ladies, have you noticed how much more susceptible men seem to be the more severe strains of colds and influenza). If some of my comments in the book appear too caustic or ironic they are not due to special insight or superior scientific knowledge. They are simply there to inform, and provide an opportunity to reflect on how and why we make particular choices. There is no malice intended.

The clinical vignettes are based on real patients but occupation and location have been changed to preserve anonymity.

I have tried to minimise the use of incomprehensible medical jargon. Because the book involves a summing up of detailed medical research this is not always easy. I have included a summary box of the important points at the end of some of the more complex chapters. **There is also a short practical glossary of medical terms not covered in detail in the text just before the index.** And by the way, if you find some chapters (such as the

statistics chapter) difficult to understand at first, don't worry. About ninety percent of us doctors are totally clueless when it comes to statistics, which explains the strange advice patients not infrequently receive.

One of the concerns about the ability of this book to reach the audience it so critically informs is that it is too mainstream, and advocates conventional medical care in the bland old way. You know, middle of the road, middle-aged and boring. Therein lies the tragedy. It is accurate, valid and scientifically the state of the art. To emphasise again the points of a few pages ago, it lacks sensationalist, sometimes morally suspect and controversial fashion of the month therapy that sells. For example if you want to sell a book about AIDS, the most effective strategy to generate controversy and hence big sales, is to allege that the HIV virus is not responsible for the disease, or alternatively to come up with some halfbaked theory about how you were cured using a mixture of lavender and crushed rhubarb stems. Of course there are MDs who recognise that patients are vulnerable to magic bullet solutions to health problems. Similarly some complementary and alternative practitioners also learn pretty early how to milk the market. So "the one magic bullet" is the name of their marketing game. Scientific medicine deserves better representation and access in the health section of any bookshop. I might be over the top occasionally but what you learn from reading this should change the way you think forever. Even if it is challenging and goes against your philosophy of "wellness," you need to recognise the importance of the medical information contained. The book focuses on avoiding and treating the big killers of the new millennium. If that is not a relevant read we have a "denial" problem.

Grades or classes of evidence are used in an attempt to measure the quality of scientific research. They are mentioned in the statistics chapter but as a summary the following applies:

- Class 1 - Well researched and definitely valid, usually based on one or more randomised controlled studies.
- Class 2 - Research methods less precise and hence at greater risk of bias than Class 1 evidence but still likely to be valid. Class 2 is often broken down into subclasses depending on the how the research has been structured from a statistical point of view
- Class 3 - Expert opinion. This evidence is really used only when no reliable high quality research has been undertaken.
- Some systems do have up to Class 4 evidence depending on their grading systems. There is no Class 5 evidence. Class 5 evidence equates to what grandma overhead at the bowls club.

Classes of evidence become less reliable from level from Class 1 to 3..

The use of evidence and the evaluation of the quality of such evidence in medical decision-making forms the basis of Evidence Based Medicine (EBM). The use of EBM has to a large extent transformed the practice of medicine from the old approach of umm, what shall we call it? Opinion? Best Guess? Thumb-sucking?

There are several systems used to grade the quality of medical evidence. Importantly all the systems tend to have a similar approach and all use the same basic underlying principles although the grades or classes are sometimes structured differently

I have no axe to grind regarding complementary and alternative therapies. It would be arrogant to assume that conventional medicine is the font of all knowledge regarding the human condition. If a product has no proven scientific value as a physical treatment but dramatically improves spiritual and emotional well being then as far as I am concerned that may well be good enough for the treatment of a specific symptom set. I have tried to provide you with some ideas on how to distinguish between valued treatments, treatments that have not been proven, and overt quackery. My intention is not to discredit alternative therapies per se. Nevertheless most of these treatments will undoubtedly require rebranding in the next fifty years as increasing scientific scrutiny is inevitable, and evidence for most of these therapies as mainline treatment for serious disease is likely to be found wanting.

With all the angst and tragedy in life, a step backwards is occasionally necessary to provide a broader perspective. So now that we have been introduced, let's confront the obstacles to attaining long-term health and happiness together, with a lightness of step and an overriding sense of fun and optimism, as well as a large bag of tricks to minimise the risk of tragedy that day-to-day life can conceal.

As promised the advice given should require no insane or unrealistic physical or emotional sacrifice. The reason is that such advice seldom works in the long-term. I tried years ago to treat my body as a temple. It worked for about a month, after which time the demolishers moved in. I wasn't terribly keen to die earlier than I needed to, however. Fortunately there are painless, non-self flagellating, New Age free ways of achieving a long and healthy life using modern medicine. I know this might not sound cool but as mentioned previously most modern treatments actually work. This book has been written to promote optimal health for the average human living in the real world. Thus by definition this is not primarily a diet or exercise manual. It informs and recommends the power of modern medical knowledge and technology to create a healthy internal physiological and psychological environment i.e. to make and keep you healthier. Knowledge empowers you to identify the best treatments and demand them. You may not look as healthy as a young Raquel Welch or Nicole Kidman at the end of the book, but in the long-term your body should be in better shape if treatment is indicated. Having said that, of course we all want the one perfect long-term painless dietary solution, so as to look outrageously sexy or at least passable in subdued lighting. Therefore this book will discuss diet and weight in some detail.

Given the dramatic breakthroughs in the treatment of most of the major potentially lethal diseases to which Homo sapiens is exposed, the failure to use such treatments as widely and effectively as possible is a tragic failure. Why is this so?

The answers are complex but there is no doubt that the current purely scientific approach to the treatment of disease has failed the public badly. Human beings are not machines that require the odd lube and fine-tuning, the occasional widget replacement and regular service. They are spiritual and emotional beings with multiple drives and needs, varying prejudices, beliefs and philosophies. Paradoxically the selection of medical students focuses on excellence in the physical sciences, with the unfortunate consequence that we focus on diseases purely as scientific challenges. Patients are essentially regarded as the

substrate of our endeavours. To put it another way, an illness is regarded as a mathematics problem and a diagnostic challenge. The patient is that irritating woman that keeps trying to distract us as we strive for the scientific solution to this exciting problem. There are no really reliable tests to choose doctors on the basis of emotional intelligence or empathy. In addition the natural 'greenie' lifestyle is now seen as the route to mental and physical wellbeing. It is hardly surprising that there has been widespread desertion of the patient population to alternative therapies. Yet a wide range of recently developed preventive treatments have been shown unequivocally to improve the quality and quantity of human life. And easily! Without major life style sacrifices! And that really work, even if recommended by a white-coated nerd who smells of formalin. Fortunately the profession is attracting larger numbers of women than in previous decades, which can only be an advantage when it comes to representing the human face of medicine.

If you are a saint, a salvation army major, an athletic pensioner or a masochist please put the book back on the shelf immediately. The content will not satisfy any of your basic needs. Get out there and punish yourselves. For the rest of you, please purchase the book immediately (I need the money. Also my mother-in-law said it would never sell) and read on. The hidden wonders of modern medical technology are about to be revealed. A holistic understanding of what this can do for you both physically and emotionally should precipitate an informed discussion with your internist regarding the various preventive therapies that may work for you. And make sure you're heard.

Both conventional medicine and complementary and alternative therapies could use a few home truths spelt out before we get too involved in strategies to help you live long and well, so let's get it over with.

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## CHAPTER 1

### ALTERNATIVE THERAPY, MEDICAL SCIENCE AND ALL THAT JAZZ

An alternative substance or supplement that is not harmful or illegal and makes you feel good is usually OK, provided that:

- You know precisely what it contains and the doses of the various constituents
- You have no significant medical illnesses that it might aggravate
- You are taking no other medications
- It has a registered manufacturer
- You don't overdose on the stuff (too much vitamin A for example is poisonous)
- A registered practitioner of some sort supervises the therapy (just in case litigation or some other form of accountability is necessary)

Faith in a therapy is good. All medical studies have placebo groups. These individuals take a pill that has no effect at all. Nevertheless about a third of this group feel better on therapy. Call it blind faith or whatever. It seems to work, at least in the short term. Some alternative medicines have components that have been shown to be of scientific benefit. Blanket discounting of such therapy is therefore inappropriate. After all, one hundred million Americans can't be wrong (OK I admit that's slightly tongue in cheek). Besides, many doctors have tried a variety of alternative therapies. Why do we find these so-called alternative options intrinsically so attractive? My theory of why this is so is partially based on the survival advantage secondary to genetic selection. Until seventy years ago I'm pretty sure that doctors killed far more patients than they cured. It makes sense when one considers the therapeutic options then regarded as standard. These included bleeding the anemic with rusty reusables, giving arsenic to the infected, using a variety of other noxious chemicals, purges and enemas, operating in last weeks underwear; and doing this all in a totally insanitary environment. No wonder that much of the population had such a healthy distrust of the profession. Those poor individuals who had faith in the state-of-the-art therapies of those times not uncommonly experienced unsatisfactory outcomes (such as untimely death).

That segment of the population who intrinsically distrusted so-called modern medical breakthroughs, who preferred the application of raw meat as a poultice, herbs as folk remedies, and the use a range of other options including various tractions and manipulations, didn't do so badly in comparison. This perhaps gave these individuals a genetic survival advantage. The net result is that a large segment of the population is genetically wired to be inherently suspicious of conventional medicine, and continues to harbour a distrust of modern purely scientific methods of medical care. As mentioned earlier, white-coated, introverted, emotionally distant doctor-scientists have hardly strengthened the case for modern medicine. Medicine will always be an art that requires a sound scientific basis. The art has been overshadowed by modern technological interventions. Patients and the profession are poorer as a result. Furthermore there are components to the art of healing which have been poorly researched by standard western medicine. These include the natural, spiritual and even sensory inputs available through complementary medicine. It is clear that some of these are innate and instinctive needs that are currently poorly satisfied by scientific therapies alone. The expectations of users

of alternative therapies differ too. Because they use emotional reasoning, intuition and instinct when selecting such therapies, they are less demanding in their expectations of such therapy. If the aromatherapy or milk thistle doesn't make them feel better they move on. They don't have the rigorous expectations that they might for a medical procedure and do not sue if there is no perceived benefit. The positive outcomes they anticipate are more likely to be emotional, sensual, intuitive or spiritual.

When choosing a conventional medical treatment however, the expectations are based on more rational and less instinctive perceptions, the anticipated outcomes are more clearly measurable and the contract is far better defined. All this has totally confused the medical profession, who are currently running around like headless chickens wondering what the hell to do about complementary and alternative medicine (CAM). There is huge and growing demand for CAM. This is occurring despite the fact that the burden of proof for most of these therapies is seriously lacking if well designed scientific studies are the accepted measure of effectiveness, yet the providers of complementary and alternative treatments are laughing all the way to the bank. Litigation insurance is negligible and there is minimal public demand for evidence that the treatments work. Attempts are being made by some medical faculties to narrow the great divide between conventional and alternative treatments, but this is obviously a retrogressive step from the scientific point of view. Medicine requires a purely scientific research model to move forward in developing valid new treatments. The alternative approach is the anathema of modern medical research. Many alternative treatments rely at most on ill-defined qualitative measures of efficacy and will never accept the medical model. And why should they? Scientific research is extremely unlikely to demonstrate a true benefit for the vast majority of alternative interventions. Besides they are doing very nicely thank you. Not having a medical model they can focus on the art of care, which medicine has lost. Their approach is reminiscent of the medical profession of a century ago. They alleviate symptoms (emotional, spiritual and physical) and comfort always. True cure, to put it mildly, remains highly controversial for most of such therapies. But then again, a century ago modern medicine could cure practically nothing. One more thing, and it's a biggie. Greed, litigation, medical progress and suchlike have sent medical costs spiralling into the stratosphere. Alternative therapy is cheaper. So for all those minor illnesses that would have gotten better without any therapy anyway, the medical profession is commonly no longer the first port of call. Damn.

So where to from here? The answer is obvious. Doctors are going to be forced to dramatically improve their practice of the art of medicine. Their technical skills are already being subjected to audit and are under increasing pressure to satisfy best medical practice. Relearning the art is a totally different story and will undoubtedly require more rigorous selection criteria to choose doctors who can relate to people. Amazing concept. The reintroduction of humanities, ethics and interpersonal skills training into the medical curriculum is long overdue. A more balanced representation of gender and race in the profession is essential to resurrect the art of medicine. The indignity of procedures such as rectal examination would be better understood by medical students if they themselves were subjected to a few of these procedures during training, perhaps even with a ward rounding group of doctors looking on. And what about those funny little gowns that patients are compelled to wear? You know the ones I mean. They open at the back and come only in one size, namely ten percent too small. No matter what you do to try and

conceal it, a portion of your butt will always be visible when wearing these. It would be nice to see a few surgical professors being compelled to wear similar gowns for a week of hospital work. And that's without anything underneath. Trust me, design patterns would change overnight. What do you mean shocking, doc? We subject our patients to these humiliations daily without a second thought.

Another area where we keep relearning the lessons of history is in the field of science. Is there any relationship between science and morality? Of course not. They ain't even distant cousins. Science involves study and research into a wide range of subjects. It is neither a moral nor immoral concept and has no ethical connotations. Science can be used to benefit the planet, or alternatively exploited for other reasons. Yet scientists, including doctors, continue to regard their skills and experience as some kind of moral prerogative. I am not even going to go the Nazi Germany route. After all that was over half a century ago my dear and we are all so much more ethical now. Really? Pick an impoverished country in Sub-Saharan Africa. Shouldn't be hard. They're all impoverished. And the real beauty is that most have an annual per capita expenditure on health in the ten-dollar ballpark. So there are all these great diseases like HIV that can be researched using populations that have no access to state-of-the-art therapy. To be honest, they can't afford any treatment at all, so they are scientifically uncontaminated. Just like little black guinea pigs. This means we can nip into one of these countries and do a top-notch scientific trial on a new HIV drug for example. One of the groups will get our new drug and the other (the placebo group) will get a cunningly disguised sugar capsule. After a year or two we check the outcomes of the study. Then we pack our bags and our new drug, and wave goodbye to both groups involved in the study. No follow-up required. This is Africa remember. They're all going to die anyway. So much easier than to do expensive studies in a first world country where we would have a moral obligation to provide both groups with current best treatment and then add our drug. Furthermore we will also be expected to follow these patients' progress in the long-term. We can't just dump them. Africa is so much easier and simpler to justify morally because for Africans no long-term treatment is affordable.

Can you spot the serious moral flaw in this argument? And is it just a hypothetical ethical question? No, this is how some recent research on treatment for HIV was conducted. Yes, by the caring profession.

And when it comes to money doctors are at the least as greedy and corruptible as the rest of the population. I've worked in plenty of places where access to the private market is effectively controlled by cartels that claim to be the guardians of medical standards and patient safety, but who are infinitely more concerned about limiting competition and lining their own pockets. So when I talk about the ethics of alternative providers using unproven therapies, it needs to be seen in the context that conventional medicine has long lost the moral high ground. The days when professions at large were exclusively responsible for self-audit are over, and the faster we move forward in the direction of accountability to society at large the better.

Medicine also needs to become more affordable. Yeah we all know about Health Maintenance Organisations and so on, but the increasing medical demands of a rapidly expanding population of baby boomers with high expectations ain't going to go away. Those countries with unrealistic approaches to medical litigation (such as no win, no fee)

and outrageous settlement awards will need to address these issues sooner rather than later.

And where to for alternative therapies fifty years from now? It is unlikely that most will stand up to rigorous scrutiny as cures of readily defined physical diseases. For many a rational hypothesis of how they work does not exist. That's a bad start. The public of course is unlikely to become less demanding and less litigious, especially with all those law schools around. Most alternative therapies will simply have to rebrand themselves as components of the so-called "wellness" programs currently marketed to the financially flush 'worried well' middle classes of the Western world. The reality of course is that many of these therapies are identifying and exploiting this market already.

Alternative medicine is not a single entity and encompasses a wide range of different therapeutic options. The evaluation of alternative therapy as a single concept is thus simplistic and unreasonable. Alternative therapies include chiropractic, osteopathy, herbal remedies, aromatherapy, naturopathy (including phytotherapy and hydrotherapy), acupuncture, hypnosis, homoeopathy, massage and nutritional supplements. Nevertheless there is a concerning lack of Class 1 and 2 evidence for most of these therapies. What I am trying to say is that there is totally inadequate high quality scientific research available, and this makes recommendations on the use of these treatments difficult to validate. What is worth emphasising is the absence of any reasonably acceptable scientific theory as to how many of these treatments might work. This is where science is important folks. The reality is that objective evidence as to whether a particular medication works requires rigorous scientific research.

Now I know what you're thinking. Here we go. Just another jealous doctor insisting on trials for treatments that have clearly helped me. Actually I have no major problems with the use of hands-on treatment for many minor or straightforward indications. I have personally had chiropractic treatment for low back pain. Studies regarding backache suggest that any form of treatment has the same outcome as any other treatment after a month or so, but chiropractic adjustment made me feel good. I would suggest that it is reasonable to use any form of non-ingested therapy for strains and muscular tension if it helps. Clearly the use of aromatherapy, chiropractic or homeopathy for the treatment of a heart attack would be worrying. As I said these treatments almost certainly have their best value as part of a wellness program. They make you feel good, capitalism is God and who am I to criticise about how you spend your buck. Nevertheless be very, very careful about using these options for the big killers listed earlier in the book. It is just too risky in my view. This applies also to orally ingested supplements and herbal remedies, on which I will elaborate further shortly. Having said that, I acknowledge again the intrinsic attractiveness of some of these therapies for many patients. Many modern medicines have been derived from plants, fungi, and bacteria, so the differences between alternative therapies and some modern medicines (for example, aspirin, digoxin cocaine, penicillin) are not that extreme, at least in theory. Furthermore middle class Americans spend as much on alternative therapies as conventional treatments. Should you feel strongly about using alternative therapy, please notify your doctor so that adjustments or monitoring of

conventional therapy can be undertaken if necessary. And recognise their predominant value in providing sensual, emotional and spiritual wellbeing.

Does orally available alternative therapy (complementary medicine) have any intrinsic therapeutic activity? Are there products in the complementary sector, which really work beyond a simple placebo effect? If so, how do we recognize them? The short answer is we don't know. There are undoubtedly herbal and other products that have chemically active ingredients. Some have been shown to have effects that certainly could be effective treatments for a range of illnesses, at least in theory.

A well-known example is the use of St John's Wort for the treatment of depression. There is Class 2 evidence that supports the use of this agent in the treatment of mild to moderate depression. There is some evidence that the active ingredient may exert its therapeutic effect in the same way as selective serotonin reuptake inhibitors (see chapter on depression). The agent thus contains an active drug. Why do some patients prefer to take St. John's Wort rather than a traditional antidepressant? Well, firstly it sounds like a natural non-medical treatment. People shy away from drug therapy for mental illness if they can because of the perception that these drugs are mind-altering and addictive. In addition the use of conventional antidepressants stigmatizes the patient as mentally ill. The conventional antidepressant also needs a prescription. So, you say, why the hell not use St. John's Wort? Well, because there is a downside. The FDA does not register St. John's Wort as a drug. "Natural supplements" and herbal remedies are not classified as drugs and are thus not subject to the scrutiny required to ensure consistency in manufacture or dosage. The purchaser has no idea of dosage or content. This can vary dramatically from formulation to formulation. So what? Well St. John's Wort contains at least one active medication that can interact with a range of other drugs. This can result in dangerous and even life-threatening drug interactions. Furthermore the dose of the active ingredient can fluctuate significantly as the stringent FDA requirements are unnecessary. This is a pity because St. John's Wort is one of the alternative therapies that really seems to have something going for it in terms of efficacy. Remember too that serious depressive illness can be fatal so inadequate therapy in this situation can have extreme implications. In short term trials side effects were mild but did include indigestion, dizziness, allergy, headache, sexual dysfunction, increased skin sensitivity to sunlight and fatigue.

Ginkgo-leaf extracts are popularly advocated for the treatment of Alzheimer's and similar dementias, tinnitus (persistent ringing in the ears), poor circulation and nervous symptoms. They contain a variety of chemicals including terpenoids and flavonoids. Studies of efficacy using Ginkgo have had mixed results. We're not sure whether it works. It is not innocuous and can cause side effects including headache, nausea, diarrhea and allergic reactions.

Hawthorn extracts have been advocated for mild heart failure. If you have mild heart failure, make sure you're on your doctors recommended drugs and avoid this stuff because of the risk of drug side effects. Conventional drugs undoubtedly improve life expectancy.

Preparations of saw palmetto (sabal fruit if you must know) have been used for mild benign prostatic hyperplasia. There is limited evidence of effectiveness but side effects appear not to be a major problem. Conventional therapies are of course the option.

I've discussed only a very limited range of alternative products simply because these are the only products which have been subjected to reasonable scientific scrutiny in the form of randomized trials.

Other natural products have sometimes been creatively manufactured to supplement any placebo effect. "Natural" pain relievers have on occasion been found to contain conventional analgesics such as anti-inflammatory drugs and paracetamol. Herbal teas and a variety of enemas have contained material that is potentially toxic. More recently low doses of sildenafil (Viagra) have been detected in 'natural products' for the treatment of impotence. The list goes on and on. The real issue is the absence of any consistency of manufacture, evidence of efficacy as therapy, and detailed information of dosage and content.

Remember too that there are plenty of 'snake-oil' salesmen out there, and also undoubtedly large numbers of substances that are unlikely to have any benefit beyond a placebo effect. I am the first to admit that these are often very effectively marketed. They appeal to physical and psychic needs in an emotionally and spiritually satisfying way. A natural herb extract to enhance libido is called 'horny goat weed' extract. Is that a great marketing name or what? In my next life I am going to come back as an early nineteen-seventies San Francisco Ad person. Just imagine. You get to work at eleven a. m. They feed you Moet champagne and seriously good weed. At about 3.00 p.m. you start giggling hysterically and dreaming up product names. The competition wouldn't stand a chance. I reckon that some of these herbal supplements have marketing names that cannot fail to press our buttons. They know the essence of human weakness only too well. I'm very, very, very impressed. Imagine a herb for impotence with the scientific name flaccid thistle. It would stay on the shelf forever. I guess the mission statements of some of the failed dotcom startups were probably created using a similar approach. Of course the trade names used by the drug industry are also creatively designed. The difference is that they have been subjected to scientific scrutiny and proven to work. As a result they tend to sell, irrespective of name. Extensive preliminary research and ongoing audit ensure the safety of such products. Furthermore if you have an unacceptable side effect the company is accountable. Imagine the difficulty in obtaining compensation for the nightmarish adverse effects of thalidomide if it had been a single component in a range of formulations marketed as pregnancy supplements. Marketing a product as a health supplement rather than a drug enables manufacturers to avoid the stringent FDA requirements essential for formal drug registration. This remains a legal loophole that will almost certainly be closed in the medium term future. Recently scandal erupted in Australia as a result of identification of failures in manufacturing processes of alternative products by Pan Pharmaceuticals, leading to a range of adverse consequences for patients. This resulted in the recall of virtually all their alternative products, and serves to highlight the hazards of current loopholes in legislation of production and marketing of such agents.

Maintaining a sensible perspective is important however. Alternative therapies vary widely and given the public support for such therapies it would be naive and arrogant for conventional medicine to discount all such therapies out of hand. Further research will undoubtedly contribute to clarification of the role of individual treatments.

It is important to note that information available on the Internet regarding alternative products is frequently of very poor quality. A recent study in *The American Journal of Medicine* researched Internet information available for St. Johns Wort and rated the information available as being of a generally low standard.

- Complementary and alternative therapies (CAM) should not be dismissed out of hand
- We can't evaluate the validity of such therapy because we have limited evidence to verify the value of many of these treatments
- Maybe conventional medicine is asking the wrong questions and accordingly providing the wrong answers.
- CAM is perhaps of best value as part of a wellness program.

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## CHAPTER 2- THE TRUTH ABOUT DIET AND HEALTH

Okay so we are all getting bigger and wider. A marked reduction in energy expenditure coupled with increased dietary intake has resulted in these inevitable consequences. Clearly the appropriate response is to eat less, to eat sensibly and to exercise more. This appears to be highly appropriate advice. But is it practical and is there good evidence that it is widely effective in the medium to long term. The simple answer is NO! In fact there is excellent evidence to the contrary. Of all individuals embarking on a diet approximately half will have lost weight within three months. That figure drops to five per cent or so at a year. Most of these dieters will in fact weigh more a year later than they did at the start of the diet. Sustained effective weight loss is extremely difficult (as if you didn't know). Lecturing on health and longevity by focusing purely on diet and exercise simply doesn't work well for most of us in the long term. Our genes, lifestyles, labour saving devices, limited discretionary time, and environment of enduring abundance conspire against the best efforts of almost all of us to maintain ideal body weight.

You don't need to be a rocket scientist to recognize this. Look around the health and diet section of any bookstore. Books on diet and exercise abound. If any single book provided the long-term dietary Holy Grail the number of dietary options would dwindle dramatically. The diets themselves are often fascinating. Many provide strict limitations on the type of foodstuff that can be consumed. Thus there are diets that minimise fat intake (standard scientific medical dogma); diets that minimize carbohydrate but allow unlimited fat and protein; high protein, low fat, low carbohydrate diets; diets restricted to grapes, grapefruit or any other fruit/vegetable; vegetarian diets; "organ-cleansing" diets of varying descriptions; drinkers diets; teetotalers diets; diets requiring the consumption of industrial quantities of water daily; diets for the full range of religious dominations; and diets that promote brain, brawn or sexual organ growth and/or prowess.

New Age diets have become increasingly popular. The Internet provides a wide range of options. I was particularly fascinated by the hunter-gatherer diet. As you know, in prehistoric times homo sapiens survived essentially by moving from place to place, following animal migration for meat, and gathering wild flora for the vegetarian option. A few aboriginal peoples still live in this way. I worked as a doctor amongst the Bushmen of Namibia in Africa some twenty years ago. Believe me, the real hunter-gatherer life is bereft of pleasure. It comprises endless hunting or scrounging for food. Infant and childhood mortality is high and average life expectancy is about thirty-eight. Obesity is seldom a problem. Emaciation during the slim times (if you will pardon the expression) is universal among members of a tribe. So even though the term sounds kind of cool in a new age sort of way, the real life version sucks. And in the West we do have an equivalent. We call them bag ladies. Presumably the Gulag and seriously third world

diets are out there in cyberspace, but being less politically correct and spiritually satisfying are not widely subscribed.

Wow! By using the full range of options we would be one seriously disturbed species. Most of these diets quote high short-term success rates. I will explain in later chapters why this is so. I should also mention that some recommended diets have been well researched and are based on high quality scientific evidence. These are easier to spot as they seldom make outrageous claims and focus on long-term dietary strategies rather than quick fixes. The American or other Heart Foundations often recommends such books. My point however is that long term adherence to such diets is low because of the inherent difficulties and sacrifices required for compliance. The conspiracies of genes and all the goodies of the modern world consistently thwart success. As mentioned earlier, sustained success rates are about FIVE PER CENT. Excuse the pun, but the proof of the pudding is in the eating. I rest my case.

So should we call off the contest, head for the nearest fast food outlet with a wobble in the waist, and indulge in the nutritional delights of processed calorie concentrate. Ideally not, even if they will upgrade you to the super-duper triple combo, with eight pounds of chips, a megaton burger, and eight pints of soda for a mere twenty cents more. Why? Because excess mass is not only a definite cosmetic disadvantage but also a disease, which predisposes the victim to a range of other illnesses. These other illnesses spend their time trying to kill you. They are currently known collectively as the Metabolic Syndrome. (The previous term was Syndrome X but then the cardiologists stole it for a totally different disorder. Nevertheless you may find the term Syndrome X still in use as a synonym for the Metabolic Syndrome). There is no doubt that litigation versus fast food and soda companies that target children and schools in marketing campaigns, and continue to dish up such excessive calorie concentrates without appropriate health warnings, won't be too long in coming.

The metabolic syndrome predisposes practically every organ in the body to disease. The risks of acquiring this condition are both genetic and lifestyle related. Excess body weight produces a number of changes in the body's internal control mechanisms, as well as requiring a change of wardrobe. It is important to have some understanding of the mechanisms involved and the consequences, so that sensible decisions can be made about the appropriate responses. So read on fearlessly because solutions will be revealed as our tale evolves.

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## CHAPTER 3-METABOLISM GONE MAD

How does the body respond to excess weight, apart from the owner's pathetic attempts at concealment by wearing loose, longitudinally striped and/or dark clothing? The old bod has a genetic memory spanning millennia and is relishing this time of abundance. Time to store energy in preparation for the next plague or famine, it thinks. This of course is deeply disappointing to the body's owner, who is neither anticipating famine nor wishing to look like a warehouse. Anyway the storage forms of energy include carbohydrate (glycogen) and fat (triglycerides and cholesterol in a variety of forms).

Excess calories are not stored as protein unfortunately. This to my mind is pretty tragic. Imagine being able to eat your way to the Ms. or Mr. Universe title. What was God thinking while he was designing the human body? And another thing, why facial hair in postmenopausal women? And acne? And impotence after excessive alcohol consumption? But I digress. Where were we? Ah yes, protein. Protein is not primarily used for energy storage but can be broken down in times of food shortage to produce energy by a process known as gluconeogenesis (sorry folks, incomprehensible medical jargon does slip through once in a while).

The body can store about five kilograms of energy as complex carbohydrate i.e. glycogen. Glycogen consists of large molecules made up of building blocks of glucose (the simplest sugar) and water.

The bulk of energy available is stored as fat however, usually in the least desirous places such as waist, buttocks, thighs etc., and infuriatingly never in the breasts if you are a flat-chested lady. Fat is also stored in the viscera (liver, bowel, omentum, heart etc). This explains the limitations of liposuction. Vast quantities of untapped fat lie submerged beneath the abdominal muscles. Furthermore fat is an infuriatingly efficient way to store energy. One gram of fat contains three times the energy of a similar quantity of protein or carbohydrate. Excess body fat, and in particular visceral fat, increases the resistance of some organs to insulin. Detailed biochemical explanations are unnecessary except to say that insulin requirements are increased in some body organs but not in others. The body must produce more insulin to cope as a result. Insulin is vital to promote glucose conversion to glycogen, the absorption of glucose by most cells in the body; the appropriate storage of fat; and the prevention of protein breakdown into sugar. Insulin enhances growth in some organs and in excess amounts can create problems in non-insulin resistant organs. For example high blood insulin levels promote arterial muscle cell growth and fluid retention, both of which predispose to high blood pressure. With progressive weight gain a vicious cycle occurs. With worsening obesity the body is unable to increase insulin production sufficiently to cope with increased demand in some tissues, provides too much insulin for the needs of other tissues, and consequently a full-blown metabolic syndrome may manifest. All this really means is that the body's internal chemical balance gets seriously out of kilter.

OK already, enough of the gobbledegook. What are the features of the metabolic syndrome?

The list includes the following:

1. Excess body weight or obesity
2. Increasing insulin resistance
3. High blood fats with ratios that increase the risk for atherosclerosis (mainly heart attack and stroke)
4. Prediabetes (a kind of half way house) or overt diabetes mellitus. Diabetes has additional risks including nerve, eye and kidney disease.
5. High blood pressure
6. Increased risk of heart disease or stroke
7. Snoring and sleep problems that can culminate in sleep apnoea (and divorce)
8. Fatty liver which in some cases can lead to chronic liver disease
9. Arthritic problems including gout, and osteoarthritis of weight bearing joints due to prolonged mechanical stress
10. Polycystic ovarian syndrome
11. And last but not least, unsightly stretchmarks

I know what you're thinking. The bastard has included every medical disease except warts, bubonic plague, acne and yellow fever. Well, not quite. What is particularly important however is that the above list contains the conditions responsible for the overwhelming number of deaths (about seventy per cent) in western populations. **AND WITH MODERN WESTERN MEDICINE WE CAN CONTROL MOST OF THESE CONDITIONS VERY EFFECTIVELY.** As emphasised ad nauseum earlier in the book we are becoming fatter and fatter, and more and more of us are succumbing to the metabolic syndrome and its rather nasty sequelae. This metabolic epidemic should be bumping us off in our fifties and sixties. Life expectancy should be decreasing dramatically. **AMAZINGLY THIS IS NOT HAPPENING.** Westerners and those in other OECD countries are living longer and longer. For example the average life expectancy for Japanese women is now ninety-one, and for Japanese men eighty-three. Other OECD countries are not far behind. This is even more remarkable when one considers that life expectancy for males in the USA was only forty-seven in 1900. For females the figure was fifty-two years. When compared with those of normal body weight, obese individuals do have a reduced life expectancy (of about eight to twelve years on average), but are still living considerably longer than their forefathers.

Can this be explained by improved plumbing, the death of Typhoid Mary, reduced alcohol consumption, increased consumption of seaweed extract, garlic and parsley, and camomile tea? The simple answer is no. Certainly in the first half of the twentieth century improvements in nutrition, management of infectious diseases and sanitation had some impact. However in the last fifty years most improvements can be ascribed to more effective prevention and treatment of the big killers, namely heart and vascular disease. And what is particularly amazing is that we do not do it particularly well. Many people receive care that is suboptimal according to the best evidence-based medical treatments. For example only sixty percent of adults in the US who have both hypertension and health insurance (no causal relationship between the two exists, I promise) have their blood pressure treated to ideal targets. Treatment of diabetes is suboptimal in the vast majority of patients. It is only in recent years that doctors have started thinking laterally. Focusing on totally unrealistic dietary targets and lifestyle sacrifices inevitably produces

little impact on the disease process (remember the five per cent success rate for diet). We now have first class medical evidence that shows outcomes can be dramatically improved by aggressively treating other risk factors associated with diabetes and the metabolic syndrome. Given that at least sixty three percent of us either have or are predisposed to the metabolic syndrome lets look at the issues a little more closely.

- The so-called metabolic syndrome (or syndrome X) will probably be the major cause of disease and disability in this century in OECD countries
- All the individual consequences of this syndrome are treatable or preventable
- In spite of this appropriate treatment is not provided to the majority of people who would clearly benefit from such therapy
- The medical profession has failed to address health prevention issues adequately in the past
- This makes it increasingly important for individuals to understand personal health needs and to demand that such needs are addressed

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## **CHAPTER 4-BASIC DIETARY PRINCIPLES**

Why don't we examine the individual components of the metabolic syndrome to see how we can minimise the adverse effects on our poor innocent bodies who, after all, still think it is 50 000 BC.

Obesity is a biggie. I know, I know, I know that I promised this wasn't going to be yet another diet book. But there are some basic principles about diet that are important. These are not always accurately portrayed as such in the media. In addition the big wide world of advertising not uncommonly makes outrageous or invalid claims to promote different products. It's a jungle out there. For example there are 'good' fats, 'bad' fats, neutral fats and ratios which, if you buy the right margarine, practically guarantee a body like Nicole

Kidman, ten cents off your next purchase of the same, and just possibly immortality. The same goes for red meat, white meat, etc.

So lets do the basics already:

Diet should be high in **fibre**. OK, I know everyone knows this. Eating half a kilogram of pure bran kills your enthusiasm for the chocolate and jelly pudding. This is the first advantage of fibre. It fills you up (not very satisfyingly in my personal experience, but better than nothing). It helps prevent constipation in a way that does not damage the colon. It prevents diverticulosis, a condition very common in Western populations. Diverticula are thin outpouchings of bowel which can become infected or perforate. It is likely that fibre rich foods reduce the risk of colon cancer. Recent studies assessing pure fibre intake have admittedly failed to demonstrate a reduction in colon polyp and cancer rates. It may be that the deficiency in these studies was to focus on fibre per se instead of focusing on diets not purely high in simple fibre but rather on diets rich in fibre-containing foodstuffs such as fruits, vegetables, legumes, and whole and high-grain fibre products. In other words the fibre may be a surrogate marker for a variety of vitamins and nutrient constituents of fibre-containing foods that prevent the cancer. This suggests that natural fibre containing foods are preferable to pure bran and proprietary bulk-forming preparations.

Fibre, including in particular soluble fibre (viscous and found in oats, peas, beans and some fruits), is effective in lowering cholesterol and glucose levels. Recommended daily intake of fibre is in the region of thirty-five grams. Do your best folks but lets keep it simple. Even with compliance there is a downside. Undigested fibre is fermented by colonic bacteria to produce methane, and a variety of other noxious gases, if you get my drift. This socially unfortunate consequence does tend to improve with continued fibre intake. Worst case scenario you can blame it on the male sitting next to you, whose protestations of innocence are not only unlikely to be believed, but also regarded as extremely ungentlemanly. Of course, if you were trying to make a favourable impression on that particular male, you have a problem.

Low calorie fibre consumption is particularly useful as a filler. Leafy green vegetables, figs, celery, raw onion and cucumber contain practically no calories and together with tomatoes and extra-virgin olive oil are the essence of the famous lipid-lowering Mediterranean diet. Mediterranean-style seems to translate into a reduced risk of heart disease and stroke, particularly when accompanied by medicinal amounts of alcohol. Watch the quantity of olive oil though girls. It is calorie rich. The diet sounds inherently sensible otherwise.

So much for fibre. I mean who really wants to live exclusively as a ruminant (except maybe cows and vegans). Now for dietary **fat**. This ubiquitous and tasty food component has given the human race (and in particular our arteries) more than a few problems. There are two major types of fat in the human body, namely **cholesterol** and **triglycerides**. Now to let you into a nasty little secret that the medical fraternity has long concealed from you guys. Are you sure you are ready? This may come as a shock. Homo sapiens is

a mammal. There I've said it. We're actually part of the animal kingdom. (I personally found this difficult to accept until I saw my first Jerry Springer show). And one of the amazing things about mammals is that they can manufacture their own fat i.e. triglycerides and cholesterol.

What does this mean? Firstly, next time your internist suggests that your cholesterol levels are excessively high inform her that you synthesized all the cholesterol yourself. Especially if you're a vegan. Cholesterol is only found in animal products, mainly animal fat and egg yolk. This confirms that all the cholesterol in the blood of a vegan has been personally synthesized. That should wipe the smug expression off her face, because implicit in her observation is the suggestion that you've been pigging out. Secondly, our bodies tend to regulate fat levels within a certain range, which varies for different individuals. For example if dietary cholesterol intake is reduced then hepatic (liver) synthesis is increased to compensate. Does this mean that diet has no impact on serum cholesterol levels? No, because compensation is incomplete. Nevertheless even scrupulous dietary reduction of cholesterol and saturated/non-liquid fat intake can only drop blood cholesterol levels by ten to fifteen percent. Therefore if your normal cholesterol is more than fifteen percent above ideal (and note I said ideal) then diet alone isn't going to do it for you. Furthermore most of us are well aware of the relationship between high cholesterol and heart disease and have made some dietary adjustments to address the issue. As a result further attempts at dietary therapy alone often have minimal impact, demoralising both patient and doctor (the doctor less so if you carry health insurance).

Thus cholesterol (and triglyceride) levels are subject to a feedback control mechanism to maintain levels within a defined range. In some of us the feedback mechanism is less than perfect and cholesterol is overproduced as a consequence, producing unacceptably high levels irrespective of diet. There is usually a genetic component to this. That's why some skinny athletes have a sky-high cholesterol level and the odd Sumo wrestler has the same levels as a starving vegetarian. Triglycerides are the principal storage form of fat and consist of three chains of fatty acids linked to glycerol. They appear less closely linked to heart disease than cholesterol but certainly play some role, particularly in subgroups such as diabetics, and should not be ignored. Both cholesterol and triglycerides are attached to protein carriers in the bloodstream to produce compounds called lipoproteins. The combination of carrier and fat can increase or decrease the risks for vascular and heart disease depending on chemical make up. HDL (High Density Lipoprotein) contains some cholesterol but is a 'good guy' i.e. the contained cholesterol has been extracted from the fatty (atheromatous) plaques that cause atherosclerosis. LDL (Low Density Lipoprotein) also contains some cholesterol. LDL is a real sonofab... It promotes the accumulation of fatty plaques. High triglyceride levels lower HDL levels and also contribute in other ways to fatty plaque formation.

OK enough already. What should we all be eating to reduce LDL cholesterol and triglyceride levels?

It's really easy according to the medical scientists, and that is why dietary therapy alone has such dismal results. Eat less saturated fat (animal fat found in steak, burgers, beef, bacon, lamb, eggs, cream, ice cream English breakfasts, chocolate, cheese, pizza, cheese-cake, full cream milk, crème Brule and virtually all classy French food for example), and less refined carbohydrate (bread, sugar, jelly, cake, muffins, pancakes, syrup, American and Canadian breakfasts, cookies, chips etc). Minimise consumption of trans-fatty acids. These are found in stick margarine, vegetable shortenings and deep fried foods. Margarine with a high content of trans-fatty acids tends to be solid and lard-like at room temperature but check the label. Trans-fatty acids increase LDL cholesterol levels.

Eat the good fats. The good fats include monounsaturated and nonhydrogenated polyunsaturated fats (also known as omega 6 fatty acids). Such fats are found in peanut, olive, soybean and rapeseed oils. Eat fatty fish at least twice a week (kind of hard if you live in the Sahara). Fatty fish and fish oils contain long-chain n-3 polyunsaturated fatty acids. These are better known as omega 3 fatty acids. They are also found in some plant oils including canola and flaxseed. Eating fatty fish twice a week or taking fish oil supplements have been shown to improve long-term survival following a heart attack. There is as yet no definite evidence that they prevent heart disease in healthy individuals, but risks do seem to be less in individuals at high risk, so providing you like fatty fish it seems sensible to partake of this regularly. There is now a suggestion that eating fatty fish more than four times a week might be a bad idea because of mercury accumulation in some fish species. All this tells me is that extremes are bad. Of course Eskimos will probably just have to take their chances. The alternative natural option is about ten fish oil capsules a day. This sounds very alternative and inherently more attractive than taking a 'drug' to control high blood cholesterol levels. Unfortunately there is a downside. You run the risk of smelling like pickled herring. Reflux of the oily material into the throat can also occur. I am not joking. Blind dates will gag at the first whiff. Unless you are planning to live in the Arctic Circle or marry a fishmonger this supplement is best approached with caution. Fish oil eaters should also avoid swimming in shark-infested waters. Realistically if we all adopted this advice we could probably kiss cold-water fish stocks goodbye within a decade. Stocks are already under pressure. And of course there are six billion human beings on the planet. The demand would be environmentally catastrophic. Is this ever mentioned? Of course not. Who prefers a natural alternative? The marketers know. Middle class, professional and educated people who are also environmentally aware. They prefer a 'natural alternative' to a 'medication' but not at the expense of decimating threatened species. So of course there would be serious consumer resistance to this particular product. There is nothing sadder than cynical manipulation of altruistic, well-meaning individuals who believe that they are making sensible and reasonable choices. Natural is not always better. The use of rhino horn, shark cartilage and a range of other threatened natural resources is deeply concerning when considering the lack of evidence of benefit for these products, and the very real risk of ultimate extinction of species such as the great white shark and the white rhinoceros. Sadly the "alternative products" manufacturing business is fast losing its scruples in the hunt for profits.

Next, NO butter. Damn. Margarine sparingly, and only margarines practically devoid of trans fatty acids as emphasised above. These tend to be softer and easily spreadable. Proper low fat milk only. Cook ONLY with vegetable oils. Better still, boil or stew rather than grill or fry.

Reduce salt intake. Some medical scientists have suggested we avoid adding salt altogether. They reassure us that after two months or so you can't tell the difference. Now is that practical or what? A bit like ordering a salmon and cream cheese bagel without the cream cheese and salmon. I'm sure that after a few months we won't miss the salmon and cream cheese. But is the small reduction in blood pressure achievable with this 'user-friendly' regime worth the misery and deprivation? Like I said, sometimes a tablet isn't a bad option. Even the real hunter-gatherer or Gulag diet might be a soft option in relation to this, particularly if the salt-free diet is continued obsessively and in perpetuity.

**Protein** intake is recommended to be about a gram per kilogram (2.2 pounds) of body weight per day. Sources of animal protein should be predominantly in the form of white meat i.e. poultry and fatty fish, with red meat perhaps once or twice a week. Low fat dairy products are a good source of protein and calcium but the fat content should be checked to ensure the product is truly low in fat. Vegetable sources of protein include legumes, soya beans and nuts.

OK folks take a step back and pause for breath. So now we know why dietary therapy is a bit of a nightmare. It remains a constant contest versus our genetic drive, it deprives us of the pleasure of eating sublime food, it makes us feel guilty and unworthy and, even worse, it fails as a long-term option for ninety-five per cent of us. Do we deserve this? I think not.

With the super-duper fibre containing foods we are all eating as part of our perfect diet adequate nutritional intake of vitamins, essential minerals and other micronutrients should be a cinch, right? Well not necessarily. Calcium and vitamin supplementation (for example **group B and D vitamins**) have a role to play in maintaining health. For these reasons daily supplementation is indicated. Vitamin D by supplement should be 800 I.U. daily. Additional **calcium** is important in patients at risk for osteoporosis, the vast majority of whom are female. Read all about it in the relevant chapter.

Excessive vitamin A consumption can cause vitamin A toxicity and supplementation is not recommended. Severe toxicity can be fatal. This was first described during a search for the Northwest Passage from Europe to the Dutch East Indies. Snowbound and starving sailors consumed polar bear liver and developed an acute severe illness secondary to vitamin A toxicity that was not uncommonly fatal. This has also been described in vitamin-obsessed individuals in the West who take industrial doses of multivitamins. Vitamin A deficiency practically never occurs except in situations of extreme starvation. Minor excesses in vitamin A consumption have been recently shown to increase the risks for osteoporosis and fracture. It seems that vitamin A in excessive amounts stimulates the osteoclasts (cells that promote bone breakdown). So forget the

vitamin A folks. Too much of a good thing can be bad for you after all (as if those of us who suffer from frequent hangovers didn't know this).

A very topical issue in the medical and lay media in the last decade has been research into free radicals and antioxidants. No, free radicals are not out of control university students with extreme left wing views. Free radicals are toxic (for toxic read poisonous) by-products of a host of essential chemical reactions in the body. They are usually rapidly neutralized by a variety of antioxidants. Failure to promptly detoxify these agents can lead to serious tissue damage. Research on the adverse effects of free radicals in a wide range of conditions from stroke to premature aging continues. Because antioxidants rapidly eliminate these chemicals, an intrinsically plausible and attractive hypothesis has been proposed. This suggests that loading our bodies with antioxidants has got to be good for us. Even more attractive is the fact that so many naturally occurring antioxidants are available. These include vitamin C, vitamin E and beta-carotene. Preliminary research suggested that these agents might just reduce the risks of atherosclerosis (including heart attack and stroke) and delay aging. A gargantuan market has evolved to deal to this. Because these agents are "natural products" they are particularly attractive to the alternative and complementary markets.

Now for the evidence:

Beta-carotene (a vegetable vitamin A precursor) is an antioxidant with purported cardio-protective properties. Level one studies have not confirmed this. Furthermore there is some evidence to suggest that excessive beta carotene might just increase the risk of cancer. Drop this supplement folks unless you're fond of funny yellow skin discolouration. For more information on the quality grading of medical research, please refer to the chapter on statistics.

Vitamin C has received great acclaim in the last few decades. It prevents scurvy, a discovery that saved generations of sailors from suffering and death in the great days of sail. The vitamin functions as an antioxidant and cofactor in a range of essential biochemical synthetic processes in the body. Scurvy is potentially fatal and is only seen in prolonged severe deficiency. The illness has been documented in situations of gross nutritional neglect in the developed world (for example isolated old widowers living on toast and tea for prolonged periods). Unfortunately, large doses of vitamin C do not prevent the common cold, heart disease and the range of other conditions for which the vitamin has been advocated. This is most regrettable for manufacturers of the product but is true. Class 1 evidence says so and that should be good enough for all of us. The vitamin is potentially toxic in large doses. Risks of overdose include an increase in the incidence of indigestion, diarrhoea, kidney stones, and possibly iron overload. Really folks, there has got to be a better way to spend your money in the search for perfect health, unless of course you are planning on becoming a sixteenth century sailor.

Vitamin E is an antioxidant and does a great amount of mopping up of toxic oxidants in animal models. As mentioned above, there are sound hypotheses as to why such agents might reduce the risk of atherosclerosis and hence heart attack and stroke. Several Class 1 studies have shown no clinical benefit in humans. Furthermore no clearly defined dietary vitamin E deficiency syndrome exists in

humans. Loads have been written about vitamin E and the self-help sections of most bookshops are filled with books of encyclopaedic proportions claiming vitamin E as a wonder drug. There is no good evidence to support this. Seems like our diet provides enough antioxidants already. In fact randomised studies investigating the role of such agents in the prevention of heart attack and stroke suggest a trend towards increased mortality in the groups allocated to treatment with vitamin C and vitamin E. There is Class 2 evidence that large doses of Vitamin E (1000 units twice a day) may be helpful in slowing the progression of Alzheimer's disease, but the research has many potential biases. For the moment vitamin E is not a standard recommendation as a supplement. And don't even mention selenium or other antioxidant supplements. The lack of benefit of these agents has been well documented. What is more worrying is that some of these supplements in large doses are potentially harmful. For further information on the use of supplements visit the UK Food Standards Agency website at [www.food.gov.uk/healthiereating/vitaminsminerals](http://www.food.gov.uk/healthiereating/vitaminsminerals).

You realise of course that I'm digging my own grave (metaphorically speaking) by disclosing this information. Bland, boring, conventional scientific advice hardly ever sells in the self-help/alternative section of bookshops, and that's where the money is. If this book isn't published or fails to sell, I am planning to reinvent myself as an eastern mystic and self-help guru. After all, business is business. Having said that, I realise that it will not be easy. My wife tells me that I look like a real schmuck in a Kaftan, and we're not even Jewish.

The **B group** includes a range of vitamins including thiamine (vitamin B1), riboflavin (vitamin B2), niacin (vitamin B3), pyridoxine (vitamin B6), cyanocobalamin (vitamin B12) and folate (pteroylmonoglutamic acid if you must know). These agents are water-soluble and storage capacity in the body is limited. They play a role in essential reactions involving protein synthesis, carbohydrate production and utilisation, and single carbon transfer reactions necessary for DNA synthesis.

Enough of the biochemistry already. Give us the facts. Deficiencies of these vitamins are seen in the context of gross malnutrition coupled with increased demand. In the developed world skid row is the place to go if you are seeking seriously vitamin B deficient individuals. High carbohydrate and alcohol intake coupled with lack of vitamin B can produce a range of illnesses that include Wernicke/Korsakoff syndrome, beri beri, peripheral nerve damage, glossitis (inflammation of the tongue), angular stomatitis (inflammation of the corners of the mouth), delirium, spinal cord damage and megaloblastic anaemia. Suffice to say most of these conditions are pretty lousy and some are irreversible or fatal without prompt vitamin replacement. I bet you don't know anyone with any of these conditions. The reason is simple. Most people who buy books of this calibre have a diet sufficient to prevent significant vitamin B deficiency. We do know however that these vitamins are not fat-soluble and cannot be stored in the body in large amounts. We also know that current recommendations regarding optimal daily requirements may be too low. We know that increasing daily folate, vitamin B6 and vitamin B12 intake reduces blood homocysteine levels. Elevated homocysteine levels

increase the risk for heart attack and stroke- see Chapter 12. Folate supplementation in pregnancy reduces the risk of cleft palate and spina bifida. Overdose of vitamin B compounds is rare because these agents are not fat soluble so storage facilities are limited. Anyone who has taken a vitamin B supplement will have noticed that a significant amount of any dose is promptly excreted in the urine. I do recommend supplementation. This should be sensible and not exceed five mg of **folate** and two vitamin B complex tablets daily. Use a formulation recommended by your pharmacist. The real tragedy is that mandatory fortification of flour with folate should have been legislated years ago. This practice would almost certainly have saved tens of thousands of lives in the UK alone, by reducing blood homocysteine levels and hence the incidence of heart disease and stroke.

Regarding trace elements, fluoride supplementation reduces dental caries. The amount contained in fluoride-containing toothpaste should be sufficient to satisfy dietary needs. Overdose can occur in adults. Mottled unsightly teeth are the obvious clinical manifestation. Supplementation of other essential trace elements including selenium, chromium, choline, copper, magnesium, zinc and manganese is unnecessary in healthy individuals. Check out the UK Food Standards Agency website before considering taking any obscure supplements. Discuss the need for potassium and magnesium supplementation with your doctor if you are taking diuretics, diabetic, or suffering from any chronic gastrointestinal condition. Additional nutritional support may be necessary in these and other chronic illnesses. Save the rest of your money for something more emotionally gratifying.

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## CHAPTER 5 REAL DIETS FOR REAL PEOPLE

**(No! That's not what I meant! That dress definitely does not  
make you look fat.)**

OK so this book is all about living longer healthier lives without demanding unrealistically harsh and unworkable strategies. So how to approach dieting? Well, the previous chapter defines the broad principles. **Any diet chosen needs to be medically sound, and to have both an initial program followed by a long-term maintenance strategy.**

Most diets found on the bookshelves or Internet are effective in the first few weeks. There are several reasons for this. Weight loss in the first week or two is often dramatic. Wow, thinks the enthusiastic dieter, at this rate I will be the splitting image of Twiggy in a few months. The truth regarding early weight loss is another closely guarded medical secret, in order not to discourage enthusiastic fat people from at least trying to lose weight. The first five kilograms or so of lost weight is not fat at all. It comprises the body glycogen stores, located largely in the muscle and liver. Glycogen molecules, as mentioned previously, are large complex structures built from simple sugars (glucose) and water. Thus in fact what is lost in those early, halcyon, and watch-out-world-here-comes-the-second-Twiggy days, is water and sugar. Damn.

Now the diet becomes less fun. Firstly the body thinks it has just spent the last week in a concentration camp. Brace yourself for a famine command those ancient genes. Body metabolism slows so less energy is consumed. The mobilisation of fat to provide energy occurs, but because fat is such an efficient compact form of calorie storage small amounts provide substantial energy. A good example of this is the obvious effect when fat is thrown into a fire. The ensuing conflagration is almost equivalent to the effect of gasoline. Weight loss screeches to a dead stop, or at best a painful, drawn out process of milligram weekly losses. The diet, of course, almost invariably restricts overall calorie intake and often precludes the consumption of some normally essential component (such as fat or carbohydrate). Morale plummets. Adherence is hardly helped by the exclusion criteria of the said diet. And does your boyfriend/fiancé/husband/love notice? You betcha, but only if weight loss has been dramatic. For the reasons described above sustained dramatic changes in shape and weight are very difficult.

Then one morning you walk past a pastry shop. The aroma of fresh bread and pastry assails the senses. Break out time say the genes. The prognosis for this sustained famine is worrying. Get in there and eat, for God's sake. Such temptation can be resisted to a point but for ninety-five percent of us genetic sanity prevails and we succumb. And that Madame is the thin edge of wedge for the diet. Oh well, let's start again next Monday. Yeah right, say the genes. They don't call us the thrifty (energy-conserving) genotype for nothing.

Hey, isn't something missing. Human beings are satisfied for some hours after a big meal and are not perpetually hungry. We are well designed by and large (excuse the pun) except, unfortunately, for the new millennium. Perhaps I need to expand on this (Oh shut up) and explain some of the underlying mechanisms that regulate bodily functions in this regard.

A large number of so-called 'negative feedback' loops exist to control production and secretion of hormones and other chemicals in the body. These loops function by

providing feedback on the levels of the particular chemical so that production, and hence body content, can be continuously and appropriately adjusted according to need. There are a wide variety of triggers that stimulate appetite and in addition triggers and chemicals that say, 'No! Definitely not another ice cream!' The study of hunger mechanisms is currently undergoing extensive research (partly to look for the ultimate diet pill). A wide range of hormones and chemicals are currently being studied to evaluate their roles in appetite control.

A recently identified and currently topical chemical released in direct proportion to total body fat stores is called leptin. Leptin informs the appetite centres of the brain of body fat status and when enough is enough. There is an impression that individuals prone to easy weight gain have appetite centres less sensitive to leptin, and in some cases inadequate production of leptin. Another substance called ghrelin (what a ridiculous name-who the hell dreams these terms up) is secreted by the stomach and has the opposite effect. Ghrelin stimulates appetite, commonly overriding conscious dietary self control with consummate ease. Other chemicals that contribute to the dietary tango include insulin, pro-opiomelanocortin and pancreatic polypeptide. However control of food intake has emotional, cerebral, gastrointestinal and biochemical components, is extremely complex and clearly still inadequately understood, so I won't ramble on any further regarding this.

What can we do to cheat our way out of obesity? Fighting weight gain is a lifelong marathon. As we age so our metabolic rates slow. This means less energy consumption to maintain basic body functions. The obvious consequence is easy, easy weight gain. This is why a twenty-year-old male can drink twelve cans of high calorie beer daily for a month without consequences, whereas a sixty-five year old female just has to walk past a deli to gain a kilogram. Weight loss definitely becomes more difficult with age.

I for one however am somewhat saddened in having to regard my lifetime journey as a dietary marathon. What about having fun and taking time to smell (and, if desperate, eat) the roses. Life ain't a rehearsal. What about mimicking the hunter-gatherer routine i.e. simulating periods of feast and famine? This is also known as yo-yo dieting or weight cycling. Unfortunately (or fortunately) extreme fluctuations in body weight don't seem to be healthy, can predispose to binge eating, and have been associated with overt bulimia, depression and possibly increased mortality. So lets forget the extremes folks. We're only human. Settle for a long-term balanced dietary pattern Sure, short-term aggressive dieting is often necessary, possibly with the help of the drugs discussed below. Large regular weight fluctuations are best avoided however.

What about the use of drugs to knock the weight off? There are a number of drugs used to treat obesity. Essentially they fall into two categories. One group suppresses appetite and the second group interferes with fat absorption. The combination of fenfluramine and phentermine (known as fen-phen) was widely used in the US for years. A rare side effect (primary pulmonary hypertension and heart valve damage) developed in a small proportion of users. Because this condition is usually fatal these and similar drugs are best avoided.

More recently orlistat (trade name Xenical) has become available. This agent inhibits lipase, the main pancreatic enzyme responsible for fat digestion. When taken with a fatty

meal orlistat inhibits absorption of up to one third of dietary fat. The drug is mildly to moderately effective in the short term. It is pricey. The real downside is occasional anal leakage of oily fat, and staining of underwear. The drug should clearly never be used before a heavy date. The rather unpleasant side effects do tend to modify behaviour and consumption of the drug often leads to reduced fat intake. This drug does not prevent carbohydrate (sugar and starch) absorption.

Another new drug is sibutramine (an appetite suppressant that has not shown the adverse consequences of the earlier products in this class). Short-term use is worth considering after discussion with your internist. Newer drugs such as topiramate are also undergoing evaluation but are not currently registered as dietary agents.

Is surgery an option? For morbidly obese people with a BMI in excess of 35, surgery should be seriously considered as a long-term solution to their problem. Morbid obesity takes years if not decades off life expectancy. There is a large body of evidence that confirms that obese individuals are prone to extensive discrimination even in today's politically correct environment. Obesity is associated with lower educational attainment, occupational success, median income, and increased risk of depressive illness. The surgical options vary and are not without risk, particularly because of the technical difficulties and risks of post-operative complications in this patient population. Laparoscopic (keyhole) surgical approaches are evolving and should be a welcome addition to the surgical armamentarium as techniques and equipment improve.

Now for the diets;

Firstly, determine your target bodyweight. To do this you need to measure your body mass index (BMI). This is calculated by dividing your weight in kilograms by your height in metres squared. To make this easy the best thing to do is to go to any of the large search engines on the Internet (for example Google) and type in the term BMI calculator. Bingo. A list of websites containing the relevant calculator appears. If you happen to live in a country that is non-metric find a calculator that provides the relevant conversions for feet, inches and pounds. If your BMI is less than 18.5 you are underweight. The normal range for BMI is 18.5 to 24.9. A BMI from 25 to 29.9 implies that you are overweight. A BMI of 30 or more equals obesity.

We all need to recognise that most diets have an initiation phase followed by a maintenance phase. It is pretty pointless starting on the maintenance phase when the wedding is in three weeks and 6 kilograms just have to go. Urgent requirements for weight loss are occasionally part of real life. As long as you don't make a habit of yo-yo dieting. Remember my concerns voiced a few paragraphs ago. Having said that, lapses are inevitable in life and using the techniques of initiation therapy for several weeks four or five times a year is unlikely to be harmful, particularly when compared to the health risks of long-term obesity. Anyway, let's deal with maintenance first:

- **Maintenance therapy** must provide balanced long-term nutrition. Most of you will be aware of the food pyramid regarded as the ideal formula for a balanced and healthy diet. The broad base of the pyramid includes unrefined, fibre-rich carbohydrates and vegetable sources of protein, moving up to the middle of the pyramid (low fat dairy products, white meats such as poultry, and oily fish), and finally reaching a very tiny tip of animal fat and cholesterol. This diet is widely

supported by the medical community and recommended by the **American Heart Foundation**. This is a rational option for maintenance therapy. Recently the increased intake of fatty fish and monounsaturated/ omega 3 and omega 6-rich vegetable sources of fat (peanut, olive, canola oil etc.) have been emphasised as the critical part of the middle portion of the pyramid because of the favourable consequences in lowering cholesterol levels.

- This diet is far more likely to be effective if used with other individuals in similar circumstances. This is part of the reason that **Weight Watchers** works reasonably effectively. You're all in the same boat and peer pressure promotes adherence to the program (a bit like good old Alcoholics Anonymous).
- The cheapest and at least as effective option is the **Dr. McClelland** maintenance diet. This option has one serious drawback. It is simple and impossible to market effectively as a franchise. No one can capitalise on my maintenance diet. It will never make me rich. Apart from a daily vitamin and mineral or two it recommends no special marketable supplements. All this is very sad.
- **Anyway, here is the McClelland diet.** Adopt those broad guidelines recommended above that are acceptable to you. Don't waste your time trying to adhere to a maintenance dietary program that you find intolerable. Long-term compliance will simply not happen. Let me summarise again the basic dietary principles. Vegetables, fruits and whole grains (including high fibre bread and cereals) to provide fibre, carbohydrate and some protein. The omega 3 and omega 6 rich vegetable oils, and omega 3 rich fatty fish recommended provide most of the fat. Animal sources of protein to be largely derived from the fatty fish, low fat dairy products and poultry. Vitamin B complex, folate, vitamin D 800 I.U. and calcium one gram daily as supplements. You should be taking these anyway. Then simply decrease the size of all the portions. Yes, that's the secret! Fewer beans, less fish, far less potato on each plate. As a rough guide, start with a reduction of about a third in portion size. Maintain the balance in such a way that the diet retains its usual variety. The medical literature confirms this does just as well in the long-term as any other recommended diet. Remember, we've all been eating monster portions for the last twenty years. You aren't going to starve. I promise. The remarkable thing about my diet is that it actually saves money as the requirement for essential supplements and the other necessities of commercial dietary programs are practically non-existent. In fact with reduced expenditure on food the diet should save you even more. Some knowledge about the low calorie sources of food to satisfy the munchies (the desperate urge to sneak a snack between meals) is essential of course. These are described two bullet points below. And remember if you do sneak in a snack deduct the equivalent caloric amount from your next regular meal.
- Perhaps the easiest way to reinforce the emphasis on smaller portions is to have smaller dinner plates. I admit this sounds ridiculous but hey, it might just keep you focused on sensible portion sizes. You think only the portions got bigger over the last twenty years? In order to compensate the plates have too. Creative presentation of meals is sensible to make the meal look more substantial than it is, if only to satisfy the inappropriate expectations of the fast food generation.
- **IMPORTANTLY**, give yourself permission to cheat a few times a week. Do not order the celery delight at a top New York restaurant. When taken out to dinner have

a ball. I call this the cheat technique. It works well because it is realistic. I first recommended it to adolescent diabetic patients. We're all going to cheat occasionally anyway. So remove the guilt. It is normal. Even our genes say so. An orlistat tablet might be an idea during these episodes.

- Remember again that leafy green vegetables, cucumber, tomatoes, raw onion and figs are good low calorie fillers during uncontrollable urges to cheat, cheat, cheat (Well, what did you expect? An offer of a cream and jelly doughnut?). Other low calorie vegetables include asparagus, artichokes, spinach, broccoli, celery, red and green peppers, beetroot, radishes, carrots, turnips, watercress, zucchini and leeks. Grapefruit, nectarines, melons or apple skins are the lower calorie fruity option. If you can't face any more plant food, cheat by eating animal protein containing products (fish, chicken, lean meat, low fat dairy). Dr. Mac's golden rule of the munchies is to avoid all breads (simply because they provide the perfect excuse for a sandwich), cereals, refined carbohydrates (i.e. any sugar-containing food), all types of nuts, and chocolate.
- Don't forget the advantages of Mediterranean-style cuisine.
- Herbs are extremely low in calories and add some excitement to almost any meal. Incidentally oregano, sage, peppermint, garden thyme, lemon balm, clove, allspice and cinnamon are loaded with naturally occurring antioxidants. Other useful herbs include basil, mint, marjoram, sage, rosemary, chives, garlic, parsley, fennel, dill, tarragon, lemon grass, curry leaves, sorrel and dandelion.
- Drinking eight glasses of water daily is strongly recommended by the manufacturers of bottled water. What can I say? Great marketing is great marketing. The marketers and manufacturers have followed a trend. Water is effective as filler, particularly on a full stomach and especially following the consumption of high fibre grain and cereal products, as these tend to be water absorbent. So make a habit of having a glass or two of water from time to time and always at the end of any snack or meal in order to confuse those greedy genes into thinking you've eaten more than you actually have.
- There are four primary taste sensations, namely sweet, bitter, salty and sour. Sweet has been the real problem for the human race over the last few decades. I can see how the sensation provided a survival advantage in past millennia. How many poisonous substances are sweet? Practically none. How accessible are sweet foods in the hunter-gatherers world? They are a rare and seasonal delicacy and consist of fruits packed with refined sugar. In ancient times these comprised an instant source of calories and energy and presumably had the same effect as sugar drinks have on five year olds today. Just imagine. After exposure to a treeful of pineapples those with a sweet tooth were up and running, fighting, seducing and mating with anything in their path. Their genes were inevitably passed on, explaining much of current middle class behaviour. Naturally the human bliss associated with eating sweet, refined carbohydrate-rich foods has been maximised by the market. This is why low fat, carbohydrate rich diets have been such a failure. Amazingly enough, gradual reduction in intake of sweet tasting foodstuffs can in the medium term eliminate the cravings for these foods. To be honest, any long-term dietary strategy is only going to be effective if you can modify your tastes so that refined carbohydrates are no longer a significant part of your diet. Artificially sweetened soft drinks and calorie

free sweeteners in tea and coffee are acceptable for those with a sudden uncontrollable craving for something sugary. Gradually reduce the amount of artificial sweetener and in three to six months the old bod will adapt-I promise.

- Go easy on the salt. For ethical reasons I've sneaked this in hoping you might not notice. By the way adding more vinegar to salad dishes is a useful way of masking the reduced salt content.
- If you are not controlling weight in spite of the adjustments, start the initiation program again and for subsequent maintenance reduce carbohydrate portions to about half your pre-diet intake, rather than reducing protein.
- Still not working? Reduce carbohydrate intake further and focus exclusively on my favoured carbohydrate vegetables and fruits as the carbohydrate portion of your diet. And consider orlistat or sibutramine for a period. Remember, long-term dietary failure is almost invariably linked to excessive calorie intake from refined calorie-rich carbohydrates, those damned sugars and starches. Our genes find such foodstuffs exquisitely appealing and need to be bewitched, bothered and consistently seduced by alternate dietary options.
- Trust your scale. If you are not controlling your weight dietary intake is excessive and needs downward adjustment.

And now for **initiation therapy**. It's three weeks before the wedding. You feel fat. In fact, to be perfectly honest, you are a bit fat. Panic time. Most starvation-type diets work well, but hell they're tough to adhere to.

- If you have no illnesses and really want to get the groom to see you at your skinny best (or vice versa), the Atkins diet induction program may be worth considering. It is effective for rapid weight loss in those prone to cheating, largely because it does not restrict protein and fat intake. Very little carbohydrate is permitted. Dr. **Atkins** was intelligent. His induction diet does allow very low calorie vegetables such as lettuce and cucumber for example. As mentioned earlier these are fibre and water rich but contain virtually no calories. As described previously, your body quickly exhausts carbohydrate reserves. Fats are broken down for energy. Ketone bodies, one of the products of fat breakdown, contribute as an energy source but more importantly suppress appetite. And the diet is restrictive. Believe it or not, there is a limit to how much fat you can eat if that's all you confront day-in day-out. Take a double dose of multivitamin during this period. If really desperate, you might throw in an orlistat tablet, but be aware of the downside. Widespread mainstream medical support for the Atkins diet is variable, particularly for long-term maintenance therapy. The issues are controversial because of the relationship between high animal fat intake and heart disease, but the diet remains extremely popular. Reassuringly a recent article in The New England Journal of Medicine confirmed that the Atkins diet is effective short term (more effective than the low fat diet to which it was compared in the study) and seems to have no significant adverse sequelae. Blood fat profiles were actually improved in the Atkins group. Furthermore diabetics and other patients with the metabolic syndrome were included in the study. Unfortunately after a year there appeared to be no difference in outcomes between the two diets in terms of weight

loss, and failure and drop out rates for both diets were high. This is disturbing because any study environment is somewhat artificial when compared to the real world. Simply being involved in a study often motivates patients, resulting in considerably greater benefits than those seen in daily practice. But you and I know all about long-term success rates anyway. As I mentioned earlier in the book, a single magical diet does not exist. If you want more information about the Atkins diet, read the Atkins diet books.

- A second option is the **Weight Watchers** initiation program.
- The third option is the **McClelland** program. Here individual carbohydrate portions are reduced to a maximum of one third of the previous size, and either orlistat or sibutramine or both (be warned, they are not cheap) taken with gay abandon (only after discussion with your physician). Use my low calorie carbs listed in the maintenance section as the bulk of your carbohydrate intake. Maintain fish and poultry intake at two thirds of your pre-diet intake. Take the vitamins and calcium as mentioned in maintenance and use the other tricks of maintenance therapy as indicated. Remember my golden rule of the munchies. Aim at a target of about one kilogram (2.2 pounds) per week weight loss. Remember that weight loss is going to slow as body glycogen reserves are exhausted, which means that greater sugar and starch (but not animal protein) restriction may be necessary if targets are not being met. The initiation program can be continued until target weight (based on BMI) is achieved, provided that regular liaison and close monitoring by a physician is part of the program if target weight requires more than ten kilograms of weight reduction. Monitoring of blood chemicals and vitamin levels may be necessary under these circumstances.

Did I hear someone mention the word **exercise**? Oh dear, here we go. Well, exercise is important for a multitude of reasons. It is less effective for weight loss than diet alone, given our madly efficient little fat cells, but certainly helps the process. How much exercise? The evidence suggests that thirty minutes of moderate exercise (brisk walking or jogging for example) five times a week significantly reduces cardiovascular morbidity and mortality. The benefit is likely to be linear so any physical activity is better than none. Exercise improves muscle strength, co-ordination, mental well-being and cardio-respiratory fitness. Isn't that just wonderful? The reality of course is that forty to fifty per cent of adults hardly ever exercise. The reasons are multiple and related not only to sloth, as the exercise gurus and puritans would have us think. Time is a major factor. We exist for much of our lives with work and home obligations that are exhaustive and demanding. Our days are long. Living in northern Canada or Scotland is not exactly conducive to an evening winter jog, particularly at the end of a twelve-hour day. We naturally all have periods during our lives where a regular exercise commitment is easy. School, college, pre-children and retirement are the times that come to mind.

The large gap in the middle is an issue. Jogging became fashionable in the seventies. Prior to that running for the hell of it was regarded as rather odd. There were no fitness or aerobic clubs in the fifties. Gyms were distinctive places; strictly men only and filled with the delicate aroma of rotten underwear and old sweat. Maybe two percent of men used such places, yet average body weight was considerably less than today. The figures are simple to explain. They are unrelated to disease or nutritional improvements. Food

consumption has increased but is only part of the problem. The reality is that people used far more energy in the activities of daily living even forty years ago. Cars, elevators, automatic toothbrushes, television, remote controls, PCs and computer games have markedly reduced daily energy expenditure. We drive 200 yards to the corner store. We transport kids everywhere. We take the elevator instead of the stairs. We have petrol lawn mowers with custom leather seats. We use golf carts instead of walking the course. OK, OK. I know I am starting to sound self-righteous. The point however is this. For a long-term exercise program to be effective throughout all the phases of our lives the simple things are important. Climb staircases, walk instead of drive (if it is practical-I don't mean from New York city to Phoenix, Arizona), and structure your everyday activities in such a way that some physical activity is a natural part of your routine. Also play plenty of golf. If your spouse enquires why show him this book. If you have the opportunity, by all means add aerobics, jogging and pumping iron. Remember though that sustainability and avoidance of extremes are the cornerstones of any long-term, life-changing exercise program.

By the way, there is increasing evidence that obesity increases the risk for a range of cancers. These include cancers of the oesophagus (gullet), stomach, gallbladder, pancreas, kidneys, colon, and a variety of blood cancers. Gender specific cancers more common in obese women include cancer of the uterus, cervix and ovary and prostate cancer in obese men. These increased cancer risks nevertheless represent a far lesser hazard than the risk of dying from the consequences of the metabolic syndrome in any individual patient.

**P.S. 1) Avoid painfully thin, sanctimonious doctors and dieticians (or, if you're really tempted, beat them to death).**

**2) The information in the above chapters may not provide the specific recipes but contains all the essential information necessary for effective weight loss. THIS INFORMATION IS IN FACT THE STATE OF THE ART WHEN IT COMES TO ADVICE ABOUT LONG-TERM SAFE AND EFFECTIVE WEIGHT CONTROL. TREASURE IT AND USE IT. IT REALLY DOES WORK!**

- There must be a zillion diets out there
- The implication is that no particular diet works for everyone and that most diets fail to be effective in the medium to long term.
- Dietary therapy should have initiation and maintenance phases
- Not all fat is bad for you. Healthy fats have no bad effects on total blood cholesterol and triglyceride levels and may improve them
- Fat is very calorie rich however
- Carbohydrates can also make you fat, and refined carbohydrates (like sodas, sugar and cookies) are packed with calories
- Diet should be balanced with a focus on smaller portions of each item, particularly cholesterol, saturated fats and refined carbohydrate
- Dietary options include the Atkins diet (for induction), Weight Watchers and my smaller portions diet
- Exercise is highly desirable but programs need to be appropriate to competing time demands
- Supplementation of some vitamins (but not others) is sensible
- Medications are available to help if necessary

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## **CHAPTER 6-BYE BYE HIGH BLOOD FATS**

As mentioned in the previous chapter, diet and exercise have only a limited impact on blood cholesterol levels. Generations of patients have been brutalised (OK I'm exaggerating a little) into thinking that it was their fault. That's part of the fun of being a doctor. We can accuse patients who have been living on celery for a month that they've been cheating on their diet. The problem is compounded by the fact that early cholesterol-lowering agents were either ineffective or produced unacceptable side effects or outcomes. One particular agent was found to be downright dangerous. The drug, clofibrate, did reduce triglyceride levels and did increase HDL (the good cholesterol-containing lipoprotein) levels modestly. This resulted in a reduction in heart attack and stroke. Unfortunately however the study group showed an increase in overall mortality. Consider the scenario: 'Mr/Ms. Patient, if you take my medication the good news is your blood fat levels will improve. Unfortunately your overall life expectancy might be shortened.' No wonder complementary remedies became an exciting alternative. Another major player, a drug called cholestyramine, was safer and more effective but has to be consumed with meals and can abdominal discomfort and flatulence. Adherence to a drug that has to be taken three times a day for an asymptomatic condition creates issues.

Although the flatulence tended to improve with time compliance with therapy certainly didn't. Newer and safer fibrates (improvements on clofibrate) have become available over the last twenty years or so and some (for example gemfibrozil) have improved life expectancy in heart attack survivors.

By far the most important breakthrough in drug therapy of high cholesterol has been the development of statins. These drugs are HMG CoA (hydroxymethylglutaryl Coenzyme A) reductase inhibitors. No, you do not have to memorise that. They literally switch off cholesterol production. The consequences for blood cholesterol levels have been dramatic. Overweight, sedentary middle-aged matrons are now able to waft around with blood cholesterol levels equivalent to those of preteen girls. Is this important? After all uncomplicated high cholesterol is asymptomatic. Your blood cholesterol reading can be off the top of the scale and you can feel like a million dollars (and I mean US dollars, not Zimbabwean dollars). High blood cholesterol is simply high blood cholesterol. It is a predisposing factor to cardiovascular disease, in particular heart disease and stroke. These diseases don't play fair. They don't care if you've been using a foot balm, herbal tea, or some other therapy designed to support you from a placebo point of view. They fight dirty. They present with catastrophe, not uncommonly death or irreversible disability.

OK, I better elaborate. As mentioned previously high blood cholesterol levels cause clogging up and hence narrowing of blood vessels. Blood vessels are the essential supply lines for oxygen and nutrients (the combustible energy sources essential for life). What are the consequences of sudden blockage of such vessels? A common presentation is sudden death. This tends to be dramatic and instantaneous, and for these reasons doesn't allow a hell of a lot of room for negotiation. About one third of patients with ischaemic heart disease (i.e. occluded cardiac blood supply) present in this way. Another third present with heart attacks. These patients present with sudden blockage of a vessel supplying part of the heart, but survive the attack with variable degrees of permanent heart damage. Many of the remainder present with angina. Angina occurs due to a transient insufficiency in blood flow to the heart muscle, without causing muscle death. Other presentations include irregular heart rhythms and failure of the heart muscle to function effectively leading to heart pump failure.

These multiple scenarios make one thing patently obvious. Prevention is better than cure. With modern drug therapy we can now offer painless prevention. I admit that swallowing a tablet doesn't sound intrinsically attractive. Most westerners inherently prefer the "natural options". As mentioned previously, early drug therapies were sometimes pretty dubious alternatives. We have moved on though, folks. Strongly supported by the legal fraternity (I admit that's slightly tongue in cheek), we have been scrupulously careful to ensure that treatment is as safe and effective as possible, not only in reducing blood cholesterol and triglyceride levels but also in improving quality of life and life expectancy. The statins have been demonstrably effective in improving life expectancy in groups at moderate and high-risk for ischaemic heart disease or stroke. Best evidence strongly favours the use of these agents in patients with a history of ischaemic heart disease and stroke, adult diabetics, and individuals with a family history of premature ischemic heart disease i.e. heart disease below the age of fifty-five, and a personal blood

cholesterol level in excess of 4.5 mmol/l in spite of appropriate dietary therapy. It is likely that other subgroups will benefit from this therapy and that these guidelines are probably conservative. Certainly all asymptomatic individuals at significant risk for any vascular event (stroke, heart attack, angina or transient ischaemic attack) should strongly consider the use of these agents. It is becoming obvious that the most important factor to take into account when deciding whether to use statins is the patient's individual risk for atherosclerosis, rather than the actual blood fat levels.

Is there a downside? Of course. The drugs cost money. There is a very small risk of liver inflammation which occurs in a small proportion of users. This can be identified by monitoring liver function using serial blood tests, and is almost always reversible on cessation of therapy. Some patients develop muscle aches. These are usually dose related and respond to dose reduction. A very small number of patients taking statins develop more significant muscle injury, particularly when they are used in combination with fibrate drugs (used to reduce triglycerides), but such combination therapy is seldom indicated. Available statins include atorvastatin, simvastatin, lovastatin, pravastatin and fluvastatin. Atorvastatin is the most potent agent and in addition appears significantly more effective in lowering blood triglyceride than the other agents. A recent addition called cerivastatin was found to be associated with a higher than anticipated risk of muscle damage (rhabdomyolysis) in combination with fibrates and has been withdrawn. In spite of the above caveats, the risk-benefit ratio of these drugs in patients at moderate to high risk for cardiovascular disease strongly favours their use in the groups described above.

It is important to realise that this therapy is long-term. It reduces high blood cholesterol levels and protects against premature death in that way. The benefits both in terms of cholesterol levels and life expectancy are seen early after onset of treatment in high-risk groups. Blood cholesterol rises to pre-treatment levels within forty-eight hours after cessation of therapy.

Right folks that's one for the sensible folks i.e. the rest of us.

- We make our about ninety percent of our cholesterol and obtain only ten to fifteen percent from diet
- Therefore dietary modification seldom has a dramatic effect on blood cholesterol levels
- Modern cholesterol-lowering medication prevents heart attack and stroke and should be regarded as essential for all at increased risk of these diseases

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## CHAP 7-HIGH BLOOD PRESSURE-HYPERTENSION

You think fighting with patients about taking cholesterol-lowering medication is bad? HyperTENSION. The name is the problem. Conjures up visions of stress, tension and anxiety, doesn't it? Unfortunately the term hypertension has confused the public totally. There is a common perception that hypertension is lifestyle and stress related and nothing that a holiday in the mountains or the seaside wouldn't resolve. Furthermore in ninety-five per cent of cases the disease produces no symptoms. Not for nothing is this condition called the silent killer. It is a major treatable risk factor for stroke, heart attack, heart and kidney failure. As with high cholesterol, the typical clinical presentation is with a catastrophic event such as death, paralysis, heart attack or unstable angina. Equally disturbing is the recent recognition that high blood pressure doubles your risk of dementia over the age of sixty-five. In ninety-five percent of cases we don't know the cause. Blood pressure is controlled by a variety of pressure sensors and chemicals that relay information to the medulla (ignore the word, it ain't particularly necessary to know) of the brain. Located therein is the blood pressure control centre. This regulates blood pressure within a certain range and makes rapid adjustments if stimulated accordingly. All of us will have blood pressure regulated at slightly different baselines. In some individuals the control mechanism regulates pressure at a higher level than others. There is a significant risk of damage to arteries, heart muscle and kidneys with abnormally elevated blood pressure. Blood pressure also rises with age (I'm convinced that parenting teenagers are largely responsible but at this stage this remains a working hypothesis). The scientific explanation is pretty straightforward. As we age our blood vessels become less elastic and more rigid. As a result they are less able to expand to accommodate the sudden increase in blood volume ejected into them with each heartbeat. Blood pressure rises, particularly during ventricular contraction (known as ventricular systole). Long-term high pressure equals progressive damage to blood vessels.

Five per cent of patients have a secondary cause for high blood pressure. Secondary causes include kidney disease, medications (such as the oral contraceptive pill in a small percentage of users, some appetite suppressants, excess alcohol, cocaine which I admit is not currently widely used for its medicinal properties, unusual forms of adrenal disease, toxemia of pregnancy, etc). These patients (clients-hell, I hate that word) can usually be identified by appropriate investigation. The advantage of recognition of these problems is that curative treatment is possible in some cases. What this means is that life-long pill swallowing may not be necessary.

Scenario time again. Sorry, I know this can get painful but it tends to illustrate the issues clearly. A patient (usually an executive) arrives for his annual company-subsidised medical examination. We chat and joke a bit while I record his medical history. He is a thirty-eight year old new ager. He is a senior vice-president of an advertising company. He jogs thirty miles a week. He is a committed vegetarian. He minimises his salt intake. He meditates for forty-five minutes daily. He is arty and creative. His wife steams and boils all his meals. He last ate butter in nineteen eighty-four. His children are compelled to adopt this lifestyle and eat peanut butter jelly sandwiches and steal cookies whenever

they visit friends. I measure his blood pressure. The reading is 162/96. I make a politically correct joke to relax him, chat about the advantages of a high fibre diet for five minutes to relax him, and repeat the measurement. The reading is 167/97. I complete the remainder of the examination. I discuss good things happening in the advertising industry. I measure the blood pressure once again. The reading is 166/98. I mention to him that his blood pressure reading seems to be moderately elevated. He is horrified. It must be a consequence of one of a variety of stresses, he says. The cat has gastroenteritis. He is under pressure to attract a big advertising account. The traffic was heavy this morning. His wife is premenstrual. His mother-in-law confessed to him three weeks ago that her daughter should have married better.

I sit down behind the desk and sigh (inaudibly). He is of course going to be a nightmare to treat. I explain the essence of hypertension. I use the word high blood pressure so as not to confuse him. He is dumbfounded. He recalls putting sea salt on a parsley pie about three years ago and wonders if that might be the problem. I tell him no. His father had hypertension and died of a stroke at forty-five. His mother died from a stroke at seventy. OK, he admits there are some genetic issues. But he does everything right. And he's an American. He should be entitled to live forever.

We run all the tests. We repeat the blood pressure reading on seventeen further occasions. This includes a twenty-four continuous hour blood pressure recording and a reading while he is meditating with his yoga guru. The blood pressure remains elevated. He discusses the stresses in his life with his therapist, trains even harder, and loses even more weight than necessary. He practically eliminates salt from his diet. He tries herbal therapies by the dozen. After six months he returns for a repeat check up. The blood pressure is 171/99. His cholesterol is 7 mmol/litre. I explain that he has essential hypertension and elevated cholesterol, both of which are inherited. If I am lucky he will consider a trial of drug therapy. Unfortunately he has moderately severe hypertension and will probably require at least two drugs to control his blood pressure effectively. His other major vascular risk factor, i.e. his high blood cholesterol (in spite of his Bridge on the River Kwai diet) warrants the use of a statin. His risks for an adverse cardiovascular event (particularly stroke or heart attack) before the age of sixty certainly justify considering the use of long term low dose aspirin therapy. I will clarify the role of aspirin further in a later chapter. As you can imagine it is difficult for any individual who feels at peak mental and physical fitness to be told he requires the life-long consumption of multiple drugs.

OK, let's reiterate. High blood pressure is a silent killer. Blood pressure rises with age, largely because blood vessels become less elastic and stiffer. Reduced elasticity results in a reduced ability of blood vessels to expand to accommodate sudden changes in blood volume created by the pumping action of the heart. At the age of twenty-one only one percent of the population has high blood pressure. At the age of sixty about forty percent of us have high blood pressure. Those of us fortunate enough to live to eighty will have a sixty percent chance of having high blood pressure. Almost a normal phenomenon of aging, isn't it? Yes, but only if you are happy to die earlier than necessary from stroke, dementia, heart attack, heart failure or kidney failure (or all of the above). Remember our ancestors didn't recognize the concept of natural death. Death was death, whether it

involved an encounter with a sabre-toothed tiger, infection, starvation, cannibalism, murder, or an argument with a mother-in-law. Advanced old age in those days was defined as living beyond the age of thirty-five. The modern long-term disease processes which occur as a consequence of genes, environment and natural aging were hardly relevant. In the nineteenth and early twentieth century myocardial infarction (heart attack) was a very rare cause of death. Now it is our number-one killer.

NO FOLKS this is not only a consequence of lifestyle. It's an age thing. With life expectancies in the thirty to forty age range heart disease barely had a chance. There were too many other competing causes of death in the younger age groups to give it any opportunity. Perhaps this is why we have no genetic memory of the condition and are significantly genetically motivated to eat, eat, and eat. The low cholesterol, high fibre lifestyle hardly provided a survival advantage to our ancestors. Exercise, of course, is still a basic drive and physical fitness undoubtedly improves cardiorespiratory (heart and lung) fitness, muscle and bone strength, and feelings of wellbeing. Those who thrived on activity were almost certainly more likely to be successful hunters and (dare I say it) better lovers. Unfortunately the competing urges to accumulate and conserve food energy seem to have been even more effective in improving survival and hence the opportunity to pass on the relevant genetic profile.

In the real world the consequences are obvious. A large proportion of patients fails to adhere adequately to therapy. There is a widely held public perception that improving life expectancy requires the development of newer and more effective drugs. This is undoubtedly not the case in the treatment of most cases of hypertension. We have a wide range of effective agents available. They work via widely different mechanisms. Any drug can cause side effects in a proportion of users but the wide range of modern drugs should practically guarantee safe, convenient (at the very most twice daily), effective therapy. About forty per cent of patients will require at least two drugs for effective blood pressure control. Doctors know that most patients with hypertension are asymptomatic. It is therefore incumbent upon them to ensure that patients do not suffer side effects, at the very least for the emotionally intelligent reason that side effects equal non-adherence to treatment. Naturally, if you don't take the treatment it doesn't work. Important side effects often overlooked are those that we are kind of embarrassed to shout from our rooftops e.g. impotence. YOU deserve appropriate therapy for life-threatening conditions and you deserve to feel and function normally on such therapy. Even if you don't have medical insurance. And emphasise unacceptable side effects to your doctor.

Now, why the hell did I say that? Several recent studies have revealed that at least forty percent of Americans with health insurance and a diagnosis of hypertension are receiving inadequate therapy. With current state of the art therapy and recent evidence-based (i.e. objective rather than best guess) research the target for adequate blood pressure control has become lower. In the old days a copout was much easier. Sure, we lowered blood pressure but side effects such as depression, impotence, breast development in males, increased facial hair in females, and multiple other inflictions were common. This is no longer the case when treatment is prescribed appropriately. Let me spell it out. Target blood pressure should be less than 140/85. In some subgroups such as diabetics with