



Good cardiac health – without the drugs

Lifestyle management centred around a healthy diet and exercise remains the most important factor in the prevention of cardiovascular disease

DR JASON KAPLAN

There is no short cut to cardiovascular health and longevity. Despite patients' interest in the paleo diet, 5:2 diet, that next super supplement, the effect of goji berries, coconut water or whatever else they find on the internet, we know that in reality, there is no easy or quick-fix solution. Instead, we need to focus on what patients can easily incorporate into their daily lives to maximise their cardiovascular health and ultimately, to live longer.

While it is advice that is commonly ignored, eating at least five servings of fruit and vegetables daily will add at least six years to patients' lives. When it comes to exercise, all time spent engaging in physical activity is beneficial, but the maximum benefit occurs in the first 20 minutes.

One alcoholic drink helps people live longer, but each drink after that starts to reduce longevity. Two hours of watching TV a day actually shortens one's life, as does smoking.

The Harvard Alumni Health Study (*Paffenbarger RS et al, NEJM 1993;328:53*) looked at the changes around 20,000 adults made to their lifestyles in middle age and the impact on longevity. It showed that if participants became physically active, took up moderately vigorous sport, quit smoking and remained thin, then they managed to live longer on average compared to their peers.

For people who have two major cardiovascular risk factors, such as hypertension, a history of smoking or hyperlipidaemia, the risk of having a cardiovascular event increases significantly. However, for people who have what are called "optimal risk factors", the risk of having a major cardiovascular event up to age 85 is actually less than 10%.

When we talk about optimal risk factors, we're talking about the big seven:

1. Non-smoker
2. A blood pressure less than 120/80
3. A good diet, e.g. a high CSIRO healthy diet score
4. Cholesterol is less than 5 mmol/L
5. No diabetes
6. Not overweight – A healthy BMI
7. Exercise more than 150 minutes a week

In the Harvard study, which followed participants for close to 20 years, patients who managed to achieve all seven had no significant cardiovascular events. It is likely that only a few of our patients tick all seven boxes, which allows us to use this framework as a guide to steps which they can take towards a healthier lifestyle.

The important point is that these factors are all



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lifestyle-related; there are no drugs involved. In fact, perhaps it's time to return to a more hunter-gatherer sort of lifestyle. Hunter-gatherers ate unprocessed foods and had a diet high in fruit, vegetables and nuts. They had omega-3 fatty acids. They ate lean protein. They drank water and physical activity was a necessary part of their daily routine.

At this point in history, people are simply eating too much, and obesity continues to rise with the consequences of increased rates of heart attack, stroke, diabetes, high blood pressure and depression. Every five kilograms in extra weight may lead to premature onset of disease, with myocardial infarction estimated to occur one and a half years earlier. Every five kilograms at age 21 increases the chances of someone dying before 90 by 10%, if not addressed.

Reviewing the American national weight control registry, people who lost 15 kilograms and kept it off for more than a year, achieved this by cutting their calorie intake by half. Over 90% of these successful losers of weight exercise for an average one hour a day, 75% weighed themselves more than once a week and kept track of their progress, and a large majority of them watched TV for less than 10 hours a week. These are simple, practical steps that almost any patient could take.

FOOD

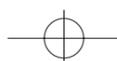
It's becoming clearer every day that food is one of the most powerful tools for keeping the body (and especially the heart) in optimum condition. Recent literature suggests a Mediterranean style diet reduces the risk of cardiovascular events by

up to 40%. While our bodies are not all equal, we can stick to some key fundamentals.

- Eat five serving of vegetables, two servings of fruit per day.
- Eat more fish. The DART trial looked at dietary interventions in 2,000 people who had prior myocardial infarctions. People eating at least two servings of oily fish a week, reduced their risk of having a subsequent event or premature death by close to 30%. In fact, it appears that one of the best types of diet we could recommend to someone is the "pesce-vegetarian", which is primarily vegetarian with two to three servings of oily fish weekly. A 1999 study into mortality in vegetarians and non-vegetarians showed that this sort of diet had the lowest adjusted ratio for cardiovascular events compared to all the other diets, including vegetarian and vegan regimes.
- Eat less processed meat. People who have a daily serving of processed meats have a significantly increased risk of having cardiovascular events including an over 40% increased risk of heart disease
- Avoid sugar-based drinks.
- Have a little dark chocolate. While chocolate is often high in saturated fats and contains caffeine, there is some evidence that consumption of chocolate with high (>70%) cocoa content may lower blood pressure and that the flavonoids in chocolate may also lower LDL cholesterol. It also potentially improves mood and happiness – which is important for longevity! >>



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SUPPLEMENTS

While it's better from the plate than from the bottle, here are a few supplements that can be recommended if dietary intake is not good enough:

- **Omega-3 supplements.** Omega-3 fatty acids (Polyunsaturated), essential fats. People should eat good sources of oily fish (wild salmon, trout, sardines, anchovies, herring and mackerel) or perhaps take supplements in order to get their benefits. Ideally, 500mg to 1000mg day of EPA/DHA. Consumption in people with heart disease shows lower levels of progression of disease and subsequent cardiovascular adverse events. There is no clear evidence as yet to recommend supplementation in a primary prevention role.
- **Fibre.** It lowers cholesterol absorption. Ideally we should consume at least 25 g/day through dietary sources, but supplements may be useful where this is not possible.
- **Plant Sterols** have been shown to improve lipid profiles with modest reduction in LDL Cholesterol levels.

EXERCISE

Study after study shows that the level of fitness in middle age determines how long people will live. Each metabolic equivalent (exercise capacity) confers 12% improvement in overall survival, and physical fitness is one of the most powerful predictors of mortality from cardiovascular disease amongst men and to an extent, post-menopausal women.

Dr Ken Cooper, of the Cooper Institute of Aerobic Research, found that daily, moderate exercise was associated with a 40% reduction in heart attacks in females and a 60% reduction in heart attacks in males.

In another study, he found that people who were in the lowest 20% in terms of their cardiovascular fitness were three times more likely to die prematurely than the fittest group. The study also showed that taking up exercise, even after the age of 60, would increase a man's life expectancy.

For optimum health, people should utilise between 3,500 and 6,500 calories a week (or 500-950 a day) through exercise. They also need about 60 minutes a week of cardio training – that is, a cardiovascular activity that elevates



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the heart rate to 80% or more of the age-adjusted maximum (estimated by the formula: 220 bpm minus age) for an extended period of time.

The interval training necessary to obtain optimum health comes in the form of only three 20-minute workouts per week at a "cardio-training" heart rate. However, recommend that your patients do physical activity for 20 minutes a day. That means 20 minutes of sustained activity that leads to being slightly out of breath, or to breaking into a sweat during that time.

If people are not able to exercise to the levels described above, they should try to do 10,000 steps a day – a wearable exercise tracker may assist patients to keep a track of their levels of activity. As with many things, balance is the key. People can actually run too much. In our sports cardiology clinic, we see an increase in atherosclerosis in a number of marathon runners. Running marathons and other endurance activities can result in increased levels of inflammation, which in turn can impact on the vascular endothelium. People who consistently put their body through this type of stress during endurance activities promote atherosclerosis. The ideal amount to run is likely to be around 15 to 20 kilometres a week at about 9 to 10 kilometres an hour.

MARRIAGE, SEX AND CHILDREN

Married men live longer than unmarried men, divorced or separated men. The tendency is not as obvious with women although there is a benefit. In addition, sexual activity is associated with decrease in premature death and age-related cardiovascular events for men, but not for improving mortality in women

When looking at the impact of children on cardiovascular health, women with more than four children had higher levels of atherosclerosis and coronary calcium; the optimal number of children would appear to be somewhere between two and three.

HAPPINESS, OPTIMISM AND CALM

- Avoid anger and hostility. Promoting relaxation techniques and meditation to our patients is important. Having friends and people around that one would never think of getting angry with, can help people handle emotional lability in a healthier way.
- Depression is bad for the heart! Arranging professional help and managing depression requires us to recognise it in our patients and for our patients to recognise it in themselves

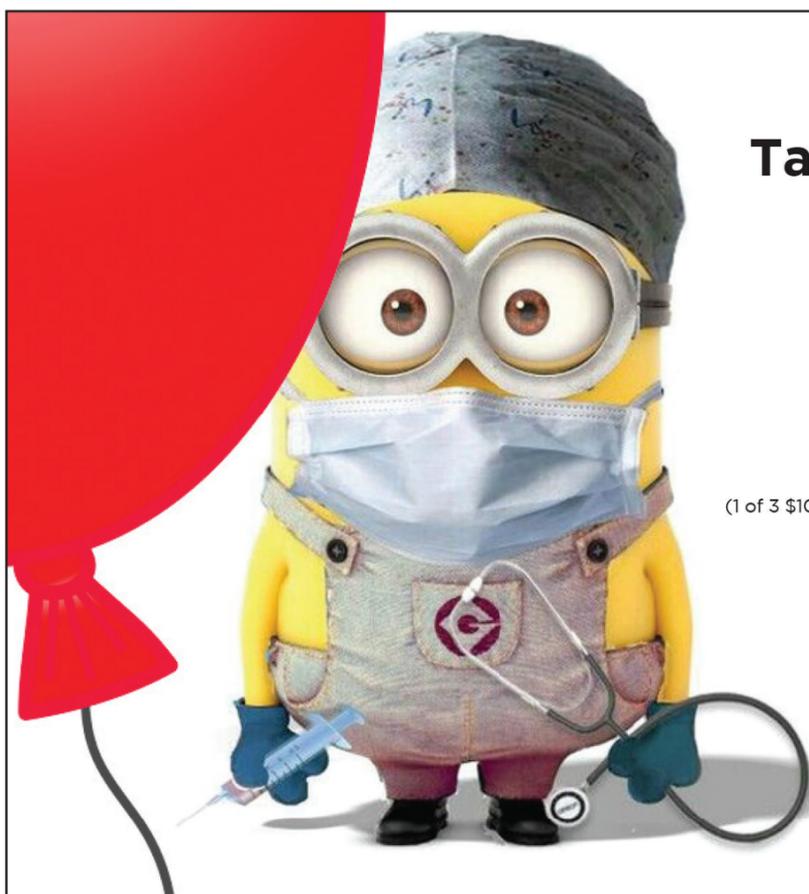
or in friends; getting help or helping friends get help, results in reducing symptoms and consequences in just three months, by more than 90%. Seeking help, whether by taking and planning therapy or through medication, is a needed first step.

- Stress in its various forms is widely associated with increased rates of disease and mortality. It is vital to address the nagging, "unfinished-tasks" kinds of stress that hang around day after day, or the stress of things that are out of one's control. Just as chronic stress can damage the heart, actively working at reducing stress will keep the heart healthier. The most consistent stress reducers that also help with heart disease, depression and anger include: exercising, meditating, and nurturing friendships.
- Sleep. If people get less sleep than they need, it increases arterial aging and the risk of heart attack. The optimal amount is seven to eight hours per night for men, and six to seven hours for women. Patients should be sleeping for about two and a half hours without interruption or disturbance, before sleep becomes truly restorative. Poor or inadequate sleep can cause depression and lead to the development of poor lifestyle choices and habits. Ignoring bad sleep is like not fixing a hole in the roof!
- Open the heart and develop lifelong friends. Be part of community and stay involved: these are the common traits amongst some of the worlds longest living people.

To sum it up, lifestyle management, with the cornerstone being diet and exercise, remains the most important factor in the prevention of cardiovascular disease.

There is no shortcut for patients to long lasting health and longevity and one of our goals as doctors is to encourage patients to make the choices that will serve them throughout their lives, not just till the bottle of the next new wonder supplement runs out!

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