

### **Understanding Carbohydrate Addiction is the Key to Weight Loss**

Over the last couple of years, I have concluded that the biggest drug addiction in the Western world is to something most people would think is harmless. Yet this seemingly innocuous substance causes major health problems and as a result is a huge burden to our healthcare system.

Whilst we all know about societal problems associated with alcohol, tobacco, and illicit drugs such as heroin or cocaine, ***carbohydrate addiction causes much greater adverse health effects than all other drugs and substances.***

Carbohydrates can be divided into several categories. These include simple sugars such as monosaccharides (one sugar molecule), disaccharides (two sugar molecules that are attached to each other), and complex sugars or starches (ten or more sugar molecules that are attached to each other). Monosaccharides include glucose or dextrose (found in honey, dried fruits, grapes), fructose (found in sweeteners, dried fruits), and galactose and xylose which are often added in the processing of foods. The most common disaccharides are sucrose (found in sugar cane, cakes, biscuits, chocolate), lactose (found in milk) and maltose (found in cereals and energy bars). Starches (found in bread, rice, pasta and potato) take longer to absorb compared to simple sugars but once absorbed they are seen in the same way by our bodies. Alcohol is not strictly a carbohydrate but rather is a sugar that has been fermented and therefore also contain a significant amount of energy. ***As there are no other nutrients in alcohol it is often described as having 'empty calories'.***

We are all different and each of us have a strong desire to different things that contribute to us being overweight. Some people drink too much alcohol, others love fruit, yet others eat too much bread. ***It is important we look at our diet and identify what our food weaknesses are and thereby address these areas.***

Our bodies were not originally designed to consume carbohydrates. In fact, there was little or no carbohydrate in our diets 100,000 years ago. Whilst we have receptors for protein or fat to tell us when we have had enough, there are no such receptors for carbohydrates. Therefore, when we eat meals containing predominantly protein or fat we develop a sense of fullness but when we eat meals which predominantly consist of carbohydrates the only way we can feel full is if our stomach becomes over distended. Carbohydrates are also more quickly absorbed. We should therefore avoid eating meals which have a significant carbohydrate load as such meals make us feel hungrier quicker. This then leads to us overeating and therefore to us becoming overweight.

Unfortunately, sugars and carbohydrates are addictive and there are animal studies in rats which demonstrate that sugar is more addictive than cocaine. In one study, mice in one group were fed and became addicted to sugar, and in the other group they were fed and became addicted to cocaine. These substances were then withdrawn from each of the groups and the mice's brains were analysed to determine the effect of withdrawal of these substances. The brains of the mice withdrawn from sugar lit up greater than those withdrawn from cocaine. This indicates greater withdrawal effects from sugar compared to cocaine. ***So remember the next time that you have not eaten for a while and you feel weak, tired, grumpy, jittery and cannot concentrate, these effects are not because your blood sugar levels are low but rather because you are having a withdrawal from sugar.*** If you are overweight, you have fat stores and these stores can be broken down to keep your body functioning.

In late 2017, for six days prior to my birthday I did not eat breakfast or lunch but only had dinner. I consumed only water during the day. Although I was hungry especially towards the end of the day I was able to function normally. This included patient consultations, performing complex

procedures in hospital and some would say more importantly being a chauffeur to my children. I wanted to go longer than 6 days but was persuaded to partake in the beautiful birthday lunch prepared for me. I did not lose any weight over this time and this presumably was because I consumed my daily requirement in the evening. What however was interesting was that I developed a higher level of concentration and was able to work with less breaks after this period of fasting. Since that time, I have done several fasts greater than 40 hours. To illustrate this, I ate dinner late on Sunday night with my next meal being Tuesday's dinner. For me, the difficult times were trying to sleep on an empty stomach on Monday as well as late Tuesday afternoon. Again, I have drunk plenty of water and have used my busy life to distract me. When I felt mentally weak, I used the inspiration in my life to encourage me. I have been able to function at a high level during these periods of fasting. I call this period of fasting '**skipping 5 meals**' and this has made it easier for me to miss one or two meals.

I routinely now do not eat breakfast. **It is a fallacy to say that 'breakfast is the most important meal of the day'**. Whilst this statement may hold some validity for growing children it is not true in adults, especially overweight adults. There is now evidence to suggest people who routinely skip breakfast weigh less than those who eat breakfast. Our weight is not determined by whether we have 10 smaller meals (grazers) or 3 larger meals. Our weight is determined by the total amount we eat. I have found that by missing breakfast and trying to have a late lunch that I can then have a small dinner and thereby keep my total food intake lower.

In another animal study, one group of mice were overfed and not surprisingly became overweight and the other group were given usual amounts of food. They then starved the overweight mice and as predicted these mice lost their weight back to that of the group that was not overfed. They then allowed both groups of mice to eat as they pleased and the group that initially became overweight became overweight again.

Therefore, **anyone who is overweight or who has been overweight has to accept that they are a sugar (carbohydrate) addict and therefore must be careful with their intake and types of food they eat for the rest of their life.** It is very hard to lose weight. In fact, you will have to try harder than someone with a drug addiction to lose weight successfully. **Once you have lost the excess weight, your battle has only just begun because as soon as you 'take your eye off the ball' your excess weight will return.**

I have spoken to a few patients that have never been overweight and have realised there is a difference between them and people such as myself who have been or who are overweight. The difference is people who have never been overweight are not obsessed by food, they forget to eat unless they are reminded to do so. If such people were stuck in a room alone filled with a variety of delicious food and if given the choice to read a book, they would do so with little distraction, eating only when they had to and eating only the amount the needed to.

We have three options in how we consume our meals. Firstly, we can eat until we are full and feel sick. I do not recommend this as when I have eaten excessively, as I am sure many of us have at times, I feel very uncomfortable and regret having eaten so much. Secondly, we can eat until we feel content but no more. This sounds logical, but it should be remembered that there is a time lag between when our stomach is full and when our brain registers this. As a result, we eat more than we should. **The third and correct option is to continue to have the feeling that we want to eat more when we end our meal.** I recommend this as I believe it teaches us to restrict our intake and therefore assists us in losing weight. **We learn how to deal with hunger which is the key to key loss.**

It is important that we teach our mind (some would say our tongue) to rely less on sugar as it stimulates our appetite. **Water is the best drink and should be the drink of choice for anyone that is overweight.** Often patients try and substitute sugar in their diet with artificial sweeteners which have no calories. Some use artificial sweeteners in their coffee and some cook with it. I myself used to drink Pepsi Max or Diet Coke. We feel happy because there are no calories, yet

the food or beverage tastes sweet. There is however a catch. When we taste something sweet, our brain assumes that sugar will follow. When this does not occur our brain 'feels tricked' and compensates by eating more. ***There is evidence that people who consume artificial sweeteners put on weight rather than lose weight.*** I have now tried therefore to stop all drinks with sugar or artificial sweeteners. If I now want a fizzy drink, I will have sparkling mineral water.

Overweight patients often ask me how much weight they should lose. One may consider the ideal weight as the weight you were when you finished high school. That is assuming you had a healthy weight when you were young. Some years ago, I attended a cardiology conference and the presenter stated, 'We should be able to wear the same pants we did when we were 20 years old'. When a lady in the audience asked 'What about us? We have had children. Does the same rule apply to us?' the reply from the presenter was the same. In my opinion, our ideal weight is that where there is little or no fat on our body. For many patients this seems an impossible task, but weight loss should be taken slowly. As long as people who are overweight burn slightly more energy in the day than what they consume they will be successful. I ask my patients to try and achieve 0.5 to 1.0 kg of weight loss per month. For a very overweight person, the desired weight loss may take many years. Remember 'Rome was not built in a day'. Two years ago, our dog Blaze, was taken to the vet and we were told if you can feel the ribs on him then he has a good weight. I realised this was not just good advice for Blaze but also for us.

I have had patients who successfully lost weight say their young grandchildren take time to adjust to them as they are no longer as cuddly. People have been asked if they have cancer because of their weight loss. ***It is better however to look like you have cancer but feel well rather than to feel like you have got cancer because you are so overweight but look good.*** Anyone who has lost a significant amount of weight has excess skin. When you blow up a balloon and it is then deflated it never looks the same as a new balloon. But remember, it is more important how you feel rather than how you look or what others say. People who have lost a significant amount of weight move around much more easily, have less shortness of breath and have a better quality of life. They also feel much happier and are proud, as they should be, of their success in losing weight.

Poor people in third world countries have a very low weight not out of choice but because they have no choice but to work very hard with very little food. Such people often only get one small meal per day, remain hungry at the end of their meal and fill their stomach with water to try and overcome their hunger. I frequently tell my patients: '***you may live like a king but you should eat like a pauper***'. That means eating simple food and only eating the amount that is necessary. Two other keys things I tell my patients to try and lose weight are '***to not eat when you are not hungry***', that is do not eat just because someone asks you to, and '***when you are hungry to try and eat less***'. My biggest temptation in overeating often occurs at home in the evening. I therefore tell my patients that if their pantry is full, it is harder to lose weight. Very poor people also open their pantry in the evening but because it is empty they then close the door and go to bed. One patient jokingly said her pantry was stocked better than Coles. She was very obese. Some of my patients try and give up sweets but replace this with large servings of fruits. Remember eating too much fruit (or worse still fruit juice) means consuming large amounts of sugar as all fruits contain sugar.

When patients come back for review and have put on rather than lost weight they say 'We tried to exercise more and eat less. Why did I put on weight?' Because dietary restriction is so difficult, it therefore is understandable that they have been unsuccessful as they tried 'only a little bit' instead of trying harder than someone with a drug addiction. ***Dieticians have observed that patients routinely underestimate how much they eat and over estimate how much exercise they do.*** Sometimes patients compare themselves to others who are not overweight who roughly eat the same amount and exercise the same amount as they do. They are upset therefore as to the discrepancy in weights and state that it is unfair. I remind them that eating the same amount as a lower weight person does not make them lose weight as the amount consumed by both people may be the same as their energy expenditure so there is no change in lower weight or the

overweight person's weight. For the overweight person to lose fat they need to eat less than the lower weight person, that is they need to slowly starve themselves to reduce their weight.

There are now many phone apps to help you record exactly how much you consume and accurately record how much exercise you do. Often people struggling with their finances keep a budget of all their income and expenses. This assists them in budgeting. Likewise, phone apps that give a record of our energy intake and expenditure also help us to successfully budget our food intake and activity expenditure. They help us identify areas of high calories consumption and allow us to make informed decisions on which unhealthy food habits we need to target.

Patients often ask, 'How long do I need to diet for?', I remind them that a diet is often for a specific purpose, for example, to lose weight to attend your daughter's wedding, after which you may return to your former size. Rather, I say ***to be successful long term in losing weight you need to make a lifestyle change that you can commit to for the rest of your life.*** This is the only way to achieve long lasting weight loss. There are no magic medications or remedies to lose weight. But there is a multi-billion industry falsely promising easy weight loss.

To some extent, weight loss is about learning to conquer the feeling of hunger and whenever we are hungry or stressed that we should eat. ***Weight loss is about learning to make do with less.*** I remind patients that poor people do not get the opportunity to eat excessively just because it is their birthday, or it is Christmas. What they eat for the day depends on what they have earned for the day. If they do no work for the day, they get to eat very little. I remind my patients that their income is not what is in their wallet but what they physically did for the day. A poor person who is not able to find work for the day is equivalent to us on holiday lying on the beach all day or sitting in a plane on a long-haul flight. Our intake likewise needs to be adjusted to these situations. If we keep telling ourselves, we will eat what we want today because we will burn it off tomorrow, we are doomed to fail. The sad reality for most of us is that 'tomorrow never comes'.

In 2006 I was very overweight. I did a huge amount of exercise over five months and my diet remained roughly the same. I lost a staggering 21 kg and dropped my weight from 84 kg to 63 kg. My weight was 66 kg at the age of 18 when I started medicine at the University of Melbourne. In 2007, life got busier again and my weight slowly increased to 71 kg over the next few years. Each time I told a patient to lose weight I was also telling myself, so it was very frustrating to me personally that I could not succeed. I became determined to lose weight when I was correctly told that I was overweight, and this was because I was eating too much. This statement was my inspiration to lose weight. I became determined that I needed to apply all the principles I had been telling my patients to myself. I saw a photo of myself when I was 63kg and said I want to again be that person.

In November 2016 I conducted a weight loss experiment on myself. I wanted to see how much weight I could lose in one week with exercise. From a baseline of 1-2 hours of exercise a week I did a huge week of exercise which included 270 km on my mountain bike, 250 km on my road bike and an 8 km jog. This equated to 24 hours exercise for the week. I also tried to eat the same or slightly less than before this exercise filled week. My biggest temptation was to white rice, so I switched to roti (flat Indian bread) which I did not like as much and therefore would eat less. After 1 week of this extreme amount of exercise I had lost only 0.7 kg. Although disappointed, I was not surprised as it is said that you need to play tennis for 44 hours to lose 1 kg of fat.

I kept exercising intensely although not as much as I had done in the first week. I exercised for a total of 27 days consecutively where I did at least 2 hours per day. This equated to 1300 km on my bike and 6 half marathons. After this time, I had lost a total of 2.5 kg. Following this period, I was not able to exercise as much because of work commitments but became stricter with my diet. To my surprise although I was only able to exercise on 3 occasions over the next subsequent 2 weeks I was able to lose a further 3 kg. ***It is important to understand that most of our energy expenditure is used to keep us alive with only a small additional amount expended for exercise.*** Therefore, if you meditated all day and consumed very little food you would lose more

weight than if you exercised to an extreme but ate more. It is important to also understand that it is very easy to eat more than any amount of exercise that you can do.

I also conducted another experiment on myself. It occurred between two Christmas parties in 2016. There was a coronary care unit Christmas party which I attended to on Thursday evening. I ate and like most of the people there, consumed more than I needed to. The next morning, I performed a procedure in the private hospital and then undertook procedures at the public hospital. I did not eat breakfast as I was not hungry. At lunchtime, although starting to become hungry, I decided to not eat for that day. I did this for a personal reason, but I also wanted to test my will power. As soon as I made this commitment, the device representative that was present announced that he was bringing a beautiful Thai lunch for all the staff. I sighed but told him 'Thank you for your gesture and I am sure the staff will enjoy this lunch, but I will not be eating. I will however sit with you all.' He asked what I would like, and I told him that I would have a sparkling mineral water. I watched my fellow staff eat and could smell the beautiful aroma of the food. I was also tempted each time I went to the coronary care unit as during this festive season there was chocolate everywhere. I opened the chocolate box, smelt the aroma, however I did not eat any chocolate.

Once I finished work at the public hospital I then had to attend to two sick patients in the private hospital. There were further food temptations that evening but I was able to resist. I arrived home at 11.30pm. It had been a very long day as I had started work at 6.45am. I was pleased with myself that I was able to get through the day and perform all my duties without eating. I was able to concentrate fully despite many complex procedures. All I had consumed during the day was water.

On Saturday morning I did a bike ride with my group. There is no doubt that I had little glycogen stores and was not as strong, but I was still able to cycle the usual 50 km. After this bike ride we all attended a fellow cardiologist's house for Christmas breakfast. The bread and butter pudding tasted like it was made in heaven. There was no doubt that I burnt a lot of fat as I had succeeded in fasting for 36 hours.

The healthiest people who live into their 90s and 100s aren't people like me that try and use exercise to keep their weight down. The healthiest people are active people that do not go overboard with their exercise yet are able to keep their weight stable with dietary restriction. I now tell my patients that ***the most important muscles to use to control weight are the muscles that close our mouth, despite the temptations. Another comical way of retitling this article is 'How to close your mouth yet still get on with your life'***. To say no to delicious food is very difficult but it is so important if we want to be successful in losing weight.

Data suggests that those that do not exercise at all are more likely to die because of health problems. Interestingly the lowest mortality rate is amongst people that are active without going overboard with their exercise. That is the lowest mortality is in people that do the equivalent of five hours of brisk walking per week. Those that exercise more than this have a higher mortality rate. Those that push themselves to extremes when they are older yet continue to eat badly not surprisingly have a relatively high incidence of heart attacks. When explaining sensible exercise to my patients I use the analogy of a car. I state that when we buy a new car we can 'floor it' without any problem. When the car is old however there can be problems if we 'floor it'.

Given the fact that sugar is more addictive than cocaine, does it not follow that we are doomed to fail in our quest to lose weight. This is not necessarily the case. It is important to understand how hard the task is and create a plan to succeed. It is important to find yourself an inspiration to succeed, as I did, or determine an important reason why you want to lose weight as this is what you will need to think about when things get hard. Of course, you may have occasional, for me it has been frequent, relapses but the longer you fight the more likely you will eventually succeed.

In addition to white rice my other addiction is to milk chocolate. In late 2016, I purchased a block of 99% dark chocolate. After six months I finally finished the 100g block. In October 2017, I gave up chocolate for one month. Prior to making this decision, I had tried unsuccessfully to reduce my

intake or hide chocolates in the house. During this month of abstinence, chocolate was not hidden from my view. It was very liberating to be able to see chocolate and not eat it. Whilst it was an amazing experience to celebrate with chocolate after 1 month, I now knew that I was in control of chocolate and that chocolate was not in control of me. Although I still enjoy rice and chocolate, I have learnt I can live without them.

In the two months leading up to an Italian bike ride holiday in September 2017 I trained very hard. This included 26 hours and 530km in one week on a mountain bike. My weight only dropped from 63.5kg to 62.5kg with two months of intense training because I ate sufficiently for the exercise I was doing. In Italy I rode a road bike consecutively for ten days with a total distance of 850km and this included 13.4km of vertical ascent. I put on the 1kg I lost despite this huge amount of exercise because I ate and drank too much. As I have said it is very easy to eat more than any amount of exercise that you can do.

Upon returning to Australia, I have again exercised the most important muscle to lose weight, that is the muscles that close my mouth. I have been too busy to exercise as I have had to dedicate a lot of my time to our clinic's amazing new redevelopment. Despite not exercising as much, I dropped my weight to 61kg in January 2018. I was then encouraged in the six weeks before Easter to try a vegan diet. I realised by adopting a vegan diet that there were so many foods that I liked and could not have. It was a very good lesson of self-control. With a vegan diet, I was able to reduce my weight to 58kg on the 14<sup>th</sup> of April 2018. I was very proud of myself as I had lost a total of 26kg from my peak weight in 2006, 13kg from my weight in late 2016 of 71kg when I again was encouraged to lose weight, and 5kg less than the person I was dreaming to be at 63kg. My aim is to now intermittently use abstinence to foods I love to always keep my weight below 60kg. With the vegan diet, I have realised that the bigger the selection choice in food we have, the higher is our weight. Reduced choice in food options leads to reduced weight. I have accepted that weight loss is therefore 90% diet and only 10% exercise. Obviously, the ultimate goal is to be like the lower weight person who has access to all food but only eats the amount that is required. This however may be an impossible goal for me. Those who have conquered their obsession of food are truly amazing people.

It is very important that our dietary intake changes to very significantly reduce carbohydrates. It is important we are active without going overboard with exercise. It is essential that we incorporate periods of fasting on most days. I will have to keep working hard to keep my weight under 60kg. This gives me a BMI less than 22. That puts me in the middle of the healthy weight range. My peak BMI was 30.85 in 2006 put me into the mildly obese range.

I know at times I will relapse, and my weight will go back up. Hopefully I can keep this to a small amount. I understand for me it is a lifetime task to keep to my goal weight. I am after all a 'sugar addict'. This road will not be easy, but I am prepared for the battle ahead.

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Dr Allada in Ballarat in December 2005 with his practice manager, Lee Campion.



Dr Allada in Bendigo in January 2006.



Dr Allada with his son, Akash, in February 2006.



Dr Allada with his family after his weight loss in early 2007.



Dr Allada with his daughter, Asvini, in July 2016.



Dr Allada in late 2017

