

INTRODUCTION

Interesting Times

For those of us doing research on low carbohydrate diets, the last decade has given truth to the ancient Chinese curse: “may you live in interesting times.” There has been a flood of scientific publications on everything from clinical studies of carbohydrate-restricted diets to underlying molecular mechanisms that explain how and why they work. And in the public domain, books and articles have critically examined the current dogma that ‘carbohydrates are necessary and good, whereas dietary fats are bad’.

Meanwhile, our population just keeps on gaining and gaining: not just adults, but children as well – not just in the US, but elsewhere in the developed and developing world as well. Of course, we are not alone in being concerned about this epidemic of obesity. All sincere doctors, dietitians, scientists, and policy-makers want to turn this process around, but there is as yet no common consensus on what to do and how to do it.

There is a glimmer of hope, however. Just as we have seen the consensus change on dietary trans fats and more recently on the high fructose content in our diet, we are beginning to see movement away from diets high in carbohydrates – especially refined carbohydrates and simple sugars. But many of the mainstream experts still warn against ‘going too far in the other direction’, stating that there are still too many questions about the safety and efficacy of low carbohydrate diets. But is this really true? Are there still too many unanswered questions, or has this position lost traction when the flood of recent research is taken into account?

This is an important question that we feel uniquely qualified to address. Collectively, the two of us have designed, conducted, and published several dozen studies of low carbohydrate diets. These results have consistently drawn us forward to do further research because of the positive outcomes we have observed. We have counseled thousands of patients on low carbohydrate diets and tracked clinical outcomes. And as evidence of our personal convictions, both of us have chosen to follow a low carbohydrate lifestyle.

In short, we believe that the most important issues about low carbohydrate diets have now been resolved. But perhaps because we are ahead of the consensus on this, we indeed find ourselves ‘living in interesting times’. Rather than being daunted by the intensity of the dialogue about low carbohydrate diets, however, we are delighted by this process, and it is this energy that has motivated us to write this book.

We ask not that you accept our position presented in this book because of our accumulated academic degrees or publications, but rather because our analysis of a broad range of information makes sense. As a place to begin, let’s look at some of the obvious discords to be found in the case for maintaining the current high carbohydrate, low fat paradigm.

Five Discords

First, the ‘low fat message’ has been pushed in the popular media and in academia for three decades, while in this same period the prevalence of obesity in the US population has grown dramatically.

A ‘low fat diet’ – even one restricted in calories – is high in carbohydrate, which drives up blood insulin levels. Insulin is a hormone that drives fat into storage (i.e., into fat cells) and stimulates hunger. A low carbohydrate diet, on the other hand, allows insulin levels to remain low and fat stores to be burned in the context of reduced hunger and cravings.

Dietary saturated fat has been demonized in the media, textbooks, and in national policy; whereas published scientific data shows no connection

between dietary saturated fat intake and either saturated fat levels in the body or the long term risk of heart disease.

The strongest correlation between a major dietary nutrient and blood levels of saturated fat is with dietary carbohydrate – not with saturated fat intake! On average, the more carbohydrate you eat, the higher the content of saturated fats in your blood.

And fifth, at the same time that science is increasingly defining the variability in our individual responses to diet and exercise, nutrition policy makers persist in preaching a one-size-fits-all message. For example the new Dietary Guidelines for Americans released January 31, 2011 recommends everyone consume at least 45% of their calories from carbohydrate[3]. This stands in stark contrast to the fact that their unitary edict actually matches the ‘metabolic fingerprint’ (i.e., the carbohydrate tolerance) of less than half of the population. Someone needs to speak up. Tantamount to pointing out the king’s wardrobe failure, we can’t make forward progress by moon-walking backwards.

The Unmet Need

We believe both history and science now dictate that it is time to transcend the myths and sound bites that dominate the discussion of optimum dietary fat and carbohydrate intakes. We need to get beyond the simplistic idea that all humans can and should eat the same ‘perfect diet’ across all phases of our life-cycle. Given the obvious metabolic diversity among humans, we need to accept dietary diversity as an important variable on achieving optimum health across the whole population.

Thus the purpose of this book – scientific evidence now supports inclusion of well-formulated low carbohydrate diets in the list of safe and sustainable dietary options to promote individual optimum health and well-being. And this is where the ‘art’ must join the ‘science’. Just because you decide to stop eating sugar, bread, potatoes, rice and pasta doesn’t mean that you have a low carbohydrate diet suitable for long-term use. That

path to a well-formulated diet is more complex. In fact, understanding the ‘how and why’ of this formulation process takes a whole book.

Three Keys

Safety. Between the two of us, we have more than 50 years of research and clinical practice experience with low carbohydrate diets, and between us we have published a few hundred peer-reviewed papers on the topic. Much of this effort has been directed at understanding how to formulate a low carbohydrate diet for optimum safety and function. We have written this book because we are confident that a well-formulated low carbohydrate diet offers improved long-term health and well-being to people whose metabolism struggles to deal with a high carbohydrate load (aka carbohydrate intolerance).

Individual specificity. Every individual human is unique, and this variability extends to how we respond to the foods we eat. Starting two decades ago with Professor Gerald Reaven’s courageous stand against the use of high carbohydrate diets in people with what we now call metabolic syndrome[4], we have become increasingly aware that some of us are ‘carbohydrate intolerant’. This concept of carbohydrate intolerance is increasingly understood to be a manifestation of insulin resistance, and is associated with high blood triglycerides, high blood pressure, and in its most severe form, type-2 diabetes. These sub-groups in the population show dramatic clinical improvement when dietary carbohydrates are reduced, and thus deserve to be offered a separate path from the ‘high carb, low fat’ mantra promoted by national policymakers.

Sustainability (Getting Beyond ‘Casual’). It is the common experience of many individuals who have naively tried a low carbohydrate diet, and also of researchers who have studied casually administered low carbohydrate diets, that normal people can’t follow them for very long. But is it the low carbohydrate aspect that’s at fault here, or is it specifically the casual nature of these dietary efforts that predestines most normal people to forego the long term benefits of carbohydrate restriction? The answer is that

making carbohydrate restriction sustainable is complex and takes careful effort and guidance to be successful. In this book, we identify and explain many characteristics of a ‘well-formulated low carbohydrate diet’ suitable for long term use. In Chapter 18, for example, we summarize just the key points in this process under ten headings. Thus this topic is clearly more deserving of a book than a sound bite.

Why a Health Care Professional Should Buy this Book

Carbohydrate restriction is commonly practiced but seldom taught. Perhaps the assumption is that anyone can use common sense to figure it out (i.e., the ‘casual approach’). Alternatively, those who determine the curriculum at our prestigious universities and professional schools may not believe that this topic deserves serious academic interest.

Whatever the reason, this book represents our best effort to fill the gap in information about carbohydrate restriction for health care professionals. To this end, we have attempted to walk the tight-rope of ‘objectively promoting’ the case for carbohydrate restriction in individuals with underlying insulin resistance or carbohydrate intolerance.

Critics will correctly state that our arguments in favor of carbohydrate restriction seem one-sided and smack of advocacy. But we ask you: what is the proper response when three decades of debate about carbohydrate restriction have been largely one-sided and driven more by cultural bias than science? Someone needs to stand up and represent the alternate view and the science that supports it.

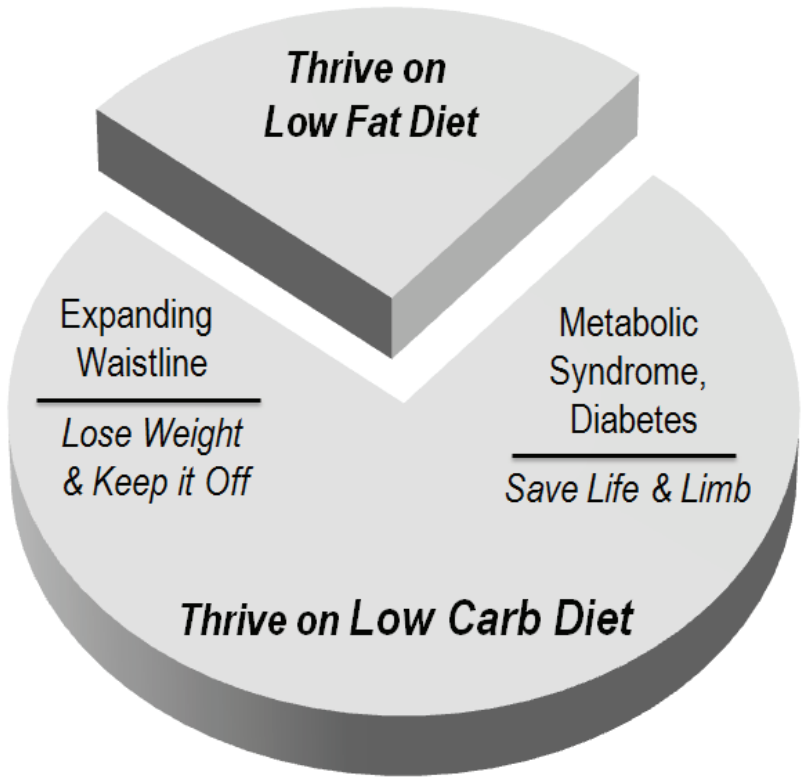
In this effort, we have attempted to speak directly to you, the reader, rather than employ the more sterile third-person voice. Citations have been held to a minimum of the key publications in each chapter (rather than the 50-100 citations per chapter we could easily conjure up). To cover some areas where others are better versed, we also have recruited three individuals with unique experience to contribute chapters to this effort.

We have recently co-authored “The New Atkins for a New You”[5] which, while soundly based on science, is more of a step-by-step, consumer-oriented guide to following a well formulated low carbohydrate diet. This current book is functionally consistent with ‘The New Atkins’, but we delve deeper into how the diet works and how it can be used clinically. Thus it is more technical, but by no means do you need to be a member of MENSA to comprehend our message.

The readership of this book is not necessarily limited to healthcare professionals. Anyone with serious curiosity about nutrition and metabolism, or a desire to understand how traditional food practices can be used to improve health, will likely enjoy this book. Students and researchers in the life sciences (e.g., biochemistry, physiology, nutrition, exercise science, physical therapy, athletic training, genetics, etc.) may also find this book intriguing.

Who Ultimately Stands to Benefit from this Book?

If the people living in the United States were a pie, those who stand to benefit from restricting carbohydrate would be more than a modest slice. Currently, 2 in 3 adults qualify as overweight, and 1 in 3 is obese. In certain ethnic groups (e.g., Hispanic and Mexican American men and Black women) 4 in 5 are overweight. More than 1 in 3 adults have metabolic syndrome, 1 in 4 have impaired fasting glucose, and about 1 in 10 have type-2 diabetes. Many if not most of these people have some degree of carbohydrate intolerance and therefore would derive direct benefit from a diet low in carbohydrate. In total, this slice of the pie could represent a hundred million or more people just in the US.



The American Pie. The unremitting high prevalence of obesity, metabolic syndrome, and diabetes – all conditions that can best be described as carbohydrate intolerance - coupled with the very limited efficacy of traditional low fat diets, may be the result of forcing a square peg into a round hole. Even if you thrive on a low fat diet now, carbohydrate intolerance is increasingly prevalent as we age. Thus, over a lifetime, the majority of us may find that we are better suited to a low carbohydrate diet.

Who doesn't stand to benefit from a low carbohydrate diet? If you happen to be among the approximately 1 in 4 adults who will be blessed with the ability to thrive for a life-time on a low fat diet, consider yourself fortunate. The diet we describe here may not be appropriate for you personally, but that does not absolve you from understanding its benefits for your patients. In addition, those of us who do remain thin and healthy on a high carbohydrate diet still pay for the ill-health and lost productivity of the many who are poorly served (literally) by the 'high carb low fat' message. And while you may be metabolically blessed in being able to tolerate lots of carbohydrate now, that doesn't guarantee that this will continue as you age. It just means that you currently have more diet options than those of us with carbohydrate intolerance.

We all stand to benefit, both now and in the future, if a well-formulated low carbohydrate diet becomes an accepted option in promoting health across many sub-groups of our population. We offer this book to you in hopes that this information will broaden the options available to you and your patients in the management of carbohydrate intolerance. May we all work together towards that day when, walking down the street, we find that obesity is once again rare and no longer the norm.

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