

## ENTER THE ZONE

By Dr Louise Burke

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**The Zone Diet.** It sounds like something that Mulder and Scully from the X-Files should investigate. In fact, it is the latest nutrition craze to sweep the United States, and includes athletes among its target group. The first mention of this diet appeared in American Swimming magazines in 1993 where it claimed credit for the eight gold medals won by members of the Stanford Swim Team at the 1992 Barcelona Olympic Games. Since then it has blossomed into two best selling books by its creator, Dr Barry Sears: “Enter the Zone” (1995) and “Mastering the Zone” (1997). Like most popular diets, it promises to solve all the nutritional and medical problems of the world – from AIDS and diabetes through to impotence – and to promote permanent and painless weight loss. However, there are special chapters on benefits to athletic performance, and additional credit taken for another eight gold medals at the Atlanta Olympics. Since a number of athletes that I know claim to be “on the Zone”, or at least interested in it, I have carefully conducted an investigation of the Zone and its promises.

### WHY IS THE ZONE DIET SO INTRIGUING TO ATHLETES?

Dr Sears’ books and promotional materials make many emotive claims about the dramatic benefits of being on the Zone diet. It associates itself with winners and winning performances. How could an athlete resist the promise of such a winning edge? It claims to make breakthroughs in scientific understanding, filling its pages with complicated biochemistry explained in simple language. How could a coach resist the, what sounds like, cutting edge science, backed up case histories and research? The Zone diet follows the rules that make many books into best sellers – intrigue, controversy, and enthusiastic repetition of brave new **facts**.

### WHAT IS THE BASIS OF THE ZONE DIET?

According to Dr Sears, the Zone is reached by finding the correct balance between the **good** and **bad** hormones in our body – between insulin and glucagon and between the **good** and **bad** eicosanoids. He pulls no punches in attacking current healthy eating guidelines and research – he claims that high-carbohydrate, moderate-fat diets cause an overproduction of insulin, and that this is the cause of weight gain, ill-health and poor performance.

The key to entering the Zone is to eat a meal or snack at least every five hours that fits the following profile...

- 40% of energy from carbohydrates – emphasising carbohydrate foods those with a low glycemic index (low blood glucose response).
- 30% of energy from protein. In fact, this is the baseline of the whole diet since protein must be eaten in the exact amount to meet body requirements. Once protein intake is decreed from his tables, this sets total energy intake and the intake of the other macronutrients.
- 30% of energy from fat – emphasising monounsaturated fats.

To achieve these goals, Dr Sears has organised food into **carbohydrate blocks**, **protein blocks** and **fat blocks** and sets up formulae for how many blocks of each should be eaten at meals and snacks. His latest book devotes itself to many “Zone friendly” recipes. The Zone is Big Business – it has spawned a whole new industry of bars and sports products – from companies including PR (owned by Sears’ sister), Eicotech (Sears’ new company) and Envion/BioZone (formerly associated with Sears). PR have bought the endorsement of several big name sports people. These companies sell dietary plans, powders and bars via 1-800 numbers and Internet Websites, and even a series of food products – e.g. pancake mix – all proposing to be “Zone favourable”. In the US, some restaurants and fast food places offering menus and meals that also carry this tag.

### WHAT DOES THE ZONE PROMISE FOR ATHLETES?

Dr Sears (and his followers) claim that the Zone diet creates favourable performance by achieving hormonal control. Less insulin and more glucagon allow the athlete to “tap into their body fat stores”, sustain blood sugar levels, conserve muscle glycogen stores and minimise muscle fatigue. He criticises the high carbohydrate eating plans proposed by sports nutrition experts. He cites case histories of successful athletes who have achieved great results while on the Zone diet.

### WELL IT SOUNDS GREAT. DOES IT REALLY WORK?

The Zone remains unproven. At the moment it consists of hype, emotive claims and case histories. There is no direct research to support any of the claims made by Dr Sears, and he misquotes many research studies as **proof** of his ideas. In many cases, the Zone diet represents a simplistic and inaccurate view of food and nutrition. I have summarised some of the areas of confusion, inconsistency and plain misinformation contained in the Zone.

#### 1. The Zone diet is a low Calorie diet

Although Dr Sears is coy about mentioning this, if followed to the letter, the Zone is essentially a Calorie-restricted diet. Of course, it is cleverly disguised behind **scientific** explanations about enhanced fat-burning, and complicated instructions about mixing and matching foods together. Make it difficult

to put a meal together, and most people eat less without realising that they have cut back on their total food intake. Make special rules and rituals, and most people will feel important rather than deprived. Other diets such as the Beverly Hills Diet, and the Fit for Life diet have used the same strategies, and in the short term, their devotees swear by the **magic** weight loss.

I followed the Zone instructions carefully to construct the eating plan that Dr Sears would advise for me. At my current lean body mass and activity level (one hour of training per day) I can only eat 960 calories a day to stay on “the Zone”. This is major energy deprivation for me – on a normal day I would have gobbled my day’s energy allowance by lunchtime. Clearly I will “access stored body fat” to make up the energy deficit – there is nothing **magic** about this. I might benefit by some loss of body fat in the short term.

However, even if loss of body fat is desirable, it is unnecessarily extreme to stoop to such a low energy intake—and potentially counterproductive to training. Without sufficient carbohydrate to replace muscle glycogen stores it is impossible to undertake high-intensity exercise at optimum effort. I might be able to get away with low intensity **junk miles** on such a diet. However, quality sessions or interval sessions would suffer without carbohydrate fuel.

## **2. The Zone versus high energy needs**

What do athletes with high energy needs, heavy training programs and low body fat levels do to stay in the Zone? After all, you can’t keep losing body fat forever and you need some energy to fuel training sessions. There are two options for a higher energy intake. One is to increase total food intake to meet your energy needs, but to stick to the “40:30:30” diet ratio. But this will double or triple Dr Sear’s protein allowances and he clearly states that we should neither over-eat nor under-eat our protein needs. It would seem that this approach contravenes basic rules of the Zone. The other option is to make up energy needs by simply eating fat. But how practical is it to eat thousands of calories of monounsaturated oil each day? And this means that the 40:30:30 ratio is destroyed.

I have tried to find a convincing answer to this question by reading the Zone books carefully, by writing to Dr Sears, applying to Websites and Zone User Groups, ringing the 1-800 numbers for Zone companies, and talking to Zoning athletes. However, the question remains unsolved. It seems that everyone has a different view and does their own thing – there is no consistent interpretation of how high energy athletes should achieve the Zone.

## **3. The numbers don’t add up— even in the hand of experts**

An energy ratio of 40:30:30 is hard to envisage or organise with typical Western eating plans. Even with the aid of the Zone diet **blocks**, recipes and **customised dietary plans** it is hard to put together a “Zone meal” – especially in a social setting. In fact, a paper presented at the 1997 American College of Sports Medicine Annual Conference found some interesting results when it crunched the numbers on the menu plans and food advice provided in the Zone diet books. The researchers found that when followed to the letter, these recipes and diets don’t conform to the mantra of the 40:30:30 – in fact, the protein levels are higher (35-50%) and the carbohydrate levels are significantly lower – e.g. 30-35% of energy.

- The Zone contains false information about foods and contains unnecessary warnings against nutritious foods. Carbohydrate foods bear most of the brunt of the Zone diet’s warnings. The first message is to **moderate** (reduce) our total intake of carbohydrate foods. The second is to avoid the **unfavourable** carbohydrate foods and focus on **favourable** types. There are tables to distinguish which are which, and emotive warnings about the bad ones. For example, the back cover of the book proclaims: “Warning these carbohydrate foods could be dangerous to your health: bananas, orange juice, bread, rice, pasta, potatoes, cereal...” This is an example of the strong advice that is part and parcel of the Zone.

The **unfavourable** carbohydrate foods are shunned primarily because they are (allegedly) high glycemic index choices. High GI foods cause a rapid rise in blood glucose and insulin levels when eaten. However, many of the foods maligned in the Zone are, in fact, low or moderate in GI according to internationally recognised tables – for example, pasta, some types of rice, many breakfast cereals and some of the targeted fruits. Clearly, the Zone information is confusing and unfactual. More importantly, many of the **unfavourable** foods are nutrient-rich, well liked and widely available in our diets. To restrict dietary choices and bad-mouth nutritious foods is unnecessary and, even mischievous. If athletes follow the Zone diet to the letter they may compromise the nutritional adequacy of their intake, and their social opportunities. Most people who give up basic and important foods in everyday eating patterns find it hard to find suitable replacements and to construct normal meals. The food lists and recipes provided in the Zone books are helpful, but not all inclusive of the busy lives that we lead.

## **4. The basis of the hormonal control promised in the Zone diet is unproven**

Dr Sears has taken information about the biochemical response to individual nutrients and extrapolated these into his Zone theories. There is no evidence that the Zone diet causes important changes to insulin and glucagon levels, or that these translate into health and performance benefits.

These claims are pure speculation, and do not account for the complexity and integration of our hormonal regulation. Clearly this is deserving of study. However, nothing can be said until rigorous research is conducted. Case histories do not constitute well-controlled research. Nor do **studies** in which a group of athletes appear to achieve incredible performance improvements while being on the Zone. Unless conditions are controlled and monitored, and a **control** group of athletes are simultaneously monitored for their improvements on a normal diet, we cannot say that the Zone diet has been properly scrutinised.

#### **5. The Zone diet is (misleadingly) jumping on the “high fat” bandwagon**

Adapting ultra-endurance athletes to a high-fat diet is a topic of scientific interest. The Zone diet exploits this interest and the current questioning of high-carbohydrate diets. The back cover of the Zone book promises, “athletes do better on a high fat diet”. However, if followed to the letter of the book, the Zone diet actually achieves a low-moderate fat intake. Thirty percent of dietary energy is considered a “healthy dietary mix”, and on my daily rations of 960 calories I would only be allowed to eat 32g of fat – less than I eat now. If I am confused, how do athletes handle this message?

#### **YES, IT SOUNDS CONFUSING. SO WHAT ARE ZONE ATHLETES ACTUALLY DOING?**

As previously stated, there is huge interest and publicity for the Zone diet. **Everyone** claims to be on it. However, the **Zone** athletes to whom I have spoken (or observed eating) interpret the diet in different ways and at different levels of adherence. Some of the athletes who sing the Zone’s praises are those who have followed the energy restrictions closely for a period, and have rejoiced at the body fat loss. Some simply treat it as a general principle and “do their own thing”. Most have not even read the books and go merely on hearsay. They steer clear of pasta and bread (dietary enemies of the Zone), or of eating pasta and rice together (that might constitute a carbohydrate overload!). They eat larger serves of protein at meals. And they like the Zone bars. Since these are generally chocolate-coated or fudge-flavoured, they taste much better than low-fat bars. If people take a “middle of the road” attitude to the Zone it is unlikely to be harmful, but then it is also unlikely to be optimal eating.

So, in real life there is no one thing that is the Zone diet. It is a moving target that means different things to different people, and as such it is even harder to evaluate its benefits/disadvantages. We are left with the present conclusion that the 40:30:30 diet is a well-marketed nutrition craze. Whether it will stand the test of scientific scrutiny, or the test of time, is a topic for the future. At the moment it is simply untested.