



By: Angie Seaman

Outline

- History and Purpose of the Zone
- Claims
- What is the Zone
- Staying in the Zone
- Basis of the diet
- Customizing your Diet
- Scientific Results
- Conclusion

History and Purpose of the Zone Diet

- Created by Dr. Barry Sears
- Ph.D. in Biochemistry from Indiana University with most of his research looking at the molecular structure of lipids.
- Work focuses on Coronary Heart Disease (CHD) because of his genetic predisposition.
- Interested in the work done by Bergstrom and Samuelssons of Karolinska Institute in Stockholm with their Nobel Prize winning research into eicasanoids

History and Purpose Cont.

- With this research he hypothesized that balancing eicasanoids, and inversely glucose levels in the blood, are the path to a healthier life
- Tried to come up with a "pharmaceutical drug" to cure CHD and Arteriosclerosis but all of the ingredients occurred in nature and you could not patent the work
- One way of administering the proper amount of "medication" into the body with the proper "ingredients" is through food
- The Zone diet was created as a way to balance the body's eicasanoids naturally.

Claims

- Achieve Optimal Good Health
- Top Physical Performance
- Mental Alertness – "The Zone"
- Help Prevent Heart Disease, even reverse the effects
- Best chance to ward off Cancer
- Positive impact on diabetes, arthritis, "mental disease" such as depression and alcoholism, chronic fatigue and premenstrual syndrome (PMS)
- Loss of excess body fat
- Ultimately help us in reaching universal goals such as longer life, staying healthy and more satisfied life.

Claims on Athletic Performance

- The Stanford Swim team
 - In the Barcelona Olympics in 1992
 - The swimmers that followed the Zone Diet qualified for the Olympics
 - The Stanford Swimmers won 8 gold medals
- Marv Marinovich of the Los Angeles Raider Training coach
 - 6 weeks of being on the Zone Diet and intensive training (2 training sessions/day)
 - Weight had increased an average of 11 lbs but fat mass has decreased an average of 5 lbs
 - Gained 16 lbs of Lean Body Mass

Claims on Athletic Performance

TABLE 5-1		
PARAMETER	% CHANGE	STATISTICAL SIGNIFICANCE (PROBABILITY FACTOR)
<i>Body Composition</i>		
Weight	+ 5%	p < 0.005
% Body fat	- 20%	p < 0.005
Lean body mass	+ 8%	p < 0.005
<i>Performance</i>		
Time to complete		
NFL agility run	- 2%	p < 0.0005
Cardiovascular fitness	+ 118%	p < 0.0005
Power	+ 30%	p < 0.0005
Last sprint time after 15 110-yd. sprints	- 7%	p < 0.0005
Overhead ball throw	+ 7%	p < 0.0005
Vertical jump	+ 10%	p < 0.0005

What is the Zone?

- “The mysterious but very real state in which your body and mind work together at their ultimate best”
- In terms of a feeling:
 - Waking up in the morning and having a good breakfast, feeling awake and alive. Going to the “game” and everything clicks! You can almost see things before they happen. It is that general feeling of confidence and agility
- It is a real metabolic state with the key of balancing eicosanoids.
- In the Zone you will feel
 - Freedom from hunger
 - Greater energy and increased physical performance
 - Improved mental focus and productivity

Staying in the “Zone”

- The Insulin – Glucagon Axis
- Two hormones that control blood glucose
 - The brain uses blood glucose as a source of energy
 - Insulin stores blood glucose in cells and glucagon releases stored glucose into the bloodstream
 - When you eat too much carbohydrate (which are your ENEMY) that promotes insulin production you throw off your hormonal balance and you get thrown out of the “Zone”

Staying in the “Zone” Cont...

- Balancing Eicosanoids
- Include prostaglandin’s, thromboxanes, leukotrienes, lipoxins and hydroxylated fatty acids
- Insulin promotes “bad” eicosanoids and glucagon promotes “good” eicosanoids
- Want more “good” than “bad” eicosanoids but still keeping a relative balance
- All disease can be seen from the molecular level and the body creating too many “bad” eicosanoids
 - Example: High blood pressure is caused by the constriction of arteries (vasoconstriction) caused by “bad” eicosanoids

Staying in the “Zone” Cont...

- | | |
|--|--|
| <ul style="list-style-type: none"> ■ Good <ul style="list-style-type: none"> – Inhibit platelet aggregation (stops blood clotting and prevention of stroke/heart attacks.) – Promote vasodilation – Inhibits cellular proliferation – Stimulates immune response – Anti-inflammatory – Decrease pain transmission | <ul style="list-style-type: none"> ■ Bad <ul style="list-style-type: none"> – Promotes platelet aggregation (stops you from bleeding to death) – Promotes vasoconstriction – Promotes cellular proliferation – Depresses immune responses – Pro-inflammatory – Increase pain transmission |
|--|--|

Outline of the Zone Diet

- Often referred to as the 40/30/30 diet
- 40% of caloric intake should be from carbohydrates
 - Avoid unfavorable CHO such as bread, pasta, rice and potatoes (high glycemic index)
 - Instead eat more fruits and fiber rich foods
- 30% of caloric intake should be from protein
 - Avoid red meats (but do not disclude them)
 - Instead eat more fish and poultry
- 30% of caloric intake should be from fats
 - Avoid saturated fats
 - Consume monosaturated fats

Customizing your Diet : Protein

TABLE B-1

ACTIVITY	PROTEIN REQUIREMENTS (GRAMS PER POUND OF LEAN BODY MASS)
Sedentary	0.5
Light (i.e., walking)	0.6
Moderate (30 minutes per day, 3 times per week)	0.7
Active (1 hour per day, 5 times per week)	0.8
Very active (2 hours per day, 5 times per week)	0.9
Heavy weight training, or twice-a-day exercise (5 days per week)	1.0

Calculating Protein Requirement

- Lean Body Mass * Activity Factor = Daily protein requirement
- $107.36 \text{ lbs} * 0.8 \text{ g/lbs of LBM} = 85 \text{ grams}$

Recommended nutritional Intake of Protein to maintain nitrogen balance

- $0.86 \text{ g protein/kg body weight/day}$
- $48.8 \text{ kg} * 0.86 = 41.98 \text{ g}$

TABLE B-2

Calculating Your Protein Requirements	
_____	Your Lean Body Mass (LBM) (from Appendix B)
_____	Your Activity Factor (from Table B-1)
_____	Your Daily Protein Requirement

Customizing your Diet: Protein Cont..

- Allotted a certain amount of protein per day according to your lean body mass and activity level.
- Based on 2.4 g/kg/day instead of 1.2 – 1.4 g/kg/day
- Divide your protein allotment into "blocks" and each block represent 7 grams of protein
- You should never have more than 6 blocks of protein per meal
- Also, you should never go more than 5 hours without eating a Zone favorable meal

Customizing your diet: Carbohydrates

- Match 1 block of protein (7 grams) with 1 block of carbohydrate (9 grams)
- Preferably low glycemic index
- Enter bloodstream slower, raise blood glucose slowly and produce moderate insulin response
- Example: pasta, breads, bananas
- The preferable ratio of Carbohydrate to Protein is 0.75

Customizing your Diet: Fat

- Add one block of fat (1.5 grams) to 1 block of protein (7 grams)
- Always add fat to your diet, it will increase the feeling of satiety (feeling full after a meal)
- Slows the entry rate of carbohydrate into the bloodstream
- Decrease bad fat: arachidonic acid from most red meats are the building blocks for bad eicosanoids
- Decrease saturated fat
- Increase monosaturated fats
- BUT, Truly elite athletes should have 2 fat blocks for every one protein block

Hidden Calorie Restriction

Breakfast	Lunch	Snack	Dinner	Snack
■ ■	■ ■ ■	■ ■	■ ■ ■	■ ■
■ ■	■ ■ ■	■ ■	■ ■ ■	■ ■
■ ■	■ ■ ■	■ ■	■ ■ ■	■ ■

Protein: 4 kcal/gram * 7grams/block * 12 block = 336 calories

Carbohydrate: 4kcal/gram * 9grams/block * 12 blocks = 432 calories

Fat: 9 kcal/gram * 1.5 gram/block * 12 blocks = 162 calories

Total = 930 calories

Scientific Evidence

- "Carbohydrates are your ENEMY .High carbohydrate diet means increased muscle fatigue and decreased mental alertness" The Zone
- Ingestion of glucose and glucose + fructose delays exhaustion at 90% peak power by 25-40% respectively after 90 min of moderate-intense exercise (Riddell, Bar-or, Wilk, Parolin & Heighenhauser, 2001)
- The use of CHO supplementation during isokinetic leg exercise allows for the performance of more work. (Haff, Schroeder, Koch, Kuphal, Comeau & Potteiger, 2001)
- Brain Function is related to blood glucose levels and depletion causes fatigue



Scientific Evidence Cont....

- "Preliminary data indicate that adaptation to a fat rich diet is superior to a carbohydrate rich diet" PR nutritional reply
- High fat feeding for a 10 day period prior to CHO loading was associated with increased reliance on fat, a decreased reliance on muscle glycogen and improved performance after prolonged exercise (Lambert, Goedecke, van Zyl, Murphy, Hawley, Dennis & Noakes, 2001)



Conclusion

- Low calorie diet
- More protein than needed
- Carbohydrates are the first source of energy for the body (brain and muscles) and depletion causes fatigue