

A Quick Primer For Health Professionals: Three Types Of Popular Weight Loss Diets

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| | VERY LOW FAT | MODERATELY LOW FAT | VERY LOW CARBOHYDRATE |
|-----------------------------|--|---|--|
| | "Eat More, Weigh Less" by Dr. Dean Ornish | Therapeutic Lifestyle Changes (TLC) Diet by the American Heart Association | "Dr. Atkins New Diet Revolution" by Dr. Robert C. Atkins |
| GOALS | <p>To prevent/reverse heart disease by lowering cholesterol and blood pressure with diet and lifestyle changes.</p> <p>Recommended for weight loss because of the premise that a low fat diet results in weight loss.</p> <p>Eating a vegetarian diet, that is high in fiber and carbohydrate and very low in fat will help achieve goals.</p> | <p>To reduce the risk and rate of heart disease through adequate individualized calories promoting weight reduction and encouraging increased physical activity.</p> <p>Focus is placed on decreasing saturated fat and lowering LDL cholesterol.</p> <p>If diet alone is ineffective another therapeutic option is used: plant stanols/sterols (2 g/day) and soluble fiber (10-25g/day).</p> | <p>To achieve weight loss, weight maintenance, good health, increased energy, and prevent medical conditions such as heart disease, diabetes, and other diseases associated with metabolic resistance.</p> <p>Controlling carbohydrate intake and correcting hormonal imbalances, such as excessive insulin levels will help achieve goals.</p> |
| NUTRIENT COMPOSITION | <p>No caloric restriction</p> <p>Carbohydrate: 70-80%</p> <p>Fat: 10 % (~15-25g)</p> | <p>Calories based on individual needs, caloric distribution:</p> <p>Carbohydrate: 50-60% (~20-30g fiber)</p> <p>Protein: 15%</p> <p>Total Fat: 25-35%</p> <p style="padding-left: 20px;">Saturated fat <7%</p> <p style="padding-left: 20px;">Polyunsaturated fat 10%</p> <p style="padding-left: 20px;">Monounsaturated fat 20%</p> <p>Cholesterol <200mg</p> <p>Sodium ≤ 2400mg</p> | <p>No caloric restriction, nutrient composition changes with each phase of the program:</p> <p><u>Phase I, Induction</u> Carbohydrate: 5-8% carb (~20g) Protein: 30-35% Fat: 60-65%</p> <p><u>Phase II, On-Going Weight Loss</u> Carbohydrate: 9- 12% (25- ≥45g) or (60-90g with vigorous activity) Protein: 30-35% Fat: 53-55%</p> <p><u>Phase III, Pre-Maintenance</u> Range of CHO (individualized, slightly more carbs than phase II, slightly less than phase IV) between 12.5 and 24%, 30-35% protein (allow 3 months to lose the last few pounds) Carbohydrate: 12.5-24% (individualized, slightly more than Phase II, slightly less than Phase IV) Protein: 30-35% Fat: 41-57% *Allow 3 months to loose the last 10 pounds</p> <p><u>Phase IV, Maintenance</u> Carbohydrate: 13-25% (25- ≥90g) or (>90g with vigorous activity) Protein: 30-35% Fat: 40-45%</p> |

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| FOODS CONSUMED | <p>Allowable foods: Beans/legumes, fruits, grains, vegetables, non-fat dairy products</p> <p>Eliminate: All meats (including chicken/fish), all dairy except non-fat choices, all oils, olives, nuts/seeds, and avocado</p> <p>Avoid simple sugars, fats, and alcohol</p> <p>Include fish oil supplements</p> | <p>Allowable foods: All foods based on calories and portion size Meat (lean cuts only), poultry, fish, peas/beans, tofu, eggs (≤ 2 yolks/week, unlimited egg whites)</p> <p>Milk/yogurt/ cheese (non-fat or low fat)</p> <p>Fats/oils/nuts/salad dressing (includes food preparation)</p> <p>Fruit</p> <p>Vegetables</p> <p>Grains, pasta, rice, cooked cereal, potatoes, bread</p> <p>Sweets/snacks</p> | <p>Allowable foods: <u>Phase I, Induction</u> Liberal combinations of natural, not hydrogenated, fats (oils, butter, heavy cream and mayonnaise) and protein (fish, chicken, shellfish, eggs, red meat)</p> <p>Measured portions of dark green leafy and non-starchy salad vegetables, olives, avocado, lemon juice</p> <p>Eliminate: fruit, bread, pasta, grains, starchy vegetables, milk, yogurt or dairy</p> |

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| FOODS CONSUMED | | | <p><u>Phase II, Ongoing Weight Loss</u> Carbohydrate-containing low-glycemic response foods should be added carefully in the following order: Non-starchy salad vegetables, fresh cheeses, seeds/nuts, berries and other low-glycemic index fruits, wine and other low-carb spirits</p> <p>Add 5 grams a day of carbohydrate For example, the first week, starting from a base of 20 g carbs, add five grams for one week so that the total daily carbohydrate intake is 25g. If the weight loss is still satisfactory, add another five grams of daily carbohydrate.</p> <p>Continue adding carbohydrate back like this as long as satisfactory weight loss continues.</p> |

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| FOODS CONSUMED | | | <p><u>Phase III, Near Goal Weight</u> Legumes, fruits higher in glycemic index, starchy vegetables and whole grains</p> <p>The goal is to lose about one pound per week. To do this, add 10 grams of carbohydrate per day for one week (add another 10g carbohydrate per day, if weight loss is > 1pound; decrease carbohydrate if weight loss is < than 1 pound).</p> <p>If goal weight achieved, maintain this level of carbohydrate for one month (add 10 grams of carbohydrate per day to determine effect on weight), if weight gain occurs eliminate the 10 grams, if weight is maintained this is the critical carbohydrate level for maintaining weight.</p> <p><u>Phase IV, Maintenance</u> All foods selected above as part of a varied nutrition regimen</p> |

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| SAMPLE MENU | <p>Breakfast Fruit salad with nonfat cottage cheese topped with granola</p> <p>Lunch Fresh vegetable salad topped with tofu, raisins and mandarin orange slices and a baked potato topped with nonfat yogurt</p> <p>Dinner Rice and beans with steamed vegetables</p> <p>Snack Melon wedge</p> | <p>Breakfast Egg white vegetable omelet, low-fat cheese, 1/2 bagel with jam</p> <p>Lunch Minestrone soup, grilled turkey sandwich with lettuce and tomato, fruit cup</p> <p>Dinner Tossed salad, low-fat salad dressing, pasta with chicken and broccoli</p> <p>Snack fruit</p> | <p>Breakfast Whole egg mushroom, tomato and cheese omelet with sliced avocado, nitrite-free Canadian bacon</p> <p>Lunch Spinach and mixed leaf salad with fresh veggies topped with parmesan cheese and sliced beef round and oil and vinegar dressing</p> <p>Dinner Salmon, kale topped with garlic, lemon and sesame seeds</p> <p>Snack Chicken salad</p> |
| CLAIMS | <p>"Eat more weigh less", eat an extremely low-fat vegetarian diet, reduce stress, and exercise to reverse/prevent heart disease (i.e. arterial clogging, angina)</p> <p>This will promote weight loss, increase energy and eliminate the need for medication.</p> | <p>Consuming the appropriate percentages of nutrients within an individualized amount of calories will help to reduce cardiac risks and weight</p> | <p>Switch the body from carbohydrate to fat burning (lipolytic pathway) to correct metabolic abnormalities associated with excess carbohydrate intake and insulin sensitivity</p> <p>This will promote good health, help improve energy levels and help prevent medical conditions affected by insulin resistance (obesity, diabetes, heart disease, syndrome X, PCOS, cancer and mood swings/energy level)</p> |

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| SUPPORTING EVIDENCE FOR CLAIMS | <p>Ornish D, Scherwitz LW, Billings JH, et al. Intensive lifestyle changes for reversal of coronary heart disease. <i>JAMA</i>. 1998;280(23):2001-7.¹ PMID: 9863857</p> <p>Ornish D, Brown SE, Scherwitz LW, et al. Lifestyle changes and heart disease. <i>Lancet</i>, 1990;336(8707):129-33.² PMID: 1975906</p> <p>Ornish, D. Avoiding revascularization with lifestyle changes: the multicenter lifestyle demonstration project. <i>Am J Cardiol</i>. 1998; 82(10B): 72T-76T.³ PMID: 960380</p> | <p>Lichtenstein AH, Ausman LM, Jalbert SM, et al. Efficacy of a Therapeutic Lifestyle Change/Step 2 diet in moderately hypercholesterolemic middle-aged and elderly female and male subjects. <i>J Lipid Res</i>. 2002;43(2):264-73.⁷ PMID: 11861668</p> <p>Executive Summary of The Third Report of The National Cholesterol Education Program (NCEP) Expert Panel on Detection, Evaluation, And Treatment of High Blood Cholesterol In Adults (Adult Treatment Panel III). <i>JAMA</i>. 2001;285(19):2486-97.⁸ PMID: 11368702</p> <p>Katan MB. High-oil compared with low-fat, high-carbohydrate diets in the prevention of ischemic heart disease. <i>Am J Clin Nutr</i>. 1997; 66(4 Suppl):974S-979S. PMID: 9322576</p> <p>Katan MB, Grundy SM, Willett WC. Should a low-fat, high-carbohydrate diet be recommended for everyone? Beyond low-fat diets. <i>N Engl J Med</i>. 1997;337(8):563-6.⁹ PMID: 9262504</p> | <p>Atkins RC. Dr. Atkins' New Diet Revolution. NY;NY: Avon Books; 2002.¹³</p> <p>Sondike SB, Copperman, NM, Jacobson MS. Low carbohydrate dieting increases weight loss but not cardiovascular risk in obese adolescents: a randomized controlled trial. <i>J AdolHealth</i>. 2000;26:91.¹⁴</p> <p>Sharman MJ, Kraemer WJ, Love DM. et al. A ketogenic diet favorably affects serum biomarkers for cardiovascular disease in normal-weight men. <i>J Nutr</i>. 2002;132(7):1879-85.¹⁵ PMID: 12097663</p> <p>Westman EC, Yancy, WS, Edman JS, et al. Effect of 6-month adherence to a very low carbohydrate diet program. <i>Am J Med</i>. 2002; 113(1):30-6.¹⁶ PMID: 12106620</p> |

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| REFUTING EVIDENCE FOR CLAIMS | <p>Kasim-Karakas SE, Almario RU, Mueller WM, Peerson J. Changes in plasma lipoproteins during low-fat, high-carbohydrate diets: effects of energy intake. <i>Am J Clin Nutr.</i> 2000; 71(6):1439-47.⁴ PMID: 10837283</p> <p>Taubes G. Nutrition. The soft science of dietary fat. <i>Science.</i> 2001; 291(5513):2536-45.⁵ PMID: 11286266</p> <p>Dreon DM, Fernstrom HA, Williams PT, et al. A very-low-fat diet is not associated with improved lipoprotein profiles in men with a predominance of large, low-density lipoproteins. <i>Am J Clin Nutr.</i> 1999;69: 411-18.⁶ PMID: 10075324</p> | <p>Brown RC, Cox CM. Effects of high fat versus high carbohydrate diets on plasma lipids and lipoproteins in endurance athletes. <i>Med Sci Sports Exerc.</i> 1998;30(12):1677-83.¹⁰ PMID: 9861599</p> <p>Krauss RM, Dreon DM. Low-density-lipoprotein subclasses and response to a low-fat diet in healthy men. <i>Am J Clin Nutr.</i> 1995;62:478S-487S.¹¹ PMID: 7625363</p> <p>Abbasi F, McLaughlin T, Lamendola C, et al. High carbohydrate diets, triglyceride-rich lipoproteins, and coronary heart disease risk. <i>Am J Cardiol.</i> 2000;85(1):45-8.¹² PMID: 11078235</p> | <p>Westman EC. A review of very low carbohydrate diets for weight loss. <i>J Clin Obes Med.</i> 1999;6(7):36-40.¹⁷</p> |
| POTENTIAL ADVERSE EVENTS | <p>Increased triglycerides, decrease in HDL, conditions associated with a decrease in fat-soluble, B vitamin stores and essential fatty acids</p> | <p>Decreased HDL without change in TG or total cholesterol/HDL-C ratio</p> | <p><u>Short term</u> Bad breath, muscle cramps, constipation, increased uric acid levels and occasionally elevated LDL</p> <p><u>Long term</u> Unknown, currently being studied</p> |
| CLINICAL BENEFITS | <p>Weight loss, reverse/prevent heart disease, stress reduction</p> | <p>If portions are used appropriately, weight loss and reduced risk of heart disease based on personal profile</p> | <p>Weight loss, decreased total cholesterol and triglycerides, increased HDL and improvements in glycemic control</p> |