University of Michigan Health System

Fad Diets: Low Carbohydrate Diet Summaries

	Atkins	Zone	Protein Power	Sugar Busters	The South Beach Diet
Diet philosophy	Eating excess carbohydrates releases insulin in large quantities contributing to obesity and health problems. Restricting carbohydrate leads to ketosis which decreases hunger and increasing metabolism. Three phases	Eating the right combination of foods to optimize metabolic functions, lowers insulin levels and desirable eicosanoid levels. Thus leading to decreased hunger, weight loss, and increased energy.	Eating carbohydrates releases insulin in large quantities, which contributes to obesity and other health problems.	Sugar is "toxic" to the body and causes release of insulin, which promotes fat storage.	Eating the "right carbs" and the "right fats" results in health and weight loss "Bad carbs" create urges to overeat and store fat Three phases
Foods to eat	• All meats, fish, poultry, eggs, cheese, low-carbohydrate vegetables • Butter, oils • No alcohol • Mega vitamins and mineral supplements daily (multiple ones recommended)	• 40% carbohydrate, 30% protein (based on lean body mass), 30% fat • Monounsaturated fats, lean meats • Low-glycemic-index foods • Alcohol in moderation • 200 IU vitamin E	• 15-35% CHO, 30-45% protein (based on lean body mass), 30-50% fat • Meat, fish, poultry, eggs, cheese • Low-carb vegetables • High fiber (25 g/d) • Butter, oil, salad dressings • Alcohol in moderation • 8 glasses water/day • MVI, vit C, chromium, K^+	• Protein and fat • Low-glycemic index foods • Olive oil, canola oil in moderation • Alcohol in moderation • Fruits must be eaten alone. • 3 meals/day	• Meat , poultry, and fish, reduced fat cheese, eggs • Healthy oils and nuts • Vegetables • "Right carbohydrates and sweets"- low GI • 3 meals and 2 snacks • Dessert after dinner
Foods to limit or avoid	• Carbohydrates, specifically bread, pasta, most fruits and vegetables, milk • 1st 2 weeks, CHO = 20 g/d • Ongoing Weight Loss-gradual increase in CHO over 2 months • Maintenance Diet CHO = 25-90 g/d	• Carbohydrates, specifically bread, pasta, fruit (some types) • Saturated fats and arachidonic acid	• Carbohydrates, limited to 30 g/d in Phase I, 55 g/d in Phase II, increase in maintenance • Count carbohydrate from alcohol	• Potatoes, white rice, corn, carrots, beets, white bread, all refined white flour products	• Phase 1: Fatty meats; whole milk cheese; high glycemic index vegetables; all fruit; fruit juices; all starchy foods, all dairy; alcohol • Phase 2: bagels, white flour, potatoes, white rice); beets; carrots, corn; bananas; canned fruit, juice, pineapple, raisins, honey; watermelon, ice cream
Health claims scientifically proven?	No long-term, validated studies published regarding safety No net weight loss after 1 year Short term improvement in weight loss and triglycerides	No. Theories and long-term results are not validated. Fat recommendation is supported by research.	No long-term, validated studies published	No long-term, validated studies published	No long-term, validated studies published
Practicality	• Limited food choices • Difficult to eat in restaurants because only plain protein sources and limited vegetables/salads allowed	• Difficult to eat foods in required proportions of carbohydrates, protein, fat • Menus not appealing	• Not practical for long term • Rigid rules	• Eliminates many nutrient dense carbohydrate foods • Discourages eating fruit with meals	• May promote "diet " mentality

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Menu analysis (based on computer analysis of 2-3 days menus provided in books)	**1st 2 weeks:** 1400 kcal/day 28 g /d CHO (8%) 125 g/d protein (36%) 83 g/d fat (53%) 29 g/d sat fat (19%) 5 g/d fiber **Ongoing Weight Loss** 1840 kcal/day 33 g/d CHO (7%) 161 g/d protein (35%) 118 g/d fat (58%) 39 g/d sat fat (19%) 6 g/d fiber **Maintenance** 1800 kcal/day 128 g/d CHO (31%) 110 g/d protein (24%) 80 g/d fat (40%) 31 g/d sat fat (16%) 20 g/d fiber	1430 kcal/day 135 g/d CHO (38%) 111 g/d protein (31%) 50 g/d fat (31%) 14 g/d sat fat (9%) 17 g/d fiber (protein requirement based on 1.6 g/kg)	1475 kcal/day 47 g/d CHO (13%) 110 g/d protein (30%) 86 g/d fat (52%) 32 g/d sat fat (20%) 14 g/d fiber Increase CHO gradually	1000 kcal/d 114 g/d CHO (46%) 71 g/d protein (28%) 28 g/d fat (25%) 7 g/d sat fat (6%) 16 g/d fiber	**1st 2 weeks:** 1409 kcal/day 72 g/d CHO (20%) 122 g/d protein (35%) 67 g/d fat (43%) 20 g/d sat fat (13%) 15 g/d fiber **Ongoing Weight Loss** 1220 kcal/day 125 g/d CHO (41%) 70 g/d protein (23%) 53 g/d fat (38%) 9 g/d sat fat (6%) 16 g/d fiber **Maintenance** Moderation in food choices consistent with weight maintenance
Overall nutrient adequacy	• Limited food choices • Diet low in fiber, vit D, thiamine, pantothenic acid, calcium, copper, vitamin C, magnesium, manganese, K^+ • Too high in total and saturated fat and protein	• Food must be eaten in required proportions of 40% carbohydrates, 30% protein, 30% fat • Inadequate in calories • Low in copper	• Low in carbohydrate, calcium, fiber, pantothenic acid, copper, manganese • High in total and sat fat	• Eliminates many carbohydrate foods • Discourages eating fruit with meals • Low calcium, vit D, vit E, pantothenic acid, K^+, copper, phytochemicals	• Eliminates some nutrient dense foods • May be too high in saturated fat and sodium for some individuals in maintenance
Weight loss/ maintenance?	Yes. Initial weight loss is mostly water. Does not promote a positive attitude toward food groups. Difficult to maintain.	Yes. Weight loss via caloric restriction. Rigid diet is difficult to maintain.	Yes. Weight loss via caloric restriction. Limited food choices, not practical for long term	Yes. Weight loss via caloric restriction. Limited food choices, not practical for long term	Yes. Weight loss via calorie reduction.
Strengths	Eliminates empty calorie foods such as cakes, cookies, candies, French fries	Restricts fat to less than 30% of total calories; low saturated fat; adequate protein	Eliminates empty calorie sweets; adequate protein encourages fiber	Reduces high sugar and empty nutrition foods	Does promote long term awareness of food choices and moderation
Potential long-term health concerns	Constipation, bad breath, bone loss, kidney stress, elevated lipids, increased fibrinogen, elevated homocysteine, increased risk of some cancers	Inadequate calories for athletes	Constipation, bad breath, bone loss, elevated lipids, increased fibrinogen, elevated homocysteine, increased cancer risk	Osteoporosis, increased risk of some cancers	?

Adapted from St. Jeor, ST, Howard, BV, et al. Dietary Protein and Weight Reduction; A statement for healthcare professionals from the Nutrition Committee of the council on Nutrition, Physical Activity, and Metabolism of the American Heart Association. *Circulation.* 2001;104:1869-1874

Provided by the Registered Dietitians at the University of Michigan Cardiovascular Center