

WEIGHT MANAGEMENT ^{LIFESTYLE} IMPROVES HEALTH AND FITNESS

THE AMERICAN FITNESS PROFESSIONALS AND ASSOCIATES WEIGHT MANAGEMENT POSITION PAPER¹

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Introduction

Obesity has reached epidemic proportions in America. In 1993, the Deputy Assistant Secretary for Health (J. Michael McGinnis) and the former Director of the Centers for Disease Control and Prevention (CDC) (William Foege) co-authored a journal article, "Actual Causes of Death in the U.S." It concluded that a combination of dietary factors and sedentary activity patterns accounts for at least 300,000 deaths each year, and that obesity is a key contributor⁴. In 2000, 111,909 deaths were associated with a given obesity at or above 30 BMI⁵.

"According to current trends, obesity will become the #1 cause of death by 2005, with the toll surpassing 500,000 deaths a year, rivaling the annual deaths from cancer⁶."

In fact, it has been estimated that current patterns of overweight and obesity in the United States could account for 14% of all deaths from cancer in men and 20% in women⁷. The American Cancer Society predicts that 570,280 people will die from cancer in 2005. Of that number 79,839 males and 114,056 females will unnecessarily die from cancer associated with obesity⁸.

People concerned for health and fitness realistically need to be concerned about excess body fat. Statistics suggest that 1 out of every 4 men, and 2 out of every 4 women are dieting to lose weight. A high percentage of them regain lost weight within 90 days after leaving the diet. Of those losing weight, 100% of them regain their losses plus more weight within a 5-year period. Simply put, "*Diets Don't Work.*" Fad-like diets are shown to produce an unhealthy "Yo-Yo" loss-gain in body fat mass weight.

"Effective long-term weight loss depends on permanent changes in dietary quality, energy intake, and activity⁹." No intervention, except a permanent "Lifestyle" change resolves the ills that result from excess body fat. This "Lifestyle" intervention requires that calories from a variety of foods replace calories spent for active metabolism.

¹ [THE WEIGHT MANAGEMENT LIFESTYLE IMPROVES HEALTH AND FITNESS, THE 2006 AMERICAN FITNESS PROFESSIONALS AND ASSOCIATES WEIGHT MANAGEMENT POSITION PAPER @ <http://www.afpafitness.com/articles/AFPAPosWtMg.htm>](http://www.afpafitness.com/articles/AFPAPosWtMg.htm)

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⁴ McGinnis JM, Foege WH. Actual causes of death in the United States. JAMA. 1993;270:2207-2212.

⁵ Flegal KM, Graubard BI, Williamson DF, Gail MH. Excess deaths associated with underweight, overweight, and obesity. JAMA. 2005 Apr 20;293(15):1861-7.

⁶ Bloch AS. Low carbohydrate diets, pro: time to rethink our current strategies. Nutr Clin Pract. 2005 Feb;20(1):3-12.

⁷ Calle EE, Rodriguez C, Walker-Thurmond K, Thun MJ. Overweight, obesity, and mortality from cancer in a prospectively studied cohort of U.S. adults. N Engl J Med. 2003 Apr 24;348(17):1625-38.

⁸ Statistics from the [American Cancer Society Cancer Facts & Figures 2005](#)

⁹ Haslam DW, James WP. Obesity. Lancet. 2005 Oct 1;366(9492):1197-209.

The American Dietetic Association approves this paper as consistent with the ADA position paper on weight management¹⁰. We are genuinely encouraged by their response. Our intent is to enumerate principles upon which a permanent plan may be structured that results chronic “Lifestyle” body weight management.

HEALTH RISKS ASSOCIATED WITH OBESITY

Health and fitness are significantly affected by a proportionate ratio of excess fat mass to lean muscle mass stores¹¹. Fat weight gain occurs from eating more calories than those metabolized during the production of energy. Obesity results from a combination of environmental factors, like: low level of physical activity, excessive intake of high-energy food, and genetic predisposition to storage of fat¹². Excess fat weight compromises health and is evidenced by a higher rate of coronary heart disease, hypertension, dyslipidemias, diabetes, gallstones, sleep apnea, osteoarthritis, and cancers of the reproductive organs in the obese population.

Obesity predisposes the heart to oxidative stress as evidenced by higher tissue levels of myocardial lipid peroxidation¹³.

Taken to its absolute endpoint (1990), obesity-related degenerative conditions contributed to over 300,000 deaths in the U.S.A¹⁴. Between 1974-1995, the total average food intake has increased 6%, while only 22 percent of U.S. adults exercised 5 times a week for at least 30 minutes of any intensity during leisure time^{15 16}. Exercise is one of several potential solutions to obesity-associated calorie excess¹⁷.

OBESITY DEFINED

Obesity refers specifically to having an excess proportion of body fat¹⁸. Overweight is the term for those having a BMI between 25-29, whereas higher BMI values reflect more excessive amounts of body fat. Weight loss is advocated for individuals with a BMI of 25-29 but debate how much weight reduction should be recommended¹⁹.

One may therefore be overweight without being labeled obese, notably a high muscle mass bodybuilder or other athlete. There are 3 measures applied to identify obesity severity:

1. Waist-to-hip ratio
2. Waist girth
3. Body Mass Index

COMMON SENSE DICTATES

¹⁰ THE AMERICAN DIETETIC ASSOCIATION (ADA) Weight Management position @:

<http://www.eatright.org/adap0197.html>

¹¹ Food And Nutrition Board, Institute Of Medicine, Thomas Pr, Ed. Weighing The Options: Criteria For Evaluating Weight Management Programs. Committee To Develop Criteria For Evaluating The Outcomes Of Approaches To Prevent And Treat Obesity. Washington, Dc: National Academy Press; 1995.

¹² Piechota G, Malkiewicz J, Karwat ID. [Obesity as a cause and result of disability] Przegl Epidemiol. 2005;59(1):155-61. Review.

¹³ Vincent HK, Powers SK, Stewart DJ, Shanelly RA, Demirel H, Naito H. Obesity is associated with increased myocardial oxidative stress. Int J Obes Relat Metab Disord. 1999 Jan;23(1):67-74.

¹⁴ McGinnis Jm, Foege Wh. Actual Causes Of Death In The United States. JAMA. 1993;270:2201-2212.

¹⁵ Agricultural Research Service. Fat Intake Continues To Drop; Veggies, Fruits Still Low In Us Diet. Res News. 1996.

¹⁶ Bennett Wi. Beyond Overeating. N Engl J Med. 1995;332:672-674.

¹⁷ Ruser CB, Federman DG, Kashaf SS. Whittling away at obesity and overweight. Small lifestyle changes can have the biggest impact. Postgrad Med. 2005 Jan;117(1):31-4, 37-40. Review.

¹⁸ Clinical Guidelines on the Identification, Evaluation, and Treatment of Overweight and Obesity in Adults, National Institutes of Health, National Heart, Lung, and Blood Institute, June 1998.

¹⁹ Willett WC, Dietz WH, Colditz GA. Primary Care: Guidelines for healthy weight. N Engl J Med. 1999;341:427-434.

These measures have limitations. Waist-to-Hip Ratio or Waist Girth measurements should be applied to assess obesity in persons with a relatively high lean muscle mass to fat mass ratio. People with high muscle mass to fat ratio may record a deceptively high Body Mass Index score falsely indicating a need to seek medically supervised treatment for obesity. The Fitness Professional is advised to consider as “normal” 15-20% body fat in males and 22-30% in females even if their measured BMI indicates otherwise. If body fat percents are less than 20% in males and 30% in females but BMI is above 25, it should be disregarded as a significant health risk factor. Persons seeking to lower BMI and/or body fat weight may follow a graduated periodic caloric-restriction protocols preceding adoption of a consistent weight management "Lifestyle"^{20 21}.

WAIST-TO-HIP RATIO

Waist-to-hip ratio measures fat distribution. Pre-menopausal women store fat in the hips, buttocks, and thighs. Postmenopausal women tend to store fat higher in the upper body region²². Most men store fat in the abdominal area. Excess fat stored in the upper body is associated with a higher risk of high blood pressure, diabetes, early onset of heart disease, and certain types of cancers than seen in subjects with excess fat stores in the lower areas of their bodies. A waist-to-hip ratio greater than 1.0 in men and 0.8 in women indicates increased health risks, including hypertension, coronary heart disease, and type II diabetes²³.

WAIST GIRTH

Waist girth is an excellent means to assess fat distribution. It is an obvious indicator of health risk if waist girth is above >40 inches (102 cm) in males or above >35 inches (88 cm) in females²⁴, the risks to compromised health are increased. Examples of the relationship between waist girth and fat percent are demonstrated below:

GENDER	AGE	HEIGHT	WEIGHT	WAIST	FAT %	BMI	LEAN MUSCLE LBS
MALE	40	70"	250	45	27.1	35.9	160
MALE	40	70"	240	43	25.1	34.4	156
MALE	40	70"	230	41	23.0	33.0	156
FEMALE	40	65"	180	36	32.2	30.0	118
FEMALE	40	65"	175	35	30.9	29.1	117
FEMALE	40	65"	165	33	28.3	27.5	114

This formula determines male or female body fat:

MALE BODY FAT CALCULATOR

$$100 * (-98.42 + 4.15 \text{waist} - 0.082 \text{weight}) / \text{weight} = \% \text{ Body Fat}$$

²⁰ World Health Organization. Obesity: preventing and managing the global epidemic. Report of a WHO Consultation on Obesity, Geneva, 3-5 June, 1997. Geneva: World Health Organization, 1998.

²¹ Lean MED, Han TS, Morrison CE. Waist circumference as a measure for indicating need for weight management. BMJ. 1995;311:158-161.

²² Ibid. BMJ. 1995;311:158-161.

²³ Food And Nutrition Board, Institute Of Medicine, Thomas Pr, Ed. Weighing The Options: Criteria For Evaluating Weight Management Programs. Committee To Develop Criteria For Evaluating The Outcomes Of Approaches To Prevent And Treat Obesity. Washington, Dc: National Academy Press; 1995.

²⁴ Lean MED, Han TS, Morrison CE. Waist circumference as a measure for indicating need for weight management. BMJ. 1995;311:158-161.

FEMALE BODY FAT CALCULATOR

$$100 * (-76.76 + 4.15 \text{waist} - 0.082 \text{weight}) / \text{weight} = \% \text{Body Fat}$$

BODY MASS INDEX

Body Mass Index (BMI) is used to measure overweight and obesity in adults. It is the measurement of choice for obesity research. BMI is a direct calculation based on height and weight. Most health organizations associate risk factors with BMI measures that define overweight or obesity. BMI does not directly measure percent of body fat, but it provides a more accurate assessment of overweight or obesity than relying on weight and weight tables. BMI is found by dividing a person's weight in kilograms by height in meters squared. The mathematical formula is:

$$\text{Weight (kg)} \div \text{Height}^2$$

To determine BMI using pounds and inches, multiply weight in pounds by 704.5, then divide the result by your height in inches, and divide that result by your height in inches a second time. Or use the BMI calculator at: <http://www.nhlbisupport.com/bmi/bmicalc.htm>

The National Institutes of Health (NIH) identifies "Overweight" with a BMI range of 25-29.9 kg/m² and Obesity as a BMI of 30 kg/m² or greater. However, overweight and obesity are not mutually exclusive, since obese persons are also overweight²⁵. Defining overweight as a BMI of 25 or greater is consistent with the recommendations of the World Health Organization²⁶.

BMI is the assessed value of fat-free muscle mass relative to adipose fat mass. A high BMI is not an accurate prediction of obesity-associated disorders in high muscle mass subjects. However, a BMI above 25 including a body fat percent above 20% for males and above 30% for females is grounds to prescribe exercise and dietary practices to change body composition to lower fat to higher fat-free lean muscle mass. The causes of poor weight management are multi-factorial, rooted within the confines of genetic, metabolic, biochemical, psychological, and physiological origins. Whether the origin of individual weight "mismanagement" can be resolved depends upon a permanent "lifestyle" practices.

HEALTH ASSOCIATED WITH BODY MASS INDEX

The American Health Foundation's Expert Panel on Healthy Weight has proposed the concept of a healthy weight from a BMI range between 19-25, and a second concept of "healthier weight goals" for persons above the target (BMI >25). For these persons a more healthful weight goal is to decrease body weight by 1 or 2 BMI units to 10-16 lb below their current weight. Persons with weight excess should focus on improving health through small weight loss advances that are "achievable and maintainable"^{27 28 29}.

²⁵ Clinical Guidelines on the Identification, Evaluation, and Treatment of Overweight and Obesity in Adults, National Institutes of Health, National Heart, Lung, and Blood Institute, June 1998.

²⁶ World Health Organization. Obesity: preventing and managing the global epidemic. Report of a WHO Consultation on Obesity, Geneva, 3-5 June, 1997. Geneva: World Health Organization, 1998.

²⁷ Food And Nutrition Board, Institute Of Medicine, Thomas Pr, Ed. Weighing The Options: Criteria For Evaluating Weight Management Programs. Committee To Develop Criteria For Evaluating The Outcomes Of Approaches To Prevent And Treat Obesity. Washington, Dc: National Academy Press; 1995.

²⁸ Meisler JG, St Jeor S. Summary and recommendations from the American Health Foundation's Expert Panel on Healthy Weight. Am J Clin Nutr.1996;63(suppl);1:474S-477S.

²⁹ Understanding adult obesity. Rockville, Md: National Institutes of Diabetes, Digestive and Kidney Diseases;1993. N IH publication No. 94-3680.

For persons who reach a new BMI, body mass should remain stable for 6 months before further attempts are made to lower BMI. Healthy weight calculations should always include assessment of body fat percent with BMI.

HEALTH ASSOCIATED WITH PLANT-BASED NUTRITION

1. **INCREASED LONGEVITY:** Currently, over 6 out of 10 adults in America are overweight. Obesity is a factor in many illnesses, but now researchers have estimated how many years of life may be lost when weight problems are left untreated. Data from previous studies on individuals aged 18 to 85 were analyzed, and body mass index (a measure of body weight adjusted for height) was calculated. Young black men with a BMI above 45 fared worst, reducing their lifespan by 20 years. Young black women with similar obesity levels reduce their lifespan by 5 years. Young white men with a BMI greater than 45 lost 13 years of life and young white women with a BMI greater than 45 lost 8 years of life. Optimal BMI is 23 to 25 for white people and 23 to 30 for black people^{30 31}.
2. **REDUCED RISK OF HEART DISEASE:** A plant-based diet has been reported to reverse cardiovascular disease progression^{32 33}. Dietary fiber from cereal and fruit lowers risk for coronary heart disease in men and women. Researchers analyzed data from ten studies involving more than 90,000 men and more than 240,000 women in the United States and Europe, finding that every 10 grams of fiber in the daily diet is associated with a 14 percent reduction for all coronary events and a 27 percent reduction in coronary deaths³⁴. In a second study, adults consuming the most dietary fiber had the lowest serum concentrations of C-reactive protein (CRP), a marker of inflammation that may predict future cardiovascular events, according to a study including 4,000 men and women over 20 years of age. Fiber is found in beans, vegetables, fruits, and whole grains and is not found in animal-derived products³⁵.

Tufts University scientists report when volunteers with high cholesterol levels switched to a low-fat diet, they not only lost weight, significantly enhancing the immune system, an important factor in cancer prevention. Ten participants were initially instructed to follow a standard American-style diet deriving 35 percent of calories from fat. Then they followed three subsequent diets: one made up of 26 percent fat, one made up of 15 percent fat, and, lastly, a 15-percent fat diet with a further reduction in calories. Each diet drove cholesterol levels down, but only the last phase was associated with marked improvement in cellular immune response³⁶.

3. **REDUCED THE RISK OF CANCER (FEMALES):** Apple and broccoli a high-fiber diet was associated with a significant decrease in the reproductive hormone estradiol in women previously diagnosed with breast cancer, according to a study from the University of California-San Diego. Researchers measured serum reproductive steroid hormones, which are

³⁰ Fontaine KR, Redden DT, Wang C, Westfall AO, Allison DB. Years of life lost due to obesity. *JAMA* 2003;289:187-93.

³¹ Friedenreich, C.M., et al. 2001. Case-control study of lifetime physical activity and breast cancer risk. *American Journal of Epidemiology* 154(Aug. 15):336-347.

³² Esselstyn CB Jr. Resolving the Coronary Artery Disease Epidemic Through Plant-Based Nutrition. *Prev Cardiol*. 2001 Autumn;4(4):171-177.

³³ Grant W.B. Milk and Other Dietary Influences on Coronary Heart Disease. *Alternative Medicine Review*: 1998; 3(4): @: <http://www.thorne.com/altmedrev/fulltext/milk3-4.html>

³⁴ Pereira MA, Reilly E, Augustsson K, et al. Dietary fiber and risk of coronary heart disease. *Arch Intern Med* 2004;164:370-6.

³⁵ Ajani UA, Ford ES, Mokdad AH. Dietary fiber and c-reactive protein: finding from National Health and Nutrition Examination Survey data. *J Nutr* 2004;134:1181-5.

³⁶ Santos MS, Lichtenstein AH, Leka LS, Goldin B, Schaefer EJ, Meydani SN. Immunological effects of low-fat diets with and without weight loss. *J Am Coll Nutr* 2003;22:174-82.

suspected of playing an important role in the development of breast cancer, in 291 women with a history of the disease at enrollment and again one year later. Women who increased their intakes of fiber, vegetables, and fruits while reducing fat had a decrease of bioavailable estradiol, which may decrease the risk of cancer recurrence and increase overall survival³⁷. Harvard Medical School researchers report that women who are overweight as young adults may be more likely than slim women to develop pre-menopausal ovarian cancer later in life. More than 100,000 nurses participated in the investigation, in which 402 ovarian cancer cases were reported. Women who reported being overweight or obese at 18 were twice as likely to be diagnosed with ovarian cancer³⁸.

REDUCED THE RISK OF CANCER (MALES): Men who eat more vegetables have lower rates of prostate cancer, according to research from the International Journal of Cancer. Between 1991 and 2002, researchers in Italy distributed diet and lifestyle questionnaires to 1,294 men with prostate cancer and 1,451 men without the disease, ages 46 to 74. Unlike previous studies, the new survey broke down fiber intake according to type and source. Men who consumed the most vegetable fiber were 18 percent less likely to develop prostate cancer than those who ate the least³⁹. Another research study links a high-fat, high-calcium diet with an increase in advanced prostate cancer. Diet changes after cancer is diagnosed may help patients reduce their risk of recurrence.

Researchers collected information from 605 men with prostate cancer and 592 men without it. The men, all 40 to 64 years old, completed questionnaires about their dietary habits during the past 3 to 5 years. Compared with the lowest level of daily energy intake (1,322 calories), men with the highest daily energy intake (2,439 calories) were twice as likely to develop local or more advanced prostate cancer. Similar risks were found after comparing the lowest and highest intakes of fat and calcium. Lowering fat in the diet prevents cancer by boosting immune system factors⁴⁰.

GOALS OF THE WEIGHT MANAGEMENT ^{LIFESTYLE}

Weight management requires commitment to a permanent healthful lifestyle. The goal is weight management not weight loss. “*Weight Management*” is defined as a lifestyle characterized by a daily eating and exercise behaviors that result in a body mass index of fewer than 25 BMI with a body fat percent of less than 20% in males and 30% in females.

The effectual weight management program emphasizes lifestyle-training modifications with each of the following goals:

1. **GRADUAL CHANGE** to healthful eating patterns characterized by increased intake of whole grains, seeds, nuts, fish, fruits, and vegetables, with a decrease high saturated fat foods, and a decrease in processed empty-calorie foods.
2. **NONRESTRICTIVE EATING** is based on internal regulation of hunger pangs, which reduces calorie overdose by increasing frequency of small-portion nutrient-rich, calorie-sparse plant foods.

³⁷ Rock CL, Flatt SW, Thomson CA, et al. Effects of a high-fiber, low fat diet intervention on serum concentrations of reproductive steroid hormones in women with a history of breast cancer. J Clin Oncol 2004; 22:2379-87.

³⁸ Fairfield KM, Willett WC, Rosner BA, Manson JE, Speizer FE, Hankinson SE. Obesity, weight gain, and ovarian cancer. Obstet Gynecol 2002;100:288-96.

³⁹ Pelucchi C, Talamini R, Galeone C, et al. Fibre intake and prostate cancer risk. Int J Cancer 2004;109:278-80.

⁴⁰ Kristal AR, Cohen JH, Qu P, Stanford JL. Cancer Epidemiol Biomarkers Prev 2002;11:719-25 Associations of energy, fat, calcium, and vitamin D with prostate cancer risk.

3. **MAKE PHYSICAL ACTIVITY ENJOYABLE** emphasizing and gradual well tolerated to achieve a minimum of 30 minutes exercise daily^{41 42 43 44}.
4. **SET GOALS TO REALISTIC GOALS** that focus on healthful eating practices and increased physical activity. Goals include halting weight gain first, stabilizing weight second, and weight loss lastly as a natural outcome of activity's effect generating a small calorie-deficit. The end reward is significant impact effect on health^{45 46 47 48}.

WEIGHT MANAGEMENT "LIFESTYLE" DIETARY GUIDELINES⁴⁹

1. **EAT A VARIETY OF FOODS:** Choose small portions from whole grains (6-11 servings), vegetables (3-5 servings), and fruits (2-4 servings) including (2-4 servings) from a non-animal protein source (fish, nuts, beans, legumes, sprouts, seeds). Limit amount of food to small portions. Limit foods that lack nutrients or are high in fat and processed sugar.
2. **BALANCE CALORIE INTAKE WITH ACTIVE CALORIE EXPENSE:**
Complete a minimum of 30 minutes moderate aerobic physical activity daily.
3. **CHOOSE WHOLE GRAINS, VEGETABLES, AND FRUITS:**
These include high complex carbohydrate whole grain bread, whole grain cereal, whole grain pasta, rice, potatoes, corn, broccoli, Brussels sprouts, carrots, onions, garlic cloves, cauliflower, pinto, navy, kidney, and black beans.
4. **CHOOSE FOODS LOW IN FAT, SATURATED FAT, AND CHOLESTEROL:** Some foods and food groups are too high in fat. Fats and oils, and some types of desserts and snack foods that contain fat provide more calories than necessary nutrients. Certain foods should be limited: milk, meat, eggs, poultry, processed grains. These foods elevate homocysteine, saturated fat, and blood sugar resulting in calorie excess. "Limited" implies consuming small portions no more than 1-2 times per week.
5. **CHOOSE FOODS LOW IN SIMPLE SUGAR AND LOW GLYCEMIC INDEX:** Some evidence⁵⁰
⁵¹ indicates that foods high in simple sugar or with a high glycemic index contribute to weight gain, hyperactivity, and potentially insulin resistance syndrome, or diabetes. The most common type of diabetes occurs in overweight adults. Avoiding sugars or high glycemic foods alone will not correct overweight. Weight loss and weight control depends on total calorie

⁴¹ Meisler JG, St Jeor S. Summary and recommendations from the American Health Foundation's Expert Panel on Healthy Weight. Am J Clin Nutr.1996;63(suppl);1:474S-477S.

⁴² Understanding adult obesity. Rockville, Md: National Institutes of Diabetes, Digestive and Kidney Diseases;1993. N IH publication No. 94-3680.

⁴³ Pate RR, Pratt M, Blair SN, et al. Physical activity and public health: a recommendation from the Centers for Disease Control and Prevention and the American College of Sports Medicine. JAMA. 1995;273:402-407.

⁴⁴ Goodrick GK, Malek JN, Foreyt JP. Exercise adherence in the obese: self-regulated intensity. Med Exer Nutr Health . 1994;3:335-338.

⁴⁵ Lissner L. Causes, diagnosis and risks of obesity. PharmacoEconomics.1994;5(suppl 1):8-17.

⁴⁶ Savoye M, Berry D, Dziura J, Shaw M, Serrecchia JB, Barbetta G, Rose P, Lavietes S, Caprio S. Anthropometric and psychosocial changes in obese adolescents enrolled in a Weight Management Program. J Am Diet Assoc. 2005 Mar;105(3):364-70.

⁴⁷ Klein S. Long-term pharmacotherapy for obesity. Obes Res. 2004 Dec;12 Suppl:163S-6S. Review.

⁴⁸ Position of the American Dietetic association: fat replacers. J Am Diet Assoc. 2005 Feb;105(2):266-75.

⁴⁹ Guidelines on Overweight and Obesity: [Electronic Textbook](#)

⁵⁰ Granfeldt Y, Wu X, Bjorck I. Determination of glycaemic index; some methodological aspects related to the analysis of carbohydrate load and characteristics of the previous evening meal. Eur J Clin Nutr. 2005 Oct 5; [Epub ahead of print]

⁵¹ Schulz M, Liese AD, Mayer-Davis EJ, D'Agostino RB Jr, Fang F, Sparks KC, Wolever TM. Nutritional correlates of dietary glycaemic index: new aspects from a population perspective. Br J Nutr. 2005 Sep;94(3):397-406.

intake and calorie deficits created by the level of physical activity⁵².

6. **CHOOSE FOOD LOW IN SODIUM:**

Sodium plays an essential role in regulation of fluids and blood pressure. Many studies in diverse populations have shown that a high sodium intake is associated with higher blood pressure⁵³.

Most evidence suggests that people at risk for high blood pressure reduce their chances of developing this condition by consuming less salt or sodium^{54 55}.

7. **DON'T DRINK ALCOHOLIC BEVERAGES:**

Alcoholic beverages supply high calories but few nutrients. These effects of alcohol alter judgment and can lead to dependency and a great many other serious health problems. Experimental evidence from several metabolic studies showed a suppression of lipid oxidation by alcohol and thus the enhancement of a positive fat balance.

The non-oxidized fat is preferentially deposited in the abdominal area.

The experimental metabolic evidence suggests that the consumption of moderate amounts of alcohol has to be accounted for in the energy-balance equation and may represent a risk factor for the development of a positive energy balance and thus weight gain⁵⁶.

Higher levels of alcohol intake raise the risk for high blood pressure, stroke, heart disease, certain cancers, accidents, violence, suicides, birth defects, and overall mortality (deaths)⁵⁷. Alcohol may increase the risk of liver cirrhosis, inflammation of the pancreas, or damage to the brain and heart. Heavy drinkers also are at risk of malnutrition because alcohol contains calories that may substitute for those in more nutritious foods⁵⁸.

⁵² Hensrud DD. Diet and obesity. *Curr Opin Gastroenterol*. 2004 Mar;20(2):119-24.

⁵³ Becker H, Bester M, Reyneke N, Labadarios D, Monyeki KD, Steyn NP. Nutrition related knowledge and practices of hypertensive adults attending hypertensive clinics at Day Hospitals in the Cape Metropole. *Curationis*. 2004 May;27(2):63-9.

⁵⁴ Arcand JA, Brazel S, Joliffe C, Choleva M, Berkoff F, Allard JP, Newton GE. Education by a dietitian in patients with heart failure results in improved adherence with a sodium-restricted diet: a randomized trial. *Am Heart J*. 2005 Oct;150(4):716.

⁵⁵ Altun B, Arici M. Salt and Blood Pressure: Time to Challenge. *Cardiology*. 2005 Sep 15;105(1):9-16 [Epub ahead of print]

⁵⁶ Suter PM. Is alcohol consumption a risk factor for weight gain and obesity? *Crit Rev Clin Lab Sci*. 2005;42(3):197-227.

⁵⁷ Thiele GM, Mandrekar P, Zakhari S, Hoek J, Cook RT, Ray NB, Happel KI, Kolls JK, Kovacs EJ, Szab G. RSA 2004: Combined Basic Research Satellite Symposium-Mechanisms of Alcohol-Mediated Organ and Tissue Damage: Inflammation and Immunity and Alcohol and Mitochondrial Metabolism: At the Crossroads of Life and Death Session One: Alcohol, Cellular and Organ Damage. *Alcohol Clin Exp Res*. 2005 Sep;29(9):1735-1743.

⁵⁸ Klatsky AL, Chartier D, Udaltsova N, Gronningen S, Brar S, Friedman GD, Lundstrom RJ. Alcohol drinking and risk of hospitalization for heart failure with and without associated coronary artery disease. *Am J Cardiol*. 2005 Aug 1;96(3):346-51.

PROHIBITIVE WEIGHT MANAGEMENT PROTOCOLS (THE “DO NOT’S”)

Certain interventions are prohibited:

1. Advising weight-management intervention to persons with a degenerative disorder without first accessing the guidance of the individual’s licensed healthcare practitioner.
2. Advising a temporary dietary protocol apart from a permanent "Lifestyle" change is prohibited. Calorie restriction weight loss programs not part of a permanent weight management lifestyle are strictly prohibited. If a Weight management intervention fails to establish lifestyle changes within 6 weeks following initiation, the individual should be referred to their licensed healthcare practitioner for counseling and further diagnostic testing.
3. Rapid weight loss has been implicated in the fast weight regain in the “Yo-Yo”⁵⁹ Syndrome. Rapid weight loss is operant in many health-degenerative disorders^{60 61 62} in overweight or obese persons and is therefore prohibited^{63 64}. A weight loss intervention resulting in more than -5 pounds loss per month is prohibited. Realistic goals should be set between the clinician and the patient, with a weight loss of approximately of 0.5 to 1 pound per week. It should be kept in mind that since it generally takes years to become overweight or obese, a weight loss pattern of 0.5 or 1 pound per week would require time and perseverance to reach the proposed target^{65 66 67}. A licensed healthcare provider or an assigned licensed dietitian is required to monitor patients who lose large amounts of weight over a short period of time. If a physician or dietitian refers such a patient to a fitness advisor, gradual exposure to tolerable aerobic exercise is advised.
4. Pharmacological use of stimulants, steroids, or diuretics is strictly prohibited^{68 69}. Any pharmacological agent is diagnostically determined by the discretionary purview of the physician.
5. Diets emphasizing excess protein above 1.6 grams protein per kilogram body weight are prohibited⁷⁰. However, daily protein intake above life sustaining basal 0.8 g/kg body weight is may reduce cravings and overall appetite⁷¹.

⁵⁹ “Yo-Yo” weight loss followed by weight gain is pattern that conclusively compromises cardiovascular health outcome.

⁶⁰ Teran Diaz E. [Body composition and constitution: constitutional syndrome (second of two parts)] *An Med Interna*. 1999 May;16(5):256-62. Review.

⁶¹ Wadstrom C, Backman L, Forsberg AM, Nilsson E, Hultman E, Reizenstein P, Ekman M. Body composition and muscle constituents during weight loss: studies in obese patients following gastroplasty. *Obes Surg*. 2000 Jun;10(3):203-13.

⁶² Sours HE, Fratalli VP, Brand CD et al. - Sudden death associated with very low calorie weight reductions regimens. *Amer J Clin Nutr* 1981; 34:453-46.

⁶³ Pasanisi F, Contaldo F, de Simone G, Mancini M. Benefits of sustained moderate weight loss in obesity. *Nutr Metab Cardiovasc Dis*. 2001 Dec;11(6):401-6. Review.

⁶⁴ Klein S. Outcome success in obesity. *Obes Res*. 2001 Nov;9 Suppl 4:354S-358S. Review.

⁶⁵ Pasanisi F, Contaldo F, de Simone G, Mancini M. Benefits of sustained moderate weight loss in obesity. *Nutr Metab Cardiovasc Dis*. 2001 Dec;11(6):401-6. Review.

⁶⁶ Poirier P, Despres JP. Exercise in weight management of obesity. *Cardiol Clin*. 2001 Aug;19(3):459-70. Review.

⁶⁷ de Leiva A. What are the benefits of moderate weight loss? *Exp Clin Endocrinol Diabetes*. 1998;106 Suppl 2:10-3. Review.

⁶⁸ Dwyer JT, Allison DB, Coates PM. Dietary supplements in weight reduction. *J Am Diet Assoc*. 2005 May;105(5 Suppl 1):S80-6. Review.

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6. Dietary interventions that recommend foods rich in saturated fat^{72 73} from dairy, animal, or poultry byproducts are prohibited. Any weight loss scheme currently employed that recommends excess protein and excess saturated fat may compromise health⁷⁴ and should be avoided.
7. Excess consumption of dietary packaged or fast foods^{75 76} instead of a predominance of plant based foods⁷⁷ compromise health are prohibited.
8. Direction of a weight loss intervention in contradiction to a physician or dietitian's orders is prohibited^{78 79 80}.
9. Weight management techniques that do not require regular exercise 30 minutes per day 3-7 days per week are prohibited^{81 82 83}.
10. If a weight management intervention is not productive within 6-8 weeks, patients are referred to a licensed healthcare diagnostician for reducing the inhibiting factor (s). Weight **mis-**management contributing to "Yo-Yo" weight loss-to-gain syndrome compromises mood state and cardiovascular health^{84 85} is therefore prohibited.
11. Patients with suspect psychological disorders such as anorexia, bulimia, or rapid weight gain from binge eating should be referred to a physician or the appropriate psychological counseling professional prior to a nutritional counseling session^{86 87 88}.

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APPLICATION OF WEIGHT REDUCTION PRINCIPLES

Researchers determined the prevalence, distribution, and correlates of successful weight loss including weight maintenance over a three-year period in a community-based sample of 854 subjects aged 20-45 at baseline. More than half (53.7%) of the participants in the study gained weight within the first twelve months. One subject in four (24.5%) successfully avoided weight gain over three years, compared to less than one person in twenty (4.6%) who lost and maintained weight successfully. The findings underscore the importance of individual commitment to prevent weight gain by making permanent lifestyle changes that result in weight control of the prevalence of obesity^{89 90 91}.

EFFECTIVE WEIGHT LOSS PRINCIPLES

Total calorie intake is the cause of weight gain. Caloric-restriction diets do not work The typical dieting pattern is weight loss followed by return to calorie excess resulting in even more fat weight gain than prior to weight loss. Specific applied guidelines are demonstrated to provide an environment in which an overweight person has an improved “chance” to establish a healthy “Lifestyle” weight management program. A calorie-restriction weight loss intervention must include balance menu, safe if dietary supplements are used, and gradual weight loss, followed immediately by a planned commitment to permanent healthy “Lifestyle” change.

Most people will naturally migrate to their natural-healthy body weight by regular daily exercise and [16 weight management^{lifestyle} principles](#):

1. Reduce carbohydrate calorie intake by 30-50%^{92 93 94 95 96 97}.
2. Increase plant foods, vegetable and fruit intake by 25-33%^{98 99 100 101 102 103}.

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3. Hydration to replace fluid losses starting with 1-1.3 fluid ounces per kilogram or 0.5-0.7 fluid ounces liquid per pound body weight per day^{104 105 106 107 108 109}.
4. Limit calorie intake later in the day; consume last meal 3 hours prior to bedtime^{110 111}.
(This does not imply that calorie timing neglects total daily calorie intake.)
5. Reduce excess fat calories from meat, dairy, or dairy byproducts^{112 113 114 115 116 117}.
6. Prolonged aerobic exercise or frequent short anaerobic exercise increases the rate of weight loss^{118 119 120 121 122}.
7. Calorie restriction weight-loss periods¹²³ of at least 3 weeks resulting in small gradual weight loss should include a reward of 3-7 days “Vacation” options to a menu plan that includes both no calorie-restriction and no calorie-excess controls^{124 125 126 127 128 129 130}.

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8. Limit weight loss rate to 0.5-1.0 pound weight loss each week^{131 132 133 134}.
9. Calorie intake recommended minimum 1,500 (+/- 300) calories per day^{135 136 137}.
10. Limit fatty meats and processed food calories^{138 139 140}.
11. Encourage 30-60 minutes exercise every day^{141 142 143 144 145 146}.

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12. Include a variety of nutritionally balanced foods in calorie-restriction protocols ^{147 148 149 150 151 152}.
13. Avoid hunger severity initiating stages of starvation ^{153 154 155 156 157}.
14. Encourage setting realistic weight loss goals that result in slow, moderate body mass change (avoid setting immediate unrealistic goals) ^{158 159 160 161 162 163 164 165 166}.
15. Sign an “Informed Consent” to follow a “Lifestyle” protocol that balances a variety of nutritional calories consumed to not exceed the calories metabolized ^{167 168 169 170 171 172 173 174}.

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16. Avoid eating foods with processed Trans Fatty Acids (TFA) also called *partially* or *completely hydrogenated vegetable fats*; found in many packaged foods and processed baked goods ¹⁷⁵
176 177 178 179 180 181 182 183 184 185 186

Having reviewed the principles of this weight management position, persons subscribing to a “*Weight Management Lifestyle*” are advised to sign *Informed Written Consent*:

INFORMED WRITTEN CONSENT

This consent agrees with the general recommendations established by the *American Fitness Professionals and Associates (AFPA) WEIGHT MANAGEMENT LIFESTYLE* position paper.

Review of the consent form below signifies agreement with the importance of permanent balance established between nutritionally rich calorie choices against equal or more calorie expense. The signature implies the author’s intention to achieve a permanent healthy weight with emphasis upon a permanent nutritionally-balanced menu with an energy intake that does not exceed expenditure from adequate variety from all food groups, emphasizing whole grains, cereals, fruits, vegetables, while restricting the use of processed and packaged food sources.

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INFORMED WRITTEN CONSENT

I, _____name, do hereby acknowledge and understand this agreement to attempt to apply dietary food choices low in fat, characterized by calorie-adequacy from a variety of the following food groups: fish, whole grains, cereals, seeds, nuts, fruits, and vegetables. I agree to limit by restricting excess use of empty-calorie processed, packaged foods or fast foods containing calorie-dense excess fat (animal meats, poultry meats, dairy byproducts).

I recognize that I am instructed to not lose weight any faster than 5 lbs per month, and, if I do lose it faster than that, I have been instructed that weight regain excess may occur. I agree to do _____-minutes of aerobic exercise _____days per week for *an indefinite period of time* in order to establish a permanent healthy diet and exercise protocol as an integral part of this my personal “*Weight Management Lifestyle*.” I heretofore agree that if a compromise to health occurs during the pursuit of this weight management intervention, I assume all responsibility and will inform my signature witness, professional fitness advisor, and immediately seek supervisory diagnostic care from a licensed health care provider. I have reviewed the *INFORMED WRITTEN CONSENT* understand and accept the AFPA *WEIGHT MANAGEMENT LIFESTYLE* position paper statement.

Signed _____
Client

Date _____

Signed _____
Witness

Signed _____
Fitness Professional

CONCLUSION

Lifestyle weight management means consuming a variety of nutrient-rich calories and subsequent spending some of those calories through daily exercise.

The *weight management^{lifestyle}* significantly reduces cardiovascular or ischemic heart disease. Dietary associations with cardiovascular diseases are the number one cause of death. Based on multi-country data collected, several food groups are specifically implicated in cardiovascular disease. This data has been extracted from data that already exists. It is compelling that we consider the history of multi-country studies of dietary associations with Ischemic Heart Disease (IHD) and Atherosclerotic Coronary Heart Disease (ACHD).

Yudkin reported the incidence of IHD could be correlated with an intake of animal protein and fat¹⁸⁷. Yerushalmy and Hilleboe statistically compared dietary macronutrients and atherosclerotic coronary heart disease (ACHD) mortality rates for men aged 55-59 in 22 countries. Their report agrees that animal protein, total calories, animal fat, and total fat are the highest rank order correlation coefficients also including carbohydrates with a low but positive coefficient in Atherosclerotic Coronary Heart Disease (ACHD) mortality rate¹⁸⁸.

¹⁸⁷ Yudkin J. Dietary fat and dietary sugar in relation to ischemic heart-disease and diabetes. Lancet 1964;2:4-5.

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RANK ORDER (HIGH TO LOW) DIET-ASSOCIATED DEATH FROM ACHD ^{189 190 191}	
FOOD GROUP	DEATH CORRELATE COEFFICIENT
Animal Protein	+0.756 INCREASE RISK ACHD
Total Calories	+0.723 INCREASE RISK ACHD
Animal Fats	+0.684 INCREASE RISK ACHD
Fats	+0.659 INCREASE RISK ACHD
Carbohydrates	+0.305 INCREASE RISK ACHD
VEGETABLE FATS	-0.236 DECREASE RISK ACHD
VEGETABLE PROTEINS	-0.430 DECREASE RISK ACHD

The multi-country approach was also used in the 1960s for studying CHD, with the finding that sugar was also a risk factor^{192 193 194}. One paper implicates sugar with a highest statistical association with Ischemic Heart Disease (IHD) mortality rate for 30 countries from foods eaten in 1963-1965 related to deaths occurring in 1968-1969, but this finding seems to have been largely ignored¹⁹⁵:

RANK ORDER (HIGH TO LOW) DIET-ASSOCIATED DEATH FROM IHD ¹⁹⁶		
FOOD SOURCE	MEN	WOMEN
Sugar	+0.76 INCREASE RISK	+0.69 INCREASE RISK IHD
Animal Protein	+0.75 INCREASE RISK	+0.58 INCREASE RISK IHD
Milk	+0.72 INCREASE RISK	+0.48 INCREASE RISK IHD
Saturated Fat	+0.71 INCREASE RISK	+0.58 INCREASE RISK IHD
Meat	+0.65 INCREASE RISK	+0.65 INCREASE RISK IHD
Total Fat	+0.59 INCREASE RISK	+0.39 INCREASE RISK IHD
Eggs	+0.56 INCREASE RISK	+0.59 INCREASE RISK IHD
Cigarettes	+0.41 INCREASE RISK	+0.55 INCREASE RISK IHD
FISH	-0.19 INCREASE RISK	-0.30 DECREASE RISK IHD
VEGETABLES	-0.39 DECREASE RISK	-0.22 DECREASE RISK IHD
CEREALS	-0.58 DECREASE RISK	-0.39 DECREASE RISK IHD

The food sources associated with the least degenerative cardiovascular or ischemic heart disease pathology should dominate dietary lifestyle choices. Combining a variety of nutritionally rich foods with an active lifestyle proposes to regenerate a healthy weight management lifestyle. The *American Dietetic Association* (ADA) position paper reflects several references quoted throughout this paper.

Our position paper establishes a diet-associated intervention that once applied, predictably affects cardiovascular health that improves individual capacity to achieve optimal physical fitness.

¹⁸⁹ Yudkin J. Dietary fat and dietary sugar in relation to ischemic heart-disease and diabetes. *Lancet* 1964;2:4-5.

¹⁹⁰ Milk and Other Dietary Influences on Coronary Heart Disease, WB Grant, *Alternative Medicine Review*, (Altern Med Rev 1998;3(4):281-294).

¹⁹¹ Ibid.

¹⁹² Yudkin J. *Sweet and Dangerous*. New York, NY: Bantam Books; 1972.

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¹⁹⁴ Armstrong BK, Mann JI, Adelstein AM, Eskin F. Commodity consumption and ischemic heart disease mortality, with special reference to dietary practices. *J Chron Dis* 1975;28:455-469.

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We conclude as advocates of peer-review nutrition science¹⁹⁷ that adoption of this weight management lifestyle will progressively regenerate favorable effects upon internal cardiovascular health as evidenced by external body mass weight indices associated with improved physical fitness.

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¹⁹⁷ THE POSITION OF THE AMERICAN DIETETIC ASSOCIATION. The American Dietetic Association position paper was referenced on January 25, 2001 and has been included to embrace the major tenants of this paper in order to establish clear guidelines between the roles of physicians, dietitians, and fitness professionals.

For more detail on the ADA Weight Management position see: <http://www.eatright.org/adap0197.html>

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