

Heart Headlines

A professional resource on nutrition and heart health brought to you by the Promise Institute for Heart Health Nutrition

A Balancing Act: Calorie Control

THE FOCUS



A BALANCING ACT: CALORIE CONTROL

This issue addresses the balancing act of calorie control. What is eaten is not always aligned with what is needed or in the best interest of health, so this issue will review the factors that affect food choices and provide tips for practice.

MEAL PLANNING TOOLS

Link to the Promise Institute for Heart Health Nutrition for recipes for a heart healthy lifestyle!

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It is no secret that obesity rates have reached an all-time high in the United States. The Centers for Disease Control (CDC) reports that 137 million Americans are overweight, approximately 60 million are obese, and 9 million are severely obese.¹ Overweight and obesity increase risk for a number of chronic illnesses, including metabolic syndrome, a condition which predisposes individuals to several types of cardiovascular disease (e.g., stroke and peripheral vascular disease), as well as type 2 diabetes. Controlling weight is a powerful preventive tool because it greatly influences other related risk factors, including blood pressure, blood glucose, triglyceride and cholesterol levels. The challenge is that energy intake isn't always in sync with energy expenditure, and what's desired to eat isn't always what's best for good health.

What are we Eating and Drinking?

The physiological and psychological factors that affect food choices are complex and multifactorial, and often come down to taste and desire. With the apparent imbalance in energy intake and output, it begs the questions—what makes up the American diet and how does this affect total calorie intake? Data based on the NHANES 1999-2000 data revealed that 25% of total calorie intake was attributed to foods that fall into a “nutrient poor” group, such as soft drinks, alcoholic beverages, desserts and sweets.² According to the data, the top contributors to energy intake in the US population from the NHANES 1999-2000 data are:

Rank	Food	% of Total Energy
1	Regular soft drinks	7.1
2	Cake, sweet rolls, doughnuts, pastries	3.6
3	Hamburgers, cheeseburgers, meatloaf	3.1
4	Pizza	3.1
5	Potato chips, corn chips, popcorn	2.9

A powerful example of how the inclusion of a particular food or drink in the diet can have important consequences for total daily calories was reported recently by Popkin et al.³ Using the NHANES 1999-2001, Popkin et al. quantified water consumption and other drinking and eating patterns of adults in the US. When respondents were divided by those who consumed water and those who did not, it appeared that those that fell into the water consuming group had fewer calories from overall fluid intake than those who did not drink water (139 kcal vs. 276 kcal). Their total calorie intake was 9% less per day (2188 kcal vs. 2382 kcal, $p < 0.05$).³ In addition, calories from fluid intake have increased over the years. It is estimated that total calorie contribution from fluids has risen to 21%, where it used to be 2-4% of total energy intake.^{4,5}

See sidebar on page 2 for NHANES highlights from Popkin's analysis of intake among US adults.

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According to a NHANES Analysis of US Adult Intake, on a Daily Basis...³

- More than half (52.5%) consume desserts.
- Forty-one percent eat salty snacks.
- Roughly one-third (29.9%) eat higher-fat meat products.
- Half (50.0%) consume high-fat dairy foods.
- Nearly half (47.3%) drink regular soft drinks.
- One-third (31.2%) consume fast food.
- More than a quarter (27.5%) drink fruit juice but only 6.6% eat fruit.
- Less than a quarter (22.3%) eats vegetables.

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Knowledge of Calorie Needs

The International Food Information Council (IFIC) conducted the second Food & Health Survey in 2007 to assess consumers' knowledge and use of information about calories.⁶ Although respondents reported making changes to improve the healthfulness of their diet (66%, up from 57% in 2006), only 11% were able to estimate the correct number of calories they need per day based on their age and weight. In addition, only 31% understood that calories, regardless of the food source, can contribute to weight gain. The apparent imbalance of calories-in and calories-out is supported by the finding that 44% of respondents do not balance their food intake with their physical activity.

For the complete results of IFIC's 2007 survey, visit: www.ific.org/research/foodandhealthsurvey.cfm.

Facing the Obstacles, Finding Solutions

It is generally accepted that if energy intake exceeds energy expenditure, weight gain is unavoidable. Managing energy intake appears to be a more complex process than simply making the decision to eat or not to eat. Intake is influenced by a myriad of hormonal and physiological complexities, but an equal appreciation is given to habits, environment and mood.

The Environmental Pull and Habit of Eating

The environment is filled with stimuli urging us to constantly eat—so it's no wonder people have trouble regulating their intake. Humans seem to be born with the ability to listen and respond to their own hunger and fullness cues. But somewhere along the way, that innate skill is lost and often it is replaced with habits that drive eating behavior. People find themselves eating the same breakfast, lunch and dinner without a break in pattern, sometimes perpetuating eating behaviors that are unhealthy. Clients report dining out because co-workers do so, devouring a bag of chips during a football game or taking a fast food break because it is "on the way" home. People will benefit from tapping into their "inner child"—an "intuitive eater" who eats in response to hunger rather than habit.

Give your clients these tips to help them practice the principles of intuitive eating:

- **Slow down:** Follow the time-honored "20-Minute-Rule". Take your time when you are eating and wait 20-minutes before going back for seconds. This amount of time allows the digestive system to communicate the message of fullness to the brain, and you are more likely to feel less like eating more.
 - **Take a break:** Research has shown that people typically consume whatever amount of food is on the plate. Halfway through the meal, put the fork down and consider the level of hunger and fullness.
 - **Rating hunger:** Before reaching for food, rate hunger on a scale of 1-10 (one being not hungry at all, 10 being extremely hungry). If you're above five, it's time to refuel—otherwise, drink a no-calorie beverage (thirst is often mistaken for hunger).
 - **Turn off the TV during meals:** When you watch TV, you often pay less attention to what you are eating—making it easier to overeat. Talk to family members or friends or put on some relaxing music instead.
 - **Find other outlets for emotions:** People eat out of stress, boredom, sadness, nervousness, excitement and anger. Develop non-food-related coping strategies for these feelings—write them down and keep them handy—and try those tactics before eating.
- For more information on intuitive eating, visit www.intuitiveeating.com.

Being in the Mood

Despite the intricate system of energy and appetite regulation, attitudes and emotion affect food choices as well.^{8,9} Psychological, sensory and physiological factors appear to dictate emotional food choices. In a review of these pathways published in *Physiology & Behavior*, Gibson describes how mood and emotions are affected by food choices.⁸ His review of research notes that food choices invoke an emotional response, and individuals even predict emotional responses to certain food choices. In this case, people also call upon their past experiences when predicting how a food will make them feel. For instance, if the calorie density of a food is high, women tend to report negative responses when asked to predict how the particular food will make them feel. These high-calorie choices were also

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Key Suggestions for Clients:

The Beverage Guidance Panel developed the following daily guidelines (all servings are eight ounces):⁵

- Calorie-rich beverages without nutrients (such as soft drinks): Up to one serving—less if trying to lose weight.
- 100% fruit and vegetables juices, whole milk, sports drinks: Up to one serving.
- Diet beverages with sugar substitutes: Up to four servings.
- Nonfat or lowfat milk and fortified soy beverages: Up to two servings.
- Unsweetened coffee and tea (iced or hot): Up to eight servings a day of tea, four of coffee.
- Water: At least four servings for women, six for men.

(For more information on the Beverage Guidance Panel and its recommendations, visit www.beverageguidancepanel.org)

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rated unhealthy or more dangerous compared to lower-calorie items. Interestingly, these psychological predictions were independent of the food's rating of pleasantness. Women who described themselves as "chocolate addicts" tended to report a negative response to eating chocolate, such as guilt or sadness.

Gibson's review also supported the idea that people choose food as a reward and in response to stress.⁸ The ingestion of foods that people like, or those that have a high perceived palatability, actually increase pain tolerance when consumed. However, the ability of fatty or sweet foods to alleviate pain or act as a reward appears to diminish over time and has led researchers to hypothesize that chronic overeating actually makes an individual less sensitive to these positive effects. Underlying attitudes about food also affect choices. Aikman et al. sought to evaluate the relationship between the perception of a food and actual ingestion, along with examining what constitutes healthiness. Respondents (21 males, 62 females) ranked various foods in terms of healthiness, as well as other attitudinal measures. The results showed that food attitudes were most linked to the taste of a food, followed by its perceived healthiness, feelings of guilt and comfort. Healthiness perception of food was not linked to the actual nutrient content of the food, nor was it related to frequency of ingestion. Taste was the strongest predictor of perception of the food, attitude and whether or not it would be consumed.⁹

Here are some tips to help your clients manage emotional eating:

- **Make mealtime relaxing and special:** Because stress can trigger overeating, make the mealtime atmosphere calm and appealing. Use a decorative plate, real silverware and glasses, and light a candle to celebrate a good meal.
- **Hold the debate:** Some families make dinner time into argument or debate time. Switch out of argumentative mode and into enjoyment mode. Ask everyone to share a positive experience from their day. You'll feel better and probably be less likely to overeat.
- **Do a portion inventory:** Before eating, consider the portion of each food on the plate. Does half the plate contain high-fiber, low-calorie vegetables? Is the

other half a healthy grain or starch plus a palm-sized portion of protein? When eating out, the portion may provide twice the food needed. Ask for a carry-out container and put half the food in it before you begin eating. At home, prepare your plate with reasonable portions of each food. Keep serving bowls and dishes off the table, so you don't automatically reach for more.

- **Make seconds low-calorie:** If hunger persists, have a second helping of a lower-calorie food. Steamed vegetables, green salad or vegetables with a low-calorie yogurt dip are good options.
- **Cut down on rich desserts:** Designate special "dessert nights" (maybe 2 per week) to enjoy a small portion of a higher-calorie favorite such as cake, pie or ice cream. On other nights, end the meal with fresh fruit or a tasty fruit salad.

Eating and Drinking our Calories

There is growing evidence that caloric beverages may be contributing to excessive energy intakes. Currently, Americans consume 21 percent of calories from beverages alone. Recently, a Beverage Guidance Panel was assembled by Barry M. Popkin, Ph.D., director of the Interdisciplinary Obesity Center at University of North Carolina, Chapel Hill.

Beverage Advice for Clients:

- With the exception of nonfat or low fat milk, encourage clients to choose low- and no-calorie beverages, especially if they're trying to lose weight. Soft drinks, fruit punches and drinks such as lemonade are currently among the top contributors of added sugar in Americans' diets.
- Water should be the first choice to quench thirst and should be offered to children, as well. If clients don't like the taste of plain water, encourage them to try adding low- or no-calorie flavorings, such as citrus slices or a splash of reduced-calorie juice. Flavored seltzer contributes to hydration but contains no calories.
- For your clients that choose to drink alcohol, advise they do so in moderation: no more than one drink per day for women or two drinks per day for men (one drink equals twelve ounces of regular beer, five ounces of wine, or 1.5 ounces of 80-proof spirits).

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Some Ideas for the Snacking Client:

- One-half whole-grain pita spread with 2 tablespoons hummus
- 1 ounce low-fat cheese melted on one whole-grain crisp bread
- 2 ounces tuna (packed in water) with 3-4 whole-grain crackers
- 1/4 cup nuts, such as pecans or almonds
- 2 tablespoons high-fiber cereal sprinkled into a cup of light yogurt
- Fruit smoothie made with 4 ounces non-fat yogurt, 1/2 cup nonfat milk and 1/2 cup frozen fruit
- 1 sliced apple spread with 1 tablespoon natural peanut butter
- 1 ounce deli turkey rolled in one small whole-grain tortilla

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Some research indicates that moderate consumption of alcohol can reduce risk for coronary heart disease for adults who are middle-aged and older (the same benefit hasn't been seen in younger populations), but adults who currently abstain should not begin drinking for this reason.

More information can be found at www.health.gov/DietaryGuidelines/

Snack Time

In a 2006 review published in *Appetite*, de Graaf reviewed the research associated with the question: Does a bigger snack (preload) mean a smaller meal later? In a study involving croissants consumed at various times of day (breakfast, lunch or afternoon snack), the afternoon snack did not register with the subjects' satiety, nor did it curb intake at dinner. Other studies also failed to show a compensatory decrease in subsequent meal intake when given a snack.

Eating frequency, much like snacking, has been evaluated for its impact on body weight, as well. There are mixed views of the role that meal frequency has in weight control. Dieters are often advised to eat small, frequent meals, but too many snacks are thought to contribute to weight gain. The relationship is not clear, nor is it consistent in the research. While some studies have linked body mass index (BMI) to the number of eating episodes, others have not found a relationship.¹¹

Snack Strategy

When budgeted in, snacks can be an ideal way for clients to manage their hunger and desire to eat between meals (which may help prevent overeating later), and fill in food groups and nutrients missing from meals.

To maximize satiety, the ideal snack is a combination of protein and high-fiber carbohydrate (keep snacks in the 150-200-calorie range or below).

Managing Calories in a Calorie-Dense World

An important job of dietitians is to clear up the widespread misinformation about what causes weight gain in the first place, with an emphasis on the impact of calories eaten compared to calories expended. For lasting weight management, remind clients that the body needs a balanced diet that includes carbohydrates, protein and fat, and a host of micronutrients to provide the energy the brain and body need for optimal functioning. This can only be provided through a diet rich in variety. Clients don't need to forgo higher-calorie foods altogether, but rather consider the "big picture" of their total diet. The dietitian's task is to help them evaluate their entire diet, not just single food items.

One complicating factor, highlighted in a recent International Food Information Council's Food and Health Survey, is that the vast majority of adults are unaware of the appropriate level of calories for them based on their height and stature.¹² Take the time to do these basic calculations with clients and explain what they mean in terms of daily food choices. Clients can also use the USDA mypyramid.gov website to calculate their calorie needs, generate a personalized report on how many calories and servings from each food group they need daily, and track their intake over time to gauge improvements.

The dietitian's most important job, however, is to assure clients that in choosing to eat a varied, balanced diet, they will satisfy their hunger and give their bodies the energy and nutrients needed to live rich and healthy lives. While it is important to offer the "calorie in vs. calories out" perspective, it is also important to honor the enjoyment of food and to encourage clients to do the same. As research suggests, food brings out the most human needs, fears and desires. The dietitian's ability to factor in both the psychology and biology of eating is a valuable expertise in today's world.

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Meal Planning Tools

The Promise Institute for Heart Health Nutrition offers easy to prepare recipes for a heart healthy lifestyle for you and your patients.

Each recipe has:

- No more than 35% calories from fat per recipe serving. Of that, no more than 10% of calories are from saturated fat, and no trans fats.
- No more than 100 mg of cholesterol, per recipe serving.
- No more than 500 mg of sodium per recipe serving.

In addition, stay tuned for 21-day meal plans complete with delicious, nutritious recipes and nutrition information. To access these dining delights, visit www.promiseinstitute.org, login and enjoy!



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