The traditional weight loss strategy for the past 100 years has focused mainly on how much people were eating rather than on what they were eating. This led to recommendations to reduce portion sizes and/or use willpower to override hunger in an attempt to restrict calorie intake in order to create a negative calorie balance and reduce fat stores. Typically the calorie restricted diet was accompanied by recommendations to also increase calories burned via exercise. From the point of view of physics it seemed rational enough that excessive energy stores (largely body fat) could be reduced by consciously restricting calorie intake and consciously increasing calories burned. However, this approach has met with limited long-term success as witnessed by the fact that few people can continue using willpower to limit calorie intake over time. Indeed, it is clear that this strategy fails most of the time because, while more Americans are going on diet and exercise programs, there has been a steady rise in the average American’s BMI. In fact, roughly two-thirds of adults and a growing proportion of children are now overweight or obese. Clearly there is more to long-term weight control than using willpower to limit calorie intake and increase calories burned.

While the physics of energy balance are simple enough, there is now growing evidence that human beings, like other mammals, are biologically programmed to become less active in the face of limited energy intake and chronic hunger. And asking people to live with chronic hunger by consciously restricting their food intake creates an unresolvable conflict between the hunger drive and the intellectual will to eat less. Growing evidence also suggests that this unresolvable conflict plays a major role in the development of eat-
One of the best-documented ways of reducing calorie intake without triggering increased hunger is to reduce the calorie or energy density (ED) of the foods consumed.

ing disorders. So researchers are now shifting their focus away from counting and consciously limiting calorie intake and encouraging exercise to focus more on what is being eaten (or not eaten) so that people can maintain satiety (or keep hunger at bay) at a lower calorie cost.

One of the best-documented ways of reducing calorie intake without triggering increased hunger is to reduce the calorie or energy density (ED) of the foods consumed.

There are many ways to reduce the ED of a meal. Three of the most common include reducing the amount of fat (as fat is by far more ED than sugar, starch, or protein), increasing the water content of foods (as opposed to simply drinking it with a meal), and increasing the intake of foods that are naturally less calorie dense, like whole fruits and vegetables.

To study the efficacy of these three methods of reducing ED to reduce ad libitum calorie intake, Dr. Rolls and associates recruited a group of healthy subjects who were not on a calorie-restricted diet, smokers, athletes in training, or on drugs that could impact appetite. A total of 62 subjects started the study (and 59 of them completed the study). ED was reduced by 20% using one of the three methods -- decreased fat, increased water content, or increased fruit and vegetable (F&V) content of the main entrees served at breakfast, lunch, and dinner.

This was a crossover design, with each subject following each of the three ED reduction methods and one control day with no ED reduction in random order over a four-week period. On the test day, subjects were fed either the standard meal or the same entrée, altered so that ED was reduced by 20% using one of the three different strategies. The reduction in fat content was accomplished by simply adding less fat to the main entrees served at breakfast lunch, and dinner. Increased fruit in the breakfast and increased vegetables added to the lunch and dinner entrees reduced ED 20% on the increased F&V day. And increased water was added to the main entrees, reducing ED by 20% compared to the control day. Entrée portion sizes were large enough so subjects could consume as much as desired of the test meals. Leftovers were weighed to determine precisely how much was consumed on each of the test meals. The average reduction in ad libitum energy intake was 396kcal, 308kcal, and 230kcal on the days the ED was reduced 20% via reduced fat, increased F&V, and increased added water, respectively. The average calorie intake was reduced by 15, 11, and 9% compared to the control day (with no ED reduction). The energy content of the manipulated entrees accounted for two thirds of total energy intake on the test days. While the spontaneous reduction in ad libitum calorie intake was significantly lower using all three strategies to reduce ED, it should be noted that the reduction in calorie intake was significantly greater with fat reduction than with either increased F&V or increased water content. It should also be noted that the subjects reported no differences in hunger or satiety ratings on all three days.

(continued on next page)
These three strategies are not mutually exclusive, so it is likely that using all three in combination would likely work even better than each one alone.

When ED was significantly reduced, suggesting that reducing ED may be an effective strategy for reducing calorie intake without any need to use willpower to try to overcome the increased hunger levels that accompany traditional calorie-restricted diet plans that involve subjects using willpower to restrain the amount of food eaten. [Williams RA, Roe LS, Rolls BJ. Comparison of three methods to reduce energy density. Effects on daily energy intake. Appetite 2013;66:75-83].

**Bottom Line:** While this study showed that reducing the amount of fat added to foods was the single most effective way to reduce ad libitum calorie intake, it is clear that all three strategies are effective. Furthermore, these three strategies are not mutually exclusive, so it is likely that using all three in combination would likely work even better than each one alone. A breakfast oatmeal entrée could have its ED reduced by increasing the amount of berries added to the oatmeal, increasing the amount of water used to cook the oatmeal, and by eliminating the added butter or margarine. It should also be noted that yet another strategy not used in this study but validated in others would be replacing calorie-dense brown sugar or maple syrup with Splenda or sugar-free maple syrup. This would further reduce the ED of this breakfast entrée.

*By James J. Kenney, PhD, FACN*
The 2013 ACC/AHA Guideline on the Treatment of Blood Cholesterol to Reduce Atherosclerotic Cardiovascular Risk in Adults released in November 2013 strongly states that lifestyle is the foundation for atherosclerotic cardiovascular disease (ASCVD) risk reduction. Adhering to a heart healthy diet, getting regular exercise, avoiding tobacco products, and maintaining a healthy weight are key strategies for everyone. Even with statin therapy, lifestyle changes in food choices and physical activity levels are the cornerstone of primary and secondary prevention of ASCVD.

With the advent of the new ASCVD risk calculator and the potential for a greater number of people to be placed on statin therapy, more people may be interested in learning how to lower low density lipoprotein cholesterol (LDL-C) levels and reduce risk with lifestyle changes to avoid medication.

The risk calculator includes four areas where diet plays a key role: total cholesterol, high density lipoprotein cholesterol (HDL-C), systolic blood pressure and diabetes. I suggest including gestational diabetes, pre-diabetes, and a family history of diabetes in the discussion. Although BMI is not included in the risk assessment calculator, a separate workgroup published guidelines on overweight and obesity as a part of the overall recommendations.

The specific dietary changes are not new information, but instead reflect the body of research currently available. Recommendations were derived from high-quality randomized trials, meta-analyses, and observational studies. They were not formulated when sufficient evidence was not available. There is insufficient evidence to support dietary changes to lower total cholesterol -- instead the emphasis is on lowering LDL-C. The cornerstone of dietary recommendations to lower both LDL-C and blood pressure is to consume a diet that emphasizes intake of vegetables, fruits and whole grains; includes low-fat dairy products, poultry, fish, legumes, non-tropical vegetable oils and nuts; and limited intake of sweets, sugar-sweetened beverages and red meats. In addition, specific recommendations that received the strongest level of support include:

- To lower LDL-C:
  - Follow established and well-known plans like the DASH diet, the USDA Food Pattern, or the AHA Diet to achieve the suggested dietary pattern.
  - A target of 5-6% of calories from saturated fat. Favorable effects on lipid profiles are greater when saturated fat is replaced by polyunsaturated fatty acids (PUFAs), followed by monounsaturated fatty acids (MUFAs), then whole grains.
  - Reduce trans fat intake.
  - To lower blood pressure:
  - Decrease sodium intake to 2400mg/day; further reduction to 1500mg/day is more helpful. A key is that some sodium reduction is beneficial, even if specific targets aren’t reached. The report recommends at a minimum reducing sodium intake by 1000mg/day.
  - These goals can be achieved with the DASH diet, combined with a decreased sodium intake.

Recommendations for physical activity encourage 3-4 moderate-to-vigorous intensity aerobic exercise sessions per week. The ‘some is better than none’ recommendation also applies to exercise and additional benefits occur as the...
amount of physical activity increases through higher intensity, greater frequency, and/or longer duration. The Physical Activity Toolkit, available at http://www.eatright.org/HealthProfessionals/content.aspx?id=6862#.UL5_R44j6TM is a comprehensive resource designed for registered dietitians (RDNs) to use with clients as part of the American College of Sports Medicine’s “Exercise is Medicine” campaign.

Specific recommendations from the overweight and obesity work group include:

- Use the current body mass index (BMI) cut point for overweight (BMI >25.0-29.9 kg/m²) and obesity (BMI ≥30 kg/m²) to identify adults who may be at elevated risk of cardiovascular disease (CVD), and the current cut point for obesity (BMI ≥30) to identify adults who may be at elevated risk of mortality from all causes.

- Advise overweight and obese adults that the greater the BMI, the greater the risk of CVD, type 2 diabetes, & all-cause mortality.

- Advise adults that the greater the waist circumference, the greater the risk of CVD, type 2 diabetes, and all-cause mortality. The cut points currently in common use (>35 inches for women and >40 inches for men) may continue to be used to identify patients who may be at increased risk until further evidence becomes available.

- Sustained weight loss of 3-5% of total body weight is likely to result in clinically meaningful reductions in triglycerides, blood glucose, and the risk of developing type 2 diabetes.

- Greater amounts of weight loss will reduce blood pressure, improve ASCVD risk, and reduce the need for medication to control blood pressure, blood glucose and lipids, as well as further reduce triglycerides and blood glucose.

No single weight loss plan is recommended, and instead the guidelines suggest using an individualized, comprehensive lifestyle management plan developed with a nutritional professional that can include any of the strategies below...

- 1,200–1,500 kcal/day for women and 1,500–1,800 kcal/day for men.

- 500 kcal/day or 750 kcal/day energy deficit.

Consider one of the evidence-based diets that restricts certain food types such as high-carbohydrate, low-fiber, or high-fat foods in order to create an energy deficit.

Lifestyle management programs of at least 6 months duration, conducted in-person or electronically, individually or in groups is strongly recommended, with additional 1 year follow-up for weight loss maintenance. The report lists strong evidence for advising adults with a BMI ≥40 or a BMI ≥35 with obesity-related comorbid conditions who have not responded to lifestyle management programs that bariatric surgery may be an option.

The report clearly states that adapting these recommendations to fit each person’s individual calorie requirements, personal and cultural food preferences, and medical nutrition therapy for other conditions is required. There is no ‘one-size-fits-all’ recommendation, which makes it imperative for each person to work with a RDN to develop the most appropriate and effective plan for their individual situation.

Since the report includes recommendations based only on the strongest scientific evidence available, there are several areas where additional research and investigation is warranted. RDNs can play an important role in gathering and publishing outcomes from our own practice to assist in this research. Some of the dietary areas where additional research is needed include:

- Interaction between dietary modifications and statin treatment.

- Relative effects of saturated fat, MOFA, PUFAs, trans fats, omega-3 fatty
• Increased understanding of racial/ethnic/socioeconomic factors that may influence diet assessment methods, adopting dietary recommendations, and the effect of these recommendations on weight, blood pressure, and lipids.
• Evaluation of the optimal frequency, duration, and delivery of lifestyle programs.
• Evaluation of strategies to promote continued weight loss past 6 months and maintenance of said loss.
• Evaluation of whether the risks and benefits of bariatric surgery are sustained over time.

Publication of the new ASCVD guidelines present an important opportunity for RDNs to take the lead in providing lifestyle change programs that meet each individual person’s need along with evaluating these programs. RDNs can also conduct research to further knowledge about best practices.

References:
Roasted Winter Vegetable Soup
Serves: 4 | Serving Size: 1 and 1/2 cups

1 butternut squash, halved and seeded, stem removed
1/2 onion
1 yellow bell pepper
2 carrots
4 cups low-sodium vegetable broth
1 cup fat-free half and half
Dash black pepper
Dash hot pepper sauce

Place the vegetables in a roasting pan and roast for 90 minutes at 325 degrees Fahrenheit.

Puree the roasted veggies with the broth and fat-free half and half in a blender. It will take a few batches to puree all of the veggies until smooth.

Place puree back on the stove and bring to a boil over low heat. Season with black pepper and a little hot pepper sauce (like Tabasco or Cholula). Serve immediately or refrigerate for later use.

Nutrition Information:

This recipe makes 4 servings. Each 1 and 1/2 cup serving contains 194 calories, 3 g fat, 1 g saturated fat, 0 g trans fat, 3 mg cholesterol, 166 mg sodium, 39 g carbohydrate, 8 g fiber, 11 g sugar, and 9 g protein.

Each serving also has 561% DV vitamin A, 200% DV vitamin C, 17% DV calcium, and 11% DV iron.

Chef’s Tips:

You’ll definitely want to show off this soup’s bright orange color and creamy texture, so put it in a mug or bowl that really shows it off.

I serve this in onion soup crocks with whole grain crackers and salad for a light lunch.

Nutrition Lesson:

Orange vegetables like butternut squash and carrots are loaded with vitamin A, which promotes eye health.
Rainbow Pasta Salad
_Serves: 6 | Serving Size: 1 and 1/4 cups_

- 3 cups cooked macaroni
- 1/2 cup red onion, chopped
- 2 cups tomato, chopped
- 1 cup red or green bell pepper, chopped
- 1 cup cooked black beans
- 1 cup cooked corn
- 1 Tbsp vinegar
- 1 tsp oil
- Black pepper to taste
- 2 tsp Italian seasoning

Combine all of the ingredients in a large mixing bowl. Refrigerate until ready to serve, up to 24 hours. If you'd like, you can garnish the dish with Parmesan cheese.

**Nutrition Information:**

Serves 6. Each 1 and 1/4 cup serving contains 278 calories, 3 g fat, 0 g saturated fat, 0 g trans fat, 0 mg cholesterol, 15 mg sodium, 54 g carbohydrate, 7 g dietary fiber, 3 g sugar, and 10 g protein.

Each serving also has 13% DV vitamin A, 48% DV vitamin C, 2% DV calcium, and 16% DV iron.

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**Chef's Tips:**

Don't have Italian seasoning mix? Make your own! Play around with dried rosemary, basil, oregano, garlic powder, and red pepper flakes until you have a combination that pleases your palate.

**Cooking Lesson:**

This is a great “planned over” dish that can use extra foods from other meals (boil extra pasta the next time you make it and use that as the base of this dish, for example) for a quick and healthful meal later in the week.

**Nutrition Lesson:**

Go for whole wheat pasta instead of traditional refined varieties and you will increase the fiber and nutrients in this already amazing dish!

Vegetables are high in nutrients and fiber, yet low in calories and fat. Many people detract from the overall benefits of salads by slathering them with dressings and cheese. Don’t do that. Instead, flavor salads with oil in sparing amounts, along with vinegar or lemon.
Food Trend Chronicles: Coconut Oil

Health gurus, tv doctors, and tons of blogs have all been abuzz with a new health food trend, rhapsodizing about the wonders of coconut oil. But is all this hype actually merited? After all, wasn’t coconut oil once touted as the evil ingredient in movie popcorn? What has changed? Anything?

**Just the Facts, Ma’am, Just the Facts**

Let’s take a look at the science first. Studies have been done to see whether coconut oil could be tool that would help people lose weight, repair brain damage caused by Alzheimer’s disease, and reduce their cholesterol levels, therefore reducing the risk of cardiovascular disease. Unfortunately, not one peer-reviewed study proved that coconut oil could live up to its reputation as a panacea for all that ails us.

**Coconut Oil: What’s In It?**

Coconut oil is mostly saturated fat – 92% saturated fat to be exact. Saturated fat is the main culprit when you’re looking for what produced the high blood cholesterol levels in the American diet. For comparison, 63% of the fat in butter is saturated. As far as the scientific community is concerned, not much has changed. Coconut oil does contain medium-chained fatty acids (MCTs), which are known to be easily digestible and not cause the same damage to the cardiovascular system as short and long-chained fatty acids. That said, coconut oil is not 100% MCT oil, a fact that the medical media folks have left out. The truth is that it may actually only contain 10% MCTs. And while MCT oil may increase HDL (good) cholesterol, it also raises LDL (bad) cholesterol at the same time, and any food that raises LDL should not be consumed in abundance.

**Coconut Oil: When To Try It**

Using coconut oil in cooking and baking is a good alternative for vegans and bakers who are looking for a substitute for lard or other solid vegetable oils; it has a mild, sweet flavor and is solid at room temperature. **But don’t be fooled by the hype: Replacing all of the fat in your diet with coconut oil will not benefit your brain, heart, or waistline.** The guideline still stands at keeping fat intake to 30% of your diet, and saturated fat to less than 7% of your total daily calories in order to keep your heart healthy. Variety is also key: There is no one “super food” with the ability to protect our bodies from disease. And in the case of coconut oil, the scientific fact remains that it should be consumed in small amounts on occasion, and not thought of as the wonder food to be eaten at every meal.

*By Beth Rosen, MS.*
Use MyPlate to Stock Your Kitchen

Fruits:
• Fresh fruit is nature’s best snack, complete with its own wrapper.
• Frozen fruits are especially delicious in baked desserts.
• Canned fruits, especially those canned in fruit juice, can add variety to your meals.
• Dried fruits add pizzazz to salads, rice, and pasta dishes.

Vegetables:
• Frozen vegetable medleys and chopped onion are great timesavers.
• Fresh vegetables like zucchini, broccoli, cauliflower, etc are easy to prepare. Look for store specials to get even more nutrients for your money.
• Canned tomatoes with no added salt but additional ingredients (with basil, fire-roasted, with peppers etc) are very convenient because they add many flavors from a single can.
• Pasta sauce, no-salt-added tomato sauce, and tomato paste are the workhorses of a heart-healthy kitchen.

Protein:
• Canned beans add tons of fiber and nutrients to every meal. Just give them a rinse and add them to whatever you’re cooking.
• Split peas and lentils cook quickly without needing any soaking time.
• Chicken, turkey, and fish all freeze well, so stock up on store specials. Be sure to choose lean poultry!
• Veggie burgers make quick, heart-healthy meals.

Grains:
• Instant brown rice is a whole grain that cooks in only 5-10 minutes. Save money by making large batches of brown rice and freezing it in small portions that you can use later.
• Small pastas like macaroni, rotelle, penne, rotini, and mini shells all cook quickly in the skillet or microwave as part of “one pot” meals. Often they don’t need to be boiled and drained first.

Dairy:
• Nonfat plain yogurt makes a great topping.
• Nonfat vanilla yogurt is perfect as a salad dressing for sweet salads (made with a combination of fruits and veggies) or as a dessert sauce.
• Fat-free or low-fat grated cheeses offer healthful alternatives to full-fat cheese. For best results, only bake or microwave these cheeses briefly -- they can become tough when they’re cooked for too long.
• A little bit of Parmesan cheese goes a long way, packing tons of flavor into a relatively small serving.
10 Common Health and Fitness Mistakes

Mistake management can be tricky. Stop mistakes before they start by sidestepping these common health and fitness errors. And if you do make a mistake, do your best to learn from it and get back to your goals right away.

**Skipping meals:** Breakfast jump starts your metabolism. Avoiding lunch or dinner can cause calorie-loading late at night, when your body is slowing down. Eat sensibly, with three balanced meals and at least two snacks daily. It will help you maintain a healthy body weight.

**Avoiding gluten:** While people with celiac disease or gluten sensitivities have to avoid gluten, many others banish gluten in the name of weight loss. This can lead to nutrient deficiencies. Think about it. Grains that contain gluten (like wheat, barley, rye, etc) also contain beneficial micronutrients like iron, magnesium, folate, and fiber.

**Eating huge snacks:** Keep snacks to between 150 and 200 calories. Large snacks may cause weight gain.

**Overdoing fiber:** Get fiber from real foods like whole grains, beans, legumes, nuts and seeds, fruits, and vegetables. Limit the processed inulin-fiber-enhanced products -- too much can stress your intestines.

**Focusing on the scale:** Skip the daily weigh in. Instead, focus on how your clothes fit. You can also measure the inches on your waistline instead of the pounds on the scale.

**Dining Out Instead of Cooking at Home:** Learn how to whip up simple and healthful meals. Dining out offers large portions and myriad temptations to overeat.

**Relying on Packaged Foods:** Although packaged meals can be calorie-controlled, encourage only occasional use of processed foods. Instead, foster a greater reliance on whole foods.

**Fasting or “cleansing”:** A three-day fast may be beneficial for some (as long as they are adequately hydrated), but what happens when it’s over? If people are juicing and getting nutrients in that way, that may be fine – but have a plan once the fast or cleanse is over. Without healthful habits, successful weight management is extremely difficult.

**Believing that the gym is only place to exercise:** Get moving wherever you are – physical activity counts anywhere. A bout of 10 minutes of stretch bands or 20 push-ups or even squats while you wash dishes – it all counts in the long run.

**Skimping on sleep:** Shut-eye is such an important part of your health routine. In fact, good sleep can help with weight loss. Try to aim for at least 7-9 hours every night.

In a perfect world, we’d live off the land. Imagine if we could all plant and grow our own fruits and vegetables, raise free-range chickens, and supply cattle with all of the fresh green grass their tummies could handle. However, the global industrialized food complex does not work that way. Since food must be mass-produced in order to feed everyone, we often rely on grocery store shelves and farmer’s markets for nourishment.

So, how can we eat wisely with this kind of food? Start by eating whole goods – fresh or frozen – whenever possible. The trick in navigating the myriad products in a typical grocery store is using information wisely.

Here are some useful tips for assessing anything in a bag, box, carton, or bottle:

• **Don’t be misled by health claims on packaging:** Investigate the Nutrition Facts panel and ingredient list. If there are more than five ingredients in the food, determine whether you know what the ingredients are, whether you can see them in the food, and whether you can pronounce their names. Are the first ingredients high-quality ingredients, derived from whole grains, fruits, vegetables, nuts, or seeds?

• **Look at the serving size first:** This will determine how much of each nutrient you’ll be getting in one serving. Remember, if you eat 2 or 3 servings of a food, you have to double or triple the amounts of fat, calories, etc!

• **Take a look at the saturated fat content:** Skip it if there’s more than 3 g per serving.

• **Pay attention to sugar:** There are a TON of forms of the sweet stuff: cane sugar, Florida crystals, honey, molasses, turbinado sugar, brown sugar, high fructose corn syrup, etc. These all act in the same way once they get into your system. Too much of any added sugars can cause weight gain and tax your pancreas by forcing it to secrete more insulin in order get the sugar into your cells. Remember, sugar has 15 calories in a teaspoon (4 grams). If a product contains 20 grams of sugar, it offers 5 teaspoons per serving!

• **Focus on fiber:** If there are 3 grams of fiber in a single serving of a food, that's great news! If there are 5 grams or more in a serving, that food is considered an “excellent” source of fiber. Fiber should come from plant foods. Think whole grains, beans, nuts, seeds, fruits, and vegetables.