Everyone wants to look and feel their very best, and losing excess weight, specifically extra body fat, can be an essential step towards reaching that goal. Whether you’re simply trying to shed a few pounds, or have some serious weight to lose, it all starts with the basics: eating well but less, moving more, and fine-tuning a plan to keep that weight off.

From a public health perspective, making strides against overweight and obesity is of paramount importance since they contribute to some of the major health problems we face in the U.S.: cardiovascular disease, diabetes, cancer, and the escalating health care costs associated with these conditions. Obesity, in fact, is an international public health concern, with the World Health Organization predicting that 1.5 billion people will be overweight by 2015. On a brighter note, a large scale survey reported in late 2011 that—for the first time in three years—more Americans are normal weight (36.6%) than overweight (35.8%). This slight and possibly short term decline in the nation’s obesity rate is in positive contrast to the rising levels seen throughout 2009 and 2010.

However, the majority of Americans, almost 62%, are still either overweight or obese. The obesity epidemic has stimulated a myriad of studies in an attempt to identify new drugs, lifestyle changes and dietary strategies that might enhance weight loss efforts or help curb weight regain.

This issue explores new research directions and findings, and offers some practical information to help you achieve and sustain healthy weight control.
New Research Directions: The Role of Brown Fat in Weight Control

For most people trying to slim down, body fat is simply something to reduce. But for scientists, fat is intriguing. Research has found, for example, that where fat is deposited and stored can affect chronic disease risk. Visceral or “deep” fat wraps around the inner organs, and those with an excess usually have a larger waist and abdomen. People who accumulate more abdominal fat are often referred to as “apple shaped” as opposed to “pear shaped”, in which fat is deposited on the hips and buttocks. Visceral fat is especially active hormonally, and is thought to play a larger role in insulin resistance. It raises the risk for diabetes, heart disease and stroke.

Brown Fat vs. White Fat

In addition to the location of fat in the body, scientists are also studying the effects of different types of fat, namely brown vs. white adipose (fat) tissue. Of the two types, white fat is much more abundant in the body. While it stores energy and produces hormones, white fat does not burn calories. Brown fat, in contrast, is much scarcer in adults, but it is present and can burn calories when stimulated. Infants and hibernating animals have brown fat stores, but up until recently its presence and activity in adults was highly debated. Brown adipose tissue can burn calories to generate heat in a process called thermogenesis, which helps regulate body temperature. Researchers are currently exploring whether brown fat with its thermogenic properties has a potential role in weight control.

Tapping into Brown Fat for Weight Control

Studies suggest that obese individuals have less brown fat mass and activity than do their lean counterparts. This coupled with a better understanding of how brown fat develops has encouraged the quest to find ways to increase the level of brown fat in the body, as well as activate existing brown fat. Experimentally, white fat cells (adipocytes) can be converted to brown adipocytes, but whether this “switch” can be triggered in humans is yet to be determined. The regulation of thermogenesis, and the ways in which cells develop into brown fat cells in the body is complex. However, scientists are gaining some insight into these processes.

Meanwhile, researchers have raised the question of whether cold temperatures could activate brown fat. Recent studies suggest that increased time spent in warm conditions may lead to a loss of brown fat tissue and reduced thermogenic capacity. However, it’s not known whether turning down the thermostat in winter, for example, would have any direct effects on fat levels.

Another avenue of research is whether diet can affect thermogenesis. It is known, for instance, that some nutrients such as caffeine and the flavonoid EGCG in green tea can modestly stimulate thermogenesis.

It’s too soon to know whether this exciting new area of research will prove useful in weight control. If it does, it’s unlikely to be a magic bullet since so many different factors affect weight gain—from food advertising to genetics. However, combined with a sound diet and exercise program, it could be a way to help people achieve more weight loss.

Higher Protein Breakfast Could Help Control Appetite in Teens

While everyone knows that eating breakfast is important, it’s estimated that 60% of teens regularly forego this meal. A new study examined the effects of normal and higher levels of protein at breakfast on brain activity among breakfast-skipping, overweight and obese teenage girls. Brain signals were monitored by magnetic resonance imaging, prior to lunch. The protein-rich breakfast led to reductions in brain signals associated with motivation and eating behaviors three hours after consuming the meal. The differences in brain signals before and after the breakfast correlated with lower perceived hunger and desire to eat.

Passing up breakfast has been associated with unhealthy snacking, overeating and weight gain. The study’s authors call
for further investigation to see whether these brain alterations actually reduce overeating later in the day. However, the findings do provide more evidence that a higher intake of protein at this meal can be a valuable strategy to help control appetite and regulate food intake.

**GNLD Solutions: GR² Control & Nourishake**

GNLD provides high quality protein supplements; GR² Control Meal Replacement Protein Shake provides 18 grams of biologically complete, high quality protein, plus 25 vitamins, minerals and other important nutritional factors in each serving. Nourishake is perfect for the entire family and provides 17 grams of protein and 500mg of the daily value of calcium when mixed in milk.

GNLD protein shakes provide all 22 amino acids involved in human nutrition, glycemic edge carbohydrates that provide lasting energy, and help meet your family’s nutritional needs to promote good health for a lifetime.

**CaLCium and Vitamin D Reported to Reduce Fat Tissue**

The potential role of calcium, vitamin D and dairy in weight management has been the subject of ongoing discussion in scientific circles. A relationship between dairy intake and weight reduction has been reported in many, though not all studies. Dairy proponents argue that the protein in dairy as well as the calcium, play a role. In fact, higher protein from a variety of sources has been associated with a greater feeling of fullness. Calcium appears to be important too.

A recent review of seven randomized trials indicated that calcium supplementation may promote weight loss to the tune of about 1.5 kg (3.3 lbs) yearly. They also noted that a daily dose of 1,000 mg was associated with a reduction in body fat of about 2.0 kg (4.4 lbs) over a year.

In a 2011 study, researchers at Massachusetts General Hospital Weight Center sought to determine whether calcium and vitamin D could have an effect on abdominal fat in 171 overweight and obese adults. During two, 16-week trial periods the participants received either regular or reduced calorie (lite) orange juice fortified with 350 mg of calcium and 100 IU of vitamin D three times daily. The control group received orange juice without the calcium and D.

Although no difference in weight loss was seen among the groups, imaging techniques revealed that those getting calcium and vitamin D lost significantly more visceral (abdominal) fat than those drinking the plain or lower calorie orange juice.

A reduction in abdominal fat is associated with a decreased risk of diabetes and cardiovascular disease, a meaningful benefit. In addition, achieving a good intake of calcium and vitamin D—as well as protein—should be part of any healthy weight management effort, to help support bone health and promote lean muscle mass.

**GNLD Solution: Cal-Mag**

GNLD’s Chelated Cal-Mag tablets with 1000 IU of vitamin D and Chelated Cal-Mag capsules with 400 IU of vitamin D both feature our exclusive double amino acid chelation, 2:1 ratio of calcium to magnesium, plus vitamin D₃ to help the body absorb these important nutrients.

**Low GI & Low Calorie Dense Diet Linked to Slimmer, Healthier Waistline**

There’s strong evidence that waist circumference is a good predictor of chronic diseases such as diabetes, cardiovascular diseases and cancer. According to imaging studies, adjusting that waist measurement by a person’s body mass index (giving a value called WC/BMI) is considered a good proxy for that person’s visceral fat tissue. Visceral fat is a more “dangerous” fat, and a larger waistline typically reflects the presence of greater visceral fat tissue.

A recent study reports that people consuming low glycemic index (GI) and low energy dense diets, may prevent gains in
visceral fat over time. (Energy dense diets are those filled with lots of calories packed into small amounts of food.) This study looked at nearly 49,000 men and women whose body measurements and dietary information were collected at baseline and 5½ years later. Participants whose diets were more energy-dense and higher GI, showed significant increases in their WC and BMI compared to those eating lower GI and lower energy dense diets over the study period. Among women, low fiber intake and higher alcohol consumption also predicted greater gains in WC and BMI with time.

Sleep is a Metabolically Active State

Lots of activity takes place while we’re asleep. Sleep influences glucose metabolism, and triggers or inhibits the release of various hormones. Lack of sleep has been shown to result in decreased glucose tolerance and insulin sensitivity, as well as increased concentrations of cortisol, the “fight or flight” hormone that can activate fat storage and trigger glucose release. Less sleep also increases levels of ghrelin which stimulates hunger, while depressing levels of leptin which tends to dampen appetite.

Researchers from the University of Chicago reviewed the scientific literature related to sleep and weight. They conclude that recent findings from population health studies and laboratory evidence support the association between sleep loss and increased risk of obesity.

If too little, or poor sleep are risk factors for developing obesity, people with a family history of type-2 diabetes may need to pay even closer attention to their sleep habits, according to the findings of another carefully conducted study from the same university. The study’s investigators looked at dietary patterns, daily activity levels, and the amount and quality of sleep in healthy adults with a parental history of type-2 diabetes.

Those who reported poorer sleep quality exhibited increased hunger, and more uncontrolled and emotional eating. These findings suggest that reduced sleep quality may be a sensitive indicator of problem eating patterns in people at high risk of type-2 diabetes.

A Good Night’s Sleep May Yield Weight Control Rewards

Americans’ sleep habits have changed over the past 50 years: we’re sleeping less. Researchers note that the decrease in average sleep duration in the U.S. has occurred over the same time period as the rise in the prevalence of obesity and diabetes.

- Analyses of national data found that more adults reported sleeping six hours or less in 2004 than in 1985.
- Today, more than 30% of adults 30-64 years of age report sleeping less than six hours per night.
Why is it that some people who have lost weight keep it off, while others gain it back? To understand more about ‘successful losers’, researchers from Brown University and the University of Colorado established The National Weight Control Registry (NWCR) in 1994. The NWCR is the largest prospective investigation of long-term successful weight loss maintenance, tracking over 10,000 individuals.

What they’ve found is that weight regain is not inevitable. In their latest analysis of 3,000 members who have participated in the registry for a decade\(^1\), NWCR researchers noted that, while some regain is typical, almost all of the participants maintained a substantial loss even after 10 years—an average of 52 lbs. at five years, and a 51 lb. loss at 10 years.

What emerged is that successful losers usually:

- Track their food intake
- Follow a weight-loss program or count calories
- Eat breakfast regularly
- Follow a low calorie, low fat diet, taking in about 1,800 calories or less daily
- Limit their dining out—on average, three times weekly (fast food less than once a week)
- Eat similar foods regularly, and don’t splurge much on holidays
- Weigh themselves at least weekly
- Watch less than 10 hours of TV per week (the national average is 28 hours)

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**CHOOSING SMART SNACKS**

Many people avoid snacks, fearing that they’ll contribute to weight gain. But choosing a healthy, low calorie snack can actually help control appetite. Mid-morning or afternoon snacks can keep hunger at bay so you’re less likely to overeat at the next meal. They also boost energy levels and concentration.

So, how do you curb afternoon hunger without getting too many calories?

Go for almonds or walnuts—they offer heart-healthy fats and fill you up fast. One ounce of nuts is a calorie-reasonable amount.

Try low-fat plain yogurt topped with fresh fruit—protein, calcium, friendly probiotics, plus prebiotics and fiber from fruit. A nutritious combination.

Crisp apple slices with low fat cheese—a satisfying and good way to increase your fiber, calcium, and, protein intake.

Combine a few whole grain crackers and low-fat cheese—just make sure the crackers don’t contain trans-fatty acids.

Dip carrot sticks into hummus—keep hummus to about ½ cup to limit calories.

Munch on a cup of unshelled edamame—for variety, try soybeans in their pods. They’re a fun-to-eat source of protein.

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**Keys to Maintaining Weight Loss**

**A Little Planning & Lots of Vigilance**

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The NWCR investigators have also discovered that:

- 90% of successful losers average about an hour of exercise daily, underscoring the importance of making time to be active.

- A key safety zone for weight maintenance is about five pounds. That is, if people regain five pounds, they need to put on the brakes and get back to a better eating and activity plan.

The take-home message from this ongoing research is that constant vigilance about what you eat and how much is important. So is staying active and keeping track of your weight so you can regroup if the scale starts to creep upward.

Tips for Taming Portion Sizes

It’s been dubbed portion distortion. In our “supersized” world of 32 oz. soda servings and double-patty bacon cheeseburgers, food portions have become out of control for many.

One simple way to start controlling the portions you eat is to shrink the size of your plate. The dinner plates typically used at home and in restaurants are 10-12" in diameter—much larger than those used several decades ago. Use an 8" plate and follow these proportions:

- Fill 1/2 the plate with fruits and vegetables.
- Whole grains should take up another ¼ of the plate.
- Fish, lean meat, poultry or other protein sources make up the remaining ¼.

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