

METABOLISM AND WEIGHT LOSS: HOW YOU BURN CALORIES

We hear a lot about metabolism – and often blame our “slow metabolism” for our inability to keep our weight under control. But what is metabolism, exactly? And is there anything we can do to change our metabolic rate? Find out how metabolism burns calories, how it affects your weight and ways you can burn more calories for greater weight loss.

You likely know your metabolism is linked to your weight. But do you know how?

Common belief holds that a slim person's metabolism is high and an overweight person's metabolism is low. But this isn't usually the case. Weight isn't necessarily directly linked to metabolism.

Instead, weight is dependent on the balance of total calories consumed versus total calories burned. Take in more calories than your body needs, and you gain weight. Take in less and you lose weight. Metabolism, then, is the engine that burns these calories.

Metabolism: Converting Food into Energy

Metabolism basically refers to all the chemical processes that take place in the body in order to sustain life – allowing you to breathe, pump blood, keep your brain functioning and extract energy from your food. Metabolism is also the process by which your body converts food into energy. During this complex biochemical process, calories – from carbohydrates, fats and proteins – are combined with oxygen to release the energy your body needs to function

When you hear the term *metabolic rate*—more accurately called *basal* (or *resting*) *metabolic rate*—that refers to the number of calories your body at rest uses each day, just to keep all your vital organs functioning.

You burn additional calories through your daily activities and formal exercise, but by far, the majority of the calories that you burn each day are your basal calories.

The number of calories your body burns each day is called your total energy expenditure. The following three factors make up your total energy expenditure:

- **Basic needs.** Even when your body is at rest, it requires energy for the basics, such as fuel for organs, breathing, circulating blood, adjusting hormone levels, plus growing and repairing cells. Calories expended to cover these basic functions are your basal metabolic rate (BMR). Typically, a person's BMR is the largest portion of energy use, representing two-thirds to three-quarters of the calories used each day. Energy needs for these basic functions stay fairly consistent and aren't easily changed.
- **Food processing.** Digesting, absorbing, transporting and storing the food you consume also takes calories. This accounts for about 10 percent of the calories used each day. For the most part, your body's energy requirement to process food stays relatively steady and isn't easily changed.
- **Physical activity.** Physical activity – such as playing tennis, walking to the store, chasing after the dog and any other movement – accounts for the remainder of calories used. You control the number of calories burned depending on the frequency, duration and intensity of your activities.

Metabolism and your Weight

It may seem logical to think that significant weight gain or being overweight is related to a low metabolism or possibly even a condition such as underactive thyroid gland (hypothyroidism). In reality, it's very uncommon for excess weight to be related to a low metabolism. And most people who are overweight don't have an underlying condition, such as hypothyroidism. However, a medical evaluation can determine whether a medical condition could be influencing your weight.

Weight gain is more likely due to an energy imbalance — consuming more calories than your body burns. To lose weight, then, you need to create an energy deficit by eating fewer calories, increasing the number of calories you burn through physical activity, or preferably both.

Influences on your Calorie Needs

If you and everyone else were physically and functionally identical, it would be easy to determine the standard energy needs. But many factors influence calorie requirements, including body size and composition, age, and sex.

- **Body size and composition.** To function properly, a bigger body mass requires more energy (more calories) than does a smaller body mass. Also, muscle burns more calories than fat does. So the more muscle you have in relation to fat, the higher your basal metabolic rate.
- **Age.** As you get older, the amount of muscle tends to decrease and fat accounts for more of your weight. Metabolism also slows naturally with age. Together these changes reduce your calorie needs.
- **Sex.** Men usually have less body fat and more muscle than do women of the same age and weight. This is why men generally have a higher basal metabolic rate and burn more calories than women do.

The number of calories that you burn every day is directly related to your body composition. Think of your body as divided into two compartments. In one compartment is all the body fat; in the other compartment is everything that isn't fat (e.g., bone, fluid, tissue, muscle)—that's the fat-free compartment. The size of your fat-free compartment determines your metabolic rate, with every pound of fat-free mass burning about 14 calories per day.

If you weigh 150 pounds and 50 pounds of you is fat and 100 pounds is fat-free, then you would burn about 1,400 calories per day at rest. If you don't get much activity, you won't burn much more than this throughout the day. But if you weigh 150 pounds and 25 pounds of you is fat, and 125 pounds of you is fat free, then you burn 1,750 calories per day at rest. And if you get some regular exercise and burn a few hundred calories more per day, your total calorie burn for the day might be 2,000 calories!

Since the fat-free compartment contains muscle tissue, one of the best things you can do to boost your metabolic rate is to strength-train to increase your muscle mass. If you build up 10 pounds of lean body mass, that's another 140 extra calories that you burn per day—not to mention the calories that you burn through exercise.

INCREASE YOUR METABOLISM: 15 HOT TIPS TO GET YOUR FURNACE BURNING

1. Eat enough

Eating a healthy diet is the first step on the road to increase your metabolism. It's extremely common for people on diets to eat too little. Dropping your calorie intake below 1,000 calories a day will signal to your body that you are in starvation mode, and will slow down your metabolism. You will lose weight to start, but your body is smarter than you. Way smarter. It will start thinking, "this crazy kid is simply not eating enough to survive, I'm going to drop his/her metabolism, so he/she doesn't burn as much during the day and can survive off this ridiculously small amount he/she is eating". Bottom line, starvation won't work as a diet, your body will make sure you don't burn too much and die. Cut down your calories a little, and exercise more.

2. Eat more frequently

Learning how to eat and what to eat will also improve your metabolism and correct many health problems people have, for example, indigestion. So you have heard you are supposed to eat small, frequent meals, but why? Part of it has to do with the absorption of food. Your body can only properly digest and absorb small amounts of food at a time. This is necessary in order to get all of the nutrients out of the food you eat and to minimize any deficiencies. Eating regularly allows your body to maintain energy levels and will prevent your metabolism from slowing down in order to conserve energy. Every time you skip a meal your metabolism will slow down. This is done as a precaution to prevent starvation. Also you will keep from getting hungry and eating anything and everything in sight.

Now depending on your daily life; when you wake up, go to bed, your workout routine and your goals; you may need to eat 5-7 times per day. For most people eating 5 times a day will be sufficient. Don't let yourself get too hungry in between meals. By getting food into your body regularly, you keep your metabolism firing, and leave your body in a much better state to burn some energy for you. The best way to do this is to plan your meals a week or so in advance, until you are able to get into the habit of eating 5-6 times a day.

3. Eat Breakfast

This is a simple one, but is still not being done in a lot of cases. If you are someone who thinks skipping breakfast will help you lose weight, think again! Studies show that eating breakfast helps weight loss and is associated with better weight control. An ongoing study of people who have maintained weight loss of at least 30 pounds for more than a year shows that eating breakfast keeps people slimmer (National Weight Control Registry). Breakfast eaters tend to eat fewer calories, less saturated fat and cholesterol and have better overall nutritional status than breakfast skippers. Eating breakfast every day may reduce the risk for obesity and insulin resistance syndrome - an early sign of developing diabetes - by as much as 35 to 50 percent, according to a study presented at a recent American Heart Association conference. By getting something in early in the day, i.e. when you wake up, you are kick starting your body. Getting your metabolism going ASAP makes sense. You will burn more fuel if your metabolism is up and running early. Your body is most tolerant to glucose in the morning, so you can get a fair bit of carbs into you. In fact, get almost anything into you (OK not anything...), just eat something in the morning. You have been in starvation mode all night, and need some fuel in right away to

get your body firing. Not only will this get your metabolism going, you will find that later in the day you aren't as hungry and won't make terrible food choices, or pig out as much.

Never skip breakfast! If you've just slept for eight hours, your body has been deprived of food for a long period of time. Your body will respond by going into "starvation" mode unless given proper fuel. Just be sure to choose your breakfast foods wisely! A doughnut and coffee is not the best choice.

Breakfast is the most important meal of the day because it jump starts your metabolism by breaking the fast that your body has been going through while you have been sleeping. Make sure breakfast and lunch are your biggest healthiest meals of the day, with dinner being very light. Also only eat protein and complex carbs for breakfast and lunch and leave them out for dinner. Make sure you are eating complete meals, consisting of good fats, protein, and carbohydrates. Doing so will insure proper digestion, absorption, and nutrition. Stay away from processed carbohydrate, saturated and trans fats. These will cause hormone imbalances and increase Insulin resistance which you are trying to correct.

"No time for breakfast" is no excuse - Time is at a premium for most of us. Nevertheless, it pays to make time for what may be the most important meal of the day. Your health is worth the time!

4. Eat more Protein

Resting metabolic rate typically increases as much as two to three times more after eating proteins versus carbohydrates and fats. Complex, high-fiber carbohydrates -- like high-fiber vegetables and cereals, however -- burn more calories than simple carbohydrates. You can increase the thermic effect on metabolism by focusing on quality protein, high-fiber fruits and vegetables, with an occasional high-fiber grain.

Your daily calorie intake should only include 10% of carbohydrates and sugar. A good diet to increase the metabolic rate is that which is less in sugar and simple carbohydrates and rich in complex carbohydrates. This is because a diet rich in complex carbohydrates is low in calories and fat and has a large amount of vital nutrients.

Eating more protein has lots more benefits than just metabolism. Protein is a muscle builder, you need it to grow. Lean protein is even better for that, more good stuff for fewer calories. Your body takes a bit more work to burn this stuff too. So, if you don't get enough protein in, start eating! For both physiological and psychological reasons, and to avoid food cravings, eat proteins every 3 or 4 waking hours.

5. Eat more Fiber

Same principle as above. Foods high in fiber are also foods which your body must work harder at digesting and processing. This is why fruits and vegetables, particularly raw ones, help boost your metabolism. Your body must work hard to extract the vitamins and nutrition from the fiber substance of those foods, so it's spending more energy in the form of calories to do so. Some people even believe there are foods you can eat which will take more energy for your body to digest than the food contains in calories to begin with. Celery for instance, or raw broccoli, are said to take more calories for your body to digest than those foods actually contain. These are often referred to as negative calorie foods.

So what is a negative calorie food and how does it work?

It's not a food that has a negative amount of calories because all foods have calories; there is just no way around that fact. What is known is that there are many foods that actually cause a caloric deficit because of the amount of energy it takes to the body to digest and process these foods. It takes more energy to digest a nutrient rich food than food itself contains.

Here's a simplistic snapshot of how this works. Let's say you eat a piece of chocolate cake that comes in around 300 calories. Your body uses up 125 calories digesting that piece of cake leaving 175 calories that for the most part is stored as fat. Now let's see what happens when you eat an apple that has 35 calories. If it takes your body 70 calories to digest that apple you've just burned an extra 35 calories simply by eating. Besides, fiber is also wonderful for your digestive system and keeps you regular.

6. Weight Train

Resistance training increases your metabolism by causing you to develop muscle. Muscle is what uses up the majority of your Calories. Weight training is the ultimate exercise for firing up your metabolism. The more intense your exercise and the more muscles you get involved, the better metabolism increase you will get. Weight training is intense, you are pushing heavy weights around, and you will get a good post workout increase in metabolism and burn for much longer.

After a resistance workout your metabolism can be raised around 10-15% for 10-15 hours, with some studies claiming up to 48 hours of increased metabolism. This is in addition to the hundreds of Calories you burned during your workout. The reason for this increase in metabolism following a workout is due to the fact your body needs to recover. A lot of Calories are needed to recover all of your major systems including your cardiovascular, muscular, skeletal, nervous, and respiratory systems. A certified personal trainer will show you how to safely and efficiently workout by designing a program specifically tailored to your needs and ability level.

Resistance training will help to improve insulin resistance by making muscles more sensitive to Insulin, thus allowing more glucose (blood sugar) into cells to be used as energy instead of being stored as fat. Resistance training positively influences the hormones Leptin, Cortisol, and Growth Hormone. The balancing of your hormones from resistance training helps to reduce cravings, sleep deeper, and decrease stress. Get on it.

Build Muscles

Lean muscle tissue burns calories even at rest. The more muscle one has, the more calories are being burned on a daily basis for a smokin' metabolism. Did you know that one pound of muscle burns 35-50 Calories per day? If you were to put on 10 pounds of muscle you would burn an extra 400 Calories per day. In about 9 days you will burn an extra pound of fat (3500 Calories equals one pound of body fat) assuming nothing else changed.

The more muscle mass you have the higher your metabolism will be. Simple. Work Your Legs: Leg Weights are important for overall muscle balance, and do need to be done for many reasons other than speeding up your metabolism. However, it's just another added benefit. Legs are often neglected; it's the biceps that are overworked. Your legs have a big muscle mass, if you work this mass, you will burn more energy, and thus, increase your metabolism post workout. If you don't care about how muscly your legs are, at least chuck a few leg exercises in there to get your body working harder during your weights session.

7. Do more Higher Intensity Cardio

Cardiovascular training is also another way to increase your metabolism. As with resistance training, cardio will also increase your metabolism after you finish your workout. The difference is it will only increase your metabolism for 2-3 hours. The length of time your metabolism is increased and the amount is dependent on your intensity levels. With cardio exercise your body does not have to recover to the same extent as when you are doing resistance training. Cardio also helps to regulate hormones and improve Insulin resistance.

Getting on the treadmill for 30 mins at a slow pace is OK. But there are better options. Doing some intense work will burn more calories, and leave you with a better post work out metabolism boost than a long slow cardio session. A 10 minute bike interval session would be much more beneficial than a slow 30 minutes session. It's the post workout boost that is the key, as with weight training, the more intense you work, the longer and stronger your increase will be and the more you will burn whilst you aren't even active.

Lean muscle tissue burns calories even at rest. The more muscle one has, the more calories are being burned on a daily basis for a smokin' metabolism.

8. Get Your Antioxidants – Get your B's and C's

Don't forget about the important role that proper nutrition plays in achieving an active lifestyle. Since exercise can increase the formation of free radicals, it's always good to have some extra protection.

Most people don't realize it, but many vitamins actually have astounding affects on your metabolism. This in turn makes it easier for you to burn more calories in a shorter space of time, even when you are sitting down doing nothing! By simply including the right vitamins that boost your metabolism as part of your balanced diet, you can be losing more fat quickly, naturally and permanently - without even realizing it! Antioxidants, such as Vitamin C and beta-carotene, may play a role in preventing cellular injury and delaying muscle fatigue. Try to get at least five servings of fruits and vegetables a day, as they are packed with powerful antioxidants. Get enough B vitamins. Among supplements, if you are suffering from flagging energy, you need to make sure that you are getting enough B vitamins. Vitamin B-12 in particular is one that is essential for energy. B vitamins are key players in DNA synthesis, the central nervous system, metabolism of carbohydrates, fats and protein and energy production. These are the metabolism - boosting vitamins that you need to include:

- **Vitamin B1 (thiamine)** - helps to digest carbohydrates, such as potatoes, bread and rice
- **Vitamin B2 (riboflavin)** - helps with the digestion of all foods
- **Vitamin B3 (niacin)** - helps to metabolize (digest) food, and speeds up the action of your digestive system
- **Vitamin B6 (pyridoxine)** - aids in the metabolism of proteins
- **Vitamin B12** - assists in the burning of proteins, fats and carbohydrates. Also helps in the release of energy (an instant metabolism booster!)

All these vitamins above help boost the activity of your digestive system, increasing the blood flow around your body and causing a big raise in your metabolism. Inadequate amounts of B6, B12, folate, thiamin and niacin can leave you feeling depressed and fatigued, slow the body's metabolism and increase your risk for chronic diseases. Get the bulk of your B's from food, where they pair up with other vitamins and minerals for a complete synergy of action. Foods high in the B's include: spinach, asparagus, beans (navy, soy, black beans), melon, broccoli, fish, poultry and eggs. To ensure you're getting enough B vitamins – Take supplements. Make sure your daily supplement incorporates B-Vitamins and in particular B-12.

9. Avoid Alcohol

That's right - stay off the booze! Alcohol is bad for your metabolism. It acts against it and will slow it down. Although certainly not the most fun part of increasing your metabolism, cutting down your alcohol intake will help as much as anything. Studies show that alcohol suppresses the body's ability to burn fat. It may be hard to completely cut alcohol out of an active social life,

so why not try limiting yourself to one drink a night. If you make it a high-volume, low-alcohol drink (a lite beer for example), you might find it easier to get through the evening! Avoid drinking it too regularly.

10. Increase Incidental Physical Activity

This is an important one. Being active will automatically give you a short term boost to your metabolism. Adding some extra things into the day that you hardly realize can add up. For example, make your bed in the morning, park your car a little further away than normal, take the stairs occasionally, get up from your desk frequently if possible. Just by simply being more active during the day, which is called incidental activity, you will get an increase in your metabolism.

11. Get More Sleep

The next thing you can do is to get some rest. 7-8 hours is still the recommended amount of sleep that adults need. Yet you say “I can function fine off of 5 hours, why would I need more?” Good question, the reason has to do with how sleep helps to regulate your hormones. Cortisol is a hormone commonly associated with stress. Cortisol levels should normally decrease in the evening as you begin to prepare for bed. People with chronic sleep deprivation have elevated evening Cortisol levels, leading to Insulin resistance.

Another hormone, Leptin, signals your brain when you are full. Here is how getting 8 hours is essential; Leptin gets released primarily during the REM stage of sleep. The majority of REM occurs after 3 complete cycles of sleep, each taking about 2 hours (6 hours total). Sleep deprivation leads to lower levels of circulating Leptin, causing you to be hungrier in the morning. Studies have shown an increase in cravings for carbohydrates when Leptin levels are lowered due to sleep deprivation; so if you constantly crave carbs then take a closer look at the amount of sleep you get.

Lastly, when you do not get enough sleep your body will not metabolize glucose as effectively and eventually will become Insulin resistant. Insulin is a hormone that helps glucose enter into the cells to be used as energy. When you become Insulin resistant your body no longer uses the insulin and your glucose levels stay elevated. Insulin resistance is extremely important because people who are Insulin resistant are more likely to develop Type II diabetes. They also tend to have high blood pressure, high cholesterol, high triglycerides, and excess fat around the waist. Getting more sleep is one way to prevent or reverse the damage done to your metabolism.

12. Drink More Water

The other essential component in the metabolic process is water. Water helps break down many of the nutrients and calories found in food, and speeds up the metabolic process. Drinking plenty of water gives your body the fluid it needs to break down nutrients and expend calories faster. Make sure to supply your body with enough water; drink two glasses of water every meal, and quench your thirst with plenty of water.

The majority of people are chronically dehydrated. Your metabolism slows down whenever you are dehydrated. Improving your hydration status will help boost your metabolism, reduce joint pain, and even reduce daytime fatigue. Proper hydration can improve your metabolism by as much as 5%. A 5% increase can yield almost 10 pounds of weight loss per year. Drinking the standard eight 8 ounce glasses of water a day is a good place to start. As you become more active it may be necessary to add an additional 4 glasses. Do not count the water you drink while working out. Also as you become properly hydrated you will begin to lose water weight because your body will no longer have to retain water. The benefits of drinking water are vast and you'll find that you can improve your energy simply by increasing your fluid intake.

13. Drink Green Tea

Drinking green tea have been said to temporarily increase your metabolism. One of the most talked about metabolism boosting drinks has been in use for centuries is green tea. People have been making claims on the benefits of green tea for centuries. Green tea has long been touted for lowering one's cholesterol levels, improving immune system function, alleviating symptoms of arthritis, preventing cardiovascular disease, and even warding off the big C - cancer. An increasing number of scientific studies are all suggesting that it's true. Amongst the benefits of consuming green tea is its metabolism boosting effect. Green tea regulates blood sugar levels by reducing the amount of insulin produced. This prevents fat being stored and keeps your appetite under control. A 1999 study showed that Green Tea extract resulted in a significant increase in energy expenditure. EGCG, the main polyphenol in green tea, is an effective thermogenic which increases the metabolism of fat. This is not just a result of the caffeine in the tea, because those who lose weight on Green Tea lose more than those who were given caffeine alone.

So drink up! Some scientists say two cups a day is enough, while others maintain that you have to drink as many as ten to achieve the full benefits. The truth is probably somewhere in the middle, and four or five is probably enough for most people. The results are even more dramatic when you begin to add several cups of Green Tea in your daily routine.

14. Spice Up Your Meals - Eat Black Pepper, Ginger, Chilli Peppers

Spicy food doesn't just taste great, it actually increases your metabolism too. Spicy foods contain chemical compounds that kick the metabolism into high gear. Eating a tablespoon of chopped red or green chili pepper can temporarily boost your metabolic rate by 23 percent. Some studies suggest the effect only lasts about half an hour, but if you eat spicy foods often, the benefits may add up. For a quick boost, spice up pasta dishes, chili, and stews with red-pepper flakes. Black Pepper, Ginger and Chilli Peppers all raise your body temperature and help you burn fat faster! Careful though - the curries you find in restaurants are often oily and fatty, so cooking your own spicy food is always best.

15. Detoxification

The build-up or toxins in the body can limit your ability to burn fat and slow down your metabolic rate, so it is important to frequently cleanse and detoxify the body.

By working out, sleeping more, drinking water, and eating better you will increase your metabolism, boost your energy, and decrease your waistline. Be sure to take in the required amounts of vitamins and minerals. You will not only boost your metabolism, but your focus, attitude and overall quality of life. These are natural, safe ways to increase your metabolism. You can do all of these things today. Here's how to get started... begin with breakfast then go for a run, have a snack after and then lunch. Then have another snack and do some resistance training. Follow that with a good dinner and a good night's rest, and all day long keep drinking water. Before you know it, your metabolism has increased and so has your self-confidence.

Breakfast Excuse Busters

We have heard why eating a good breakfast is so important to our health, well-being, and weight loss efforts. You know how mom used to always say that breakfast is the most important meal of the day? Well, guess what? She was right! Mom knows best when it comes to realizing that breakfast is the fuel that keeps us running throughout the day. So, why do we tend to skip this all-important meal? What are the solutions to the issues that stand between a healthy morning meal and us?

1. Breakfast Bum Excuse: "I need my sleep!"

You're Busted!: Surrender the Snooze Button

If you're anything like me, you'd prefer to sleep a little later rather than get up in time to prepare a meal in the wee small hours. When you're not a morning person, it's hard to resist that snooze button, but it will pay off more than those 10 blissful moments of laziness. In time, you'll find that working in a good breakfast will give you much more energy to face the day than spending a few more moments under the covers ever could!

2. Breakfast Bum Excuse: "The munchkins make it impossible!"

You're Busted!: Make it a Priority

Maybe it's so hectic getting the kids off, you just can't seem to find the time to put anything together? It's easy to settle for Pop Tarts or doughnuts for the kids, but the whole family will benefit from a better breakfast. Studies show that children perform better in school when they've eaten a healthy breakfast. Plan your family's breakfasts the night before and re-assess your morning schedule and tasks so you can make meal preparation a priority. Don't forget to partake yourself -- children who see their parents eat breakfast are more likely to eat it themselves.

3. Breakfast Bum Excuse: "I get hungrier sooner when I eat breakfast!"

You're Busted!: Give your Breakfast a Protein Punch

Lots of typical breakfast foods are comprised of simple carbohydrates: white bread for toast, many cereals (especially kids' brands), regular bagels, etc. Simple carbs send your blood sugar through the roof because they are so easily digested. When your blood sugar comes back Examples: spread peanut butter onto fruit or whole wheat toast; choose a whole wheat bagel and pair it up with some cottage cheese; eat yogurt with your Nutrigrain bar.

4. Breakfast Bum Excuse: "I'm running late... every day!"

You're Busted!: You can Take it with You

So you say you're too busy to sit down and eat in the a.m. rush? Nowadays, there are a lot of healthy portable breakfast options that you can easily eat on way to work or pack up and eat once you get to work or school. Mind you, none of them involve passing through the fast food drive-thru! Biscuits may be cheap, filling, and convenient, but they are any waist-watcher's enemy! If you find yourself having to grab something at an eatery, choose a plain bagel, hotcakes without butter and lite syrup, or an English muffin.

5. Breakfast Bum Excuse: "But I don't like breakfast foods."

You're Busted!: Break the Breakfast Rules

I hear you. I'm not a big breakfast food fan either. But whoever said you had to eat breakfast, to, er, eat breakfast? You can eat anything you want! For example, peanut butter on a slice of wheat bread, fat free milk, and a piece of fruit will do the trick. The important part about breakfast is eating something and eating healthily, not forcing yourself to eat eggs or cereal. If you don't fancy the usual fare, that's no reason to forgo a.m. eating altogether.

6. Breakfast Bum Excuse: "But I'm trying to lose weight!"

You're Busted!: What a Lousy Way to Lose!

If you've been taking the meal-skipping approach to losing weight, I'll bet you're getting pretty frustrated. Think doing without breakfast is going to cut enough calories to lead to permanent weight loss? Actually, you may be setting yourself up for weight gain. Chances are this is going to backfire on you, because skipping meals at any time of the day often leads to over-eating. Plus, as we mentioned earlier, skipping breakfast doesn't do your metabolism any favors.

CALORIE BURNERS: ACTIVITIES THAT TURN UP THE HEAT

By: Susan Bowerman, M.S., R.D., C.S.S.D.

When it comes to burning calories, most of us want to get as much mileage out of our exercise as possible. For many, the more calories we burn, the better we feel about our workout. While energy expenditure should not be the only measure of a good workout (remember: it's good for you and it makes you feel better too!), it is helpful to know what a given activity might be costing you in terms of calories.

A word of caution, though, about counting calories: Simply burning more calories will take you only so far down the road to better health. A well-balanced, low-fat diet, plenty of rest and a healthy attitude are also essential. And, of course, all things in moderation—including exercise.

READING THE CHART:

The numbers of the chart below correspond to how many calories individuals burn per hour during different activities. There are a few things you should keep in mind as you review this chart. With exercise, it really is true that you get out of it what you put into it. Simply showing up for class and going through the motions is not going to do you much good. To get the most out of your exercise session, give it your all, even if your all is less than what others might be doing. And don't forget to look for little ways to increase the number of calories you burn each day. You might be surprised to learn that it is possible to burn more calories simply by becoming more active in your everyday life. Doing things like using the stairs, walking to the mailbox instead of driving, and doing active chores around the house are great ways to burn additional calories.

Calorie-Burning Activity Chart

As an example for how to use this chart, look up how many calories you're burning by engaging in different activities. The more active the exercise, the more calories you burn.

*Calories burned per hour will be higher for persons who weigh more than 154 pounds (70 kg), and lower for persons who weigh less.

MODERATE PHYSICAL ACTIVITY APPROXIMATE Cal/h FOR A 154-POUND PERSON*

Hiking 370
Light gardening/yard work 330
Dancing 330
Golf (walking and carrying clubs) 330
Bicycling (<10 mph) 290
Walking (3.5 mph) 280
Weight lifting (general light workout) 220
Stretching 180

VIGOROUS PHYSICAL ACTIVITY APPROXIMATE Cal/h FOR A 154-POUND PERSON*

Running/jogging (5 mph) 590
Bicycling (>10 mph) 590
Swimming (slow freestyle laps) 510
Aerobics 480
Walking (4.5 mph) 460
Heavy yard work (chopping wood) 440
Weight lifting (vigorous effort) 440
Basketball (vigorous) 440

*Calories burned per hour will be higher for persons who weigh more than 154 pounds (70 kg), and lower for persons who weigh less. Adapted from: *Dietary Guidelines for Americans 2005*.

How Much Does It Take To Burn It Off?

Many people tend to overestimate the calories burned through exercise, and assume that a little exercise will burn off the calories in any indulgence. The chart below gives the calories in various foods, and the amount and type of exercise needed to burn off those calories.

| FOOD | AMOUNT | CALORIES | TO BURN IT OFF... |
|------------------------------------|--------------------------------|----------|-----------------------------------|
| Chocolate drop | 1 drop | 25 | 6 minutes of walking |
| Microwave popcorn | 4 cups | 140 | 20 minutes of biking |
| Potato skins with cheese and bacon | 1 serving | 1,100 | 187 minutes of dancing |
| Candy bar | 1 bar | 280 | 30 minutes of singles tennis |
| Chocolate fudge brownie ice cream | 1½ cups | 780 | 90 minutes of playing racquetball |
| Potato chips | 1 ounce | 160 | 90 minutes of playing Frisbee |
| Stuffed crust pizza | 2 slices | 1,000 | 2½ hours of ice skating |
| Chocolate frosted donut | 1 donut | 360 | 1 hour of playing baseball |
| Mocha frappuccino w/ whipped cream | 16 ounces | 380 | 130 minutes of playing billiards |
| Pumpkin pie with whipped cream | 1 slice | 350 | 30 minutes jumping rope |
| Stuffing with gravy | 1 cup stuffing, ½ cup gravy | 425 | 100 minutes golfing (no cart) |
| Chocolate chip cookies | 4 small | 400 | 120 minutes of bowling |
| Mixed nuts | ½ cups | 435 | 165 minutes of dusting |
| Macaroni and cheese | 1 cup | 430 | 45 minutes of stair-climbing |
| Pecan pie | 1 slice | 500 | 60 minutes of swimming |
| Eggnog | 1 cup | 350 | 52 minutes of basketball |
| Double burger with fries | 1 burger, large fries | 1,100 | 2 hours of jogging |
| Ranch dressing | 2 tablespoons | 150 | 30 minutes of doing aerobics |
| Mayonnaise | 1 tablespoon | 100 | 22 minutes of brisk walking |

Fitting in Fitness – Increase Incidental Activities

- Take the stairs instead of the elevator or escalator, for at least a few floors. If you have to take the escalator, make it a point to walk it.
- Walk or bike to nearby destinations instead of always driving.
- When at the mall doing your shopping, park your car farthest from where you intend to shop.
- Get off the bus a few blocks early or park a few blocks from work.
- Exercise while watching television, especially during commercials.
- Hide your remote control and get up to change TV channels or adjust the volume.
- Busy yourself with housework, such as vacuuming, washing the floors, polishing furniture, washing the windows or gift-wrapping.
- In the evenings, take your family for a walk around neighborhoods that have great holiday lights on the houses.
- Take the dog for a walk.
- Work in the garden or yard—raking the leaves or sweeping the patio.
- Go for a short walk before breakfast and after dinner.
- Spend half your lunch hour eating and the other half walking around the building or parking lot. Get your coworkers to join you.
- Walk up and down the stairs on your breaks at work.
- Several times a day, take a few moments to move around and stretch your legs, regardless of what you're doing.
- When on your cell phone or cordless home phone, walk around while you talk.
- Clean up the garage or organize your closets or kitchen cupboards.
- Go shopping. You don't have to buy anything, just walk the aisles and look at the items.

GREEN TEA THERMOGENESIS METABOLISM BOOSTER

Two studies about green tea thermogenesis or the heat burning process

What is thermogenesis? It is the process by which the body generates heat and increases metabolism. By burning off the extra calories, it promotes weight loss.

Weight loss supplements such as ephedra and caffeine, stimulate thermogenesis. Ephedra is great for increasing metabolism, but can have dangerous side effects. It has been linked to heart attack and deaths.

Caffeine too raises metabolism and burns fat. But too much caffeine can cause insomnia, anxiety, upset stomach and frequent urination for some people.

On the other hand, green tea is safe. It is the second most widely consumed beverage in the world. Green tea thermogenesis is an effortless way to natural weight loss.

Swiss scientist Dr. Dulloo conducted two human trials to investigate green tea thermogenesis. He found that green tea extract increases thermogenesis to a much greater extent than caffeine alone would.

1999 Study

The 1999 study consists of 10 healthy men. They drank either green tea extract, caffeine or placebo. The green tea extract beverage contained 90 milligrams of epigallocatechin gallate (EGCG) and 50 milligrams of caffeine.

EGCG, found in the highest concentration in green tea, is the most active and best researched of all green tea compounds.

Dr. Dulloo found that those who drank green tea extract burn 4% more energy over 24 hours compared to the placebo. The increase in metabolism is greater than that which could be explained by caffeine alone.

2000 Study

In another 2000 study, Dr. Dulloo went on to confirm the important role of green tea extract in raising metabolism. He concluded that green tea stimulates thermogenesis "to an extent which is much greater than can be attributed to its caffeine content per se."

No wonder green tea is a favourite ingredient in many weight loss products. It has been found to increase and prolong the thermogenesis process.

So, green tea can help you burn 4% more energy a day. If you burn 2,000 calories a day, this translates to 80 calories, roughly the same amount of calories in a small banana.

It may not sound a lot, but green tea thermogenesis is not the only way green tea helps lose weight. Green tea also promotes fat burning and reduces absorption and storage of fat.

The sum total of these actions has not yet been quantified, but is likely to be significant, especially when added up over a long period of time.

Green tea is all the more remarkable when you consider all the other health benefits that it bestows.

References:

Dulloo AG, Duret C, Rohrer D, Girardier L, Mensi N, Fathi M, Chantre P, Vandermander (1999). Efficacy of a green tea extract rich in catechin polyphenols and caffeine in increasing 24-h energy expenditure and fat oxidation in humans. The American journal of clinical nutrition. 1999 Dec;70(6):1040-5.

Dulloo AG, Seydoux J, Girardier L, Chantre P, Vandermander J (2000). Green tea and thermogenesis: interactions between catechin-polyphenols, caffeine and sympathetic activity. International journal of obesity and related metabolic disorders : Journal of the International Association for the Study of Obesity. 2000 Feb;24(2):252-8.

GREEN TEA BOOSTS METABOLISM AND PROTECTS AGAINST DISEASES

Nov. 28, 1999 (Atlanta) -- Unlike the American hot beverage of choice, green tea isn't available on every street corner in every city. But it's difficult to dispute the nutritional benefits of this centuries-favored Asian brew, with its powerful flavonoids and antioxidants considered capable of battling chronic diseases. Now, one group of researchers claims green tea could also boost metabolism - and help with weight loss.

In a small study, green tea appeared to raise metabolic rates and speed up fat oxidation. "Green tea has thermogenic properties and promotes fat oxidation beyond that explained by its caffeine content per se," says Abdul G. Dulloo, a researcher at the University of Geneva, Switzerland, and lead author of the study published in the current issue of the *American Journal of Clinical Nutrition*. Thermogenesis is the calories the body burns while digesting and absorbing food as it's being eaten.

The study involved 10 healthy young males, none of whom was obese but who ranged from lean to mildly overweight. Each was randomly assigned to each of three meals containing one of three treatments: green tea extract (50 mg of caffeine); 50 mg capsule of caffeine; or a placebo capsule. On three separate occasions, each spent 24 hours in a specially designed respiratory chamber in which researchers could measure energy expenditure and thermogenesis.

Those who consumed green tea extract had a 4% increase in thermogenesis, with an overall energy expenditure increase of 4.5%.

Kathleen Zelman, RD, an Atlanta-based nutritional consultant and spokesperson for the American Dietetics Association, tells WebMD that she was "not very impressed" because of the study's small number of patients and because the calorie losses were "not enough to make a difference in the life of an obese person." However, "anything we can do to boost metabolism [without using drugs] is wonderful."

The thermogenic benefits that the study cites are relatively small, Zelman says. "If you're consuming 1,500 calories, you'll be burning 60 calories, less than [what's in] a cookie. Of course, every little bit counts, but that's really a drop in the bucket."

"Green tea is emerging as a healthful drink ... more because of its role as an antioxidant," Zelman tells WebMD. Antioxidants help to prevent the formation of free radicals that cause many diseases, such as cancer. "Tea flavonoids appear to be very potent antioxidants. A significant body of research has shown that diets rich in flavonoids found in tea, fruits, and vegetables are associated with decreased risk of chronic disease and cancer, heart disease, and stroke."

Tea also contains less caffeine (as low as 50 mg per cup), while coffee has 150-200 mg per cup, which Zelman says is a safer alternative for obese people.

"All that -- in addition to the fact that tea could boost your metabolism -- is reason enough to swap out one of those cups of coffee and drink green tea," says Zelman. "You're talking to a coffee drinker here. I love coffee. But the healthful benefits ... they're speculative at best. Drink a cup of tea ... you'll actually be doing something good for yourself."

Vital Information:

- In a small study, green tea has been shown to boost metabolic rates and speed up fat oxidation.
- Calorie losses were small in study subjects and wouldn't make a big difference in the life of an obese person.
- Drinking tea can still be healthy because it contains flavonoids, which are powerful antioxidants that can help protect against cancer, heart disease, and stroke.