

AtlantiCare

REGIONAL MEDICAL CENTER

The Center for Surgical Weight Loss & Wellness

Bariatric Support Group

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Physical Health and Sleep

An overview of how and why sleep plays such an integral role in physical health

Updated June 24, 2021

Written By Danielle Pacheco Medically Reviewed by Heather Wright

The relationship between sleep and overall physical health is well-documented. Sleep allows both the body and brain to recover during the night. A good night's rest ensures you'll feel refreshed and alert when you wake up in the morning.

Sleep deficiency will not only leave you feeling tired, but can increase your risk for a wide range of diseases and health problems. These include obesity, heart disease, high blood pressure, diabetes, and stroke. A lack of sleep also poses a threat to your physical safety. Studies suggest up to 19% of U.S. adults don't get enough sleep on a regular basis

How Does Physical Activity Help You Sleep Better?

Sleep plays a vital role in your mental and physical wellbeing. Different processes that occur during sleep help to promote healthy brain activity and maintain good overall health. For children and teenagers,

The effects of sleep deprivation on physical health include:

Obesity: Studies have found sleep loss can increase your risk of becoming obese. Your body produces and regulates various hormones during sleep. These include ghrelin, which makes you feel hungry, and leptin, which makes you feel full. Lack of sleep can cause your ghrelin levels to increase and leptin levels to decrease, meaning you are more likely to feel excessively hungry and overeat.

Heart Problems: Blood pressure is generally reduced during sleep. Thus, decreased sleep can lead to a higher daily average blood pressure, which in turn may increase your risk of heart disease and stroke. Inadequate sleep has also been linked to coronary artery calcification, a major predictor for coronary heart disease.

Insulin management: Insulin is a natural bodily hormone that regulates your glucose (or blood sugar) level. Sleep deprivation can affect how your body reacts to insulin and cause your glucose level to rise, which in turn puts you at higher risk for developing Type 2 diabetes. Similarly, reduced sleep or poor sleep quality may adversely affect glucose control in known diabetics.

Immunohealth: During sleep, there is a peak in the number of certain T-cells, various cytokines, and other important components of your immune system. Not getting enough sleep can affect how the immune system responds to viruses and other infections. Long-term reduction in sleep can also lead to persistent low-level inflammation throughout the body, which underlies many chronic medical conditions.

Cognitive Performance: A good night's sleep can improve your ability to concentrate, be creative, and learn new skills. People who don't get enough rest often have a hard time paying attention and are more likely to commit errors at work or in school.

Memory Consolidation: Sleep is essential for processing memories. During the third non-rapid eye movement stage of your sleep cycle – also known as slow-wave sleep – your brain begins organizing and consolidating memories. The rapid eye movement stage that follows may help to cement these memories. As a result, not getting enough sleep can affect your ability to remember important details.

Mood: People who don't get enough sleep may have a harder time controlling their emotions, making good decisions, and coping with different aspects of daily life. Sleep deficiency can also lead to mental health issues, such as depression and increase one's risk of suicide.

Growth and Development: For children and adolescents, deep sleep triggers the release of hormones that promote healthy growth, increase muscle mass, regulate puberty and fertility, and repair cells and tissues. Children who don't receive enough sleep may feel angry or sad, struggle with school work, and have a hard time engaging with their peers in positive ways.

Safety: Drowsy driving is a major road hazard for U.S. drivers. Sleep deficiency can reduce one's reaction time and lead to falling asleep behind the wheel. People who don't get enough sleep are also at higher risk of being involved in a workplace accident.

The amount of sleep you need changes with age. Newborns and infants require as much as 15 to 17 hours of sleep per night, whereas teenagers can usually get by with eight to ten hours. Adults between

The Importance of Sleep Hygiene

Sleep hygiene is a catchall term for practices and behaviors that influence sleep quality and duration. It can include bedtime and wake-up routines, as well as your diet, physical activity, and other aspects of daily life.

Key components of good sleep hygiene include:

Consistent Sleep Schedule: You should strive to go to bed and get up at the same times each day, including on the weekends and when you're traveling. Many people find a consistent bedtime routine can help them get to bed on time.

Prioritizing Sleep: Adequate sleep can be tough to juggle along with family life, work commitments, and socializing. However, you may need to occasionally forgo these activities in order to get enough rest.

Responsible Napping: Napping during the day can greatly interfere with the amount of sleep you get at night. Limit your naps to the morning and early afternoon. You should also avoid napping for longer than 20 minutes, as this can make you feel groggy and unfocused when you wake up.

Relaxing Bedroom Environment: Think of your bedroom as a sleep sanctuary. You should take measures to maintain a sleep-friendly bedroom, such as blocking light with thick curtains, using a white noise machine or earplugs to drown out loud noises, and setting your bedroom thermostat to 60 to 67 degrees Fahrenheit (15.6 to 19.4 degrees Celsius), which many experts agree is the ideal temperature for sleep.

Healthy Habits: Moderate exercise and a healthy diet can improve your sleep quality and help you sleep longer at night. People who have a hard time getting enough sleep should avoid smoking altogether, and also refrain from drinking alcohol or consuming caffeine in the hours leading up to bed. Dining late in the evening – especially large meals – can negatively impact sleep as well.

If you experience long-term sleep deficiency, you should consider scheduling an appointment with your doctor or another credentialed medical professional. Physicians can provide valuable insights about sleep health and hygiene and, if needed, perform tests to evaluate for a sleep disorder.

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7 Ways Sleep Can Help You Lose Weight

Written by Caroline Pullen MS, RD on June 6, 2017

If you're trying to lose weight, the amount of sleep you get may be [just as important](#) as your diet and exercise.

Unfortunately, many people aren't getting enough sleep. In fact, about 30% of adults are sleeping fewer than six hours most nights, according to a study of US adults ([1](#)).

Interestingly, mounting evidence shows that sleep may be the missing factor for many people who are struggling to lose weight. Here are seven reasons why getting enough sleep may help you lose weight.

1. Poor Sleep Is a Major Risk Factor for Weight Gain and Obesity

Poor sleep has repeatedly been linked to a higher body mass index (BMI) and weight gain ([2](#)).

People's sleep requirements vary, but, generally speaking, research has observed changes in weight when people get fewer than seven hours of sleep a night ([3](#)).

A major review found that short sleep duration increased the likelihood of obesity by 89% in children and 55% in adults ([3](#)).

Another study followed about 60,000 non-obese nurses for 16 years. At the end of the study, the nurses who slept five or fewer hours per night were 15% more likely to be obese than those who slept at least seven hours a night ([4](#)).

While these studies were all observational, weight gain has also been seen in experimental sleep deprivation studies.

One study allowed 16 adults just five hours of sleep per night for five nights. They gained an average of 1.8 pounds (0.82 kg) over the short course of this study (5).

Additionally, many sleep disorders, like sleep apnea, are worsened by weight gain.

It's a vicious cycle that can be hard to escape. Poor sleep can cause weight gain, which can cause sleep quality to decrease even further (6).

SUMMARY:

Studies have found that poor sleep is associated with weight gain and a higher likelihood of obesity in both adults and children.

2. Poor Sleep Can Increase Your Appetite

Many studies have found that people who are sleep-deprived report having an increased appetite (7, 8).

This is likely caused by the impact of sleep on two important [hunger hormones](#), ghrelin and leptin.

[Ghrelin](#) is a hormone released in the stomach that signals hunger in the brain. Levels are high before you eat, which is when the stomach is empty, and low after you eat (7).

Leptin is a hormone released from fat cells. It suppresses hunger and signals fullness in the brain (7).

When you do not get adequate sleep, the body makes more ghrelin and less leptin, leaving you hungry and increasing your appetite.

A study of over 1,000 people found that those who slept for short durations had 14.9% higher ghrelin levels and 15.5% lower leptin levels than those who got adequate sleep.

The short sleepers also had higher BMIs (7).

In addition, the hormone cortisol is higher when you do not get adequate sleep. [Cortisol](#) is a stress hormone that may also increase appetite (2).

SUMMARY:

Poor sleep can increase appetite, likely due to its effect on hormones that signal hunger and fullness.

3. Sleep Helps You Fight Cravings and Make Healthy Choices

Lack of sleep actually alters the way your brain works. This may make it harder to make healthy choices and resist tempting foods (9).

Sleep deprivation will actually dull activity in the frontal lobe of the brain. The frontal lobe is in charge of decision-making and self-control (10).

In addition, it appears that the reward centers of the brain are more stimulated by food when you are sleep deprived (9).

Therefore, after a night of poor sleep, not only is that bowl of ice cream more rewarding, but you'll likely have a harder time practicing self-control.

Furthermore, research has found that lack of sleep can increase your affinity for foods that are high in calories, carbs and fat (11, 12).

A study of 12 men observed the effects of sleep deprivation on food intake.

When participants were only allowed four hours of sleep, their calorie intake increased by 22%, and their fat intake almost doubled, compared to when they were allowed eight hours of sleep (13).

SUMMARY:

Poor sleep can decrease your self-control and decision-making abilities and can increase the brain's reaction to food. Poor sleep has also been linked to increased intake of foods high in calories, fats and carbs.

4. Poor Sleep Can Increase Your Calorie Intake

People who get poor sleep tend to consume more calories.

A study of 12 men found that when participants were allowed only four hours of sleep, they ate an average of 559 more calories the following day, compared to when they were allowed eight hours (13).

This increase in calories may be due to increased appetite and poor food choices, as mentioned above.

However, it may also simply be from an increase in the time spent awake and available to eat. This is especially true when the time awake is spent being inactive, like watching television (14).

Furthermore, some studies on sleep deprivation have found that a large portion of the excess calories were consumed as snacks after dinner (5).

Poor sleep can also increase your calorie intake by affecting your ability to control your [portion sizes](#).

This was demonstrated in a study on 16 men. Participants were either allowed to sleep for eight hours, or kept awake all night. In the morning, they completed a computer-based task where they had to select portion sizes of different foods.

The ones who stayed awake all night selected bigger portion sizes, reported they had increased hunger and had higher levels of the hunger hormone ghrelin ([15](#)).

SUMMARY:

Poor sleep can increase your calorie intake by increasing late-night snacking, portion sizes and the time available to eat.

5. Poor Sleep May Decrease Your Resting Metabolism

Your resting metabolic rate (RMR) is the number of calories your body burns when you're completely at rest. It's affected by age, weight, height, sex and muscle mass.

Research indicates that sleep deprivation may lower your RMR ([16](#)).

In one study, 15 men were kept awake for 24 hours. Afterward, their RMR was 5% lower than after a normal night's rest, and their metabolic rate after eating was 20% lower ([17](#)).

On the contrary, some studies have found no changes in [metabolism](#) with sleep loss. Therefore, more research is needed to determine if and how sleep loss slows metabolism ([18](#)).

It also seems that poor sleep can cause muscle loss. Muscle burns more calories at rest than fat does, so when muscle is lost, resting metabolic rates decrease.

One study put 10 overweight adults on a 14-day diet of moderate [calorie restriction](#). Participants were allowed either 8.5 or 5.5 hours to sleep.

Both groups lost weight from both fat and muscle, but the ones who were given only 5.5 hours to sleep lost less weight from fat and more from muscle ([19](#)).

A 22-pound (10-kg) loss of muscle mass could lower your RMR by an estimated 100 calories per day ([20](#)).

SUMMARY:

Poor sleep may decrease your resting metabolic rate (RMR), although findings are mixed. One contributing factor seems to be that poor sleep may cause muscle loss.

6. Sleep Can Enhance Physical Activity

A lack of sleep can cause daytime fatigue, making you less likely and less motivated to [exercise](#).

In addition, you're more likely to get tired earlier during physical activity ([21](#)).

A study done on 15 men found that when participants were sleep-deprived, the amount and intensity of their physical activity decreased ([22](#)).

The good news is that getting more sleep may help improve your athletic performance.

In one study, college basketball players were asked to spend 10 hours in bed each night for five to seven weeks. They became faster, their reaction times improved, their accuracy increased and their fatigue levels decreased ([23](#)).

SUMMARY:

Lack of sleep may decrease your exercise motivation, quantity and intensity. Getting more sleep may even help improve performance.

7. It Helps Prevent Insulin Resistance

Poor sleep can cause cells to become [insulin resistant](#) (24, 25).

Insulin is a hormone that moves sugar from the bloodstream into your body's cells to be used as energy.

When cells become insulin resistant, more sugar remains in the bloodstream and the body produces more insulin to compensate.

The excess insulin makes you hungrier and tells the body to store more calories as fat. Insulin resistance is a precursor for both type 2 diabetes and weight gain.

In one study, 11 men were allowed only four hours of sleep for six nights. After this, their bodies' ability to lower blood sugar levels decreased by 40% (25).

This suggests that only a few nights of poor sleep can cause cells to become insulin resistant.

SUMMARY:

Just a few days of poor sleep can cause insulin resistance that is a precursor to both weight gain and type 2 diabetes.

The Bottom Line

Along with eating right and exercising, [getting quality sleep](#) is an important part of weight maintenance.

Poor sleep dramatically alters the way the body responds to food.

For starters, your appetite increases and you are less likely to resist temptations and control portions.

To make matters worse, it can become a vicious cycle. The less you sleep, the more weight you gain, and the more weight you gain, the harder it is to sleep.

On the flip side, establishing [healthy sleep habits](#) can help your body maintain a healthy weight.

Weight Loss and Sleep

Updated October 9, 2020

Written by Rob Newsom

Medically Reviewed by Kimberly Truong

Losing weight is challenging, and keeping weight off can be just as difficult. Although the medical community is still untangling the complicated relationship between sleep and body weight, several potential links have emerged that highlight the potential weight loss benefits of getting a good night's rest and the negative health impacts of sleep deprivation.

The Connection between Sleep and Weight

Over the past several decades, the amount of time that Americans spend sleeping has steadily decreased, as has the self-reported quality of that sleep. For much of the same time period, the average body mass index (BMI) of Americans increased, reflecting a trend toward higher body weights and elevated rates of obesity.

In response to these trends, many researchers began to hypothesize about potential connections between weight and sleep. Numerous studies have suggested that restricted sleep and poor sleep quality may lead to metabolic disorders, weight gain, and an increased risk of obesity and other chronic health conditions.

While there is continuing debate within the medical community about the exact nature of this relationship, the existing research points to a positive correlation between good sleep and healthy body weight.

Can Lack of Sleep Increase Appetite?

One common hypothesis about the connection between weight and sleep involves how sleep affects appetite. While we often think of appetite as simply a matter of stomach grumbling, it's actually controlled by neurotransmitters, which are chemical messengers that allow neurons (nerve cells) to communicate with one another.

The neurotransmitters ghrelin and leptin are thought to be central to appetite. Ghrelin promotes hunger, and leptin contributes to feeling full. The body naturally increases and decreases the levels of these neurotransmitters throughout the day, signaling the need to consume calories.

A lack of sleep may affect the body's regulation of these neurotransmitters. In one study, men who got 4 hours of sleep had increased ghrelin and decreased leptin compared to those who got 10 hours of sleep. This dysregulation of ghrelin and leptin may lead to increased appetite and diminished feelings of fullness in people who are sleep deprived.

In addition, several studies have also indicated that sleep deprivation affects food preferences. Sleep-deprived individuals tend to choose foods that are high in calories and carbohydrates.

Other hypotheses regarding the connection between sleep and increased appetite involve the body's endocannabinoid system and xTrusted Source orexin, a neurotransmitter targeted by some sleep aids.

Many researchers believe that the connection between sleep and dysregulation of neurotransmitters is complicated and additional studies are needed to further understand the neurobiological relationship.

Does Sleep Increase Metabolism?

Metabolism is a chemical process in which the body converts what we eat and drink into energy needed to survive. All of our collective activities, from breathing to exercising and everything in between, is part of metabolism. While activities like exercise can temporarily increase metabolism, sleep cannot. Metabolism xTrusted Source actually slows about 15% during sleep, reaching its lowest level in the morning.

In fact, many studies have shown that sleep deprivation (whether due to self-induction, insomnia, untreated sleep apnea, or other sleep disorders) commonly leads to metabolic dysregulation. Poor sleep is associated with increased oxidative stress, glucose (blood sugar) intolerance (a precursor to diabetes), and insulin resistance. Extra time spent awake may increase the opportunities to eat¹¹, and sleeping less may disrupt circadian rhythms, leading to weight gain

How is Sleep Related to Physical Activity?

Losing sleep can result in having less energy for exercise and physical activity. Feeling tired can also make sports and exercising less safe, especially activities like weightlifting and or those requiring balance. While researchers are still working to understand this connection, it's well known that exercise is essential to maintaining weight loss and overall health.

Getting regular exercise can improve sleep quality, especially if that exercise involves natural light. While even taking a short walk during the day may help improve sleep, more activity can have a more dramatic impact. Engaging in at least 150 minutes of moderate-intensity or 75 minutes of high-intensity exercise per week can improve daytime concentration and decrease daytime sleepiness.

Sleep and Obesity

In children and adolescents, the link between not getting enough sleep and an increased risk of obesity is well-established, although the reason for this link is still being debated. Insufficient sleep in children can lead to metabolic irregularities as discussed earlier, skipping breakfast in the mornings, and increased intake of sweet, salty, fatty, and starchy foods.

In adults, the research is less clear. While a large analysis of past studies suggests that people getting less than 6 hours of sleep at night are more likely to be diagnosed as obese, it's challenging for these studies to determine cause and effect. Obesity itself can increase the risk of developing conditions that interfere with sleep, like sleep apnea and depression. It's not clear if getting less sleep is the cause of obesity in these studies, if obesity is causing the participants to get less sleep, or perhaps a mix of both. Even though more studies are needed to understand this connection, experts encourage improving sleep quality when treating obesity in adults.

Sleep During Weight Loss

Getting adequate, quality sleep is an important part of a healthy weight loss plan. Most importantly, research has shown that losing sleep while dieting can reduce the amount of weight lost and encourage overeating.

Tips for Quality Sleep During Weight Loss

There are many ways to improve sleep. Here are a few research-based tips for sleeping better when you're trying to lose weight:

Keep a regular sleep schedule: Big swings in your sleep schedule or trying to catch up on sleep after a week of late nights can cause changes in metabolism and reduce insulin sensitivity, making it easier for blood sugar to be elevated.

Sleep in a dark room: Exposure to artificial light while sleeping, such as a TV or bedside lamp, is associated with an increased risk of weight gain and obesity.

Don't eat right before bed: Eating late may reduce the success of weight loss attempts.

Reduce Stress: Chronic stress may lead to poor sleep and weight gain in several ways, including eating to cope with negative emotions.

Be an Early Bird: People with late bedtimes may consume more calories and be at a higher risk for weight gain. Early birds may be more likely to maintain weight loss when compared to night owls.

Maintaining a Healthy Relationship With Your Body

Deciding if you should attempt to change your body weight is a personal decision best made with the guidance of your doctor. Don't take all the health and weight loss information you read online at face value. Remember that health is a lifelong journey that includes not only healthy habits but also having a healthy relationship with your body.

The 7 Biggest Myths about Calories

Counting calories can help you lose weight, but not if you're making one of these 7 common mistakes.



By Joy Manning Medically Reviewed by Lynn Grieger, RDN, CDCES

Reviewed: August 24, 2021

[Medically Reviewed](#)

Are all calories created equal? Experts say these and other myths are why counting won't always help you lose weight. Audrey Shtecinjo/Stocksy

You may think you know all about calories. Many people have been counting them, cutting them, and adding them up for most of their lives. But when it comes to weight loss, there's actually still a lot of confusion out there about calorie counting. It turns out that many of the most common beliefs on the subject are really just myths. Here are seven of the most persistent calorie counting myths — plus the facts, straight from experts.

1. All Calories Are Created Equal

Plenty of people believe that as long as they stick to a certain number of calories per day, they're eating healthy. This myth can get in the way of eating a balanced, nutritious diet. "You cannot compare 100 calories of salmon to 100 calories of soda," says Samantha Cassetty, RD, former nutrition director of *Good Housekeeping*, who is based in New York City.

She points out that salmon is loaded with beneficial nutrients, including omega-3 fatty acids and protein — one reason the American Heart Association recommends eating it twice a week — that work really hard to nourish your body. "With soda, it's the opposite — those calories are working against you," she says. Not only are they lacking in nutrition, but they are also full of sugar, and drinking them has been associated with an increased risk of obesity and type 2 diabetes, past research shows. "It's a total mistake to think all calories are the same," Cassetty says.

2. Celery Has Negative Calories

With only about 9 calories a stalk, per the U.S. Department of Agriculture (USDA), it's obvious how this myth got started. It's easy to imagine that the act of chewing celery "erases" enough of those calories to take the food into negative calorie territory. "It's an idea leftover from another era," says Cassetty.

Cucumbers, radishes, lettuce, and other water-rich vegetables are also sometimes said to be negative-calorie foods, but just like with celery, it's nothing more than a myth. "There are no negative calorie foods," says Cassetty.

3. Calorie Labels Are 100 Percent Accurate

What you see is not necessarily what you get when it comes to calorie information on nutrition labels. "There is leeway for manufacturers," says Cassetty. In fact, by law, food manufacturers can be up to 20 percent off the mark with this number, according to the U.S. Food and Drug Administration (FDA). That means a product you're eating that you believe has 200 calories might actually have up to 240 calories. A study published in the journal *Obesity* investigated the accuracy of nutrition labels and found that prepackaged convenience meals had 8 percent more calories on average than their labels claimed. That can add up.

4. If You Cut 3,500 Calories You'll Lose 1 Pound

This is a gross oversimplification of the science of calories, and hardly the way weight loss works in real life, according to Cassetty. "Overall body size, genetics, sleep, and stress can all complicate this general rule," she says. As a body loses weight, the amount of calories it needs to maintain that weight goes down.

The 3,500 calories-equals-one-pound math simply doesn't account for this. Nor does it take into consideration other factors including gender, changing diet and exercise habits, and poor compliance, according to an article in *Today's Dietitian*. Carson C. Chow, PhD, a senior investigator in the mathematical biology section of the National Institutes of Health (NIH), is quoted in the article explaining: "Every 10 calories per day decrease in calorie intake leads to an eventual one-pound loss, but it can take three years to get there." (You can check out the National Institutes of Health's Body Weight Planner tool to try this new math out for yourself.) This rule of thumb isn't quite as appealing to dieters as the 3,500 calorie rule, but it's more accurate.

5. Your Body Absorbs Every Calorie in a Food

There's a difference between the number of calories a given food contains and how many calories your specific body absorbs from that food. The number of calories you may assimilate can vary based on the makeup of your gut microbiome, according to research, among other things. In another previous study, researchers from Harvard even discovered that calorie counts can vary between raw and cooked foods. And then there's the fiber effect. Because your body doesn't absorb fiber (it's the indigestible part of plants), the amount a food contains can also affect the calories you actually get. One small study of 18 people, which was published in *American Journal of Clinical Nutrition*, found that almonds contain more calories than they contribute to a person's diet. Almonds, in particular, are a source of prebiotic fiber, which we do not absorb, according to previous research.

6. The 'Calories Burned' Readout on Your Treadmill or Fitness Tracker Is Accurate

Many calorie counters live and die by the "calories burned" readouts on their exercise equipment and fitness trackers. It's very common for people to decide to eat an extra snack or have dessert based on a number supplied by their device, says Cassetty. But a study from Stanford University published in May 2017 in the *Journal of Personalized Medicine* found that wearable fitness trackers are generally off by 27 percent. "That's a substantial amount. If you're overestimating your calories burned by that much, it can not only make it impossible to lose weight, it can result in weight gain," she says.

"People don't realize when they exercise, they'll unconsciously decrease other energy spent throughout the day," says Cassetty. Previous research supports the notion that after exercise people may fidget less, stand less, or take the stairs less often. The body is always compensating, making small adjustments to maintain energy balance below the level of your awareness. "It's not necessarily something you can control," says Cassetty.

"People do a really bad job of estimating the number of calories they eat, then they get an inflated idea about how many calories they burned thanks to these devices," says Cassetty. "You can really end up on the wrong side of that equation."

7. Counting Calories Is Essential for Losing Weight

Can calorie counting be a helpful guide for weight loss? Sure. But there's no need to feel like you'll never shed excess pounds if you can't commit to tracking every calorie — especially when research suggests otherwise. A study published in September 2017 in *Perspectives on Psychological Science* concluded that reducing calorie intake may not be the golden ticket to weight loss that people assume it will be.

And a study published in February 2018 in *JAMA* found that other dietary changes, for instance eliminating processed foods, can be just as effective for weight loss. Notably, the study was designed to determine whether a low-carb or low-fat diet was better for weight loss. Neither group counted calories, but they were given nutrition advice. Both groups lost around the same amount of weight, and what they had in common was a diet of natural whole foods, not processed food. So count, or don't count, but know that the best approach is the one that works for you.

Kitchen





FEATURED RECIPE: CARMEL APPLE PROTEIN SHAKE

Fall wouldn't be what it is without the combination of caramel and apples. There is truly no better merriment of flavor than these two unique tastes! Unfortunately, the only healthy part of this delicious treat is the apple, but we've found a way to have your cake and eat it too!

This Caramel Apple Protein Shake is a healthy alternative for your caramel apple craving that won't compromise your diet plan.

Ingredients:

1 Scoop vanilla protein powder

1/2 cup applesauce

1/2 tsp Caramel extract

1/2 tsp Pumpkin pie spice

5-10 Ice cubes

1/2-1 cup Water or milk

1/4 tsp sweetener of choice

Dash of cinnamon

Directions:

Blend all other ingredients. Mix until the protein shake becomes thick and creamy. Yogurt if you want a thicker consistency. Enhance the flavor of your protein shake by adding; a dash of cinnamon, apple wedges, caramel drizzle, or whipped cream for a extra treat. Serve and drink immediately.

SAUTEED CHICKEN AND APPLES WITH ROSEMARY



One-skillet sautéed chicken and apples with rosemary is a great fall dinner!

Prep Time 10 minutes

Cook Time 20 minutes

Total Time 30 minutes

INGREDIENTS

- 1/2 tablespoon unsalted butter
- 1/2 tablespoon extra-virgin olive oil
- 1 small sweet onion, thinly sliced (about 1 cup)
- 2 small red apples, sliced
- 1 1/2 pounds boneless, skinless chicken breasts, cut into 1-inch strips
- 1 heaping tablespoon fresh rosemary, finely chopped, divided
- 1/2 teaspoon salt
- 1/4 teaspoon black pepper
- 2 tablespoons apple cider vinegar

INSTRUCTIONS

- Heat butter and oil in a large saute pan over medium-high heat.
- Add onion and apple slices and saute for 4-5 minutes, until softened and slightly browned.
3. Meanwhile, season the chicken strips with 2 teaspoons of rosemary, salt and black pepper.
 4. Push the onion and apple slices to the sides of the pan and add chicken breast strips to the middle. Brown on both sides, about 6-8 minutes total. (If your pan is too crowded, do this in batches so you can properly brown the chicken.)
 5. Add vinegar and remaining teaspoon of rosemary then cover the pan, reduce heat to medium and cook until chicken is cooked through, 3-5 more minutes.
- Serve chicken and apples with extra pan juices and enjoy!

NUTRITION INFORMATION:

YIELD: 4 SERVING SIZE: 1

Amount Per Serving: Calories: 376 Total Fat: 9g Saturated Fat: 3g Trans Fat: 0g Unsaturated Fat: 5g Cholesterol: 148mg Sodium: 398mg Carbohydrates: 17g Fiber: 3g Sugar: 12g Protein: 54g

Tuna Salad Cucumber Boats

Servings: 4 / Prep Time: 25 minutes



Ingredients:

- 4 medium cucumbers
- 4 – 5 ounce cans wild albacore tuna in water, drained
- 4 stalks celery, finely chopped
- 1 cup plain Greek yogurt
- ½ cup white onion, finely chopped
- 2 teaspoons yellow mustard
- 1 teaspoon salt
- ½ teaspoon ground black pepper
- ½ teaspoon fresh dill, finely chopped (*Optional*)

Directions:

Slice cucumber down the middle lengthwise. Using a spoon, gently scoop out the insides. Discard the scooped seeds and set the remaining cucumber halves aside.

In a medium-sized bowl, add the tuna. Using a fork, gently mash the tuna until it is flaked.

Add the chopped celery, chopped onion, mustard, salt, black pepper and fresh dill. Mix well.

Scoop the tuna salad into each cucumber half just before serving.

Nutrition: Per 2 cucumber boats = 120 calories, 2 grams fat, 1 grams saturated fat, 21 mg cholesterol, 471 mg sodium, 11 grams carbohydrate, 5 gram sugar, 2 gram fiber, 15 grams protein. Recipe from <https://emilykylenuitrition.com/tuna-salad-cucumber-boat/?nowprocket=1#recipe>

Last updated August 23, 2021

Mexican Stuffed Peppers

Servings: 6 / Prep Time: 20 minutes / Cook time: 10 minutes

Ingredients:

3 large bell peppers, cut in half lengthwise and cored
2 teaspoons olive oil
1 pound ground turkey
1 cup chopped red onion
1 cup chopped white or crimini mushrooms
1 tablespoon ground cumin
1 tablespoon chili powder
½ teaspoon ground chipotle chili
½ teaspoon salt
¼ teaspoon cinnamon
½ cup canned tomato puree
4 ounces shredded sharp cheddar cheese

Directions:

Place the peppers, cut side down in a microwave safe dish. Add 1 cup of water to the baking dish. Cover with parchment or wax paper then cover with plastic wrap. Microwave on high until the peppers are just starting to soften, 4 – 5 minutes. Carefully remove cover, drain off water and turn the peppers cut side up in the baking dish.

Heat oil in a large skillet over medium heat. Add ground meat and cook until browned, about 5 minutes. Add onion and mushrooms and cook, stirring often, until the mixture is browning along the edge of the pan and the vegetables are softened, 4-6 minutes. Stir in cumin, chili powder, chipotle, salt and cinnamon and cook until fragrant, about 30 seconds. Remove from heat and stir in the tomato puree.

Fill the peppers with the meat mixture, about ½ cup. Top with cheese. Microwave the peppers, uncovered, until the cheese is melted and peppers are tender about 2-3 minutes.

Nutrition: Per 1 stuffed pepper = 247 calories, 15 grams fat, 8 grams saturated fat, 7 mg cholesterol, 402 mg sodium, 9 grams carbohydrate, 4 gram fiber, 22 grams protein.

Last updated August 23, 2021



Spaghetti Squash with Meat Ragu

Skinnytaste.com

Servings: 8 • Size: 1 cup squash, scant 3/4 cup sauce • Old Points: 3 • Points+: 4 pts
Calories: 175 • Fat: 3 g • Carb: 19 g • Fiber: 3 g • Protein: 14 g • Sugar: 8 g
Sodium: 263 mg (without the salt) • Cholesterol: 40 g

Ingredients:

8 cups cooked spaghetti squash (from 2 medium, about 6 lbs total)
salt and fresh pepper, to taste

For the Meat sauce:

1 tsp butter
1 tsp olive oil
(4 oz) 1/2 onion, finely chopped
1 carrot, peeled and chopped
1 celery stalk, finely chopped
1 lb 95% lean beef
28 oz can of crushed tomatoes
1/4 cup white wine
1 bay leaf

Directions:

Preheat oven to 400°F. Cut spaghetti squash in half lengthwise and scoop out seeds and membrane. Season with salt and bake about 1 hour, or longer if needed on a baking sheet, cut side up.

In a large deep sauté pan, melt butter and add oil. Add onions, celery and carrots and sauté on medium-low for about 3 to 4 minutes, until soft. Add the beef and season with salt. Brown the meat and cook, breaking it into smaller pieces with your spoon until cooked through. When cooked, add the tomatoes and adjust salt and pepper to taste. Add wine and simmer until it reduces a bit, then add bay leaf and cover, reducing heat to low. Simmer at least an hour, stirring occasionally.

Helpful Hints:

- Our office is located in the new outpatient surgery center located in **Building 1200 on the 2nd floor in EHT.**
- Due to our move, we have a new phone number. To reach us, **please call (609) 833-9833.**
- Remember to keep **Hydrated!!!** 64 ounces of non-carbonated sugar free fluids, **water is Best!**
- Reminder to eat your **PROTEIN FIRST!** (65-80 grams a day)
- **Don't forget to follow-up...** schedule your appointments with the dietitian and your physician. The first year we would like to see you every 3 months and then on a yearly basis.
- Preparing for **SURGERY** ?
 1. Don't Miss your **Monthly** weight check! It may lead to delays in surgery if your insurance requires 4 or 6 consecutive month weight checks.
 2. Do not **GAIN** any weight prior to surgery. Your insurance company may deny your approval for surgery.



**Have a
Happy
Fall!**

2021 Bariatric Support Group Schedule

Online TEAMS Meetings

Call Access Center for Registration and Web Access: 609-569-1000

Monday 5:30 – 6:15 PM

Date	Topic
July 19	* Eating Breakfast to Start the Day
August 9	* Healthy Snacking & Staying Activity
September 13	* Guest Speaker: Marcel
October 11	* Label Reading
November 1	* Stocking a Healthy Kitchen
December 6	* Self-Monitoring/ Self-Accountability

Monday 10:30– 11:30 AM

July 26	* Good Fats vs Bad Fats
August 23	* Meal Planning
September 27	* Importance of Sleep to Health
October 25	* Portion Control
November 15	* Goal Setting for the Holidays
December	* Happy Holiday! No SG