What to Never Eat After Your Workout

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Introduction

Nutrition: To some people, it's just a nine-letter word synonymous with food and dieting.

To others - people who know the secrets behind a better workout and a leaner body - nutrition means so much more than just filling their plates.

These people know that with proper nutrition, your body can experience beneficial results that out-compete any fancy pill or expensive surgical intervention.

It's true!

And, to take it even a step further, the timing of your nutrition with correct food choices will turn your body into an energetic, elated, lean, fat-burning machine!

And who doesn't want that?

We sure do!

Not that being lean means you'll be automatically happier, but, if you eat the right foods at the right times, you'll feel less grumpy, you'll have more energy to exercise hard the next time you hit the gym, and you'll be pleasant for others to be around!

Plus, you'll look good too!

You probably already know that eating small, balanced meals every few hours is one of the keys to a healthy physique, but that's not what we're talking about here.

In this special report, we're going to show you how eating the right foods at the right times following your workout will make a ***huge*** difference in how you feel ***when*** you're working out, and how you feel for the 23 hours that you're ***not*** working out.

Eating correctly after your workout will also help you be able to work out hard the next time you exercise, build more lean muscle, and improve your overall health.

Isn't that almost too good to be true? But really it's not!

Still, for some reason, eating correctly after your workout has gotten lost in the vast sea of nutrition information that is on our internet, in textbooks and in other "expert" nutrition reports.

So, right here, right now, we're going to explain it all to you in this easy to understand, yet scientifically-supported, special report.

When you're done reading this report, you'll finally be told what you should eat and when you should eat it after your next workout so you can start your new journey for a better, happier and healthier body.

But, enough of the fluff, let's get started.

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What Happens in Your Body When You're Working Out

To really understand what happens in your body when you're working out, we have to pull information from the sciences of nutrition, exercise biochemistry, biology and physiology. But, if we did that in the depths that it could be covered, you might run away screaming with the fear of scary scientific equations and terminology.

Heck, even we groan when we have to start talking about this stuff because it makes our minds feel a bit overworked.

So, we're not going to go there.

Instead, we're going to give you the Cliff's Notes version of what happens inside you when you pick up a set of weights, or set your feet out on the pavement for a run.

And we promise that you won't feel more confused after reading this than you did before you started.

The reason why we're teaching you this information is because to really understand why you need to eat quality foods in the right quantity ***after*** your workout, you need to learn what's going on in your body ***during*** your workout.

So, without further ado, this is what happens in your body during an exercise session:

Exercise Metabolism 001

From the second you set foot onto the floor of your gym or the pavement of the road, your body's first priority is to start creating energy so that you can exercise at the intensity of your liking.

It's not that your body wasn't already creating energy before, because it was. Your body was making energy all day long just to keep your heart beating, your brain thinking, and your everyday body muscles moving.

But now that you've begun exercising (either "cardio" or "weight-lifting") your body needs to start making more energy at an even faster rate. The energy it was making to keep you alert at your desk and allowing your finger muscles to type at the keyboard is just not enough now.

Now you need more energy, and the basic molecule for all this energy is a little high-energy compound called ATP, also known as Adenosine Tri-Phosphate. (Don't worry, we get too geeky on you here; stick with us).

ATP is the only source of energy in your body that can drive muscle contractions. Whether those muscle contractions are the ones that allow your neck muscles to hold up your head, or your biceps to curl a weight, ATP is the fuel making them work.

When your muscle cells need energy to make an entire group of muscles move or do work, your brain tells the mitochondria of your muscle cells (mitochondria are the power plants of all the cells in your body, even your muscle cells) to start breaking down ATP. As ATP is broken down, energy is released, and in turn, your muscles are given the energy to be able to move (Image 1)

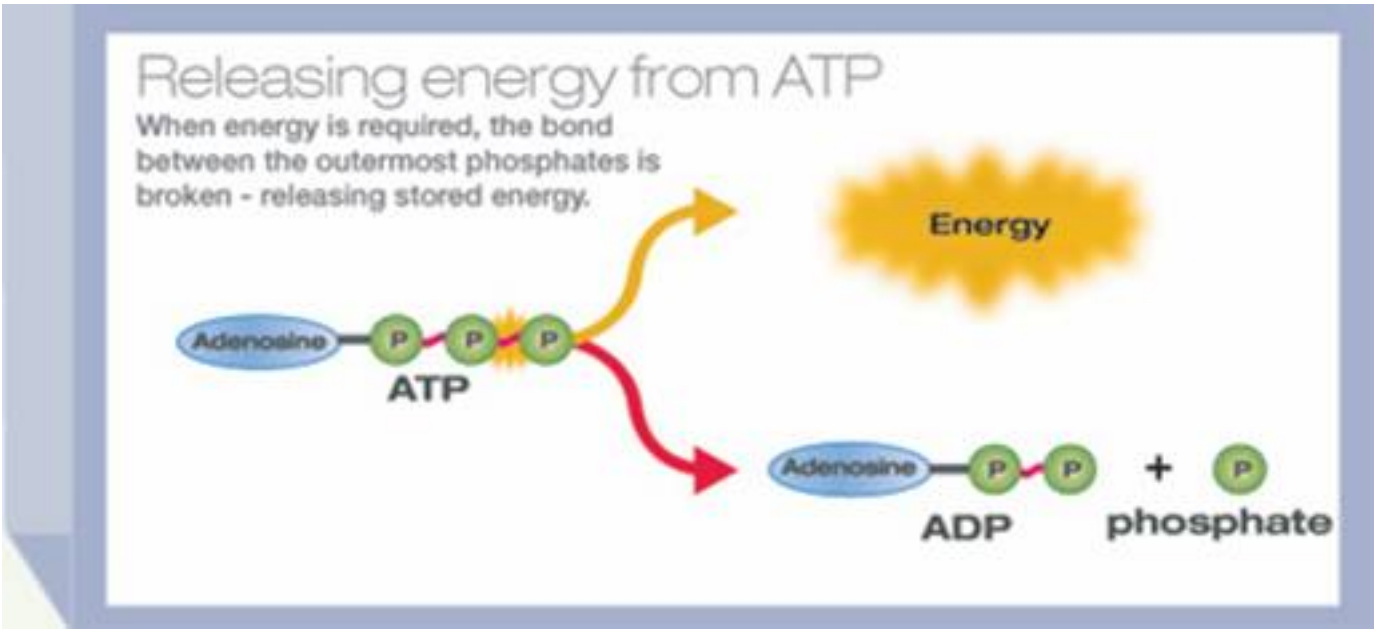


Image 1: Releasing energy from ATP to allow muscle movement

However, even though ATP is the only source of energy that can make your muscles contract and move, for some reason, stores of ATP in your mitochondria are very, ***very,*** limited. In fact, if you used up your ATP and didn't replace it, you'd only be able to exercise

for just a few seconds!

That's right - there's only enough ATP in your cells to move for just seconds!

So, how is it that we can move all day long and exercise longer than that?

It's because your body replenishes ATP using the food we eat and that's one of the reasons we eat food in the first place. Other than receiving important vitamins and minerals and other essential nutrients, food also helps us create more ATP energy all day long.

When we eat, we consume nutrients such as glucose, fatty acids and amino acids that come from carbohydrates, fats and proteins, respectively, in food. These nutrients are then transformed through a series of chemical reactions to make more ATP.

The rate at which ATP is replenished is directly related to the rate at which is it used, also known as your movement intensity. If you exercise or move at a higher energy output (more intensely), you'll use more ATP and thus, need to make more ATP.

How is ATP replenished?

ATP can be made by three different energy-replacement systems in the body:

- Creatine Phosphate System
- Glycolysis (Anaerobic)
- Cellular Respiration

The first two systems operate when your body needs energy very quickly, such as during a quick sprint, or an explosive push press in an Olympic Clean and Jerk lift.

These two systems can help you exercise intensely for about 2 minutes. After that, your high-intensity energy levels die off and you have to slow down.

You can still keep moving, but you have to do it at a slower pace.

The first system, the Creatine Phosphate system, refers to stores of creatine your body naturally has in its cells. This creatine also comes from some foods, but is inherent to your cellular makeup.

Your cells use Creatine Phosphate (CP) to replenish ATP and allow you to continue creating

energy.

However, just like ATP, stores of CP are also small, and only allow you to make energy quickly for about 8 to 12 seconds.

Some people take creatine as a dietary supplement with the hopes of increasing their CP body stores (which can be true), but there still is a limit to how much creatine your body can hold.

So, you may only get a few-second increase in energy from taking creatine, and for some people, that may be all they want or need.

When CP runs out, your body then turns to another fast-energy system called Anaerobic Glycolysis. This energy system helps replenish ATP quickly in the absence of oxygen using stores of carbohydrate found within your muscle (known as glycogen), and some carbohydrate found in your blood (known as glucose).

Glycolysis doesn't replenish ATP as fast as the CP System, but it's still much faster than the third energy replacement system. When your body uses Anaerobic Glycolysis to make more ATP, you can exercise hard for up to 2 minutes.

For new exercisers, they can't even come close to this 2 minute mark of intense exercise. But, with consistent training and good nutrition, they can improve their intense exercise performance and use the Anaerobic Glycolysis system to its full extent.

After the Creatine Phosphate System and Anaerobic Glycolysis taper out, your body is forced to slow down and rest until these systems can regenerate. Sometimes these systems can't restore, and you're forced to exercise less intensely.

Regardless, over time your body gets much better at using these systems and can exercise harder for longer.

When you're not exercising at an intense rate, or when these fast energy systems die down, you use the third ATP-replenishing system known as Cellular Respiration.

This system also operates when you need energy on a daily basis because energy can be supplied at a slow and steady rate.

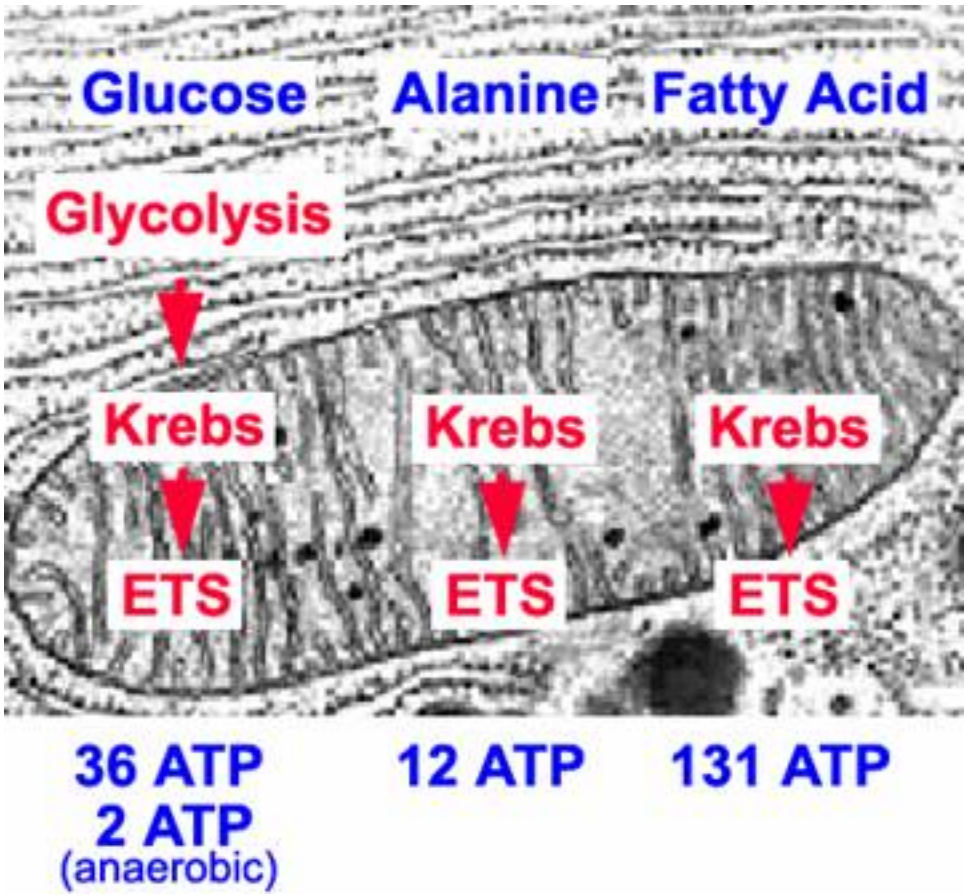
Cellular respiration is the system that breaks down your body stores of carbohydrate, fat and sometimes protein, to replenish ATP and produce energy that can last for hours. But, this process takes a lot longer and your stores of these nutrients are still limited and can only be

depleted so far; that's why it's ideal for you to eat every few hours.

In the picture below, you can see how ATP is replenished using carbs, protein and fats. The basic unit of carbohydrate in this picture is glucose, the basic unit of protein is the amino acid, alanine, and the basic unit of fat is a fatty acid.

These molecules travel from different areas of your body when you exercise and enter the mitochondria of your muscle cells. Once there, they go through a pathway called The Krebs Cycle and eventually produce products that help your mitochondria replenish ATP.

Fatty acids can replenish the most ATP, followed by glucose, then amino acids.



The production of ATP Energy in mitochondria from carbs, protein and fat

Glucose and amino acids use a pathway called aerobic glycolysis to create energy in this slower system, while fats use a pathway called beta-oxidation. All of these slower systems require oxygen.

Wait! Don't stop reading yet! It's not that complicated!

Now, before you stop here and put this report down because it's getting too confusing, realize that what this all translates to is that ***in order for your body to exercise (or simply move for that matter) for longer than 2 minutes, you need***
to make energy (in the form of ATP) using stores of carbohydrate, fats and protein within your body

.

Which means, to have an effective workout, you need to eat real food containing these nutrients (carbs, fat and protein) frequently throughout the day to keep these stores full.

And, even more important: ***AFTER your workout, when you've really emptied these fuel stores, you have to replace them or you won't be able to exercise hard the next time you want to.***

Think of it like the gas tank in your car:

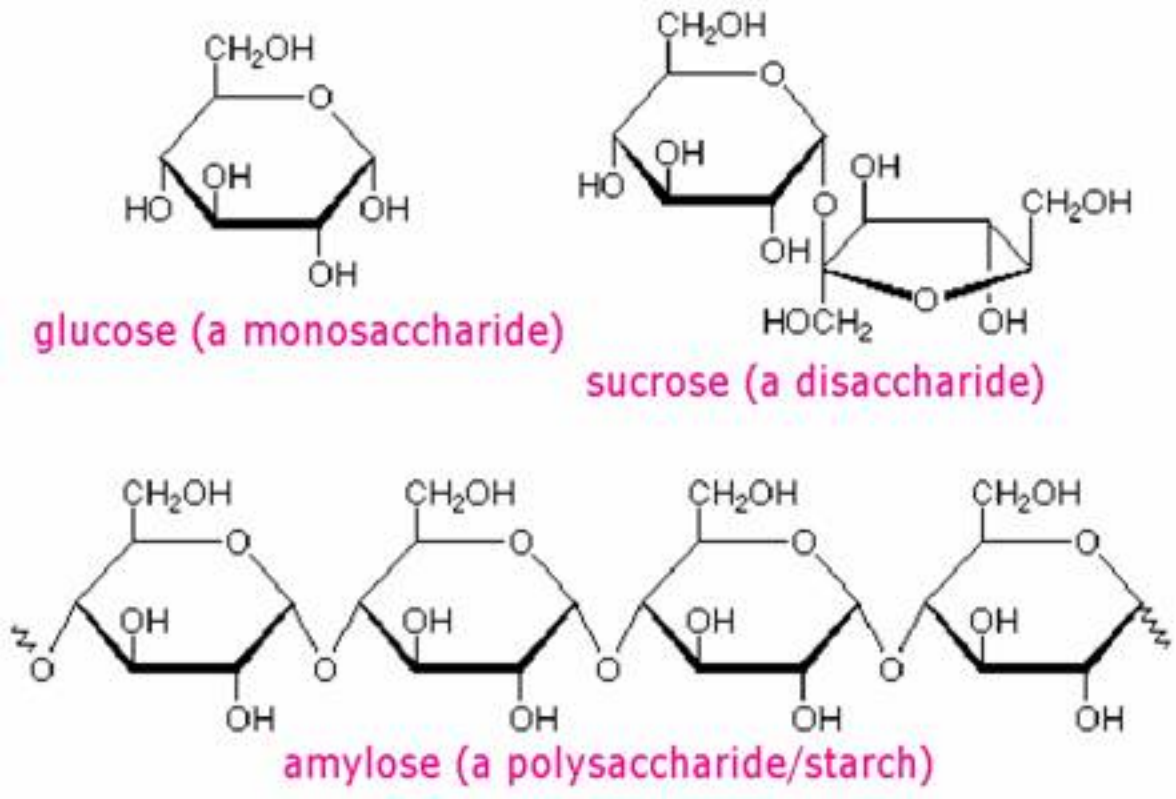
If you go for a drive and use up the gas in your tank, you're not going to go very far the next time you go out unless you fill up.

And the best time to fill up is after your drive (meaning, your workout).

What's the main fuel used during my workout?

For most people who exercise about an hour or two each day, your body mostly uses carbohydrate as a fuel to make you jump higher, run faster and lift weights harder.

Yes, it uses some creatine phosphate, some protein, and some fat, but for the most part, carbohydrate is the main energy source.



Different molecules of carbohydrate

No matter if your exercise is considered "cardio" like running or biking, or "strength" like weight lifting or strongman training, your body mostly uses carbs.

However, there are exceptions to this rule.

If people eat a very low carbohydrate diet, with a lot of fat (think Atkins style diet here), they train their bodies to use fat mainly as a fuel source. Therefore, carbohydrates become less important.

But for most people, carbs are your exercise friend.

The carbs used are those primarily stored within your muscle, known as muscle glycogen.

Your body tries to preserve your blood glucose levels (another source of carbs in your body), because as some of us know, when your blood glucose levels drop, you completely run out of steam. So, this source of carbs is spared as often as possible.

As you become more fit, your body gets better at using less carbohydrates in your body, and is better at replenishing them. This means you can work out longer and harder because you become more efficient using your body fuel stores.

Meaning you ***use less carbohydrates as you become more trained***.

But, usually, as you become more fit, you exercise longer and harder, so your total usage of carbohydrates stays the same.

Research studies of both resistance-training and cardio-training people show that carbohydrate stores are reduced with an effective exercise session. So these carbs need to be replaced - through your diet.

If these carbohydrate stores are not refilled, and importantly, not refilled quickly, your next workout will be pretty pathetic - you won't feel like working out because you don't have the energy to do so.

Or, you'll start working out and you'll have to cut it short because your fuel stores run out.

So, it's very important to eat foods rich in carbohydrate following your workout.

But, other nutrients are important too:

Blood glucose

The glucose in your blood (also known as blood sugar, and another form of carbohydrate in your body) can sometimes be used as an energy source to make ATP, but it's not the most ideal choice.

During exercise your body prefers to maintain your blood glucose levels by several different actions rather than use it for energy.

Actions such as increased levels of epinephrine, glucagon and cortisol that get released in your body during exercise act to maintain your blood glucose levels through special pathways in the liver and also encourage your muscles to use more glucose (which is good because you can keep working out!).

Sometimes though, if you fail to eat correctly before your workout or have low muscle glycogen levels (because you're not eating right in the several hours after exercise), you may experience drops in your blood glucose levels that make you feel tired, shaky, cold, irritable and unable to exercise any longer.

Some of the key factors that dictate if your blood sugars will crash or not include:

- the timing of your last meal before your workout (when)
- the composition of your last meal before your workout (what)
- how your body responded to food you ate before your workout (how)
- when and what you ate in the hours ***following*** your last workout

If you wait too long after your last meal or snack to exercise, you're more likely to experience drops in your blood sugar levels because they're already on the decline and require food to be maintained. This results in a major drop in exercise performance.

So, eating ***2 hours or less before you exercise*** is strongly recommended. Any longer and you can be in trouble due to crashing blood sugar levels.

If the last meal you ate before you exercised was really high in carbs and made your body release a lot of insulin to control all those carbs, you may find yourself shaky and tired before you even get started. This is because excessive insulin from your pancreas causes glucose in your blood to be sucked into muscle or fat cells and stored.

High insulin levels also stop your body from using carbs to make ATP - it tells your body to store them.

That's why it's best to eat a combination of carbs, protein and fat before you exercise because this limits the amount of insulin released with a meal. The fats and protein slow digestion and the appearance of carbs in your blood.

Following your workout, eating within 30 minutes is going to help you recover quicker, but also refuel your glycogen stores quickly and effectively.

It's also going to help control your appetite for the rest of the day.

If you wait too long to eat following your workout, your blood glucose levels will naturally drop (because exercise was keeping them up, and now that's over) and you'll have a ravenous appetite for the remainder of the day.

Your body goes into survival mode if you don't eat soon after exercise and becomes incredibly hungry - this can last for hours and thwart your healthy eating plans.

Also, if you eat the wrong ***composition*** of foods after your workout, you won't be able to sustain or regain normal blood glucose levels, you won't replenish your glycogen stores effectively, and you won't provide other nutrients that help your body to repair, rebuild and recover correctly.

What's the point in exercising if you're going to have to stop before you even get started or you can't make improvements?

Isn't the whole point of exercising to work as hard as you can and change your body for the better?

Well, if you fuel your body incorrectly in the hours before and after your workout, your exercise session really will suffer.

Protein is important too!

During your workout, your body doesn't use much protein for a fuel.

In fact, using protein to make ATP happens only when carbohydrate or fat stores are very low - or your body is unable to use those fuel sources.

During exercise, when glycogen stores in your muscle and liver start to become depleted, your muscle proteins are broken down into amino acids and used for energy.

Most people don't realize that muscle protein can be used for energy during their workout, especially if that workout is really long or really intense.

But, during long exercise (longer than 2 hours), or exercise that starts out improperly fueled, your body can derive up to 15% of your muscle energy needs from protein.

Muscle protein breakdown during exercise results in muscle damage and soreness (known as DOMS - delayed onset muscle soreness).

Muscle damage also occurs just as a result of your activity, particularly activity that is a lot harder than your day-to-day events (like weight lifting or sprinting).

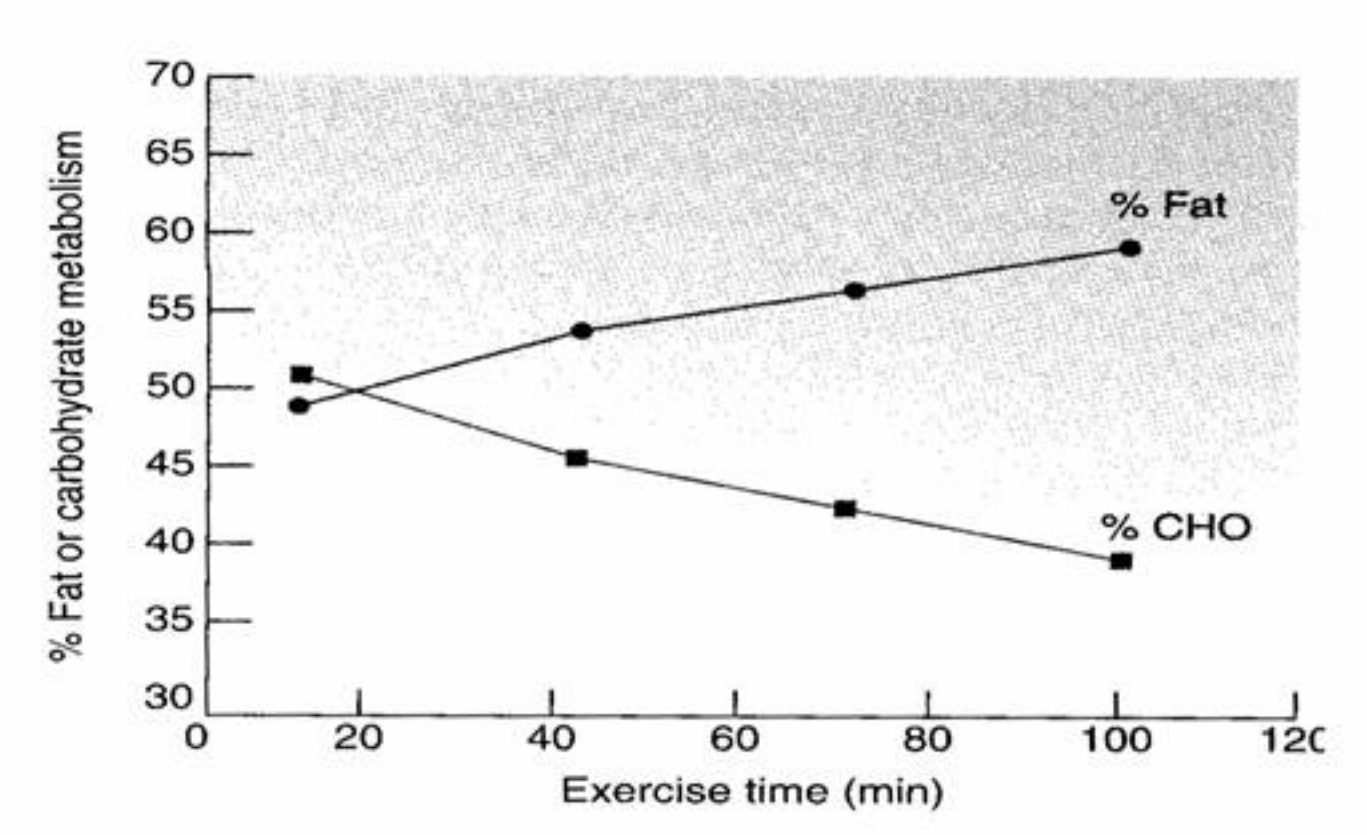
In order to help your muscles repair fast and prevent excessive soreness after your workout, you have to eat quality protein following your workout, and quality protein throughout the day.

If you don't, you'll always be sore and you'll never make any body-composition improvements.

Muscle fats

Although not recognized as much as carbs [and protein], fats are also used during your exercise session.

As you can see in the following figure, when exercise continues over time, your body starts using more fat to make energy. It does this because your stores of carbohydrate become decreased and you need to start deriving energy from somewhere else.



As you exercise longer, you start using more fat. Source: Powers & Howley, Figure 4-13

And, a great place to make more ATP energy is by burning up fat molecules.

At first, the fat used to make energy in your muscle cells is fat found right within your muscle, known as intramuscular triglyceride (IMTG).

That's correct - you have fat WITHIN your muscle cells.

Even though some people think they can shed all fat from their body, there's actually fat stored right in your muscles that's used to make ATP.

And fat in your muscle is good.

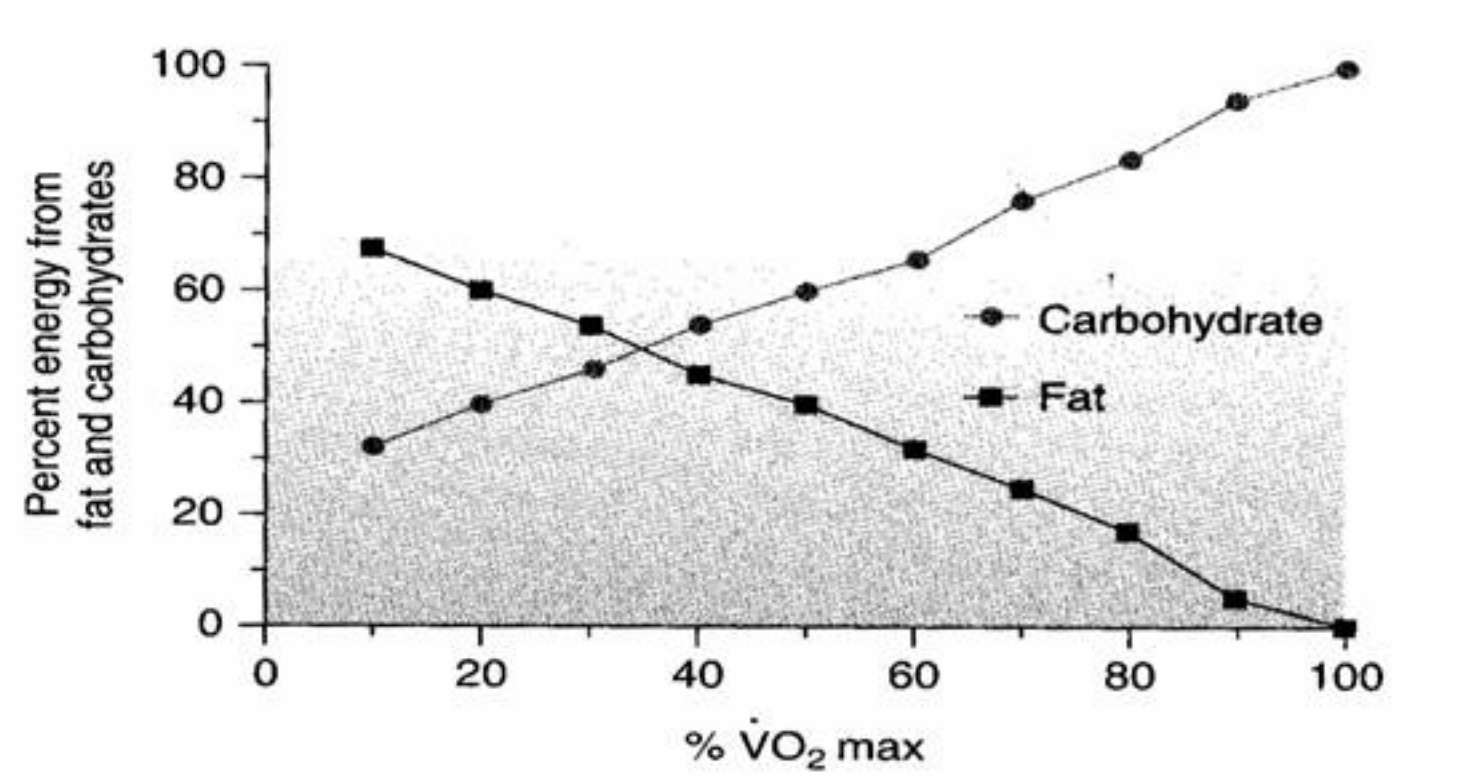
It's good because as your carb stores get used up, fat comes in to help you keep exercising.

And, for some people, they can use more fat for fuel than others and less carbohydrate - women use a bit more fat than men, and trained athletes use more fat than couch potatoes. If you have more fat in your body (like women and sedentary people do), you'll use more fat for energy.

But, using IMTG fat for energy is limited.

It's limited by how fast you can make energy from fat (it's slow).

It's also limited by your exercise intensity. For most people, their bodies prefer to use carbs for energy when exercise becomes more serious.



As exercise intensity increases (Higher VO2 max), your use of fat declines Powers & Howley, Figure 4-11

The reasons why you usually use less fat as exercise intensity increases is because your intense muscle cells that make you work hard prefer using carbs for energy. Also, as carbs are used they create a bi-product called lactate that slows the use of fat for fuel.

Now, you also have fat in your adipose stores that you can use to make more ATP (like those attractive love handles some of us have); but it's difficult for your body to tap into

these energy stores and send them to muscle to be used.

And, your love handles are usually only started to be used when you've been exercising for a long time (as the first figure above shows). They are also used more for energy at a slow rate during the day when you're less active.

Just like it is for carbs, high insulin levels inhibit your body from using fat for energy. So if you start exercising after a very high carb meal, you might burn less fat.

But, if you don't exercise intensely during exercise you won't get the fat-burning benefits of the post-exercise time period, often known as the "Afterburn Effect."

After exercise is when a lot of fat-burning occurs, especially after really intense workouts. As your body is repairing muscle and replenishing glycogen it burns fat up for energy so your carbs and protein can be put to other uses.

Even though you use fat for fuel during exercise and in the hours afterwards, you don't have to necessarily consume a lot of fat to replace this used fuel source.

The reason is because its relative contribution to energy production is low compared to carbs (meaning you don't use that much compared to carbs), and some of the carbs you eat can and will be stored as fat when your carb stores are full or mostly full.

So, no need to eat a lot of fat after your workout, but you can eat it later in the day to give you healthy calories and keep insulin release in check.

Body Water

Although not technically a fuel source, your body uses water during exercise to keep you going.

Water's main job during exercise is to keep your moving muscles (and moving body) cool. It does this by a loss and evaporation of sweat while you work out.

Evaporation of sweat from your body as it pours out of your sweat glands is the major way of lowering your body temperature and keeping you cool.

The amount you sweat during exercise depends on how hot and humid it is around you, and how hard and long you are exercising.

You sweat more when it's hot and humid and sweat more when you exercise hard for a long time.

For most people, moderate losses of sweat during exercise can be replaced easily if you sip water while you work out, or drink water (or water-based fluids) afterwards.

But, if it's incredibly hot and humid and you're exercising more than 45 minutes, you need to make sure you drink throughout your exercise session and plenty afterwards.

Also, if you're a "salty-sweater" - someone who also sweats out a lot of salt when you exercise, you may need to have some sodium in your beverage choice (also known as electrolytes on some sports drinks).

If you fail to replace the water you lost during exercise, especially during long, hot exercise, you can become dehydrated.

Dehydration can decrease your exercise performance during your exercise session, meaning your steam will run out.

Increased dehydration can also change your hormonal response to exercise. One recent study from the University of Connecticut showed that as your level of dehydration increases during exercise, your body releases less testosterone in response to an exercise bout. And,

testosterone is an important hormone for muscle repair and growth.

Also, if you don't rehydrate after exercise, your body can confuse the feeling of thirst with hunger and cause you to eat more than you need, refuting all your weight and fat loss efforts for the rest of the day.

So, drinking water during and after exercise to prevent dehydration caused by sweating during exercise is also critical.

Summary:

I know we gave you a lot of information here, but it's all very important to know.

And this was the shortened version! Just imagine how long it would have been if we included all the details? (That's why students take year-long classes in this subject.)

Just in case you missed something or want a refresher, here's a quick summary of what you just learned:

- ATP is the only energy source that can drive muscle movement, but your body only has a very small amount of ATP for this.
- This means you have to continually make ATP from different body sources to keep your muscles working.
- These sources include a small amount of creatine phosphate, lots of carbohydrate, some protein, and some fat.
- Your body likes using carbs best for energy with fat being second best.
- You also use some protein for energy, but this only happens if you have low carb and fat stores.
- The most important fuel source to replace immediately after your workout is carbohydrate, but you also need protein to assist in this process.
- You can add fat later in the day; it's not needed right away.
- Drink water during and after exercise to prevent dehydration, especially when it's hot and humid. This will also fight hunger cravings.

What Happens in Your Body AFTER You're Done Working Out

What happens in your body ***after*** your workout is just as important as what happens ***during***. In fact, it's almost more important because you can't stop what's happening in your body during your workout, but you can control what's happening after.

Unlike a car engine that stops using gas after your drive is over, your body continues to use body fuels after your exercise session has completed.

Your body keeps moving, repairing, and replenishing immediately after you're done exercising.

Also, the damage you caused to your muscles during your workout continues to be damaging for several hours afterwards. That's why your muscle soreness is not felt until the next day or the day after that because it takes time to set in.

If you fail to take in the right combination of nutrients right after your workout, your body doesn't have the tools necessary to stop this muscle damage and begin refueling your body's energy stores.

But, many people take this window of opportunity for granted and miss out on one of the most important times to refuel, repair and regenerate your body.

Eating correctly after your workout also helps with fat loss.

Two Important Nutrition Principles of Post-Workout Recovery

There are two major nutrition principles that influence how you recover and repair after a hard workout:

- The timing of what you eat
- The composition of what you eat

Timing: After your workout, there is only a short period of time that you can properly activate your body's repair and rebuilding processes.

If you don't eat the right foods at the right times after you exercise, your muscles will be in a constant state of breakdown and your fuel stores will not be adequately replenished.

This will leave you too sore and too tired to exercise again anytime soon (like tomorrow or even the next day).

This "window of opportunity" has been shown by some of top sports nutrition researchers in the world to occur between 15 minutes and 45 minutes following your exercise session.

This is because your muscles are most receptive to nutrients at this time. They'll take up nutrients as quickly as a child will eat chocolate! And that's fast!

Instead of sending nutrients to fat cells for storage, your muscles will quickly use these nutrients to repair, rebuild and make you feel energetic again.

However, after 60 minutes, your body's ability to replenish the glycogen you used and muscle protein you damaged is greatly lost.

And by lost, we mean it's gone and it's going to take you at least twice as long to recover after your workout then it would if you took in the right nutrients at the right time.

Another important aspect of nutrient timing is ***stopping your blood glucose levels from dropping***.

If your blood sugar drops because you waited too long to eat (more than 45- 60 minutes) after exercise, you're going to be cranky, shaky and incredibly hungry.

So hungry in fact that you might not want to stop eating when you get started!

And if you can't control what you're eating, or eat more than you need, you're not going to win the fat loss battle. Sure, you may gain muscle, but it'll be covered by a thick layer of fat.

Composition: By "composition" we're referring to both the ***type*** of food you should eat after you exercise and the ***amount***.

As you know now from reading the first section of this report (even if you just read the summary), your body mostly uses carbohydrate during your workout for energy.

So, one of the most important fuels for you to replace is carbohydrate.

But it can't be just any carbohydrate. It has to be carbohydrate that can be absorbed by the body fairly quickly, and in turn, initiate a release of insulin from your pancreas.

When quick-digesting carbs are eaten, and a lot of insulin is released within 15 to 30 minutes after exercise, your body can store twice as much glycogen as it could if you ate an hour or more later.

It also can stop muscle protein breakdown dead in its tracks and start the process of muscle protein repair.

If you wait too long to take in nutrients after exercise, you'll actually lose muscle protein in addition to other proteins in your body, like metabolic enzymes. And, that's not what we want.

Not at all.

SIDE BAR: INSULIN - The Master Recovery Hormone

When people hear the word insulin, they often think of diabetes and fat storage, and those are two things none of us want.

Even though insulin may be associated with those things, it's also the main hormone responsible for helping you recover properly after exercise.

That's right - without insulin after exercise, your body won't refresh your muscle glycogen stores, and it won't help repair any damaged muscle protein.

Insulin helps transport food that you eat after exercise directly to your muscle cells so it can be used for repair, but it also stops your body from breaking down protein for energy, so your muscles don't become so sore and damaged.

Other important actions of insulin include increasing blood transport to and from your muscle cells so the "waste products" of exercise, like carbon dioxide, can be removed. It also helps reduce elevated cortisol levels that are formed during intense exercise, which helps reduce stress on your body.

But, the only way to increase insulin after exercise is to eat the right foods. If you eat the wrong nutrients, your recovery efforts will be useless.

Why You Need Protein with Carbs

After a workout, your body doesn't technically NEED protein to replenish protein you may have used to make ATP energy during your workout.

But, it does need protein for two major reasons:

- To maximally refuel your muscle carbohydrate stores (glycogen)
- To repair your muscle proteins that were damaged during your workout and continue to be damaged afterwards

In our quest to determine optimal replenishment of body carbohydrate stores, scientists have conducted several different types of experiments.

They've researched athletes and exercises from all different types of sports and exercise routines and given them different amounts of carbohydrates, from different sources, alone or combined with proteins and fats.

What they've shown is that the greatest amount of glycogen replenishment occurs following a workout when quick-digesting carbohydrates are taken with protein.

This is because protein helps your body to replace muscle glycogen through an enhanced insulin response.

During your workout, insulin stops carb and fat use for fuel, and that's not good.

But, now, after your workout, insulin helps you refill your carb energy stores and also starts the process of protein repair.

Although carbs stimulate an insulin response fairly well, when protein is taken at the same time, the increase in blood insulin is greater than if carbs or protein were taken alone.

This results in faster glycogen resynthesis and muscle protein repair.

And faster glycogen replenishment is really important for people that exercise often - whether that be people who go to a spin bike class in the early morning followed by a weight lifting workout at night, or those that are training for a triathlon and have multiple exercise sessions in a day or week.

If you're someone who only exercises once or twice a week, maybe this doesn't matter to you, but then again why not optimize your post-exercise recovery process as much as you can? It'll make you feel and function better in anything else you do.

Protein with carbs enhances insulin secretion and also stops the protein breakdown process that occurs with exercise while it initiates repair. This will result in less muscle damage and soreness so you can function normally sooner than later.

(And, we all know what it's like to be so sore you can't even get off your chair, right? Protein will help you minimize muscle pain.)

Protein After Exercise for Immunity

Protein, especially complete protein foods like dairy or meat, also supply an important amino acid that helps keep your immune system strong.

After exercise, particularly intense and frequent exercise, your immunity can be weakened making you more susceptible to viruses and bacteria.

Some people may have experienced this after they've started a new, difficult workout program - within just a few weeks they get sick and feel achy and tired. This is especially true if they don't eat well because they don't know how or don't want to.

But, if these people knew how effective complete protein foods were for battling these potential colds and sniffles, they'd never miss a workout due to getting sick.

The important amino acid that helps protect your immunity after your workout is glutamine.

Glutamine is an amino acid that keeps your immunity strong because it's one of your immune system's favorite fuel sources.

In fact, researchers have shown that taking in a complete protein and carbohydrate drink (naturally containing glutamine) within 30 minutes after intense physical activity can reduce the duration and amount of colds or infections that a person can get by 28%.

Another reason to consume quality food right after your workout, right?

We don't know about you, but we sure hate getting sick. So if protein with carbohydrates helps after our workouts, we're taking them!

Why You Don't Need Much Fat After a Workout

Now, don't get us wrong - we're not fat-phobics.

In fact, we love fat (from food that is...)!

Foods like avocados, nuts and seeds, olive oil, salmon, egg yolks and even dairy fat, are some of our favorites for keeping us full and providing us with heart-healthy, metabolism-boosting nutrients.

Eating fat helps our bodies use more fat as fuel because it increases the activity of fat-burning enzymes and increases the transport of fat in the blood to the muscle.

Fat also helps reduce the amount of insulin released after eating a meal, which is good for all other hours in the day, but not right after your workout.

After we exercise, we want a big release of insulin to help us refill muscle glycogen stores and stimulate muscle protein repair.

So, if you eat too much fat in your post-exercise meal, the benefits of insulin can be reduced.

A small amount of fat is ok - under about 10 grams - but more than that can slow the digestion of nutrients and in turn, slow the pancreatic stimulation of insulin.

Keep your fat intake lower for about two hours after your workout so you can optimize your insulin response to food, then add it back in after this recovery process has been initiated effectively.

Don't Forget to Drink Fluids!

Everyone loses some body water when they exercise, and some people lose a lot more than others.

The bottom line is that no matter who you are, you need to drink a water-based fluid after your workout and throughout the day to keep your body water balance level.

If your body water level is lowered you may have water cravings that are confused with being hungry.

Slight dehydration also can make you tired, irritable and unable to focus.

Not all these fluids have to be water per se, but can be things that contain water, such as tea, coffee, or even smoothies (made with water).

And no, coffee does NOT dehydrate you. It may make you pee more, but it does not make you dehydrated. This has been proven scientifically.

Milk, low-sodium soup, and sparking water can also count towards maintaining your body water balance, so you can drink those if plain water is not your thing.

The bottom line is that following your workout with water in some form or another and continuing to drink water throughout your day will really help you regain your energy after your workout, but keep you energetic all day long.

Summary:

To properly recover after your exercise session, you have to eat the right foods at the right times and drink plenty of healthy fluids.

- Carbohydrates and proteins are the main nutrients your body needs to refill muscle glycogen stores, repair damaged muscle protein, and keep your blood sugar levels from dropping.

- You need to eat foods with quick-digesting carbs and complete protein within 15 - 45 minutes after your workout.

- Complete protein with glutamine will also protect your immune system and prevent colds.

- Healthy fat foods are good most other times of the day, but not right after you exercise.

Bad Food, Bad Body

What happens in your body when you make bad food choices after your workout

To some people, their ideal post-workout meal is to head out to their favorite restaurant and order a big oozy-gooey burger with a tall glass of beer.

For some reason, they think the best way to reward themselves after a hard exercise session is with this meal fit for a king.

We don't know which king they're referring to, but the only one we can think of is the king of the porcelain throne because that's where that meal will probably land you.

Well, there are a couple of problems with this meal other than the fact that it might leave you quicker than it entered...

#1 - Timing

If you ordered this meal at a restaurant, it's likely going to take you more than 45 minutes to get it.

From the time you finish your workout, to get to the restaurant and place your order, to getting your meal, you're probably missing your ideal post-workout window of opportunity to regenerate your body.

You also might get so hungry waiting for your meal that you order more food (would you like fries with that?) than your body needs.

#2 - Composition

Yes, this meal contains quick-digesting carbs (the bun) and complete protein (the beef burger), but it also contains a lot of fat and alcohol.

The **fat** is going to slow your digestion of the carbs and protein so that your insulin response is weakened, and your replenishment of glycogen and repair of protein is inadequate.

The **alcohol** is going to minimize the amount of glycogen you can replace, and it also will reduce your muscle's ability to recover and repair.

All this fat and alcohol diminishes any positive benefits from eating carbs and protein - you almost might as well not even exercised at all (almost... exercise is still good for your heart and mind).

No Food, No Fat?

Another bad food choice after your workout is to not eat any food at all.

Yes, some people think that if they wait as long as they can to eat after exercising, that it will encourage more fat burning.

This may be true to an extent - that if you don't eat after exercise, you'll burn more fat than if you do eat.

But, the problem here is that you don't burn fat just right after exercise, you burn it for several hours and days after exercise, when that exercise is consistent and effective.

If you skip taking in nutrients after exercise you may use more fat to make energy, but you won't stop your muscles from breaking down and you won't replenish the fuels you used during your exercise session.

That means you won't be able (or won't want to) exercise for several days again - which won't help your fat loss efforts at all.

So, eat right after exercise so you can go at it soon again and feel good while doing it.

Incomplete Protein Means Incomplete Muscle Repair

Another scenario of wrong food choices after your workout is to eat incomplete protein.

By incomplete, we mean protein that's missing or deficient in one or more of the essential amino acids that make up protein.

Incomplete proteins are usually those derived from plant sources, although there are some exceptions.

Scientists have shown us that only essential amino acids, especially the branch-chain amino acids (BCAAs; a type of essential amino acid) found in foods like dairy products, eggs and meat, will stimulate the protein repair processes in your muscles after exercise.

These essential amino acids, combined with an insulin response stop your muscle protein from breaking down and initiate its repair.

All other amino acids will not do the job right.

So, to optimize repair of your muscle after exercise, you can't dine on a plate of pasta with tomato sauce. Yes, you get carbs (and a lot of them), but you miss out on complete protein.

Beans, grains, nuts, fruits and vegetables also are lacking in these essential amino acids, so make sure you avoid only eating these as well.

If you're vegetarian, some of the only complete protein whole vegetarian foods are soy, hemp and quinoa. You can also get complete vegetarian protein from rice protein powder, pea protein powder and hemp protein powder. These proteins contain the essential amino acids that your muscles need after exercise.

Bottom line is that if you miss taking in essential amino after your workout, your muscles will be in a constant breakdown state.

Good Food, Great Body

What happens in your body when you make good food choices after your workout

As you can already guess, taking in the right food after your workout will result in the following actions in your body:

- A proper refueling of your muscle glycogen levels
- Repair of your damaged muscle protein
- Steadying of your blood glucose levels
- Strengthening of your immune system
- Balancing of your body water level
- Increased fat loss and muscle growth

But, this all has to happen with other good food choices throughout the day - If you take in the right nutrients after your workout, but you don't eat well for the rest of the day (you skip meals, you eat junk, or you miss certain nutrients), you won't optimize these effects.

The ideal meal after your workout can come in two forms: solid or liquid.

Regardless of the form, it has to consist of quick-digesting carbohydrates with essential amino acid-containing protein (complete protein).

Exercise scientists have shown that the best form of quick-digesting carbs are simple sugars. Foods like table sugar (glucose-fructose), dextrose and maltodextrin. These sugar-carbs are very quickly digested and rapidly increase blood insulin levels.

This will drive sugar into your muscles to replenish glycogen and initiate the muscle protein repair process.

They've also shown that some of the best protein sources for exercise come from dairy foods - milk and whey protein are two complete proteins highly researched for their exercise recovery benefits.

These sources of protein are rich in essential amino acids that stimulate protein resynthesis as well as contain a lot of naturally-occurring glutamine (the amino acid that protects immunity).

Solid or Liquid?

After exercise, you can consume a solid meal or a liquid form of simple carbohydrates and complete protein, but there are advantages of drinking versus eating:

- Liquid calories are more convenient (this is one time you want convenience) and allow you to optimize your post-workout window.
- Liquid calories are digested easier, stimulating the maximal amount of insulin from your body and delivering repairing nutrients rapidly to your muscle cells.
- Liquid calories also provide water which is important for you to maintain healthy body water balance and protect against mild or serious dehydration.

Therefore, to ensure the quickest recovery possible due to fast nutrient delivery and insulin stimulation, drink your carbs and protein instead of eating them. Or, drink part of them (like your protein) and eat the other part (like your carbs).

How much?

Ideally, these simple-sugar carbohydrates along with complete milk proteins should be consumed in a 2:1 or more ratio (i.e., 3:1, or 4:1).

Meaning, for every 2 or more grams of carbs, you should also take in 1 gram of complete protein containing essential amino acids. This ratio has been shown by scientists to be best for maximizing glycogen replenishment in addition to stimulating protein repair.

In terms of absolute quantity, the amount of carbohydrate and protein found to be most effective for recovery from both endurance and resistance (weight training) exercise ranges between 1.0 and 1.5 g carbs/kg body weight, and 0.4 to 0.6 g protein/kg body weight.

This means that for a 135 lb woman (59 kg), she can benefit from about 60 grams of carbs and 30 grams of protein immediately after a hard workout.

Or, if she's going to eat a meal soon after this, she doesn't have to take in quite this much. She just has to take enough to stimulate some insulin release from her pancreas and deliver fast digesting carbs and essential amino acids from protein to repair and rebuild her body. Then make sure she eats food with carbs and protein in it soon afterwards (within an hour).

Each person is different though and their insulin response to a certain amount of carbohydrates might be more than another person's. You can test your blood glucose and insulin levels to find out if you get a significant change after eating certain carb and protein foods.

Or, just see how you feel after some trial and error. If you're still super sore days after a workout and you have to drag yourself to the gym to just begin to exercise, you're body is probably being undernourished - both right after your workout and for many hours between exercise sessions.

Take in more and re-assess until you've got it right.

But most importantly, don't skip proper post-workout nutrition or make bad choices - The consequences override your hard working efforts and refute your goals.

And we all want to reach our goals sooner than later (or never).

Quick Review and Action Plan

After reading this report you should now realize what you should never eat after your workout:

- Avoid eating excessive fat in your post-workout meal - this will slow carbohydrate and protein absorption and minimize the anabolic effects of insulin.

- Avoid consuming alcohol - it stops your body from being able to replenish muscle glycogen stores and reduces the muscle protein repair process.

- Avoid waiting too long to eat - you will miss your "recovery window" if you wait longer than 60 minutes to eat. Plus, your blood sugars will likely drop leaving you starving for food.

- Avoid consuming slow-digesting, high-fiber carbs with incomplete protein. Your carbs should be quick-digesting and your protein should contain all the essential amino acids.

- Avoid junk food, empty calories and processed fats in the several hours following your workout - You need quality food all day long to help you build a better body.

- Drink plenty of water and be well hydrated before, during, and after each exercise bout to maximize performance and ensure an optimal hormonal response.

- Most importantly, never eat nothing after your workout. You're better off eating something rather than skipping a meal for several hours after your exercise session is over.

*****Special FREE Offer*****

Try a Full One-Month Supply of Prograde Workout...for FREE

Prograde has taken all of the guesswork out of post-workout nutrition.

It's the perfect combination of carbs to proteins with fast digesting carbs and cold processed protein to immediately start the repair process.

And for a limited time only, we are offering a full one-month supply of our best-selling Prograde Workout for free.

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