



# DOCTORS OF RUNNING

Physical Therapists Using Clinical Analysis To Discuss The Art And Science Behind Running And The Stuff We Put On Our



## Beginner's Guide to Nutrition and Hydration for Runners

By Guest Writer Jennifer Giles (MS, RDN, CSSD)



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All runners, from new to experienced, have to fuel. Learning to balance your nutrition is essential for engaging in any sport, allowing you to perform at your very best. We're excited to welcome guest writer Registered Dietitian/Nutritionist Jennifer Giles to Doctors of Running to help provide some basics to think about on the subject of fueling for your daily running, races, and more. In this beginner's guide, Jennifer covers the "why" on learning how to fuel, and discusses some basics for you to keep in mind as you think about your own nutrition needs.



*You are a runner.* You need to fuel. Think about it. Running requires energy. Energy is literally measured in calories. You eat calories via the food you intake each day! As a runner, if you think of food as fuel for your runs, your mindset will become more positively connected to your performance.

*You are a Runner!* You run often. Therefore, you are always either recovering from a run or preparing for a run. This means you need to pay close attention to your fueling.

### But what do you eat? How often? How much?

These are the most common questions I get from my athletes when it comes to sports nutrition.

You obviously need to fuel before and after a run...but do you need to fuel DURING a run? Let's break it down. In general if you are going to be running over 90 minutes, you may need to take in fuel during the run. I would especially recommend this if you are training for a marathon. I say this because you need to practice what you will be taking in when you will be racing. This way you will know that it works for you!

If you are running an easy run, short run, recovery run or short higher intensity run, you most likely do not need fuel during your run as long as you are well fueled before your run. Providing your body with nutrients going into the run is the key to these runs.

### When should you fuel? Before, During, After?

In general you want to fuel for your run **three** hours beforehand. This allows for time to digest, store glucose as glycogen and absorb nutrients. Another snack may be necessary 30-45 mins before to "top it off" if you feel hungry. I will note, however, that this is a general guideline and individual needs can vary based on metabolic rate, hunger, length of run etc..

I will add that, if you are an early morning runner, I do not suggest waking up three hours before your run to eat! Sleep is way more important! Instead I suggest for early morning runners to be mindful of fueling the night before and top it off with a small snack upon waking up.

As I mentioned above, fueling during a run is only necessary for longer runs (generally over 90 mins). It also

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depends on your individual race goals and what portion of your training season you are in.

## Hydration Understanding

Hydration is arguably more important than nutrition! (Did a Sports RD just say that?) Runners don't only run. We sweat! A lot. We lose fluid when we run through our sweat and therefore we need to replace it by drinking. Water is the preferred fluid to replace fluid losses with. BUT...since we also lose electrolytes in our sweat you may need to replace electrolytes along with fluid if you are losing electrolytes in your sweat. You can take in electrolytes by eating foods that contain them. For example potassium is found in many fruits and veggies, and sodium is found in pickles, broth based soups, pretzels etc... You may need to supplement with an electrolyte supplement if needed under certain circumstances, but you don't always need to use them if your dietary intake of electrolytes is optimized.

## Science of Nutrition/Hydration

When you lose water (from sweat), you lose a lot of fluidity from your blood, hence making your blood "thicker." Your heart then has to work harder to pump that "thicker" blood through arteries and veins. This consequently increases your heart rate and makes exercise feel harder. This is also the primary reason that makes your pace slower when you are dehydrated.

The other part of the hydration equation is electrolytes. The four primary electrolytes are sodium, potassium, calcium and magnesium. These minerals allow for water to be absorbed into muscle cells. This is why electrolytes play an important role in your hydration status. Taking in electrolytes is very individual and is based on hydration status, sweat rate, weekly mileage, and training phase.

## Hydration is Multifaceted

Each runner needs to determine their own hydration status and personal sweat rate. Once this is established you can decipher when you need electrolytes supplementation and how much to use for different circumstances. There are products that can help if you are a runner that requires them.

## What runners should try to learn about their bodies for hydrating/nutrition

As a runner you need to learn what their personal sweat rate is. Once you know that, you will be able to figure out how much fluid you need. Your sweat rate will differ in different situations. For example we sweat more when it's hot and humid vs dry and cool. Your sweat rate will differ for long runs vs short runs. It will also depend on your current hydration status.

## Who they can consult

To learn more about your personal nutrition and fueling needs along with hydration needs and sweat rate you can consult with a sports nutritionist/dietitian. It's beneficial to your goals and your overall health to create a personal nutrition and hydration plan.

## Runner's Nutrition 101: Ingredients

If you are a runner looking for a fueling product to use before or during your runs there are a few things to consider. You want to decide what form (or combination of forms) you would like to use during training. Some runners like to take in their fuel in liquid form (sports drinks) while others like solid (sports bars). A gel sits somewhere in the middle. You may like some kind of a combination of the three or it may depend on the training session, distance, duration, etc.

## Drinks

The major benefit of Sports Drinks are that they contain carbs (quick energy), electrolytes and most importantly fluid! They can enhance hydration by encouraging us to drink more. The sodium sends a signal to our brain to continue to drink and the sweetness makes it enjoyable to drink.

## Carbohydrate Sources

Whether it's a sports beverage, gel or bar, each product will contain carbohydrates. The source of the carbohydrate will vary from product to product.

**Maltodextrin** - Maltodextrin is easily digestible and requires less water to be absorbed. It's beneficial in gel form because of this. It has little flavor so it's likely to be used in a gel or drink with added flavors to make it palatable.

**Glucose** - Similarly to Maltodextrin, Glucose is easily digestible. It requires more water than maltodextrin to be absorbed so we need to increase water intake if using glucose. This can be a benefit to hydration status if we drink more OR it can lead to dehydration if we don't.

**Fructose** - Fructose can have a longer lasting effect on energy because it absorbs via different pathways. It's very sweet as well which entices us to consume more. The disadvantage of using fructose is that it can cause GI distress. For this reason it's typically only used in small amounts in sports nutrition products.

**Sucrose** - Sucrose is the scientific name for table sugar. You will see this ingredient used a lot because it's inexpensive to use. It is 50% fructose and 50% glucose.

### Other Components

**Fat** - Fat is added to some products (mostly bars) to increase the palatability of the product as well as to add a more substantial fuel source for sustainability for longer endurance sessions and events.

**Protein** - You will also notice protein added to some products (again mostly bars) in order to improve blood sugar response and spare muscle breakdown.

**Caffeine** - When used in the right amounts and at the right time, caffeine can increase endurance, speed, power and pain tolerance. If used in high quantities it can cause dehydration, heart palpitations and GI upset. (And...as an FYI ingesting more the 400mg is banned by the NCAA).

**Flavorings** - Remember that if you choose a product you need to find one that you enjoy! This is to ensure that you take it in. Otherwise you won't eat it and will miss out on the opportunity to fuel your body to run. Everyone has different taste buds. Find what works for you and what tastes good to you and you will be on the right track.

### Find More of Jennifer Giles Work Here



**Jennifer O'Donnell-Giles** MS RD CSSD, a registered dietitian/nutritionist, is a board certified specialist in sports dietetics. The mission of her private practice for the past 24 years is to educate, motivate and inspire athletes to

use food as a tool to become the fastest, strongest and  
best athlete they can be.

Find more of Jennifer O'Donnell Giles work at <https://www.jenngilesrd.com/>

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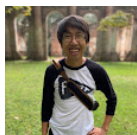
**Getting the Right Fit:** Unsure if your shoe fits? Visit this page to help you determine how to find the right shoe for your feet. Comfort is one of the most important things we emphasize at Doctors of Running before you get out the door and on the road. Sometimes the right shoe for you is not what works for many others. That is why it is important to try different shoes when you can to get a better understanding of works best for your needs.

Please feel free to reach out, comment and ask questions!

Contact us at [doctorsofrunning@gmail.com](mailto:doctorsofrunning@gmail.com)

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