

# EATING ON THE RUN

BY CARYN HONIG, RD, LD



## Carbs Are King!

When you think of the “typical runners’ diet,” carbohydrates such as pasta, bagels, bananas, Gatorade, and good ol’ Cheerios comes to mind. But, a high-carbohydrate diet makes you fat and hurts your athletic performance, right? At least that’s the premise of many many carbohydrate-bashing diet books currently on the market. So, what’s a runner to do? Listen to their sports nutrition dietitian who still pushes potatoes and pasta (in moderation, of course) or follow the best-selling books that promise amazing weight loss and tons of energy?

Maybe we should look to the Kenyans. After all, they are perhaps the most successful distance runners in the world. The typical diet of Kenyan runners is composed of approximately 75% carbohydrates. This may lead one to argue that running success and carbohydrate intake are directly related.

Kenyan food includes small amounts of roasted meat, cooked greens, fruit, milk and, always, ugali, a thick, polenta-style cornmeal porridge (recipe below). Made from water and maize (corn), which is traditionally ground by hand into flour, ugali serves as the national dish of East Africa. Kenyans eat ugali daily, typically as a base for a meat stew and thinned with milk or water into a thin gruel for breakfast. Unappetizing as it sounds to most, Kenyans love it.

Ugali makes the typical Kenyan diet rich in carbohydrates and very low in fat. Along with the ugali, Kenyans also eat large amounts of dark green leafy vegetables, such as collard greens and kale. They, furthermore, enjoy ample fruit and milk. Interestingly, the Kenyan runners typically snack on fruit as no sweet foods are kept in the house.

Aside from the Kenyans eating a high carbohydrate-diet, the top other reasons to eat a high carbohydrate diet (fruits, vegetables, legumes, whole grains) include:

### LOW CARBOHYDRATE DIETS LEAVE YOU MENTALLY DRAINED

Carbohydrates are stored in the muscle and in the liver as glycogen. The energy stored within the liver helps maintain blood sugars and also fuels both the brain and working muscles. With blood sugars naturally rising

and falling in two to four hour increments depending on metabolic efficiency, liver glycogen stores constantly need to be replenished with snacks consisting of some carbohydrate. When inadequate carbohydrates are consumed, liver glycogen levels fall quicker, causing blood sugars to drop. As a result, a lack of fuel being sent to the brain triggers dizziness, fatigue, headaches, and an overall feeling of sluggishness known as “bonking.”

### LOW CARBOHYDRATE DIETS TRIGGER PREMATURE MUSCLE FATIGUE DURING EXERCISE

Just as a race car stores fuel in a tank, the human body stores carbohydrates as glycogen in the muscles and provides energy for muscle contraction and relaxation during activity. When following a high carbohydrate diet, the average human body will store just over two grams (8-10 calories) of glycogen per pound of muscle tissue. This amount of muscle glycogen will supply the energy needed to train for approximately 2-2½ hours at a moderate-to-high intensity. Athletes following lower carbohydrate regimens, however, have been shown to store approximately 45-75% less glycogen as compared to their “carbo-loading” training buddies. Therefore, athletes are more vulnerable to premature depletion of muscle glycogen, ultimately compromising muscle function and leading to debilitating cramps, slowed pace, reduced power output, and diminished endurance capacity, otherwise known as “hitting the wall.”

### LOW CARBOHYDRATE DIETS AFFECT MOOD

You may be described as unpleasant to be around (*i.e.* grumpy, mean, irritable) when following a low carbohydrate diet! Carbohydrates help to stimulate production of a brain chemical called serotonin. Serotonin controls our emotions, and a shortage can lead to mood swings and depression. A moderate carbohydrate diet should help keep one’s mood stable.

### LOW CARBOHYDRATE DIETS ARE OFTEN DEFICIENT IN ESSENTIAL NUTRIENTS

With a lack of grains, fruits, and vegetables

being consumed in low carbohydrate diets, runners run the risk of developing dietary deficiencies of key nutrients including dietary fiber, which can affect digestive health; vitamin C, which can compromise immune function; folic acid, which may elevate risk for cardiovascular disease; and magnesium, which may elevate risk for cramping and also compromise bone health. A lack of fiber also increases your risk for cancers of the digestive track (because transit time is lengthened) and cardiovascular disease (because of fibers effect on fat and cholesterol). Low carbohydrate diets lack in the phytonutrients and antioxidants found in fruits, vegetables, legumes, and whole grains, all proven to aid in prevention of cancer and heart disease.

### LOW CARBOHYDRATE DIETS SLOW MUSCLE RECOVERY

Consumption of carbohydrate-rich foods post-exercise will help enhance recovery from workouts. Carbohydrate-rich foods cause a more rapid rise in blood glucose, which in turn triggers the release of insulin or the “master recovery hormone.” Insulin facilitates the transport of carbohydrate, specifically glucose, from the blood into the muscle cell where it can be metabolized to produce energy that will prepare the muscle cell to do work again. Within 30-60 minutes post-exercise, consumption of a carbohydrate-rich snack plus a small amount of protein (*e.g.*, banana mixed in low-fat yogurt) has been shown to triple the rate of muscle glycogen replenishment and muscle protein synthesis. Furthermore, as compared to a protein-only supplement taken post exercise, a carbohydrate-protein solution has been shown to enhance rate of glycogen storage by five times, thereby facilitating muscle recovery.

### LOW CARBOHYDRATE DIETS INCREASE RISK FOR KIDNEY STONES

Ask anyone who has passed a kidney stone – it hurts! Actually, it really hurts! When following a high protein, low carbohydrate meal plan, both uric acid and calcium oxalate stones are more likely to form. In fact, one study found that consumption of a low

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carbohydrate, high protein diet for six weeks delivers a marked acid load to the kidney, increasing the risk for stone formation. Combine this with dehydration during a race and you are a prime candidate for developing a stone. In 2003, former Ironman World Champion and pro triathlete Tim DeBoom unknowingly passed a stone during the race. He passed out and was taken to the medical tent. Worst of all, he received a medical DNF.

### LOW CARBOHYDRATE DIETS CAN DIMINISH BONE HEALTH

Individuals who consume a higher ratio of protein to carbohydrates run the risk of developing brittle bones or osteoporosis. When the body digests protein, the kidneys work overtime to filter the toxic byproducts produced during breakdown of protein. Once filtered, protein is excreted in the urine. Along with protein, there is increased urinary loss of calcium, which can ultimately compromise your bone health, thereby increasing your risk for bone fracture. In fact, consumption of a low carbohydrate, high protein diet over six weeks has been shown to significantly decrease estimated calcium balance and may increase the risk for bone loss and stress fracture.

### LOW CARBOHYDRATE DIETS ARE NO FUN!

Low carbohydrate diets are not fun and certainly won’t help aid running performance. Resist from jumping on the latest “fad diet” bandwagon and continue your carbohydrate ways. Enjoy foods such as nutrient-rich fruits, vegetables, whole grains, and legumes. Your muscles and body will thank you. Healthy and happy eating!

*Caryn Honig is a Registered and Licensed dietitian whose specialties include eating disorders and sports nutrition. She owns a private nutritional counseling practice called The Healthy Weigh. Caryn worked for five years as the Nutrition and Exercise Coordinator at Texas Children’s Hospital Wellness Center. She has completed over 20 marathons, numerous triathlons, and one full Ironman Triathlon and may be reached at (713) 622-6422.*

## RECIPE FOR UGALI

(Be forewarned, it is definitely an acquired taste!)

### Ingredients:

Maize (white corn flour – see note below)  
Water  
Salt (optional)

Put 1 cup of cold water in a medium-size saucepan, and mixing continually, add 1 cup of flour and 1 teaspoon of salt. Bring to a boil over high heat and slowly mix in 3 cups of boiling water. Reduce to simmer, cover and cook for about 5 to 8 minutes, mixing frequently to prevent sticking. The ugali is done when it pulls from the sides of the pan and does not stick. The finished product should look like stiff grits. Serve with vegetable beef broth, cream, sugar, syrup or melted butter poured over it.

**Note:** The type of flour used – from white corn flour to yellow cornmeal – determines the character of the ugali.



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