Developing a Long-Distance Ride Nutrition Strategy

Part One

By Jim Weaver (PhD, MPH)

Helping you decide what, when and how much to eat

"What'll Ya Have? What'll Ya Have?" rang out as we walked in the door, our faces aglow with excitement. Our first family pilgrimage of the year to The Varsity was long-distance riding inspired and was a "bonus capturing" adventure for our children. Sure, we were at the landmark Atlanta eatery to enjoy a great lunch, but our primary goal was getting the iconic red and white The Varsity caps!

Once homeward bound, I couldn't help but think of all the long-distance and rally riders who had passed through the world's largest drive-in restaurant. The sights, sounds and aromas of the fast food mecca must have been irresistible. I wondered how these LD riders resisted the temptation to indulge. The wistful thought of a rider headed up I-85, munching on a chili-cheese-slaw-dog, onion rings stuffed in his 'Stich and slurping a frosted orange shake made me chuckle.

Eat Right for Long-Distance Riding

In long-distance riding, like other endurance sports, the difference between just simply participating and actually succeeding can be directly linked to nutrition. Simply said, what and when you eat during a road trip will affect your performance. Most of us who ride long distances have, I suspect, experienced the consequences of poor on-road nutrition planning and management. In fact, it was a grueling adventure several years ago that spurred me to develop and practice a riding nutrition strategy.

I was on a challenging trip on mostly two-lane highways with huge midwinter temperature swings. Unexpectedly, the sandwiches I'd packed were gone by midday, so for almost ten hours I'd resorted to grabbing quick, not-very-nutritious snacks during fuel stops. Finally, after 120-plus miles of creeping along fog-shrouded mountain roads, I emerged onto the interstate home stretch. Cold, hungry and tired, I found myself channeling Scarlett O'Hara from Gone with the Wind: "As God is my witness," I heard myself saying, "they (thinking of Lord Kneebone and his IBA minions, of course) are not going to lick me. I'm going to live through this (miserable SaddleSore) and when it's all over, I'll never be hungry (on a long distance ride) again!"

Striving to develop an effective nutrition strategy, I sought the advice of other riders, read dozens of ride reports and consulted with sports nutritionists. What I've learned is that our bodies need the right mix of macronutrients (e.g., proteins, carbohydrates and fats), vitamins, minerals and fluids to fuel our long-distance adventures. Following a nutritionally sound eating plan on longer rides will help us maintain our physical and psychological resilience, maximize our riding performance and, consequently, enhance our safety. Eating right during long rides can both delay the onset of fatigue and facilitate our recovery during rest breaks and after the ride.

There's one catch, though: we all have different nutritional requirements depending upon our age, body composition, gender, health and other factors. We also have different food preferences and eating habits. As a result, each of us must tailor our endurance riding nutrition strategy to our personal circumstances and then continuously evaluate and refine our plan to achieve peak effectiveness.

Managing Our Energy Balance

The first step in developing a riding nutrition strategy is to determine how many food calories you need to consume in order to maintain your energy balance. Simply put, energy balance is achieved when "energy-in" (the number of calories you consume) equals "energy-out" (the number of calories you expend). Sounds simple enough, but it takes a bit of work to estimate your motorcycling energy balance requirements. It's important to ask yourself three questions: How many calories do you need during a typical day? How many calories do you expend while on a long-distance ride? What is your energy imbalance?

Determining Your Daily Calorie Needs. To illustrate how to determine your energy balance, let's use height and weight estimates of average Americans drawing on the National Health and Nutrition Examination Survey (NHANES). Focusing on the 40-49 year old age cohort, according to NHANES, the average American male is about 5 feet, 9 inches tall and weighs about 190 pounds while the average female is 5 feet, 4 inches tall and weighs about 163 pounds. The first step is determining our "energy-in" side of the energy balance equation, or how many calories we need during a typical day. Estimating our daily caloric needs is easy using the new MyPlate program developed by the United States Department of Agriculture (USDA) since it helps customize a daily food plan based on an individual's age, sex, weight and height.

The MyPlate plan recommends that an average 45-year-old male who, in addition to his normal routine, engages in moderate or vigorous physical activity for 30 to 60 minutes most days, should consume 2,800 calories daily. A mix of macronutrients including 10 ounces of grains (half of which should be whole grains), 3.5 cups of vegetables, 2.5 cups of fruits, 3 cups of dairy and 7 ounces of protein foods is suggested. The average 45-year-old female who engages in the same physical activities should consume 2,200 calories daily by eating about 3 ounces less grains and foods with an ounce less protein.

Estimating Our Caloric Needs While Motorcycling. We need to evaluate the "energy-out" side of the equation by estimating the energy expended while motorcycling. Several online resources (e.g., Mayo Clinic, Wisconsin Department of Health Services) approximate the number of calories people expend per hour across a variety of activities. However, most do not include motorcycle riding and few adjust "energy-out" estimates based on the rider's weight. Fortunately, a Livestrong.Org partner website (www.caloriesperhour.com/index_burn.html) provides this important information.

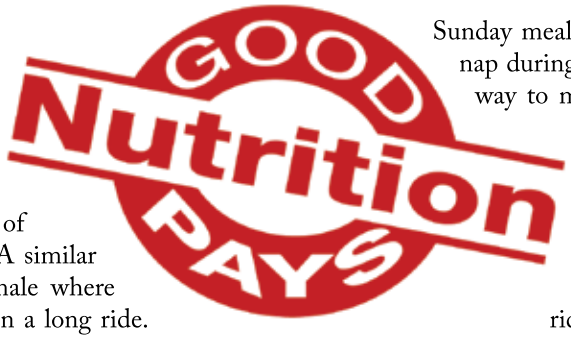
The amount of energy we burn while motorcycling may be higher than you expect. As is seen in Table 1, the energy expended during one hour of motorcycling is moderate but consistently greater than many other daily activities. The average male, for instance, burns about 67% more calories per hour while motorcycling than while doing general office work. There's even a marked difference (25%) between motorcycling and driving an automobile or walking the dog. Interestingly, these motorcycling "energy-out" estimates may actually underestimate our LD riding caloric expenditure, since appropriate adjustments for environmental factors such as high winds, extreme temperatures and traffic congestion may not be included.

Table 1: **Calories Expended during One Hour of Physical Activity as a Function of Body Weight**

Activity	Body Weight: 163 pounds (calories/hour)	Body Weight: 190 pounds (calories/hour)
Sitting Quietly (e.g., watching TV)	74	86
General Office Work	111	129
Walking the dog (e.g., strolling)	148	172
Driving a light vehicle (e.g., car or pickup)	**148**	**172**
Riding a Motorcycle	**185**	**215**
Running (less than 5 mph)	**591**	**689**

Note: From www.caloriesperhour.com/index_burn.html. Calories (labeled: EU, kcal; U.S., calories), also known as dietary calories or food calories, approximates the energy needed to increase the temperature of 1 kilogram of water by 1°C. One food calorie is equal to about 4.2 kilojoules.

Are You Toppling Your Energy Balance? Finally, let's factor in the duration of our big road trip to estimate our energy-out expenditure during a long ride. Consider the following scenario: You're an average American female (body weight = 163 pounds) heading out on your first SaddleSore 1000. You've picked a mostly interstate route that you expect to ride in 18 hours. How much energy should you expect to expend during your ride? »



The answer is derived through the simple formula "calories per hour motorcycling" (185 calories/hour) multiplied by the "estimated riding time" (18 hours), which equals 3,330 calories. That's 1,130 calories MORE than the daily caloric requirement of 2,200 calories for an average female. A similar difference is noted for the average male where 1,070 MORE calories are expended on a long ride. The projected 18-hour ride energy expenditure for a larger male rider (6 feet 2 inches, 220 pounds), for instance, is 4,482 calories; 1,482 calories more than the estimated daily calorie requirement.

What does this mean for long ride nutrition planning? In order to maintain energy balance while motorcycling, the typical rider should increase his/her caloric intake about 40% above that of a typical day; the exact amount, however, ultimately depends on body composition, health and other factors.

Negative Energy Balance has Consequences. You might be skeptical at this point, wondering if all this information about nutrition is utter nonsense. After all, you've "toughed it out" on long rides before by snacking periodically throughout the day and it's worked just fine, right? Well, probably not. In fact, there's a large body of research to suggest that your mental and physical performance suffered.

Imagine how you'd feel if, while maintaining your daily physical activities, you reduced your caloric intake by 40%. As most folks who've ever dieted can attest, the physical and psychological consequences of a negative energy balance (i.e., caloric deficiency) can be both unanticipated and discomforting. Equally as important, many of the consequences can manifest after only a short period of caloric deficiency. Sustaining a negative energy balance over several days can amplify the consequential severity.

Fatigue, muscle aches and cramping, and weakness are common physical symptoms of caloric deficiency because our body is deprived of the fuel it needs to replenish muscle energy stores and repair muscles. Gastro-intestinal problems such as nausea, constipation and diarrhea plague some people when they get "too hungry."

The colloquialism "too hungry to think straight" describes the psychological consequences of caloric deficiency perfectly. Commonly reported symptoms include cognitive disruptions such as diminished perseverance and enhanced distractibility, heightened emotional responsiveness, and dysphoria (i.e., feeling hopeless, uncomfortable, and unhappy).

Many people who get "too hungry" also report a preoccupation with food and a strong motivation toward excessive eating once it's available. Evidence of this consequence comes from several ride reports, which describe "big steak and potato dinners" (about 2,000 calories) at the end of a long day's ride. This hunger-instigated eating motive may also explain why otherwise harmless bonus stops like El Famous Burrito, The Varsity and Waffle House can be the sinister work of a devious rallymaster. Arriving at The Varsity hungry and quickly downing a couple chili dogs, an order of onion rings and a medium frosted orange shake — a 1,383 calorie meal that's very high in fat, sugar and salt but low in lean protein — could negatively impact your alertness, reaction time and stamina for miles. A large meal can also make you drowsy. Taking a nap after eating a large family Sunday meal is one thing. Taking an unscheduled nap during a rally or LD challenge isn't the best way to maintain a your overall average speed, especially when it can be avoided.

Simply said: Poor nutrition management can negatively impact our long-distance riding performance. Stories abound about LD riders who made costly mental errors during long rides, that is to say, not making sure a receipt has the required information or forgetting a rally flag, inexplicably dropping bikes during a bonus or rest stop and/or being particularly disagreeable with fellow riders and event volunteers. We can only wonder to what extent these unfortunate outcomes were the result, at least in part, of a negative energy balance caused by a caloric deficiency.

Deciding What and When to Eat

Once you've estimated your motorcycling energy balance requirements, the next step in developing a riding nutrition strategy is to determine what foods you need to eat and when you'll need to eat while riding. It's important that you take the time to evaluate and understand your individual dietary needs, be diligent when developing your food plan and keep food management logistics in mind.

There are several resource options to help you understand your individual dietary needs. Consulting with your physician or a registered dietitian is a great first step. The government's MyPlate website (www.choosemyplate.gov) and the even more detailed Dietary Guidelines for Americans 2010 (www.dietaryguidelines.gov) also offer contemporary, in-depth insights.

As you're developing our LD riding nutrition strategy, you need to focus on eating the right mix of macronutrients throughout the day to meet your projected caloric needs. Nutrient-dense foods such as whole grains, low-fat dairy products, fruits and vegetables, lean meats and poultry, seafood, eggs, beans and peas, and nuts and seeds, prepared with little added fat, sugar and salt, provide the best fuel for long-distance adventures. Start by selecting nutrient-dense foods that you like to eat, identify those that are road trip friendly and then plan to eat frequent, light meals throughout the day.

As you work to put your riding nutrition plan into action, you need to take the time to ensure that your food choices are both appetizing and bike-friendly. In other words, don't include any food products that you're not eager to eat. Test every food for palatability and gastro-intestinal compatibility before you add it to your nutrition plan. Make sure that you understand what will happen when the foods you choose are subjected to extreme temperatures. Many popular food bar products, which rely on honey, rice syrup, nut butters and vegetable oils as binding agents, can become too brittle to chew when cold and too gooey to handle when hot.

Remember that several beverages can fit well into a ride-sustaining food plan. Rather than grabbing a sports drink during a fuel stop, consider milk or fruit and vegetable juices. Enjoying a bottle of V8® juice along with a baked whole grain snack, like Wheat Thins® or SunChips®, could be a quick, sensible snack and effectively replenish your sodium and potassium levels.

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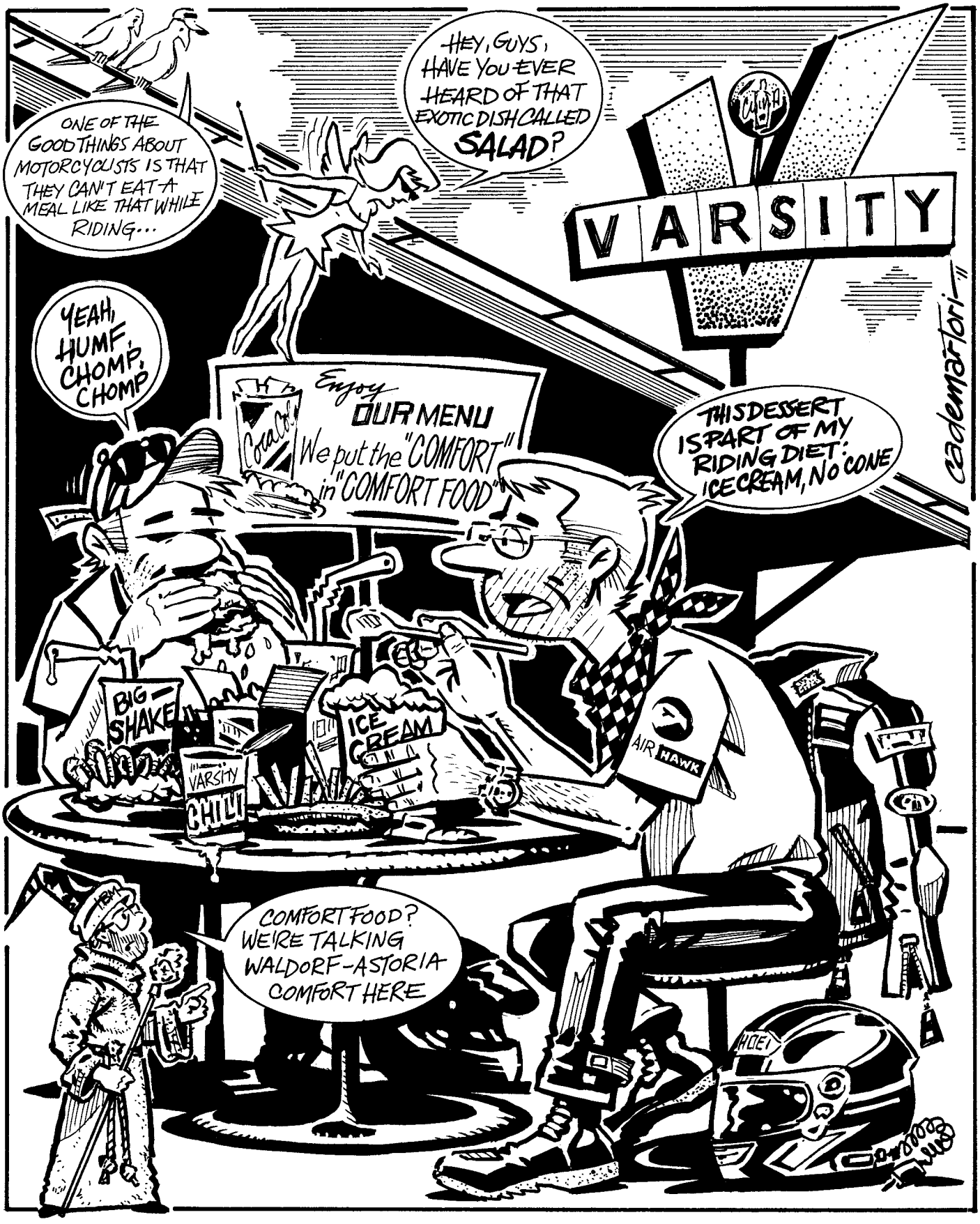
CounterSteering

By Hector Cademartori



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Keep quick-serve restaurants in mind during your planning. Many now serve nutrient-dense foods that might inject some variety into your riding nutrition strategy. A cursory glance at McDonald's nutrition factsheet suggests, for example, that stopping for an Egg McMuffin® or fruit & maple oatmeal, medium orange juice, and low-fat milk could provide a good mix of ride boosting nutrients. Similarly, a Grilled Chicken Go Wrap® and garden side salad from Wendy's might be a great lean protein, low-fat lunch alternative. Also, think about food supplement products such as Clif Shot Bloks® energy chews, as an alternative way to customize and track your electrolyte intake during long rides.

Don't ignore food safety principles when developing your nutrition plan. Perishable foods (pretty much any food you'd normally keep in the fridge or freezer) must be kept chilled to reduce the risk of foodborne illnesses. Granted, a 12-inch cold cut combo with lots of veggies may be a good nutritional choice, but carrying it in your tank bag to nibble on all day is simply not wise. The dark, warm tank bag provides a perfect incubator for microbes that could quickly threaten your ride success and health. This is not to suggest that you should exclude sandwiches from your food plan. Rather, choose sandwiches made with nut butters and fruit jams or cured meats such as salami and hard cheeses made from pasteurized milk — these are generally safe to eat even when not refrigerated, unless you garnish them with mayo and veggies.

Take time to think about the logistics of keeping bike-friendly food handy. If you're comfortable eating while riding, work out how you'll access food in a fashion that's minimally distracting and keeps your hands free for unanticipated maneuvers. Equally important, don't wait until your big road trip to practice your food handling tactics. If you prefer smaller portions, experiment with how you'll wrap and store your snacks. Make sure you have an effective way to manage the wrappers, plastic bags and other refuse so as to avoid citations for littering.

Tailoring a long-distance ride nutrition strategy to your dietary needs and preferences may require a bit of study, lots of trial and error and, like most other new behaviors, may not produce obvious benefits immediately. In time, though, your efforts should yield valuable rewards in terms of enhancing your physical and psychological resilience, extending your riding performance abilities and enhancing your safety.

In part 2 of Developing a Long-Distance Ride Nutrition Strategy, I will share more road-friendly food ideas by exploring the lessons learned and best practices from several accomplished LD riders.

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