

Proper Fueling for All-Day Adventures

By: Kim Mueller, MS, RD

True adventure is about defining your own path and breaking beyond your traditional rings of comfort to establish new performance potentials for your body that the mind may have once doubted. Whether you are planning 50 miles of single track action on your mountain bike, some backcountry XC skiing, a long rock climbing ascent, or a trek by foot to the summit at 15,000 feet, the boundaries set by our minds can continue to be defied with the aid of proper nutritional planning for the long haul.

Extreme Nutrition Tip #1: Prevent engine failure with frequent fueling

Unlike rest where our glycogen (storage form of carbohydrate) reserves are maintained for a good 3-4 hours, when 'in motion, these stores deplete every 1-2 hours making the mental 'bonk' and muscle-wrenching wall probable causes of an engine failure during all-day adventures when nutrition is neglected. To ensure optimal energy levels for sustained endurance, an adequate amount of fuel plus some emergency fuel should be included in your adventure pack before heading out.

Because all-day adventures are more aerobic in nature than shorter workouts, there is sufficient oxygen available for digestion of a more diverse macronutrient (carbohydrate, fat, protein) buffet during such efforts although carbohydrate should still be the focus of this buffet. While calorie burn will vary based on course terrain, weather conditions (shivering increases calorie expenditure), and activity chosen, adventurers should expect to burn ~3-4 calories per pound of body weight each hour of activity of which 30-50% should be replaced. For example, a 150 lb adventurer will burn ~450-600 calories each hour of which 135-300 hourly calories should be replaced.

Obviously, ease of travel will contribute to the foods chosen for all-day adventures but common choices include non-perishables such as freeze-dried foods, trail mixes, nut butter sandwiches, sports drinks, energy bars, dried soups, & beef/turkey jerky.

Extreme Nutrition Tip #2: Ensure 'nutrition' survival with fluids

While our body can survive with insufficient fuel for several months, failure to drink is capable of driving our body's core body temperature to a degree where our kidneys fail us, convulsions ensue, and death knocks on our door in a matter of hours. Because sweat rates vary from person to person, it is important that each adventurer have an understanding of individual fluid needs before embarking on an all-day trip.

To determine sweat rate and consequent fluid needs, pre- and post workout naked weights should be measured during several lower intensity workouts. Every pound lost is equivalent to ~16 ounces of fluid that should be added to your current fluid routine to protect against dehydration during longer adventures. For example, if you train aerobically for an hour and lose 2 lbs, your sweat rate is 32 ounces per hour. Ultimately, the goal is for post-workout weight to be within 2% of pre-workout weight.

While on your adventure, hydration status can be monitored by peeing into a cup periodically throughout the day. Urine color should maintain a pale yellow color as shades darker indicate dehydration and shades lighter indicate overhydration and increased risk for another dangerous condition known as hyponatremia.

To help absorb fluids, inclusion of 100-250 mg of sodium for every 8 ounces of fluid consumed can be helpful. Remember, most of the foods we consume including several items listed in extreme tip #1 contain plenty of sodium and thus electrolyte capsules are not generally needed.

Extreme Nutrition Tip #3: Go longer with less effort with caffeine shots

Researchers from Georgia have recently discovered that caffeine dosing during prolonged exercise helps maintain blood glucose concentration and reduce strength loss through its effects on the active musculature and nervous system that reduce fatigue and perceptions of effort, discomfort, and pain. Study participants were given a total of 2.4 grams of caffeine per pound of body weight split up in dosing prior to and during their submaximal 2.25 hour effort to yield these positive results. For all day adventures, smaller doses (20-30 mg/hour) can be effective in maintaining alertness without reaching the threshold dose of 300 mg where

hydration status can be negatively affected.

Want more nutrition tips as you prepare for your next adventure? Kim Mueller, owner of Fuel Factor Nutrition (www.Fuel-Factor.com), is a Registered Dietitian & Exercise Physiologist who has helped fellow adventurers conquer multi-day adventure races, cross-country cycle trips, 24-hour mountain bike races, and 100-mile ultra-endurance runs. Customized menu planning, nutrition coaching, and health/sport enhancement programs are available to active individuals worldwide. Kim can be contacted at kim@Fuel-Factor.com.