



## Pre- and Post-workout Nutrition: What Your Body Needs

by Lori Foster

Spring rains might keep us from some of our favorite outdoor activities, but they bring with them a promise that summer is just around the corner. That means longer, warmer days along with sleeveless shirts, shorts, bathing suits and plenty of opportunities for hiking, rock climbing, swimming, waterskiing—all kinds of outdoor fun. It's time for getting fit!

Whether we want to build more muscle for the activities we enjoy or simply sculpt them for the more revealing outfits of the season, we tend to hit the gym, the roads and pools at full-throttle. But good-intentioned zealotry can lead to torn and damaged skeletal muscles and weakened immunity, leaving us too sick or sore to exercise for days, sometimes weeks. Then summer comes and so does the disappointment that we have not reach our fitness goals.

The good news is that you can avoid this pit-fall completely. In addition to easing into a vigorous exercise routine, the right combination of vitamins, electrolytes, amino acids and other nutrients can help our bodies to work more efficiently. And it's as easy as hydrating with two tasty, all-natural blends before and after we exercise.

### THE FORMULAS FOR SUCCESS

Driven and Reload, developed by Metabolic Response Modifiers, offer the perfect combinations for peak performance and recovery. Driven supports the mind and body before workouts and Reload

helps the muscles recover for the next session. Both are made from all-natural ingredients with no harmful side effects, and both are low in calories.

The fruity, potent drinks were created for professional athletes and highly active people, but anyone can benefit. They can be especially helpful for those of us who wake from that winter slumber with more inspiration than our bodies are ready to handle.

### PRE-WORKOUT POWER

Every workout should begin with Driven, a 12-calorie powder that mixes easily and quickly with water.

One of the key ingredients in the blend is electrolytes. Electrolytes are depleted during training, but they are critical for rehydration and nerve and muscle function as well as for balancing the acid levels in the blood. Driven provides a reserve before workouts to enhance performance.

The B-vitamins in Driven boost energy while arginine alpha keto-glutarate, an amino acid derivative, improves blood flow to the muscles, bringing more oxygen to the places that need it most. A study conducted at Baylor University in Texas and published in the September 2006 issue of *Nutrition* shows significant performance improvements in athletes who were given arginine alpha keto-glutarate as compared to those who took placebos.

Creatine monohydrate, another key ingredient, has been used for decades as a proven strength-builder. Researchers at the University of Oklahoma further confirmed its benefits in a May 2009 study published in the *Journal of Strength and Conditioning Research* that found definite strength increases with creatine monohydrate supplementation.

Driven also contains CarnoSyn® Beta-Alanine, a patented amino acid that increases strength, aerobic and anaerobic endurance, and delays muscle fatigue, allowing athletes to train harder. A study conducted at the University of Colorado and published in the March 2007 issue of *Amino Acids* found that women who supplemented with beta-alanine were able to exercise for longer stretches with less muscle damage. Researchers at Chichester University in the United Kingdom came to a similar conclusion with male subjects in a February 2007 study.

Another ingredient, citrulline malate, aids in the support of nitric oxide levels, alleviates lactic acid build-up and helps eliminate amino acid byproducts created during exercise. Trehalose is a carbohydrate in Driven that is low on the glycemic index. It provides sustained energy and protects against dehydration.

The PEAK ATP® in Driven delivers the exact molecule the human body needs to create energy. Extensive scientific evidence shows that PEAK ATP has a dramatic effect on circulation without adversely affecting heart rate or blood pressure. PEAK ATP has applications for energy, athletic performance and anti-aging.

All of the ingredients in Driven are essential for supporting our bodies during workouts and for preparing our muscles for recovery. But we need more than that when we put down the weights for the day or step off the treadmill. Our muscles need a good

dose of branch chain amino acids (BCAAs) for optimal recovery.

## RELOAD AND RECOVER

Amino acids are the building blocks of protein. We need protein to build muscle and to maintain it, but according to The National Council on Strength and Fitness, timing is everything. Protein ingested too soon or too late can cause our bodies to convert it to fat while studies show that BCAAs taken close to workout time can be beneficial.

That's where a 10-calorie glass of Reload mixed with water comes in.

Reload is a blend of the BCAAs L-leucine, L-isoleucine and L-valine with L-glutamine, beta-alanine, and vitamin B<sub>6</sub>. Combined, L-glutamine and beta-alanine are essential for rebuilding and repairing muscle, but L-glutamine has extra benefits. L-glutamine also shuttles toxic metabolites out of the body and is a preferred energy source during exercise.

The benefits of L-glutamine have been well-documented over the years. In an October 2003 study published in *Nutrition in Clinical Practice*, researchers at the University of Colorado in Denver found that L-glutamine supplements can speed recovery from critical illness, stress, and injury.

Beta-alanine works in partnership with L-glutamine, providing more of the same muscle-healing benefits that it gives before workouts with Driven.

The other three amino acids in the blend—L-leucine, L-isoleucine and L-valine—fill in the gaps in the repair and prevention process. They make up 33 percent of our skeletal muscles and help those muscles to better synthesize protein.

The final ingredient in Reload, Vitamin B<sub>6</sub>, is crucial to the mix. It helps the other ingredients get to where they are needed faster. Vitamin B<sub>6</sub> speeds up metabolism of the amino acids and helps turn them into nitrogenous compounds, which is the form our bodies require.

We work hard to gain muscle, but we all overdo it sometimes, especially when the air is warmer and the days are longer. Beginning a workout with Driven and ending with Reload just makes sense. ■



## Resources

Driven and Reload from Metabolic Response Modifiers (MRM) can be found at health food stores and nutritional supplement stores nationwide. Call 800-948-6296 or visit [www.mrm-usa.com](http://www.mrm-usa.com) for more information or to find store near you.

