

THE WHOLE ATHLETE EXPERIENCE

FC UNITED SPORTS PERFORMANCE

RECOVERY II: NUTRITION

November 2018, Issue 3 discusses Nutrition, the next aspect of Recovery.

Building off of the last edition, *Self-Care Recovery*, Nutrition is an equal step in an athlete's Recovery Routine. There are multiple nutrition-related strategies athletes can implement now for immediate improvement in performance.

If you have ever experienced fatigue, lack of focus, reduced energy, or felt lightheaded at work, in school, or during training, these are common reactions to **athlete malnutrition**. In this context, malnutrition means nutrient deficient. Even if you eat three full meals a day, nutrient deficiency is still very possible. The deficiency is a function of lacking quality, quantity, and/or the timing of fuel intake.

The better the athlete recovers, the better the athlete performs.



Three guiding principles for effective Recovery Nutrition are the quality, quantity, and timing of fuel consumption.

QUALITY: Organic is not essential, but definitely aim for fresh foods, minimal ingredients, and "clean" labels. The less processed a food is, the easier it is for the body to absorb.

Malnutrition can occur when athletes fail to eat all the vitamins, minerals, and macronutrients necessary for optimal brain and body function.

The essential macronutrients:

Carbohydrate- Categorized by how the body absorbs them, there are two basic forms--*Simple and Complex*. Simple carbohydrates absorb quickly. Great for immediate energy needs. *Think: fruit, milk products, and chips/pretzels*. Complex carbohydrates are best for supplying chemical energy stores for future use--Eat after practice or several hours before practice! *Think: beans, oatmeal, whole grain bread, and sweet potato*.

Proteins- Critical for building and maintaining the muscular structures of the body. Proteins need to be eaten consistently throughout the day to supply support to the muscles. *Think: Lean red meat, white meat, tofu, seitan, tempeh*.

Fats-Fats in the right doses provide the peripheral functions of the body the energy it requires for necessary function. Aim for unsaturated fats. *Think: raw walnuts and almonds, avocado, grapeseed or olive oils*.

RECOVERY NUTRITION CONTINUED

QUANTITY: How much or little an athlete eats is based on age, weight, height and performance goals. On average though, a youth female needs at least 150g of carbohydrate, 55g of protein, and 45g of unsaturated fat per day. The average male youth athlete needs 170g of carbohydrate, 60-75g of protein, and 50g of unsaturated fat per day. Nutrient deficiency can occur in athletes if they are under-fueled in one of these categories. Also, fluid and electrolyte levels fall into this category.

TIMING: When you eat to perform, practice is the biggest part of the day. The majority of carbohydrates need to be eaten before and after practice time. Proteins need to be eaten throughout the day, but MOST IMPORTANTLY, after practices. Healthy fats are essential to eat throughout the day. Timing may have the biggest impact on performance nutrition, as it facilitates fuel absorption and fuel release.

The body is most effective at replacing carbohydrate and promoting muscle repair and growth in the first ~60-90min after exercise, however this will continue to occur for another ~12-24hr.

The biggest issues with poor post-session nutrition:

- Increased fatigue (during training and at work or school)
- Reduced performance at your next training session or event
- Sub-optimal gains from the session just completed
- Increased muscle soreness

HEAVY INTENSITY TRAINING DAY FUELING SAMPLE: 5:30PM PRACTICE

Breakfast 6:30am	Mid-Morning 9:00am	Lunch 11:30am	Pre-Practice Meal 3:30pm	Post-Practice 4:45pm	Dinner 7:30pm	Pre-Bed 10:00pm
3 Carb. Sources (1 Starch, 2 veggie or fruit)	1 Fat 1 Protein Sources (10+ g)	3 Carb. Sources (1 Starch, 2 veggie or fruit)	2 Carb. Sources (2 veggie or fruit)	1 Quick Carb. + water <i>Apple/apple sauce, oranges, bananas, kiwi, pretzel, tortilla chip, carrots, sliced peppers, diluted juice, crackers, dried fruit</i>	2 Carb. Sources (1 Starch, 2 veggie or fruit)	1 Carb. *Cherry Juice Concentrate
1 Unsat. Fat	14 fl. oz. water	1-2 Fat	1 Unsat. Fat		1 Unsat. Fat	14 fl. oz. water
1-2 Protein Sources (20-25 grams)		1-2 Protein Sources (20-25 grams)	1 Protein		1-2 Protein Sources (30 grams total)	
14 fl. oz. water		14 fl. oz. water	14 fl. oz. water		14 fl. oz. water	

This sample demonstrates the timing and types of fuel choices an athlete needs to make throughout the day. Food is fuel, not an afterthought. Every choice should be intentional.

Three R's of Recovery:

Post-practice or game, remember these tips to restore your body's optimal function.

Re-hydrate: 16-24oz of water or lightly sugared recovery drink for every pound of body mass lost from sweat. PRO TIP: Try **Beet Elite** or **TART Cherry Juice CONCENTRATE**

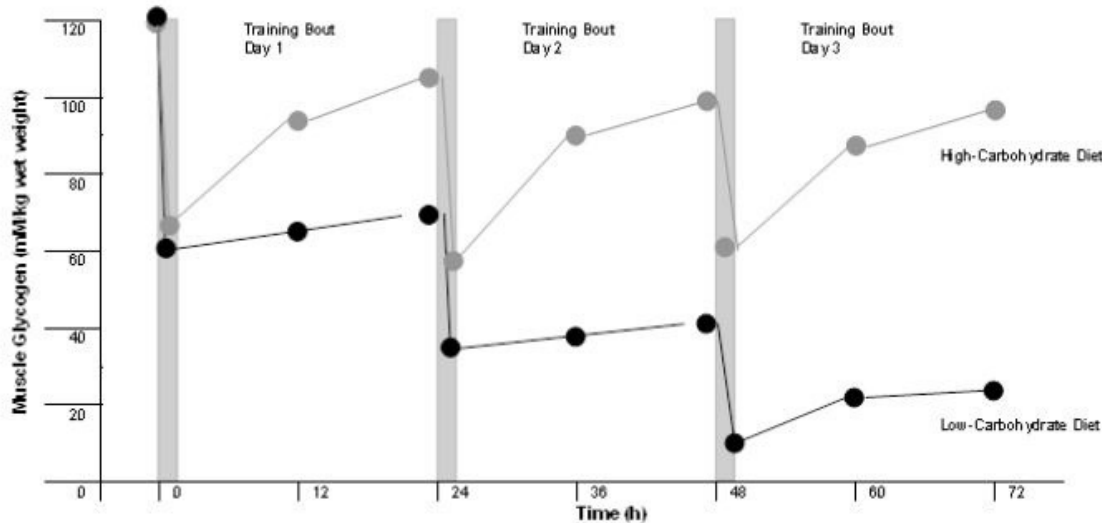
Refuel: Once your heart rate drops to a normal cadence, this signals the body that exercise has ceased. Eat 15-20 grams of carbohydrate and 10-15 grams of protein within 30 minutes of this marker.

Rest: Enjoy the mental and physical time away where and when available.

PRACTICE EFFECTS ON INTRAMUSCULAR GLYCOGEN STORES

This graph depicts the depletion effect three consecutive days of practice have on two different athletes' glycogen stores. Both experienced a gradual decrease in long-term energy stores despite fueling!

Conclusion: Depletion is inevitable. Poor performance does not have to be. Proper refuel is the best chance for your body to supply current adaptation and meet future energy demands.



Effects of diet on muscle glycogen content during three successive daily 2-hour bouts of heavy training. Caloric compositions of diets were as follows: low-carbohydrate diet, 40% of total calories from carbohydrate; high-carbohydrate diet, 70% of total calories from carbohydrate. (Adapted from Costill DL, Miller JM: Nutrition for endurance sport: Carbohydrate and fluid balance. Int J Sports Med 1:2-14, 1980.)

WINTER TRAINING PACKETS

Keep an eye out for an email from your coaches! Each team will receive training programs specifically designed for them. To guide our athletes through the Winter seasons where most experience lighter training loads, we want to facilitate active recovery during this maintenance phase of the year. Sports Performance designed these programs specifically for your team to address the question, "What does an athlete, who is conditioned for 4-5 high intensity training sessions per week, do during this down period?"

We want to avoid de-conditioning our athletes and risk them losing the speed, strengths, and skill they developed during the Fall season. This year, Sports Performance designed a training guide to assist with your recovery period.

When done correctly, effective downtime training results in:

- *Significantly reduced soft-tissue injury risk upon returning to full, in-season training
- *Increased recovery time in-season
- *Retained skill, strength, and fitness
- *Faster progression when season resumes

This packet features:

1. A calendar--this plans your sessions and OFF days. This is a suggested schedule. Adjust accordingly to your practice and game schedules.
2. Strength Circuits --these circuits program exercises that aim to balance the common movements of your sport so that you may strengthen muscles that may not receive the attention they require in season.
3. Skill Specific Routines-- The classic saying of, "Don't use it, you lose it" applies perfectly here. Work on your "touch" 3-4 times a week minimum. These sample routines were designed to challenge yourself.

4. Core Routines--Improve your stability, strength, and posture with these core circuits. On average, you need 200 repetitions of quality core training 3x per week to see improved movement in all areas of your game!

5. Mobility Routines -- LAST BUT NEVER LEAST. Mobility addresses the soft-tissues and joints that allow the body to move with pain. These routines combine soft-tissue release and specifically paired stretches to improve your ranges of motion and restore your muscles to their natural function.

LOOKING AHEAD:

If you have questions about your athlete's recovery nutrition, please email me at Taylor.h@fcunitedpremier.com. I look forward to hearing from you!

The next newsletter will take a more in-depth approach to discussing Sleep and its effects. Stay tuned!

- Taylor Hynes