Rapid Recovery After a Workout or Competition *Gatorade*

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Training sessions and competitions can make you feel totally exhausted. If you don't recover properly, you will not be ready to perform well during the next training period or competition. A failure to recover adequately can eventually lead to overtraining and staleness. What is optimal recovery? All of your body systems should be returned to the state they were in before exercise. You want to rid your muscles of lactic acid and other waste products, replenish all the energy sources you used to fuel your exercise, fill up your body fluid reservoirs, minimize any muscle or joint damage resulting from exercise, and re-energize your brain cells. Here are some recovery tips that will help you feel more energetic and ready to take on the world.

- **Don't Lie Down on the Job**
  After exhaustive exercise, don't stop and rest immediately. You can speed up the removal of lactic acid from your muscles by continuing to exercise at a low intensity for 10-20 minutes. This cool-down exercise can help reduce the feelings of stiffness that you may experience after a workout and is especially important if your next round of competition is only a few hours away.

- **Stretch Mostly After Exercise, Not Before**
  Stretch your major muscle groups after your cool-down exercise to get the maximal benefits of stretching. If you stretch your muscles, tendons, and ligaments too aggressively before beginning your exercise, you risk damaging those tissues. Rather, wait until the tissues are warmed up by exercise, and you can perform better stretches that will minimize muscle soreness and may help prevent future muscle pulls and other injuries.

- **Fuel Up Fast**
  The muscles are primed for quick restoration of their carbohydrate fuel reserves (glycogen) immediately after exercise, so don't wait to start eating foods and drinking beverages rich in carbohydrate. Pretzels, fresh fruits, energy bars, sports drinks, and even jellybeans all contain lots of carbohydrate.

- **Carbohydrate is Best, But Some Protein Can't Hurt**
  During strenuous exercise, some proteins in the muscles are broken down. For faster buildup of muscle proteins during recovery, include a small amount of protein in your food intake. To combine both carbohydrate and protein, try a ham or tuna sandwich. Most energy bars contain ample carbohydrate and protein to get your muscles on the road to recovery. So do foods like milk, cheese, eggs, and nutrition shakes.

- **Fill Up Your Tank**
  Body fluids are lost in sweat, and quickly replacing that fluid is crucial. Fluids are needed to maintain your blood volume so you can deliver oxygen and fuel to your muscles. Moreover, without enough fluids, you can't sweat to help keep your body temperature at safe levels. You should top off your body fluids by drinking an hour or so before exercise, try to replace as much sweat loss as you can during exercise, and replace any body weight lost during exercise by drinking while you are recovering.

- **Salt is Super**
  When you sweat, your body loses both water and electrolytes (mostly salt -sodium chloride- and some potassium). If you drink only plain water during exercise and recovery, you will have difficulty replacing your body fluids rapidly because much of the water will pass through your kidneys to become urine. You must replace the salt along with the water to counteract dehydration. Especially if you will compete again in a few hours, consider using sports drinks during recovery for fast replacement of water, salt, and carbohydrate. Also, make sure you put some extra salt on your foods at mealtime, particularly if you are prone to cramping.

- **Healing Helpers**
  When your muscles and joints are aching after exercise, you may be experiencing the effects of inflammatory processes and swelling that follow minor damage to your tissues. To minimize this inflammation, try using massage, cold packs around your joints, alternating cold and hot whirlpool baths, and small doses of aspirin or other anti-inflammatory products. Don't expect miracles; these techniques may not work for you, but many athletes find them useful.

- **Sleep Well**
  A good night's sleep helps you get physically and mentally prepared for your next workout or competition. You can't perform at your best when you are not alert and are unable to concentrate on your sport. Some athletes can get by for a day or two with inadequate sleep and still perform well, but poor sleep habits will eventually lead to poor performance. So try to get into a routine of at least 7-8 hours of sleep each night to ensure full recovery from your last training session or competition.

SUGGESTED ADDITIONAL READING:

Gibala, M.J. (2000). Nutritional supplementation and resistance exercise: What is the evidence for enhanced skeletal muscle hypertrophy? Can. J. Appl. Physiol. 25:524-35.

Maughan, R.J. (2000). Food and fluids before, during and after exercise. In: Shephard, R.J. (ed.) Endurance in Sport. Blackwell: Oxford, UK, pp. 409-422.

The window of opportunity to replace the energy stores (glycogen) that you have burned up during a workout is relatively brief, only 20-40 minutes. Make sure you refuel for that next workout with more than just water, and keep the fatty foods like fries and chips out of the picture. There is also an article I wrote called *Proper Nutrition Before, During and After Exercise* in the information station that goes into greater detail. Dr. DeFabio

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