

Performance Point

Recovery and Regeneration

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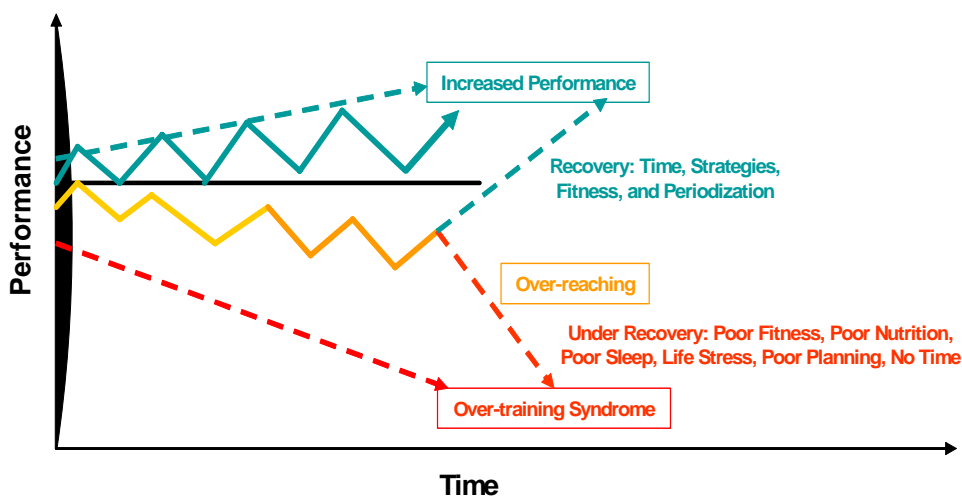
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Excellent performances rely on one's ability to recover from the stressors put on the body and mind. For athletes these stressors include the rigors of competition, training, travel and life. Without recovery and regeneration, the body and mind cannot achieve the training adaptations necessary for improved performances, nor can the body sustain high levels of performance. Thus recovery is an essential piece of the performance pie.

Through well planned, periodized training and recovery practices, the adaptation response to stressors can be accelerated, maintained, decelerated or fail. Failure results in under recovery which can lead to over-training syndrome. The graph below illustrates how performance can either increase or decrease, based on recovery.

A key player in the whole process is fatigue and all the factors that contribute to fatigue. Fatigue affects performance in the following ways:

- ✓ **Metabolic fatigue:** not enough energy either stored for the next training session or to rebuild damaged tissue
- ✓ **Neural fatigue:** no longer able to activate muscles, or no longer motivated to work
- ✓ **Psychological fatigue:** mental overload (or perception of overload)



WHAT CAN YOU DO?

There are four main factors that consistently come up in research that are the most important considerations in one's ability to combat fatigue and subsequent recovery rate.

1. **BE FIT:** Aerobic fitness level (that is the ability to perform sustained work) is critical to recovery rate. "Sport preparedness" contributes to performance and recovery in a number of ways:
 - ✓ Removal of damaging waste products produced by high-intensity or high-volume training
 - ✓ Delivery of nutrients to muscles for "building" or "rebuilding" of tissue
 - ✓ Ability to handle stressors (mental and physical) is better in individuals who have higher levels of aerobic fitness
2. **SLEEP:** Get 8-10 hours of quality sleep. Naps that last 15-25 minutes are great too! Long naps tend to make athletes sluggish for afternoon training sessions, reducing the quality of training and subsequent training effect.
3. **NUTRITION:** Consecutive days of training deplete energy stores and require energy (carbohydrates), building blocks (protein) and micro-nutrients (vitamins and minerals) to repair and build tissue. Well-timed nutrition can enhance this process (see the Performance Point "Recovery Nutrition", October 2006)
4. **PERIODIZED TRAINING:** Well-thought scientific training plans lead to performance excellence. Periodized programs ensure athletes develop the fitness required to sustain a high level of training (both quality and quantity) and optimize time for rest and regeneration.

**Your base level of fitness is essential to your recovery:
BUILD IT, CULTIVATE IT, PROTECT IT.**

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