

Rest, Recovery and Regeneration for Athletes:

Setting up a training program that works is a daunting process. Many athletes train for several years before they truly are able to establish a regime that works for them. Achieving balance is difficult at times to say the least. To achieve balance you must also understand the principles of Rest, Recovery, and Regeneration:

Why is resting important?

Exercising hard will speed up your metabolism, stress your central nervous system, fatigue the muscles of your body, change your emotional state, increase your body temperature, and impact many of your internal organs. The stress from exercise is good but not allowing your body to correctly recuperate will lead to injury, reduced performance, and burnout.

Exercise challenges the body and tears it down. Resting, eating properly, hydrating, adopting regeneration strategies, and doing active recovery sessions are important for a strong body.

Recovery in Older Athletes:

Older athletes often put as hard an effort into training as younger counterparts and are often more adamant about doing mileage/laps/minutes. They also cross train less, take fewer days off, have very busy lifestyles, and many are also Type “A” workaholics. The irony at times is that the older an athlete gets the more rest their body requires for regeneration. The good news is many older athletes are much better at recognizing a well balanced diet and employing the use of massage into their weekly routines.

Hard training is very important, long sessions are sometimes important, and doing hard weeks is a necessity. Training should be about quality and never about only getting quantity for the sake of quantity. A large part of quality training is utilizing some quality recovery strategies.

Here are some easy strategies:

Hydration:

Before, during, and after exercise insure that you have adequate fluid in your body. Adopt the easy to use “toilet test” by simply monitoring the colour of your urine. If your pee is clear or has a slight discoloration you are well hydrated. You are de-hydrated if your urine is murky, smells, or is strongly discoloured. If you ever see red then call the doctor (or cut down on the beets). Keeping properly hydrated is very important as a 2% reduction in body weight due to dehydration can lead to a 10% (or more reduction) in performance.

Diet:

Easy - Get the Canada's Food guide and follow it. On the new guide there are recommendations for athletes. Athletes do indeed need slightly more protein to help with muscle repair than non-athletes. This can be easily achieved by most people without use of extra protein powders or 18 oz steaks.

In regards to Glycogen stores athletes must always eat enough Complex Carbohydrates (CHO) during training cycles. Any workout (hard or Easy) will affect CHO stores. One of the central reasons why athletes must dramatically reduce activity in the week (or longer for longer endurance events) leading up to a taper is due to the impact that too much activity can have on muscle glycogen reserves.

Muscle Fatigue

Within your body you have large muscle groups that are responsible for most gross body movements such as jumping, running, and kicking. Smaller peripheral muscles often are utilized more in finer movements such as balancing, hitting a target, and agility training.

When large muscle groups are tired they are often sore and heavy. Fatigue in smaller muscle groups is noted by a lack of acceleration, negative effects to technique, and slower overall movement. Most athletes easily notice fatigue in larger groups but miss the signs from the smaller groups. This is one of the central reasons why athletes must concentrate on the quality of performance along with the quantity. Recurrent inadequate recovery in small muscle groups will negatively affect overall performance in both workouts and competitions.

Here are some strategies to aid in muscle regeneration:

- 1) **Contrast Shower/Bath** – Hot water leads to dilation of muscle fibres. Dilation helps flush metabolites out of tired muscles but too much heat will lead to inflammation. Cold Water leads to constriction of muscle fibres. Constriction reduces swelling but too much constriction will be negative to the removal of metabolites. A simple strategy to get the best of both hot and cold is by alternating between hot water in a bathtub (sitting down) and cold water (standing up). Do 3 cycles of 20-30 seconds each and this will help “pump” the muscles.
- 2) **Active Recovery** – use this strategy during a hard volume/load week by adding an easy cycle or run the day after a hard workout. Intensity must be kept very low (60-65%) and duration should be relatively short. Active recovery allows blood to flow into your muscles, removes metabolites, and reduces acidity. Active or passive stretching can then be added post activity
- 3) **Massage** – Do not attempt deep tissue massage the day after a hard session as it can damage recovering muscles. Massage aids by loosening muscle tension, increasing blood flow, etc.

Neurological and Psychological Fatigue:

Just completed a major event and now have no desire? Training was going well but you just lost your drive? Practice is feeling too complex? Outside life is too stressful and it is affecting performance? Still want to train but cannot take the intensity anymore?

Any of these scenarios sound familiar? Everyone at some point of time is going to suffer from a lack of performance and a lull in training due to mental fatigue. Neurological fatigue is when your nervous system does not seem to respond the way it should to the demands of training. This occasionally occurs when too much repetitive focus is being put on the technique of a movement, too much time is spent on fine motor movement, and when an activity far exceeds your current level.

The most common strategy for dealing with neurological stress is a change in your training program. A good coach can help you with this. Sometimes it also means taking a complete break from neurological demanding training and focusing for a couple of weeks on easy/no training. While there can be negative repercussions from a stop in training the reward is worth it.

Psychological fatigue often occurs at times when you feel overwhelmed by the demands of training or by your life in general. The stress of training combined with the stress of your lifestyle is sometimes referred to as Compound Stressing. An understanding that Compound stressing is real is important to achieve top performance. Stress from outside can negatively affect performance in sport. If an athlete cannot adopt a strategy for dealing with stress outside of sport then they might as well add hard training sessions each day.

In dealing with Compound Stressing it is often important to enlist the aid of a good friend, spouse, teammate, coach, or psychologist in order to work out a plan that will bring your life back into balance. Busy people can be very successful, but a busy person who does not take the time to find balance will also fall short of their potential.

Returning From Sickness

Short-term illness itself is a huge stress on a person's body and I have seen athletes take a week off due to sickness and return with a personal best performance. This is due to the fact that the body has made itself stronger by warding off the illness. Athletes will sometimes lower expectations knowing they were sick and this in turn lowers competition anxiety.

It is common for athletes to get sick at a time when they should be tapering due to the stress on the immune system from hard training leading up to the taper. If training has gone well up to that point and you are fully recovered for the competition then you may never see a negative impact.

Recovery and Regeneration is as complex of a training principle as the physical training itself, but often more misunderstood. Do it properly though and you have an excuse for taking is easy every once in awhile.

Derrick MacLeod

Chartered Professional Coach, Owner of FASTANDFIT.ORG

FAST and Fit is doing a Weekly training session throughout the Fall/Winter on Monday nights at 6:15-7:15PM. Check out all our programs online at FASTandFIT.Org and be sure to join our mailing list. We believe in Smart Coaching!!

