

Rest, Recovery and Regeneration

In the last article I talked about training. Here I will go into the flip side of training, rest, recovery and regeneration. Conventional theory is that you put on a training load, something a bit more strenuous, faster, harder, longer than 'normal', the training phase, then there is a period during which your performance deteriorates before it recovers (the recovery and regeneration phase) and super compensates so that you can perform a bit faster, harder or longer than before the initial training phase (the training effect) in your next training phase and you repeat the cycle, getting fitter and faster all the time. The problem is that each of us respond to training and recover differently and, as we approach our genetic potential, the gain to be gotten from training takes more and more training for less and less gain.

It's a lot easier to maintain than it is to get better, especially when you are approaching your limits. Not only that, each of our different energy systems, muscles, enzymes, hemoglobin, blood volume, ligaments, mitochondria, blood volume pumped per heart beat, oxygen uptake etc. systems in our bodies respond to training and recovery differently from each other. So while we can make big and almost immediate gains in say blood volume by deliberately dehydrating ourselves while training long at altitude for a few days then going down in altitude and re-hydrating (similar to carbohydrate loading by training long while taking in limited carbohydrates then resting while eating or loading up on carbohydrates before a long event), blood volume pumped per heart beat takes many years of long slow training starting in earnest at post puberty. Add to that, the longevity of the training effect differs for the different systems in our body. So carbohydrate loading only lasts for 24 hours or so, aerobic fitness begins to deteriorate within a week to ten days and muscles start turning to flab within three to four weeks. So the dilemma is in programming the proper amount of the right kind of training at the right time with the appropriate amount of rest and regeneration for optimum performance for certain events or a certain period of time (peaking). Hence yearly, biyearly and quad yearly (for those aiming for the Olympics) training plans, training macro and micro cycles. For most of our elite athletes, it takes at least 10,000 hours of deliberate planned training to reach performance peaks, That's 15 to 20 years of planned progressive training working the right systems at the right time to reach our potential. And timing is important because during growth and maturation processes, we have optimum windows of opportunity to maximize our genetic potential. The long term athlete development model from our coaching shows, for instance, that there are two optimal periods in a child's life when pure speed can be best developed. It shows that skills are best developed at young age and it takes longer for us mature adults to learn physical skills. It shows that strength training should not start for children until after menarche in females and after peak height velocity growth has occurred in males and that endurance training should not start for children until after maturation of their respiratory and muscular systems. All is not lost, however for those of us who was not fortunate enough to have the right stimulus at the right time for optimum development. We can still make big gains with regular exercise and training. And adequate rest, recovery and regeneration. You know it's you are doing too much if you fall ill frequently.

A better method is to monitor your mood patterns. Are you feeling optimistic and looking forward to your next training session. Do you feel energetic, did you sleep well, how is your appetite? A profile of mood states is a standard series of mood questions that keeps track of the trends in your mood that can give you pre warning of over-training before you fall sick. The Rusko test is a standard test that keeps track of your heart rate to detect signs of over training before it becomes a problem. It consists of taking your heart rate lying down first thing in the morning, taking it again after standing up but being still after 8 minutes and comparing the difference. After a while you should get a idea of what the difference is normally. If it goes up 5 - 10 beats above the norm then your are heading into over training and trouble.

Remember that training is a stressor, the same as any other stressor, like work, school or holidays, and they are cumulative. So you may not be training hard, but the combination of stressors may still bring you over the edge.

To learn more about rest, recovery and regeneration or training, consult a qualified coach or take a coaching course.