SOLUTIONS TO FIGHT AGAINST OVERTRAINING IN BODYBUILDING ROUTINE

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Abstract
Overtraining is defined as an accumulation of training or non-training stress resulting in a long-term decrement in performance capacity. With or without related physiological and psychological signs or symptoms, overtraining may take from several weeks to several months. Starting from the idea that the central nervous system can be overworked, exactly like the muscular system (this is actually the most common cause when athletes feel tired, weak physically either mentally, or maybe unmotivated in the gym) this article is highlighting some methods to fight against overtraining.

Keywords: bodybuilding, overtraining, central nervous system

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Introduction
When the athletes are choosing their workout program they should always be careful to don’t overcrowd it, in this way safeguarding themselves against the so-called overtraining. Overtraining can happen to almost anyone - fit or unfit, young or old, male or female - who develops an imbalance between training and recovery.

Proper programming can go a long way towards helping to prevent overtraining. However, in many cases, issues outside of the gym can also tax the nervous system, leading to subpar results in the workouts and a general feeling of malaise. If that describes the feeling of the athlete, then it's the right time to take stock and take action.

1. Content

There are a lot of people who don't know the difference between muscular overtraining and central nervous system overtraining, so this confusion can allow them to fall to the trap.

According to the theory, the human central nervous system consists of the brain and spinal cord. These lie in the midline of the body and are protected by the skull and vertebrae respectively. This collection of billions of neurons is arguably the most complex object known. The central nervous system along with the peripheral

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nervous system comprise a primary division of controls that command all physical activities of a human. Neurons of the central nervous system affect consciousness and mental activity while spinal extensions of central nervous system neuron pathways affect skeletal muscles and organs in the body.

Muscular overtraining occurs when the muscular system is not given enough downtime to repair the broken-down tissues. For instance, if the athlete had worked out a muscle group intensely on Monday and then he is back into the gym Tuesday to train for the same group could very easily run the risk of overtraining.

Working the same muscles incessantly can negatively impact the muscular development, but it normally impacts one muscle group specifically.

On the other side, the central nervous system overtraining is a systemic issue. It doesn't just impact the legs, chest or back, but rather the entire body. The central nervous system is responsible for generating muscular contractions in all types of training, so when the athlete stacks workout upon workout the central nervous system can tire out.

As a result of this general fatigue, the subject will be weaker and slower in all of his movements. He may find out that he doesn't have the force generation capacity that he is normally doing, or that he is unexpectedly uncoordinated at times.

So, in the gym the main cause of overtraining appearance is a program that has too much volume, too much intensity, and too little rest. But even if the program is properly planned to allow enough rest between each session for a given muscle, the central nervous system is still being stimulated.

Taking in consideration that all forms of stress can combine to tax the system beyond its capacity, overdoing workout can have negative effects being like fuel added to the fire. If there are existing suspicions that central nervous system is suffering by overtraining, it's necessary to take a comprehensive look at potential contributors, in order to understand how to tackle this problem.

Considering that central nervous system is a core element of who we are and how we approach our lives, preserving it requires action both inside the gym and out. There are few ways we can do it:

1.1 **Periodization of program**

A properly workout program must have adequate down time between sessions working a particular muscle group, as well as down time between workout sessions period. The amount of time off needed is directly proportional to the intensity and volume of the program. More work a program is requiring, more rest is necessary between sessions.

Good programming includes periods of lower intensity and exercise variation. Periodization prevents overtraining and in the same time provides the muscles with
the best biological environment for growth and increasing strength. It can reduce injuries and help keep the motivation during workouts.

Practising to high intensities and overload year round is tough for the body, for the central nervous system, muscles, connective tissue, joints and tendons. Even top professional athletes cycle their training in order to reduce the risk of overtraining. Beginning of getting mentally and physically drained appears after about 8-10 weeks, which is a mesocycle. At that point it’s a good idea to ease up a week or two, or to consider to take off even an entire week (the active rest type is recommended). No resistance training must be done during that week, but some active outside activities while resting the muscles. Everyone responds differently to training, so everyone needs to learn his optimal all-out training time before giving a rest to the body. The same goes for each training day or unit.

1.2 More sleep

The best training schedule, diet or supplement routine can’t compensate for the insufficient rest. Sleep is the best and only way to get this, so professor Michael Colgan went as far as to say: „Even if your training and nutrition program can straight for the mouth of God almighty, without adequate rest your body will fail to adapt”. During sleep, growth hormone is produced and protein synthesis (provided protein is consumed prior to sleep) occurs. These are only two beneficial aspects of sleep. Energy consumption reduction and brain cell restoration are two other aspects equally important for bodybuilders.

Sleeping for 8-10 hours per night is helping the muscle growth, because protein synthesis does occur just under this conditions of sleep. Also human growth hormone is released under same conditions. Is proved that in men between 60% to 70% of daily human growth hormone secretion occurs during early sleep which is typically when the deepest sleep cycles occur. On the other side, poor quality sleep can negatively impact human growth hormone levels.

Many studies suggest that during sleep the body is able to restore tissue, replenish immune cells, and circulate human growth hormone, from where the conclusion that sleep has a strong effect on physical well being.

1.3 Diet and supplements

The goal of this point is logical. If the muscles are underfuel while training hard, the athletes will experience not just muscle wasting but even more easily overtrain. Fortunately we are able to avoid overtraining through manipulating and controlling balances of various hormones in the body with food and supplements.

The reality shows that ability to change hormone balances through diet and supplementation is not only possible but ubiquitous. It goes hand-in-hand with
careful periodization of training. Together they are the best ways to avoid overtraining while still being able to tolerate (and maximally benefit from) training stress at levels of frequency, duration, volume and intensity far beyond the norm.

Hormones regulate almost all the body functions. They regulate growth and development, they help to cope with both physical and mental stress, and they regulate all forms of training responses including protein metabolism, fat mobilization and energy production. In simple words, they do it all.

Basically the hormones are acting in 3 different ways: they can alter the rate of synthesis of the cellular protein, change the rate of enzyme activity, or change the rate of transport of nutrients through the cell wall.

Careful dieting and supplementing can help the subject to become far less likely to succumb to the ill effects of overtraining simply because many of the hormones are controlled by diet plan and supplement.

2. Conclusions

Different athletes have different recovery abilities. If one gifted individual can get away with 4 hours of training per day, that does not necessarily mean everyone else can do it as well. Program planning should definitely be individualized, in order to avoid overtraining.

Different rep ranges and rest periods must be applied throughout the year. Knowing when it is the right time to make a change, even if it is for just one day, consist in listening to the body. When overtraining is occurring, the subject feels irritable, fatigued, uptight and anxious. Can actually lose even the sense of humor and enthusiasm for the workouts. Overtraining is counterproductive for building muscle, therefore is important the planning to be cycled through periodization.

As research has shown, sleep is important for any reasons. For bodybuilders, sleep is particularly important as it restores brain function and alertness in preparation for intense training sessions. Sleep also enhances muscular recovery through protein synthesis and human growth hormone release. Getting eight to ten hours of quality sleep every night will promote these factors as well as general well being. Recovery will take a backward step if one does not prioritize sleep, so get to sleep if you want to grow.

The common nutritional mistakes that athletes can make include inadequate calories amount, carbohydrates, dietary fat intake and lack of a post exercise recovery meal.
3. **Proposal**

In order to perform optimally the athletes must train, sleep and diet adequately. If they are training too intensely or too often they might be susceptible to short or long term decrements in performance capacity as well as physiological, medical or psychological symptoms of overtraining. A good understanding of the possible ways to reduce the incidence of overtraining may serve to decrease the prevalence of this undesirable phenomenon in athletes.

**REFERENCES**