OVERTRAINING

COACH MOHAMMAD

Greetings to my esteemed readers.

My name is Mohammad Deljoo (Coach Mohammad), and I am thrilled to delve into a topic that holds great significance for athletes: **overtraining syndrome in swimmers.**

Have you ever seen swimmers excel in practice but struggle to improve during competitions? This common issue is often due to overtraining syndrome, a condition that can manifest in two forms. The classic form shows clear signs like poor performance and insomnia, while the subtler form, more insidious, allows athletes to perform well in practice but falter when it counts.

This chronic condition, particularly prevalent among endurance athletes, arises from a gradual imbalance between training intensity and recovery. This leads to a depletion of muscle energy stores, hindering peak performance. Managing this form of overtraining involves a balanced training regimen and proper nutrition.

In this article, we will explore the causes, symptoms, and strategies for preventing and recovering from overtraining syndrome. By understanding these dynamics, coaches and athletes can ensure sustainable success in competitive swimming.

Best Regards

Mohammad Deljoo

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Have you ever worked with swimmers who performed exceptionally well throughout practice but were unable to raise their timings at the end of the season?

You have, of course.

Regretfully, all of us who have trained athletes have experienced this unfortunate event.

They can be experiencing an overtrained condition that has been identified but is not fully understood.

The overtraining syndrome can take two forms.

1. We are all familiar with the classic form of overtraining. It is accompanied by poor performances in practice and competition, loss of weight, and insomnia.

2. The second type is more difficult to diagnose because the athlete may not demonstrate any of these symptoms until the condition is quite severe. In fact, they may be performing better than ever in training. It is only when they attempt a peaked performance and cannot better their practice or regular season times that we realize something has gone wrong.

It seems to be a chronic condition that comes on gradually when the pace of endurance training is slightly too fast for an extended period of time.

This second form of overtraining is most common among athletes who compete in middle distance and distance events.

Apparently there is a gradual depletion of the muscles' energy supply because the rate of expenditure is slightly in excess of the rate of replacement over several weeks. When the depletion becomes severe the muscles probably consume unusually large amounts of their own protein for energy. The result is a decrease in power and endurance.

The gradual nature of this depletion often causes the condition to go unnoticed until the athlete attempts a peaked performance. It is not uncommon for athletes who are overtrained in this way to perform very well in practice on short rest repeats. They may even perform very well in competition in distance events where aerobic metabolism is the primary source of energy. However, they may not be able to go any faster when asked to swim at fast speeds where anaerobic sources of energy are required. We often dismiss these swims as the normal response to hard training and continue on the same path under the mistaken assumption that everything will be fine when they taper.

The inability to perform outside a limited aerobic range has been, in the my opinion and according to research, the earliest and most discriminating symptom of this form of overtraining.

The swimmers will have only a small range of speeds where they are most effective. These will be speeds that can be supported almost entirely by aerobic metabolism, and they will be seemingly inexhaustible when training at these speeds. However, when asked to perform at faster speeds they may not be capable of exceeding this aerobic range or they may only be capable of doing it for a very short time before becoming exhausted.

Preventing this form of overtraining involves using a variety of training forms in a rotational manner.

That is, short sprints, long sprints and aerobic training should be administered in a cyclical manner. When aerobic training is concerned, some should be done at a high level of quality, that is at the fastest average speed for a set of short rest repeats, while others should be done at moderate efforts Approximately 60-70% of the aerobic training should be performed at moderate speeds while the remaining 30-40% should be done at the fastest possible average speed.

It is inevitable that some swimmers will become overtrained no matter how much care is taken.

If the condition is diagnosed in its early stages, the recovery process may require only a few days of reduced training.

Moreover, an increase in carbohydrate intake and daily naps are also good ideas.

When the condition becomes more severe, the athletes may exhibit signs of classic overtraining such as weight loss, insomnia and depression.

When this happens it may be necessary to rest them for three days to two weeks before resuming training of reduced quantity and intensity. Additionally an increase in carbohydrate intake and daily naps should be encouraged.

Overtraining may be defined as a condition where training causes deterioration rather than an improvement in swimming times.

It is unfortunate that this term has come to be the accepted method for identifying this condition. It gives the mistaken impression that athletes have been training too much. Because of this, some coaches and athletes often mistake the ordinary fatigue of training for overtraining. As a result, they become fearful of training with sufficient intensity and/or quantity to make significant improvements in performance.

In fact, too much training is very rarely the cause.

More often, the culprits are an inadequate diet and insufficient rest. Both result in failure to replace the energy lost in training.

Where proper nutrition is concerned, the most important ingredient is an adequate supply of carbohydrates.

An American College of Sports Medicine symposium reported that the only consistent physiological manifestation of overtraining was a depletion of the muscles' energy supply, glycogen.

In several studies, humans and animals who became overtrained showed a gradual depletion of muscle glycogen over several days of training.

In one study it was impossible to overtrain racehorses so long as their muscle glycogen supplies were replaced on a day to day basis.

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The problem swimmers face is that their muscle glycogen supplies can be nearly depleted after 1-to-2 hours of intense training.

The usual repletion rate on a typical high fat diet is approximately 48 hours. It is easy to see, therefore, that swimmers who are training twice a day are almost certain to deplete their muscle glycogen supplies after a few days of hard training.

Research has shown that a diet which is high in carbohydrates and low in fat can shorten the time required for replacement of muscle glycogen to 24 hours. For this reason experts recommend that at least 60% of the calories athletes consume each day should be in the form of complex carbohydrates. This should make it possible to train more intensely and more often without becoming chronically fatigued.

Good sources of complex carbohydrates are:

Breads

Cereals

Potatoes

Beans

Corn

Fruit

Milk

Pancakes

Waffles

Rice

Noodles

Pasta

They should reduce their intake of:

Red meat

Fried foods

Pastries

Pies

Cakes

Ice cream

Candy

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Another recommendation for preventing muscle glycogen depletion is to intersperse sessions of very intense or very long training with sessions of reduced quantity and intensity during which the muscle's energy supply can be replaced.

This will provide a safeguard against gradual depletion of muscle glycogen for those athletes who may not be eating enough carbohydrates.

Additionally, two to three days of complete rest should be provided every three to four weeks.

This will allow the rate of energy replacement to catch up with the rate of depletion, if they should be out of balance.