

OVERTRAINING



Causes, Identification and Prevention

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The definition of overtraining is: "...excessive frequency, volume, or intensity of training that results in extreme fatigue, illness, or injury".

It is often referred to as staleness, which may include a plateau or decrease in the individual's performance.

Alternative names for overtraining are: burnout, chronic overwork, physical overstrain, and over-fatigue.

Over-reaching, which is defined as excessive training on a short term basis allowing for improved performance in athletes, can become overtraining syndrome when this phase of training is continued beyond a reasonable period of time. The continuum is as follows:



CAUSES

Overtraining can be caused by high stress in combination with inadequate regeneration. This occurs when the volume or intensity of training is too high for an athlete, or the progression of a training programme occurs too rapidly over several weeks. A mistake in any acute programme variable, when repeated enough can contribute to overtraining.

Highly motivated athletes using high volumes of heavy loads with high training frequencies and little rest are the most common victim of overtraining. Even though volume is important for continued gains in performance (over-reaching), excessive volume creates a stimulus that exceeds the athletes ability to recover from the stress, which results in excessive muscle soreness and residual fatigue.

Factors according to the study by Gustafsson *et al.*, (2008) that contribute to an athlete's burnout are:

- Sport and training-related factors: this includes insufficient recovery time, athletes not listening to their bodies, and athletes feeling like their lives were designed just for training and school, with little opportunity for recovery and social life. The hallmark of a successful athlete is to ensure that they set sufficient recovery from training.

- Psychology stressors: this includes stress that occurred due to the difficulty for athletes to combine school and sport. Another stressor includes athletes struggling to cope with the demands from coaches and parents. Also, sudden changes in stressors, such as a death of a significant other, can increase the risk for overtraining syndrome even though the training load remains the same.
- Personality: this involves athletes describing maladaptive perfectionist traits, and sometimes high levels of competitive anxiety, all of which contributed towards their burnout.

Reasons why athletes continued with their sport even when they had negative outcomes and distress due to their sport where divided into two categories namely:

1. Sport as identity and self-worth: Without their sport the athletes lose their sense of self, thus leading to a low self-esteem and a sense of shame.
2. Entrapment: This mostly occurs with athletes who attend certain schools due to their sporting talents. These athletes don't leave their sport because not only will they become ex-athletes but they would also have to leave their school and friends.

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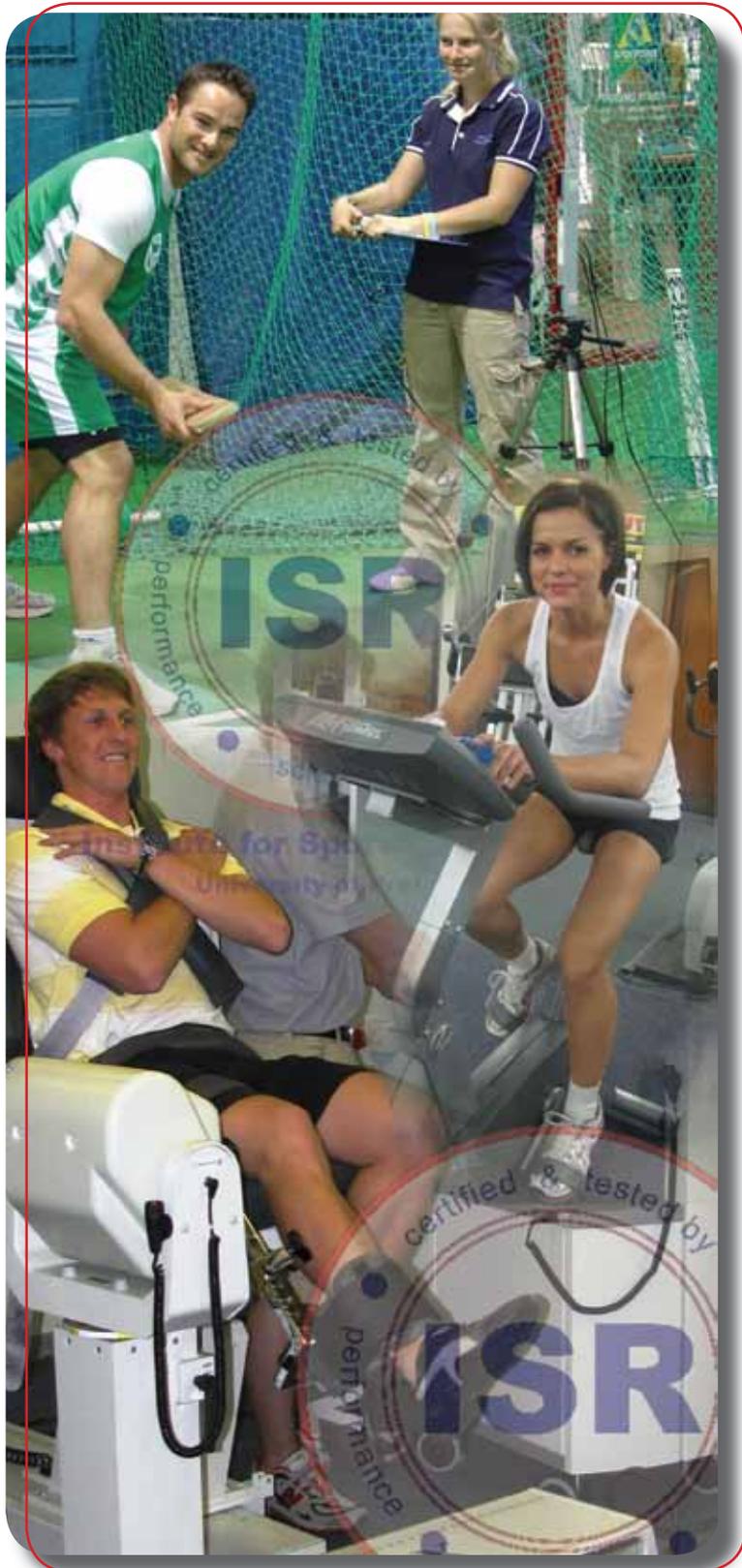
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IDENTIFICATION

Ways to identify overtraining syndrome in athletes continues to be a challenge for coaches and athletes. This is mainly due to individualised responses in athletes to over-reaching. There is little consensus amongst sport scientists in regard to administration of accurate monitoring, testing and prevention of impending overtraining syndrome.

Because there is no diagnostic tool available to identify overtraining syndrome, diagnosis can only be made by excluding all other possible influences on changes in performance and mood state. One must exclude organic diseases such as endocrinological disorders, iron deficiencies with anaemia, or infectious disease. Coaches must not forget to look into the athlete's feeding behaviours, because anorexia nervosa and bulimia can also negatively affect performance. Early and unequivocal recognition of overtraining syndrome is virtually impossible because the only certain sign is a decrease in performance.



PREVENTION

Due to the lack of a proven diagnostic tool for overtraining syndrome and because preventing any condition is always better than curing, the following pointers are very important for any coach to know in order to help prevent overtraining syndrome;

- Helping athletes cope with sport and money hassles, as well as building social support may help prevent athlete burnout.
- Making sure athletes do not participate due to entrapment.
- Maintaining intrinsic motivation for sport throughout the season.
- Monitoring eating disorders.
- Early identification and monitoring of susceptible athletes.
- Programming recovery training and rest days into the training cycle.
- Individualised training.
- Make athletes feel involved in their programme design
- Ensure athletes have a supportive atmosphere and proper communication with their coaches

Mackinnon (2000) describes 5 factors (at minimum) that should be avoided in order to prevent OTS;

1. Sudden increase in training volume and/or intensity.
2. Heavy competition schedule.
3. Lack of periodization or programmed recovery in the training schedule.
4. Monotonous training programme.
5. High self-reported stress levels, regardless of whether they are directly related to training.

In conclusion overtraining in athletes is a serious condition that coaches must be very careful in avoiding. Yes, in order to improve an athlete's performance they need to be pushed, however there is a fine line, which once crossed, the road to recovery both mentally and physically can be very costly for athletes to make 🌈

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