

## EXERCISE AND OVER-TRAINING SYNDROME

By Dr. John A. Papa, DC, FCCP(R)(C)



Many individuals strive to incorporate more exercise into their daily routine and for good reason. Regular exercise has long been identified as an essential element of good health due to its ability to positively affect every organ and structure in the body. However, if done in excess, exercise can also lead to negative health consequences such as **over-training syndrome (OTS)**.

**OTS** occurs when there is an imbalance between exercise training and the body's ability to recover. This typically occurs when exercise **volume** (the total amount of exercise performed) and **intensity** (the total amount of effort exerted) are both too high for an extended period of time. Therefore, it is important to find the correct balance between exercise **volume** and **intensity**. A good exercise program should allow you to exercise on a regular basis without "burning out".

It is important to recognize the signs and symptoms of **OTS** which may include:

- **Performance related issues such as:** decreased strength, endurance, and power; poor workout recovery; an inability to complete workouts.
- **Physical symptoms such as:** an increased resting heart rate; persistent aches and pains in muscles and joints; repetitive strain injuries.
- **Health related symptoms such as:** frequent headaches; chronic fatigue; gastrointestinal distress; menstrual irregularities; decreased recovery from and/or increased susceptibility to colds, sore throats, and other illnesses.
- **Mood and behavioural changes such as:** insomnia; loss of appetite; increased irritability; depression; decreased motivation to exercise.

Below are some useful tips that can help overcome or minimize the chance of **OTS**:

1. **Rest is essential for recovery.** This may include absolute rest from all exercise activity or increasing the recovery time between exercise bouts. Proper rest allows for the body's important biological systems to recover, repair and recharge.
2. **Change your training method.** Look at the cumulative stress of the exercises performed. Use a variety of exercises when training specific body regions and avoid continuous training without proper recovery. Change your program frequently and find the right balance between exercise *volume* and *intensity*.
3. **Check your nutritional status.** Your body needs the proper nutrients to function optimally. Inadequate intake of carbohydrate and protein can lead to muscle fatigue and poor muscle tissue repair. Healthy fats are needed to produce hormones that regulate many body functions. Dehydration can contribute to muscle cramping and joint pain. Avoid nutrient deficient foods such as trans-fats and refined sugars and starches which put physical stress on the body.
4. **Get professional help:** Overcoming **OTS** is not always simple. There are healthcare practitioners who can treat physical injuries and provide advice on nutrition and proper exercise training techniques.

Recognizing the signs and symptoms of **OTS** and knowing how to avoid or minimize its effects can ensure that you can continue to enjoy the many health benefits exercise has to offer. For additional information on exercise, nutrition, and improving your physical health, visit [www.nhwc.ca](http://www.nhwc.ca).

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