



# FACT SHEET

## Eating Disorders in Athletes

**Eating disorders** (anorexia nervosa, bulimia nervosa, binge eating disorder, and eating disorders not otherwise specified (EDNOS)) have been associated with athletes at all levels of sport. Often the eating disorder may remain undiagnosed or concealed due to the intense physical and mental stress that athletes endure in their training and competition cycles. Sports performance commonly drops in athletes who suffer eating disorders due to poor nutrition and poor mental function. If untreated or undiagnosed, eating disorders can be life threatening.

### What are eating disorders?

Anorexia nervosa, bulimia nervosa, binge-eating disorder and EDNOS are serious eating and psychological illnesses affecting health and performance. They are associated with restricted food intakes or bingeing, as well as distress or excessive concern about body shape or weight. Other recurring themes are poor self-worth and feelings of overwhelming guilt and control. There are abnormal eating patterns that vary from mild (disordered eating) to extreme (eating disorder), and some may fall outside the clinical definitions. Health care professionals, coaches and personal trainers should not ignore athletes with problems of self-worth, body image, body weight, and disordered eating behaviours.

Anorexia nervosa is the third most common chronic illness among teenage girls, after obesity and asthma. There is little research on the prevalence of eating disorders among athletes. Establishing the true prevalence of eating disorders is very difficult due to the secretive nature of the illness. Using strict criteria for anorexia and bulimia, prevalence rates among athletes are about 3% and 20% respectively. When the definition of eating disorders is expanded to include all disordered eating behaviours, the prevalence rates increase to 15 - 60% depending on the study and the sport.

Research shows that certain sports are associated with higher rates of disordered eating behaviours. These sports can be categorised into three distinct groups:

1. Appearance sports (e.g. gymnastics, synchronized swimming, figure skating and ballet dancing);
2. Low body fat sports (e.g. distance running and body building); and
3. Weight category sports (e.g. light-weight rowing, jockeys and wrestling).

**Table 1: The different eating disorder categories**

#### **Anorexia Nervosa**

- Refusal to maintain weight at, or above, a minimal normal weight for height and age
- An intense fear of gaining weight or becoming fat
- A disturbance in the way in which body weight, size or shape is perceived by the individual
- In females, absence of at least three consecutive menstrual cycles when otherwise expected to occur

#### **Bulimia Nervosa**

- Recurrent episodes of binge eating
- A feeling of lack of control over eating behaviour
- Regular self-induced vomiting, strict fasting, use of laxatives or excessive exercise
- Minimum average of two binge eating episodes per week for at least three months

#### **Binge eating disorder**

- Recurrent episodes of binge eating without compensatory methods (eg. vomiting, fasting, excessive exercise)

#### **EDNOS**

- Those who do not meet the specific criteria for the above eating disorders, but have many of the presenting symptoms.

(Source: Diagnostic Statistical Manual of Mental Disorders IV, Text Revision, 2000)

### Risk factors for eating disorders

Eating disorders are complex and are caused by many contributing factors which may include:

- Gender - the female to male ratio is at least ten to one.
- Genetics - there is a genetic predisposition to developing an eating disorder.
- Biological factors – the theory that certain hormones (e.g. serotonin) play a role in eating disorders is still being investigated.
- Personality traits - characteristics such as high levels of sensitivity to others, perfectionism, negative self evaluation and food obsessions are very commonly seen in individuals that go on to develop eating disorders.
- Dieting - the most common feature of sufferers of eating disorders is that they have all been on a diet at some stage which has developed into an eating disorder. However, this happens to only a small proportion of dieters. Dieting is a trigger for the condition, and participation of sports that require adherence to a strict diet is likely to place individuals at some risk.
- Traumatic events in life such as physical, sexual or emotional abuse, bullying at school, death or illness of family members etc.

Sometimes participation in female sports constitutes a risk factor for certain elements of disordered eating behaviours. In some cases, sport may be protective against eating problems due to lower rates of body dissatisfaction in some athletic groups. An unresolved question is whether sport contributes to, helps to avoid, or delays onset of eating disorders in susceptible individuals.

The pressures that place athletes at increased risk of developing an eating disorder include:

- Desire to optimise performance;
- Involvement in sport that emphasises physical appearance, size or leanness for optimal performance;
- Increased body awareness, which may exacerbate body image concerns;
- Personality characteristics often prized in athletes (drive, competitive, perfectionist and disciplined);
- High stakes associated with winning;
- Injury as a trigger for the onset of an eating disorder; and
- Influence of parents, coaches and fellow athletes.

### Medical complications

Poor nutrient and energy intakes are likely to reduce sporting performance and adversely affect health. For example, dehydration is common in people who restrict food/fluids. Self-induced vomiting and/or the use of large amounts of laxatives lead to impaired sporting performance and electrolyte imbalance that increases the risk of heart problems and kidney damage.

Eating disorders in female athletes can be associated with amenorrhoea (loss of periods) and premature osteoporosis (brittle bones), and this cluster of health problems has been termed the 'female athlete triad'. (Note: An athlete may have one, two or three of these symptoms.) Athletes with this triad are susceptible to developing stress fractures in their bones, which can significantly interrupt training and competition goals. Over time, bones may not develop to full strength.

Other problems that can affect performance are reduced muscle protein and low glycogen and fluid stores causing reduced muscle power and endurance. Erosion of tooth enamel due to the acid in vomit, sore and damaged throat, and pancreatitis are more commonly seen in sufferers of bulimia. Overall the lack of nutrients and fluids can have devastating effects on health and performance.

In the short term, some weight loss for athletes may be beneficial to performance, especially for athletes above ideal competitive body weight or body fat levels. However, it is important to recognise that the impact of eating disorders, both physically and emotionally, can be long lasting and devastating to the individual, their families and their performance. Athletes, coaches and trainers need to be realistic when setting weight loss goals (in terms of amount of weight lost and time frame versus performance benefit) and need to monitor weight loss closely with the help from a sports dietitian or doctor. Many of the above mentioned medical complications are reversible with adequate nutrition however psychological counselling is also essential for full recovery.

### Treatment approaches

Eating disorders are very serious and potentially life threatening. Sufferers do not "choose" this illness, as people do not "choose" to have cancer or other serious, life-threatening illnesses, and having a non-judgemental approach is always helpful. A multidisciplinary team is needed to address the physical and emotional factors that affect the athlete with an eating disorder. The team should include a sports physician, psychologist/psychiatrist/ counsellor, sports dietitian, coach and the family of the athlete. Treatment is difficult and prolonged, and may require hospitalisation in severe cases. Therapy focuses on weight gain, the reduction of self-punishing behaviours, and altering the misconceptions that individuals have of themselves and life events.

Coaches should never punish an athlete or dismiss them from the team for an eating disorder, or abandon the athlete after the individual seeks treatment. Successful treatment should be based not simply on weight gain but also on the resolution of negative, subjective, irrational thinking. Unfortunately the statistics show poor outcomes for complete recovery. About 40% of sufferers of eating disorders make a good five-year recovery, 40% retain symptoms but function to some extent, and 20% remain chronically affected. Risk reduction strategies include educating the coach and athletes about appropriate assessment and goals for body composition. Dieting, weight loss and pre-event diet superstitions or rituals do not necessarily mean the athlete has an eating disorder. However there are some classic signs or behaviours to look out for and these should never be ignored.

### Typical warning signs

- Rapid weight loss
- Weight loss below ideal competitive weight
- Constant referrals to being, or feeling, fat often when the reverse is true
- Competitive nature with other athletes about their size or weight
- Weight loss or high training loads that continue into the off season
- Excessive exercise over and above the recommended training load from the coach
- A preoccupation with food, fat, calories/kilojoules, carbohydrate etc to the point where the sufferer is suspicious about what is in everything (e.g. bottled water) and it distracts them from thinking about other things.
- Secretive eating or disappearing after meals or snacks to the toilet or shower
- Weakness, dizziness, headaches or fainting, with no apparent medical cause
- Denial that anything is wrong (e.g. no reason for weight loss or other behaviours)

More research needs to be done in the areas of prevention, early detection and effective treatment of these debilitating illnesses.

### Summary

- Eating disorders adversely affect sporting performance and can have long-lasting and devastating impact on the lives of sufferers.
- People working with athletes need to be well versed in the warning signs and risk factors associated with eating disorders and employ risk reduction strategies in their work.
- There is a range of risk factors that may contribute to the onset of eating disorders in athletes. It is unknown whether sport plays a contributory or preventative role in the onset. However, there is an increased prevalence in various types of sports that focus on size, weight and appearance.
- Eating disorders are serious and need a multidisciplinary team approach for proper diagnosis and treatment. The sooner help is sought, the sooner the athlete begins their road to recovery.