

# Eating disorders and sports anorexia

## **New perspectives on sports anorexia**

In a study Diagnosis and Treatment of Anorexia in Elite Sport (1995), which the Anorexia Centre at Huddinge Hospital in Stockholm carried out with help from the Swedish Sports Federation, it was shown that the main causes of anorexia in elite sport were high levels of physical activity, including heavy training, in combination with difficulties in eating enough food to meet the energy requirement of this activity. The body did not get enough energy to replace the energy it expended. The research also showed that there were differences between sports anorexia and “normal” anorexia.

In comparison with “normal” anorexia it is clear that sports anorexia is less severe. Weight loss is not as great in sports anorexics as it is in classic anorexia cases. Distorted body image was not noted in sports anorexics. The typical picture of a waif-like girl who nevertheless sees herself as fat in the mirror does not apply. Physical activity combined with restricted eating and the fact that boys and girls involved in sport are extremely focused on performance and results are the main factors that make them susceptible to sports anorexia. When an athlete develops anorexia they often also have a feeling of failure. Many blame themselves, which means that they place higher, sometimes unrealistically high, demands on themselves and their performance.

Many of the girls in the study were also vegetarians who ate a lot of plain and very low energy food, lacking adequate knowledge about nutrition. This can lead to significant problems with heavy training. It was also found that menstruation had stopped in all sports anorexics. If the menstrual cycle is very irregular or has ceased, it is a sign that fat reserves are far too low. Production of the female hormone oestrogen ceases and the absorption of calcium decreases, leading to a risk for low bone-density and osteoporosis. Sleeplessness, concentration difficulties and problems with tiredness were also very common.

As far as mental problems are concerned, the researchers at the Anorexia Centre believed that these came as a product of sports anorexia rather than being the root of the problem. If mental problems lay at the root of sports anorexia, such problems would be 10-15 times more common in the sports world than the population at large, as anorexia itself is 10-15 times more common in sport. Those mental problems that were noted in the research, such as anxiety, obsession with weight and thoughts of suicide, can be seen as a result of sports anorexia. However, this interpretation should not reduce the significance of those psychological problems. What we can say is that when diagnosing anorexia, including sports anorexia, it is important to not just look at the psychiatric perspective.

In earlier Swedish and Norwegian studies, it was found that eating disorders are more common in elite athletes than the general population, but also that certain sports were more affected than others. They found that one in seven girls in specialist sports schools showed symptoms of anorexia or anorexic tendencies. Anorexia is also known to be the third most common illness in girls aged 14-19.

Endurance and aesthetic sports had more problems with anorexia than other sports, but it was noted that all sports had or have had problems with anorexia. It was also noted that coaches played an important role in detecting anorexic tendencies in athletes.

As training is a very big part of an athlete's life and too much training is one of the main causes of anorexia within sport, it is clear that we need to work with this variable when treating patients. Moreover, training can in itself be a way to increase the effectiveness of the rehabilitation process. This requires a lot of work with the athlete to develop an activity and training plan that is appropriate for the individual during the different phases of treatment.

The role of training in the treatment of both sports anorexics and other people with eating disorders is described in a report entitled *Physical Training in the Rehabilitation of Patients with Eating Disorders* (RF 1997). Training was shown both to make treatment more effective and to speed the process up. This treatment has been carried out together with the Anorexia Centre.

## **Difficulties with eating enough**

Studying boys and girls eating habits is of course central to the prevention and treatment of anorexia. Men and women can eat different amounts of food. From a biological perspective humans have not changed for several thousand years. Men, who were out for extended periods to hunt, ate large amounts of food when he got the chance. Women, who stayed at home and looked after the children, ate smaller amounts of food more frequently. There is therefore a historical basis for men and women's different eating habits. Women find it difficult to eat as much as men.

A study was carried out where a number of men and women were given breakfast, lunch and dinner every day for one week. On the sixth day dinner was taken away, and they were not given any breakfast on the seventh day. The following lunchtime the men ate enough food to "fill the gap" from the missed dinner and breakfast. However, the women only ate as much as they had eaten at previous lunchtimes. It is probable that we have a genetically inherited mechanism from the Stone Age that controls this behaviour. With this in mind we can say that the traditional pattern of three larger meals per day may not be ideal for women. It is probably better to eat "little but often", for example "breakfast-snack-lunch-snack-dinner-supper".

As women find it difficult to eat large quantities of food long endurance training should be treated with great respect. The energy requirements for this type of training are large and diet is essential in ensuring that these requirements are covered.

## **Early signals**

Coaches should be observant for signs which point towards eating disorders in athletes. These signs are clearest during the phases referred to as "restrictive eating" and the "positive phase". It is much easier to detect anorexic tendencies during training camps and competition tours. It is of course mainly at mealtimes that we can detect these tendencies. If as a coach you become aware of one of the signs listed below it is time to be extra-observant. If you note more than one of the signs you must, as a responsible adult, react and take positive action to help.

Show you care! Act when you have a chance to help. It will only be more difficult later.

- I have already eaten.
- Playing with food. Moving food around plate.
- Cutting food into small pieces.
- Using small plates.
- Eating a lot of low-energy, plain food or salads.
- Eating alone.
- Changing eating habits.

These signals are clear signs of worrying eating habits. Nobody can be a good sportsman or woman by eating like this. If any of the factors below also come into the equation, then you have got a person with a clear anorexic in your group. If you do not react now you not doing your job as a responsible coach, or even as person who should be there to look out for others and care. It is our *duty* to react and take positive action.

- Increased training volume, most often in the form of more or longer sessions.
- Menstruation ceases.
- Increased activity in other areas.
- Unexplainable mood swings and unhappiness. Feeling down.

If we do not react at this stage and some of the following factors arise...

- Thin and undernourished appearance
- Feels cold. Prefers to wear bulky clothes.
- Obsessed with food and weight.
- Headache: Often takes aspirin, paracetamol, Neurofen or similar.
- Problems with sleep.
- Dizziness and fainting.
- Bloodshot eyes.
- Dry skin and hair.
- Long, frequent visits to the toilet.
- Constipation.

...then medical help must be sought. At this stage it is difficult to get through to the affected athlete. Professional support is required.

## **Body Mass Index, BMI**

As a coach it can be useful to have some simple tools on which to base discussion of suspected cases. Vegetarians who eat a limited diet, high training volume, no or irregular menstruation, thin and frozen appearance and BMI are extremely useful indicators. BMI is a calculation where weight in kilograms is divided by height squared, in meters. For example:

|  |  |
|--|--|
| A women weighs 55kg and is 1.65m tall: | $\frac{55}{(1.65 \times 1.65)} = 20.2$ |
| The same woman later weighs 47kg:      | $\frac{47}{(1.65 \times 1.65)} = 17.3$ |

The standard values for normal BMI, which are used in the medical profession are:

|       |              |        |              |
|-------|--------------|--------|--------------|
|       | Underweight  | Normal | Overweight   |
| Women | less than 19 | 19-24  | more than 24 |
| Men   | less than 20 | 20-25  | more than 25 |

Women in the Swedish orienteering squad have BMI values of 19-20, in the lower region of normal weight. If an orienteer went down to a BMI of 18 it would be time to consider what that athlete was doing. If the BMI fell to 17 or 16 it is time to take more immediate action. Many elite sportswomen have BMI values in the range 18-20, or even move around in this range. This in itself need not be a negative sign, but the risk that an athlete can lose weight and fall down to 16 or 17 is always there.

## Training

It is very important that training is reduced when a person is suffering from sports anorexia, but at the same time contact with club mates and sports friends needs to be maintained. Training volume can be reduced to a quarter and should consist of short sessions of 20-30 minutes fast walking or light jogging, 2-3 times per week. This speed corresponds to 50-60 percent of VO<sub>2</sub> max and could also be called “chatting pace.” Competition should be avoided until a healthy balance is restored. By healthy balance we mean that the athlete has normal eating habits, weight is normal and menstruation has returned.

## Food

Puberty, the time when a girl develops into a woman, is a particularly sensitive period for the development of sports anorexia. A great deal is happening during the teenage years, both biologically and in the social and psychological spheres. When the athlete is in addition training and competing intensively during this period very high demands are placed on what she eats. Energy and nourishment is required in relatively large quantities. Normal energy requirements for a young person who trains daily are between 3000-5000 kcal per day. The “normal” energy intake for a sports anorexic can be between 800-1500 kcal per day. This means that she is eating less than her basic requirement: The minimum amount of energy which is needed to keep the body functioning is not being provided.

Together with a low training volume, or no training at all, and progressively increasing amounts of food we can turn the trend around very quickly and increase weight. The important factor is that we divide the daily food requirement over several mealtimes according to the following table:

|                              | <i>kcal</i> | <i>kcal</i> | <i>kcal</i> | <i>kcal</i> |
|------------------------------|-------------|-------------|-------------|-------------|
| <i>Breakfast, 25 percent</i> | 500         | 625         | 750         | 875         |
| <i>Snack, 5 percent</i>      | 100         | 125         | 150         | 175         |
| <i>Lunch, 30 percent</i>     | 600         | 750         | 900         | 1050        |
| <i>Snack, 5 percent</i>      | 100         | 125         | 150         | 175         |
| <i>Dinner, 25 percent</i>    | 500         | 625         | 750         | 875         |
| <i>Supper, 10 percent</i>    | 200         | 250         | 300         | 350         |
| <i>Total, 100 percent</i>    | 2000        | 2500        | 3000        | 3500        |

It is valuable to find out how much the athlete is eating before implementing the plan above. There are now several good diet analysis programs available. If we start with too much food in the first week the risk for a negative reaction is greater. Food can become the enemy, not a friend in the recovery process. It is probably better to start with 2000 kcal per day or sometimes even less so that the athlete can adapt to the new eating routine. It is also easier to

eat if the athlete has food that she likes. A mealtime should be an enjoyable time: It is important to think about appearance, taste and aroma when preparing food.

## **Anorexia in orienteering**

At the end of the eighties it was noted in Sweden that there were girls with anorexic tendencies in training groups. The federation doctor was brought in to try and find suitable solutions to the problems. Everyone was in agreement that it was not acceptable to tolerate anorexic tendencies in a national coaching system. Ignoring the problem let down those girls who were affected and was contrary to the whole philosophy of the sport. The signals which a coach gives to athletes about what is right and wrong are extremely important. Turning a blind eye can be seen as tacit approval of this type of behaviour.

Orienteering is an extremely demanding and physically tough sport at international level and there is a risk that the wrong signals from leaders actually create and encourage inappropriate training and eating habits. We must always be observant for worrying trends in the development of training and think of the possible consequences for current athletes, and also the next generation of runners.

## **The role of the coach**

A coach has a very important roll, both in the manner in which they lead a group during training and competition and in the way that they work to develop the athlete as a person through sport. This is especially true for male coaches working with female athletes. As leaders we must also understand that everyone is unique: We all have different needs for attention, support, enthusiasm, inspiration and feedback. A coach needs to make training fun and create enthusiasm. The following points are useful to remember when working with female athletes:

- Be aware that there are likely to be many individuals in the group who could easily develop eating disorders.
- Be careful with seemingly innocent comments about weight or physical appearance. At the wrong moment, these can have dramatic consequences.
- Coaches, leaders and parents must never demand that young people who are still growing lose weight.
- Emphasise the importance of regular and nutritious food. Fat is necessary, especially for growing young people.
- Learn to spot early signals of anorexic tendencies.
- Set goals that are shared and realistic.
- Make sure that communication between athlete and coach is open and effective.
- Athlete and coach must have trust for each other.