Eating Disorders in Sport

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Why should we be interested in Eating Disorders in sport – sports people are pretty healthy, right? You may be surprised to hear that recent research shows rates of disordered eating amongst sports people as high as 62% among females and as high as 33% among males (Bonci et al., 2008). What's more, clinical eating disorders have the highest mortality rate of all psychiatric illnesses - around 1 in 20 people with a clinical eating disorder die from a variety of medical complications associated with the disorder or from suicide. So, yes we should be interested – the rate of disordered eating in sports people is relatively high and the consequences are serious. Despite this, eating disorders are very rarely discussed. Currently there is a lack of information about eating disorders available to sports people.

So what is Disordered Eating? Disordered eating can be thought of as a continuum ranging from energy balance and healthy body image at one end to problematic eating and weight control behaviours and finally full syndrome Eating Disorders at the other end (Shisslak, Crago, Estes, 1995)

Are there different types of Eating Disorders? Yes, generally, eating disorders are classified into three diagnostic categories, Anorexia Nervosa, Bulimia Nervosa and Eating Disorder Not Otherwise Specified (EDNOS). Each of these is described in more detail in the table below.

Eating Disorder	**What are some of the signs and symptoms??**	**Outcomes**
Anorexia Nervosa (AN)	The individual keeps their weight 15% below that expected by dieting, vomiting or excessively exercising. In adults, the criteria for AN is a BMI below 17.5kg/m^2 Intense fear of becoming fat or wanting to be thin. Self evaluation based on body shape and weight. Social withdrawal and change in performance at school or at work In women, menstruation stopping for 3 months or more May show signs of anxiety and depressed mood	Generally negative outcomes for individuals with AN who do not access formal medical care Highest rate of mortality of all psychiatric disorders With help, around 43% of people with AN recover completely
Bulimia Nervosa (BN)	Recurrent binge eating along with disordered behaviour to prevent weight gain (e.g. vomiting, excessive exercise or fasting). This occurs on average twice a week for three months The individual appears normal in weight Self evaluation based on body shape and weight May show signs of anxiety and depressed mood	With help, around 50% to 70% of people with BN recover completely
Eating Disorder Not Otherwise Specified	Most prevalent type of eating disorder amongst athletes Many of the same symptoms as AN and BN but not as extreme. For example bingeing episodes without the vomiting.	Depends on the severity of the disorder and whether or not the individual seeks professional help

Note: BMI is calculated as weight in kilograms divided by height in meters squared; The signs and symptoms presented in the table are not comprehensive, for more detail on the criteria and symptoms of eating disorders please see the NICE guidelines (2004).

How can disordered eating effect performance? In sports, energy availability is determined by the number of calories we eat minus exercise energy expenditure. Research has shown that sports people need an adequate number of calories and good nutrition to meet the demands of training. Although many female sports people think that a leaner body can enhance performance, in the short term, low energy availability has been shown to negatively influence performance by decreasing endurance, strength, speed and ability to concentrate and slowing down reaction time. Additional side effects of unhealthy techniques of weight management include lightheadedness, very low blood pressure and pulse, increased susceptibility to infection, poor or delayed healing and recovery from injury, dehydration and fatigue.

How can disordered eating effect my periods and is this a problem? Amenhorrea is a medical term that means the 'absence of menstrual bleeding'. When menstruation does not occur by the age of 16, the individual is said to have primary amenorrhea. Once the individual starts menstruating, the absence of at least three consecutive menstrual cycles is termed secondary amenorrhea. Many female sports people believe that the absence of menstruation is 'normal' for athletes. THIS IS NOT TRUE. Attributing menstrual cycle variations to exercise, without seeking medical advice to understand why this might be happening is potentially dangerous for a number of reasons. Research has shown that amenorrhea in athletes is linked to i) low energy availability stemming from decreased caloric intake or ii) an increase in volume of exercise without increasing caloric intake or iii) a decrease in caloric intake and an increase in training volume. When the body ceases to menstruate, this is a sign that the body is not producing enough estrogen. Estrogen is important for the strength and density of our bones. We know that 50% of adult bone mineral mass is formed between puberty and 18years of age. Therefore irregular menstruation during puberty can have long term implications for the female sport person's bone density. Research has shown that the spinal bone density of some young female athletes may be similar to women in their 80s (Van De Loo & Johnson, 1995). Irregular menstruation and decreased estrogen can lead to osteoporosis, a condition characterized by a decrease in bone mass and an increased vulnerability to fractures. Stress fractures are often linked to low bone mineral density and therefore can be a sign of longer term low energy availability (i.e. disordered eating). Research exploring the negative health outcomes of amenorrhea in female sports people found that those females who reported irregular menstrual cycles were six times more likely to have a stress fracture and the likelihood of stress fractures increased if the individual was restricting her diet (Van De Loo & Johnson, 1995). Prevention of osteoporosis is important because osteoporosis as a result of amenorrhea cannot be reversed even if menstruation is resumed (Van De Loo & Johnson, 1995). In addition to osteoporosis, over the long term disordered eating can also negatively impact the female's ability to have a baby.

How or why do eating disorders develop? Many sports people believe that eating disorders are a sign of mental weakness which is not the case. There is no single one cause of eating disorders. We know from the research that there are a number of possible contributing factors. In a study exploring the development of eating disorders, female athletes from a range of team and individual sports stated that they believed low self-esteem, negative mood (e.g. depression, high levels of anxiety) and poor body image played an important role (Arthur-Cameselle & Quatromoni, 2011). Some of the female athletes in this study also recognized that what started off as innocent dieting to lose a few pounds escalated out of control into obsessive

dieting. Hurtful comments about body shape and weight from others have also been identified as contributing factors. For example, research has shown comparatively higher rates of disordered eating in athletes who have experienced negative comments about body shape and size from their coaches than those who have not (Arthur-Cameselle & Quatromoni, 2011). Perfectionism and a need for control have also been identified as playing a role in the development of eating disorders in both athlete and non athlete populations (NICE, 2004). Finally, adverse life events and in the particular case of athletes, experiences of injury, have also been linked to the development of DE and ED (Arthur-Cameselle & Quatromoni, 2011; NICE, 2004).

So what can we do if we think someone we know has an eating disorder or is showing signs of disordered eating? Firstly, suggesting to the female sports person that they should 'snap out of it' and start eating normally or stop disordered eating behaviour (e.g. binging and vomiting) reflects a failure to understand the complexity of the problem. Clinical eating disorders are recognized as being an expression of underlying emotional distress, in other words, it's not just about food. Although there are a number of things we don't understand in relation to eating disorders, what we do know is that early diagnosis and getting help leads to a better outcome.

Unfortunately individuals with eating disorders are often reluctant to seek help. This leaves family and carers in a difficult position. Research has shown a high rate of anxiety and depression amongst family members and carers of individuals with eating disorders. Family members and carers also report that they lack information and don't feel able to cope. As a family member, seeking information from your GP or support groups is a good starting point. With greater information you can help the individual with the eating disorder to accept she has a problem. Support groups and discussions with a professional can also help you understand how you can assist in the recovery process.

Where can an individual with an eating disorder get help? In Ireland, typically the first point of contact for people with an eating disorder is with primary care services (e.g. your GP). Subsequent to an assessment, the General Practitioner (GP) will begin treatment and in some cases the GP will refer the individual to members of the community mental health team for outpatient treatment. In more complex cases, specialist services may be required. At present there are four specialist eating disorder services accredited by the Mental Health Act Commission in Ireland, these include St. Vincent's Hospital, Fairview, Dublin; St. John of Gods Hospital, Stillorgan, Dublin; St. Patrick's University Hospital, Dublin; and the Lois Bridges Centre, Dublin. In some instances, the individual or family of the person with disordered eating or a clinical eating disorder may seek private help from an individual professional. Because of the complexity of eating disorders, when choosing a private practitioner, it is important to ensure the individual has relevant training and specialist knowledge. For example, for disorders such as Bulimia Nervosa, research has shown positive results for the effectiveness of cognitive behavioural therapy. In the case of Anorexia Nervosa, it is often recognized that a multidisciplinary approach involving a range of disciplines (e.g. psychiatrist, psychiatric nurse, therapist, nutritionist) is needed.

Support and information is also available through Bodywhys and The Eating Disorder Resource Centre of Ireland websites. Bodywhys (www.bodywhys.ie) is the only national voluntary organisation in Ireland offering free and exclusive support to individuals affected by eating disorders. Bodywhys is a non-profit organisation which offers the following services in the Republic of Ireland; a Lo-Call helpline, fortnightly and monthly support groups, weekly internet support groups and an email support service. Bodywhys have also developed a schools education programme for eating disorders, which is delivered nationwide in secondary level schools upon request. The Eating Disorder Resource Centre of Ireland (www.eatingdisorders.ie) is another Irish based organisation that provides information and services related to Eating Disorders. Information and advice on eating disorders is offered free of charge.

We know that disordered eating and eating disorders are growing in prevalence. In a study of over 3,000 Irish adolescents, McNicholas and colleagues (2009) documented high levels of weight and body image concerns and higher than expected incidence of bulimia nervosa. We also know that individuals with disordered eating and clinical eating disorders are reluctant to seek professional help due to shame, embarrassment and other factors. In the sport culture, where pain, injury, and 'mental toughness' are normalized, female sports people may be particularly reluctant to seek help. The positive outcomes of seeking help early for disordered eating cannot be underestimated. As a community, all sports people, male and female, should support and provide encouragement for those who reach out and ask for help. This initial contact can make a significant difference to the length and difficulty of the individual's journey back to full physical and mental health.

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