Introduction

Welcome to the twenty-fourth edition of the NEDC e-Bulletin. In this month’s issue we are exploring issues related to Fitness, Healthy Eating and Sports Performance.

NEDC would like to thank you for supporting the e-Bulletin and the NEDC and we endeavour to continue to provide you with all of the latest evidence based information about eating disorders into the future. If you are interested in getting more involved in the NEDC we encourage you to join the collaboration and become an NEDC member.

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What is the relationship between eating disorders and sport and fitness?

Eating disorders and disordered eating may occur in people who are regarded by society as being extremely fit and healthy. Both males and females engaged in competitive physical activities including sports, fitness and dance have increased rates of body dissatisfaction, disordered eating and eating disorders. Physical activity and sporting environments play an important role in influencing how people perceive their own bodies.

High levels of exercise have been identified as a potential risk factor for eating disorders. A study of adolescent athletes (mean age 14.0 ± 2.2 years) found that changes in the desire to be leaner to improve sports performance were associated with changes in disordered eating. “Dieting” or “dietary restriction” is recognised as a precursor for eating disorders. Athletes are more at risk for disordered eating if they believe it is possible to enhance their sports performance through weight regulation. For example, athletes who believe their performance is directly affected by their body type often experience body dissatisfaction which can lead to disordered eating or eating disorders (e.g. bodybuilders, wrestlers, boxers, jockeys, rowers). Aesthetic sports which focus on appearance (e.g. figure skating, dancing, diving, gymnastics) and endurance sports which focus on individual performance, rather than the entire team (e.g. track and field, cycling, swimming) are also associated with an increased risk of eating disorders. While disordered eating more frequently affects athletes in sports that emphasize a thin size or a low weight, than in other sports, no sports are exempt. Although some instances of disordered eating may directly relate to the sport, more often the individual athlete has other risk factors in their lives and may have been likely to engage in disordered eating without participation in a sport.

While there appear to be circumstances under which sports participation is a risk factor for eating problems, there are also situations where participating in sport may be a protection against body dissatisfaction and eating problems. For example, young people engaging in non-elite sports, especially in high school, have shown a reduced risk of eating problems compared to their peers and body image has been
found to differ significantly among girls participating in different types of sport, and between those who participate in sport and those who do not. Encouraging females to participate in physical activity which focuses on what the body can do (function) rather than on appearance has been found to enhance body satisfaction.

Professionals working in sport and fitness play a large and ongoing role in the influence of people engaging in competitive physical activity and are therefore instrumental in delivering positive messaging about body image and healthy eating and exercise behaviours within a high risk community. Coaches and other sports professionals including physiotherapists, sports dieticians and are amongst the most important and influential role models in the lives of the athletes they interact with, and as such, these people are in a strong position to assist in the prevention, early identification, intervention and management of eating disorders.

Download our resource Eating Disorders in Sport and Fitness: Prevention, Early Intervention and Response

Find more resources for sport and fitness professionals
Top Five Reasons to avoid disordered eating as a means to enhancing sports performance

Society has long promoted the idea that physical activity is a strong contributor to an overall healthy lifestyle, longevity and wellness. Australians hold our sportsmen and women in highest esteem and our participation in and spectatorship of sporting activity is a past-time of national significance and pride. Unfortunately, a “desire to optimise performance, [and the perceived] high stakes associated with winning” (Fact Sheet: Eating Disorders, Sports Dieticians Australia http://www.sportsdietitians.com.au/content/2583/EatingDisorders/) places sporting competition and sportspeople alike at a higher risk of eating disorder development than would otherwise be present.

A research paper published in Nutrients Journal (Nutrients 2013, 5(12), 5140-5160; doi:10.3390/nu5125140) examines the links between sport performance, physical fitness and eating disorders; and the effects eating disorders, particularly anorexia nervosa, bulimia nervosa and eating disorders not otherwise specified (EDNOS), have on sport performance and physical fitness. This journal article reviewed 29 peer-generated references to identify the areas of risk and the specific evidence of potential outcomes of disordered eating on athletic results. Conclusively it states that eating disorders have a negative impact on sports performance and physical fitness.

Here are some of the reasons for this negative impact:

1. Dietary restriction deteriorates sports performance due to effects of starvation including glycogen depletion, dehydration and loss of lean body mass (Beats et al.). Dehydration and starvation leads to chronic muscle cramping, and low energy availability. As energy is a definitive requirement of exercise, a lack of energy will impede capacity to exercise effectively or compete strongly (El Ghoch et al.) resulting in the opposite outcome for athletes and sports performance.
2. Eating disorders reduce the main qualities of muscular fitness (i.e. aerobic fitness, musculoskeletal fitness, flexibility and motor fitness) which are not restored after nutritional rehabilitation and weight regain (Alberti et al.) The Human Starvation Study reported that recovery to optimal performance in these categories for sports performance and physical fitness was up to two years (Keys et al) highlighting a longitudinal impact on fitness to compete.

3. Overtraining which is often associated with disordered eating in high performance athletes is a physical, mental and emotional condition that manifests when the volume and intensity of a person’s exercising exceeds their capacity to recover (El Ghoch et al.) In typical cases an athlete’s performance and progress will begin to taper off as they start to lose strength and fitness. This is a contradictive result to a desire to increase strength and fitness.

4. Self-induced purging techniques are ineffective measures for weight-control and do not positively affect sports performance (El Ghoch et al.). Common purging behaviours such as vomiting and laxative use have been shown to have little impact on weight-control and in fact have negative effects for example dehydration (see point 1). (El Ghoch et al)

5. Eating disorders in female athletes can be associated with a loss of menstrual function which can lead to premature osteoporosis (brittle bones) making them susceptible to breaks (http://www.sportsdietitians.com.au/content/2583/EatingDisorders/). Broken bones ultimately lead to time away from competition, which ultimately effects overall performance and success.

A healthy approach to eating has a positive effect on sporting performance and a well balanced diet is the best way to optimise overall fitness and well-being. The Joint Position Statement: nutrition and athletic performance from the American College of Sports Medicine, American Dietetic Association, and Dieticians of Canada states explicitly that “Consuming adequate food and fluid before, during, and after exercise can help maintain blood glucose during exercise, maximize exercise performance, and improve recovery time”.

Visit the NEDC Members Blog for a sport and fitness professional's perspective on eating disorders in athletes
Knowledge Hub Roundup

The National Eating Disorders Collaboration collects and provides the latest evidence based research and information available on eating disorders from Australia and around the world. The topics included in our Knowledge Hub are wide ranging and recognise the physical, social and emotional aspects and the broad spectrum of eating disorders. This month in the e-Bulletin we are highlighting content in our Knowledge Hub relating to Sport and Fitness.

**Weight pressures in sport: Examining the factor structure and incremental validity of the weight pressures in sport — Females.**
Due to pressures within the sport environment, such as from coaches, teammates, uniforms and judges, female athletes may develop unhealthy eating practices to lose weight or change their body size/shape to become more competitive and meet societal and sport-related physique ideals.

*Find out more*

**Disordered eating behaviors and body image in male athletes.**
This study found that nearly one-quarter of athletes showed disordered eating behaviors, which was associated with body image dissatisfaction. Athletes with higher %BF were more likely to be dissatisfied with body image. There was no difference in eating behavior and body image between athletes from different sports categories.

*Find out more*

**Moving from Knowledge to Action: A Qualitative Study of Elite Coaches’ Capacity for Early Intervention in Cases of Eating Disorders.**
This study investigates elite coaches’ attitudes toward eating disorders (ED), knowledge about ED, and early intervention skills when confronted with possible ED in their female athletes. This study reveals that elite coaches have insufficient capacity to identify ED and conduct early intervention, resulting in delayed treatment.

*Find out more*
Higher Prevalence of Eating Disorders among Adolescent Elite Athletes than Controls.
This study found that the prevalence of ED is higher in adolescent elite athletes than controls and higher in female than male athletes. Clinical interview is needed to determine accurate prevalence of ED. 
Find out more

Find more eating disorders research in the NEDC Knowledge Hub
Upcoming Professional Development

29th October - Townsville Eating Disorders Forum 2014

During 2014-2015 NEDC will be visiting regional centres across Australia to deliver training for professionals providing services to people with or at risk of developing eating disorders. Attendees will explore:

- How to identify, assess and manage eating disorders
- Service models for evidence-based treatment and how to implement them
- Professional networking and support

Our first stop will be in Townsville with more dates to follow. A full list of dates and locations for our 2014-2015 series of eating disorders forums will be made available soon.

Visit the [NEDC website](http://www.nedc.com.au) for registration or more information

7th November - CBT-E: Cognitive Behaviour Therapy for Eating Disorders

A 1-day comprehensive introduction to Enhanced Cognitive Behaviour Therapy (CBT-E), the latest version of the leading empirically supported, outpatient psychological treatment of eating disorders. The workshop draws on the work of Prof Christopher Fairburn, Director of the Centre for Research on Eating Disorders at Oxford University (CREDO), and Dr Anthea Fursland, researcher and principal psychologist of the Eating Disorders Program at the Centre for Clinical Investigations, WA (CCI).

[Details of Training](#)  
[Bookings](#)