

Managing activity and exercise in adolescents with an eating disorder



February 2015



A guide for young people and their parents

It is widely known that there are many positive physical and psychological health benefits of exercise, including improved heart and lung function, improved muscular and bone strength, improvements in self-esteem and mood, and development of new social skills. As a result exercise plays an important part in what is considered to be a healthy lifestyle.

The activity level for children from the ages of 5-18 recommended by the Department of Health (2011) is at least 60 minutes of moderate to vigorous activity daily, which includes activities such as walking, swimming, bike riding, PE and school games. However, it is important to acknowledge that this recommendation is based on a healthy weight (95-105%BMI) and whilst it is directed at the majority of the population, this amount of activity can be detrimental to someone with an eating disorder.

When exercise is associated with an eating disorder it can often become compulsive, and exercise levels can exceed that of nutritional intake. When this happens the health benefits of exercise are lost and the compulsive exercise can cause physical and psychological problems.

The aim of this booklet is therefore to provide an insight into the relationship between exercise and eating disorders, what might be experienced if exercise and activity increase to unhealthy levels and ways in which you can be supported to try and make changes to your exercising behaviour.

Exercise and eating disorders

The relationship between an eating disorder and exercise levels can vary between individuals, and can depend on the reasons for first starting exercise, whether it be to control weight and shape or whether it started out healthily prior to the eating disorder taking over. Whatever the reason, exercise can become a very powerful tool in maintaining an eating disorder because of the strong influence that it can have on weight control.

Compulsive or over-exercising refers to any form of physical activity that is associated with disordered eating attitudes, beliefs and behaviours, and an inability or unwillingness to cut down or stop exercising even though it is detrimental to health.

In addition, as part of the eating disorder, the individual may have developed a psychological dependence on exercise through the influence of perfectionistic tendencies and behavioural rigidity, a dependence on exercise for mood regulation, or due to the beliefs about the negative consequences that may result from alterations in exercise behaviour.

Activity urges are controlled by the brain chemical Leptin. In the majority of individuals with a restricted diet, the levels of Leptin significantly reduce, resulting in an increased urge to be active. As weight returns to within normal ranges, the amount of Leptin produced then increases and the urge to be active reduces. In addition, it is also believed that the urge to be active is an evolutionary survival mechanism to support foraging for food in times of famine. It is therefore important to acknowledge that the powerful drive to exercise and be active becomes less intense as weight is restored to healthier levels.

When is exercise compulsive?

These points may be familiar to how you feel about exercise:

- I make myself exercise even when I am injured or tired
- I exercise every day, and feel guilty if I miss a day
- I must always do more than I did the last time
- I make excuses to miss studying or social events in order to exercise
- I cut back on food if I have not exercised enough
- I need to exercise in order to cope with the way that I feel
- I make up for any exercise I have missed by doing more the next time
- I do not enjoy exercise the way that I used to
- I don't like to sit still or relax

If they are, then it may be time to talk about your exercising behaviour and how it is affecting you and your life.

Common altered beliefs around body composition and exercise include:

“If muscle is not used, it turns to fat” – this is a myth

Muscle that is not used will lose tone and therefore will look less defined than more toned muscle, but it will not turn to fat.

“If I do not exercise then as I gain weight all the weight will be fat tissue” – this is a myth

Until your body has returned to a healthy weight it will be using all nutrients to repair and rebuild your body to its genetically determined healthy composition, which includes rebuilding muscle tissue in order for the body to function for everyday tasks. This means that the body will regain muscle tissue even without the need for exercise.

“Walking to the shops or train station is not exercise” – this is a myth

All physical activity that functions either directly or indirectly as a means to influence weight, shape, physical fitness and mood are forms of exercise

So what do we mean by exercise?

Physical activity relates to any movements that exert the muscles of the body, and therefore can encompass a vast range of activities such as running, dancing, swimming or walking to the shops. This range can be broken down further into activities which are classed as planned and structured exercise, such as playing a sport or joining a dance or fitness class, and incidental exercise which is neither planned nor structured but involves physical activity, such as washing the car, cleaning, walking to school and walking the dog. Both planned exercise and incidental exercise influence components of physical fitness, including muscular, heart and lung function, and must therefore both be taken into account when identifying activity levels of compulsive or over-exercising behaviours.

When exercise has become excessive and/or compulsive in someone with an eating disorder it can be carried out in different ways. It may be that they are openly and deliberately engaging in exercise as a way to burn calories or lose weight, which can often be undertaken in a rigid way, such as running, swimming or cycling. Alternatively they may be doing high levels of exercise in secret, such as sit ups

in their room, making excuses to 'fetch something' from another room, standing for long periods of time, pacing or carrying excessively heavy school bags.

Therefore all types of physical activity and exercise, when compulsive in nature or carried out at an unhealthy %BMI level, have a negative impact on health and it is therefore important to address exercising behaviours in order to minimise the risk of harm to the body.

What are the consequences of over exercising?

When the body is below a healthy weight it does not have the ability to withstand high levels of activity. Below 90%BMI there are significant changes in the body, including changes to the muscular and skeletal systems, the heart, and the circulatory system.

At a low weight there is significant reduction in muscle mass and muscle strength, which reduces the support around the joints of the body. Exercising excessively on top of these already weakened and therefore vulnerable joints can lead to joint damage, and if continued, degenerative changes later in life such as arthritis. In addition, reduced muscle mass means that these weakened muscles are unable to withstand the repetitive nature of exercise movements and therefore are extremely vulnerable to repetitive strain injuries. Some of the signs and symptoms that may result are:

- Joint pain
- Neck or back pain
- Muscular and ligament injuries
- Stress fractures
- Friction burns and bruising
- Increased callous formation on the feet

Osteoporosis is a common complication of an eating disorder, particularly of anorexia nervosa. Reduction in bone mineral density and development of osteopenia and subsequently osteoporosis, increases the risk of fractures, and even low impact activities such as walking can result in stress fractures. If exercise contributes to a further reduction in weight then the overall result will be counter-productive to bone mineral density. As a result, if there is a diagnosis of osteopenia or osteoporosis it is vital to address any compulsive or over exercising behaviours. In particular high impact activities such as running, jumping, contact sports, and activities that have a high risk of falls such as skiing, ice skating, trampolining and horse riding should be avoided. It is also advised that exercises which involve forward flexion (bending the spine forwards) such as touching the toes in standing and sit-ups are avoided, as these movements put pressure on the bones in your spine increasing the risk of compression or wedge fractures especially in the upper back.

In addition to the risk to the muscular and skeletal system, exercising at a low %BMI can place extreme stress on both the cardiovascular and circulatory systems. At a low weight the body may have experienced some muscle shrinkage of the heart muscle, and this in addition to altered blood chemicals that can result from diet restriction, vomiting, laxative abuse and dehydration, can lead to lowered blood pressure (hypotension), altered heart rhythms, dizziness or fainting and swelling of the body's soft tissue, usually in the lower legs, known as peripheral oedema.

The importance of rest and recovery

During exercise, whether it be strengthening exercises, such as sit ups or press ups, or aerobic in nature, such as walking, jogging, cycling, increased stress is placed on muscles, joints, tendons and ligaments. This results in microscopic damage to tissues and the success of repair is dependent on

both time and nutrition. It takes approximately 48 hours for muscle to recover, repair and replenish and this requires the correct amount of protein, vitamins and minerals. If you are over-exercising, and your nutritional intake is low, then you are not allowing your body the chance to repair properly. This will result in muscles and joints being more vulnerable to injury and, without that time to recover, they will soon start to feel weak and become tired and fatigued. Therefore it is important to allow the body to not only carry out a level of activity appropriate to %BMI, but also allow the body adequate time to rest between activities.

It is often believed that *"If I do more exercise, then I will be fitter"* but not allowing the body to rest and recover can have negative consequences. There is only so much the body can take before the positive benefits of exercise become outweighed by the negatives. Therefore more is not always better.

The consequences of compulsive exercising behaviour not only have a significant impact physically, but socially and psychologically as well. These may include:

- A deterioration in relationships with friends and family
- Withdrawal and isolation
- Depression
- Anxiety and guilt
- Poor performance at school or college
- Negative self-image

What can be done to challenge over-exercising behaviour?

If you feel that you are experiencing compulsive exercising tendencies or are concerned about your exercising behaviour then it is important to discuss this with staff and ask for support in how to best manage and challenge it. You will have your own individual reasons for your compulsive exercise behaviour and therefore it is important to identify these and develop ways of challenging them.

The Physiotherapist can work with you to help you identify your current level of activity and the impact that this might be having on your body, and support you in developing a plan for appropriate levels of activity in relation to your %BMI level. Staff on your inpatient unit and your local team can help you to find new ways of thinking about exercise and activity and support you in making changes to your behaviour while in hospital and once you are home.

Useful strategies that you might find helpful to get you started in challenging your activity levels and exercising behaviour:

- If you are over-exercising, try to cut down the amount that you do, whether this be by 10 repetitions or by 5 minutes, or maybe go to bed earlier/ get up a bit later, it will be a positive step in the right direction
- Write a pros and cons list for changing your exercising behaviour. What are you concerned might happen if you stop?
- Use alternative activities as a distraction – these can be helpful at the time of the urge to exercise. Talk about your thoughts and feelings with others, or participate in enjoyable activities, for example, reading a book, playing a game or listening to music.

- Use relaxation techniques, and remember urges and anxiety passes.
- Understand the consequences of over-exercising and the benefits of changing your behaviour on overall wellbeing.
- Acknowledge the need for your body to rest and repair as part of its recovery and that even trained athletes allow themselves rest days.

It is important to remember that any exercise that you carry out that unsettles your exercise and nutritional balance (energy balance) will be counter-productive in returning to a healthy weight.

Allow yourself to rest and to listen to your body – to give exercise a miss if you are feeling unwell, tired, are injured, or you just don't feel like it. Remember your body needs relaxation time as well as exercise.

As you return to a healthy weight the amount of exercise that you will safely be able to engage in will increase. It is important to work with the Physiotherapist to identify an appropriate type and amount of exercise for you, in order to reach a healthy balance between activity and nutritional intake and subsequently maintain a healthy weight.

At healthy weight, when engaging in exercise it is important that it is fun, sociable and enjoyable. Try to avoid solitary, rigid or secretive exercise as this may lead you to over exercise. Engaging in exercise classes, school clubs or exercising with friends and family, i.e. time limited sessions and social sessions, will be supportive in guiding you through to healthier exercising behaviours. Exercise can also be incorporated into family activities that may have been enjoyed prior to the eating disorder, like walking the dog, football or Frisbee in the park, family bike rides etc.

At this stage your body will be gaining the positive health benefits that can result from exercise. Your nutritional intake will give you energy for your activity, keep you healthy and allow you to grow and develop.