

## **How much training is safe for children?**

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Physical activity is an important component of a healthy lifestyle and sport plays a large part in the physical activity of children. But how much physical activity should children engage in, and is it possible to do too much? There are no scientific guidelines informing us on how much activity is harmful and how much represents overtraining. By contrast there is much information on minimum activity levels required for good health. Health organizations such as the World Health Organisation (WHO) have recommended that children and young people (aged 5-17) need to accumulate at least 60 minutes daily of moderate to vigorous intensity exercise to ensure physical, mental and social well being. The children in Dundrum South Dublin Athletic Club tend to have no problem meeting the 60 minute target and indeed many are active for much longer. Many take part in multiple sports but often arrive for athletics training having spent their day participating in several other sports and can be tired. Are these children doing too much activity? And if so what are the issues that parents need to be aware of? Overtraining, burnout and overuse injuries are the main concerns. Parents need to be aware of these issues and be ready to address them if they believe that their child is at risk of doing too much.

### **Overtraining**

Overtraining is a condition where the volume and intensity of training exceeds the athletes' capacity to recover. Improvements in strength and fitness only occur after a rest period following hard training. If the athlete does not get sufficient rest, recovery is not complete and the athlete will gradually become more tired. If this situation persists for a number of weeks, performance declines and the athlete risks burnout. It is important that the frequency and intensity of training is not excessive for children, and that sufficient time for recovery occurs between sessions and between seasons.

Overtraining also increases the risk of overuse injury particularly during peak growth periods.

## **Burnout**

Burnout in athletes refers to a series of negative changes in the performance and attitude of the child towards an activity that he/she once enjoyed. Symptoms can include chronic muscle or joint pain, elevated heart rate, lack of enthusiasm for training or competing, sadness/depression, frequent illness and fatigue. There are many causes of burnout but overtraining and unrealistic expectations of success from parents/coaches are factors. Children who show an early aptitude for sport may be at increased risk of burnout as they are often asked to play too many sports and often at older age groups.

## **Overuse**

An overuse injury is an injury to a muscle, bone or tendon that has been caused by a repetitive action on that body part. Children are at particular risk of these types of injuries during accelerated growth periods as bones and muscles are growing at different rates. Examples of such injuries are Severs Disease (pain at the back of the heel), Osgood Schlatters disease (pain below the knee cap) and shin splints (pain in the shins). They are more likely to occur if there are underlying biomechanical problems. These injuries present in the very active child and while not career limiting, can be painful and can affect the child's enjoyment of sport. Reducing the amount of activity in addition to treating with ice, anti-inflammatory medication and stretching usually settles most of these injuries. In cases where symptoms don't settle advice should be sought from a chartered physiotherapist. Stress fractures can be a more serious consequence and require a prolonged rest from the activity.

## **So can these problems be avoided?**

Many of these problems can be avoided by taking a balanced approach to the child's participation in sport. It is worth focusing on the reasons why children should participate in sport. Sport has a lot to offer children. Aside from the physical and health benefits it provides opportunity for fun and for social development as well as the acquisition of new skills and the prospect of achieving success. Sport teaches children skills that go beyond the sports arena. Children develop concentration, focus, self confidence and belief in

their abilities, skills that can be used in all walks of life. It is important to encourage lifelong participation and to avoid burnout through overtraining children before they become adults. By paying heed to the following points, many of these problems can be avoided.

1. Encourage children to participate in a number of sports. It helps to develop a wide range of athletic skills – many of which can be transferred between sports. It also reduces the risk of overuse injury because the same muscles and joints are not being stressed all the time.
2. Children should not specialise in a single sport before adolescence -. Children who specialise in one sport before puberty have more injuries and play for a shorter time than children who play a variety of sports.
3. Children should engage in physical activity for a minimum of an hour a day 5 - 6 days a week. It is important to take at least 1 or 2 days off per week from sport specific training to allow time to recover physically and psychologically.
4. Taking a break away from each specific sport for 2 – 3 months a year is recommended. This allows the body and mind time to refresh and recover. Participation in other sports is recommended during breaks.
5. Any increase in training (time, frequency or distance) should be gradual (no greater than 10% per week).
6. The focus should be on fun, skills development and friendship.
7. Children who are particularly skilled at sport tend to get selected for many teams and these children should be closely monitored to ensure that they are not overtrained.

**Table 1 - Activity Guidelines for Children**

| Age Group | Minimum Level of Physical Activity Required for Health   | Additional Health Benefits   | Signs of Overtraining  | To Prevent Overtraining  |
|-----------|--|--|--|--|
| Age 5-17  | 60 minutes of moderate to vigorous intensity exercise should be accumulated daily. Most activity should be aerobic such as running, swimming or cycling. Vigorous activities such as sprinting, jumping or hopping should be included 3 times a week | Daily physical activity of more than 60 minutes provides additional health benefits – there are no guidelines on how much more than 60 minutes is safe | Fatigue<br><br>Lack of enthusiasm for training or competition<br><br>Irritability<br><br>Deterioration in performance<br><br>Slower times in distance sports<br><br>Injury | Limit sports activities to 5 days a week.<br><br>2-3 months rest from organised sport per year<br><br>Participate in multiple sports<br><br>Avoid specializing in a single sport before adolescence. |

### **Who is responsible for the monitoring the child's activity levels?**

While coaches are responsible for coaching the athlete, parents and guardians are responsible for the overall welfare of their child. Only a parent or a guardian will know the amount and intensity of activity that their child is doing. Given the number of children under the care of coaches, it is not reasonable to expect coaches to be aware of all the activities that each child has participated in on a given day or week. It is the responsibility of the parent/guardian to ensure that their child is physically ready and able to participate in the training sessions their child attends. Parents need to be aware of the intensity of their child's activities. If a child spends an hour playing soccer in goals, the intensity is much less than for a child who is running around outfield. Parents need to observe their child's behaviour, attitude to their sport and mood and they need to intervene if they feel their child is doing too much.

If a parent has concerns about their child's activity levels and has noticed a loss of interest, decline in performance, sadness, fatigue and signs of overuse injury, the parent should act. Keep a diary of the child's activity over a 2 week

period. Talk to their coaches and/or their doctor and make the concerns known. It may be that the child needs to cut back on the number of days training or reduce the number of sports in which the child participates.

## **Conclusion**

So what is safe? In conclusion, training up to 5/6 days a week for more than an hour a day in a variety of sports is safe. Ultimately parents are responsible for their child's welfare. They need to watch for signs of overtraining, burnout and overuse injury to determine how much more than the hour is in the best interest of their child. By doing so, the goal of encouraging a lifelong interest and participation in physical activity may be achieved.

## **References**

Athletics Ireland 'Code of Ethics & Good Practice for Children in Athletics'

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Get Ireland Active [www.getirelandactive.ie](http://www.getirelandactive.ie)

The Irish Sports Council Code of Ethics & Good Practice for Children's Sport

World Health Organisation (2010) 'Global recommendations on physical activity for health'

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