

## References/recommended reading

Down's Syndrome. The Essential Guide. Antonia Chitty and Victoria Dawson ISBN: 9-781861-440839 Need-2 Know series . Reviewed in the APCP journal (Volume 2 Number 2 May 2011)

Children with Down Syndrome A Guide For Parents and Professionals. Patricia C Winders. P.T. Woodbine House 1997 ISBN: 0-933149-81-6

Down's Syndrome Association- [www.downs-syndrome.org.uk](http://www.downs-syndrome.org.uk)

Down's Syndrome Scotland- [www.dsscotland.org.uk](http://www.dsscotland.org.uk)

Down Syndrome Education International– [www.dseinternational.org](http://www.dseinternational.org)

With thanks to Josie Carbin



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APCP

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**This leaflet has been produced after an initial review of literature and where there is a lack of evidence, a consensus of expert opinion is agreed, correct at time of publication**



Association of Paediatric Chartered  
Physiotherapists

## Down Syndrome



Although children with Down Syndrome (DS) will acquire motor skills more slowly than a child without DS they will still master the basic gross motor skills of rolling, sitting, walking, running and riding a tricycle. Many will also learn more complex skills such as swimming, dancing, riding and martial arts.

Children with DS, like other children, develop their skills according to their own timetable, some will be slower than others and some will be faster. In general though, specific physical and medical problems can delay the development of gross motor skills in a child with DS.

**Hypotonia** – children with DS have low muscle tone, also known as hypotonia (floppiness). This affects each child with DS differently – some children are affected very mildly, whereas in others it can be far more noticeable.

**Increased flexibility of joints (hypermobility)** – in children with DS the ligaments that hold the bones together can be more lax than usual.

**Decreased strength** – children with DS have decreased strength in their muscles, but this can be improved through repetition and practice.

**Short arms and legs** – children with DS have shorter arms and legs in relation to the length of their trunks. This can make sitting more challenging as they are unable to prop as easily and have further to go when falling before they can save themselves.

**Medical issues** – these can affect the child's ability to engage in gross motor activities. Issues can include heart problems, stomach issues, chronic upper respiratory infections and ear infections. They can lead to fatigue and decreased stamina.

### Ways in which you can help

Practice makes perfect when learning a new skill. It is thought that children with DS require lots of repetition and encouragement at practising a task before it is mastered, far more so than their peers. Many children can achieve a high level of motor skills if given the opportunity. This is often best achieved through play activities.

Typically children with DS learn best visually, or by watching others. Rather than just verbally encouraging your child, show them what you want them to do at the same time.

### Ideas for pre-school children

**Tummy time:** It is beneficial to start tummy time with young babies, encourage your child to lift its head and prop through its arms.

**Developing sitting balance:** Place toys to either side of your child to encourage them to reach out to get them. This can be made easier or harder by placing them in front, or behind to the sides, or further away. You can also play see-saw with your child to improve their sitting balance.

**Standing Practice:** Trying standing your child facing the sofa for support; place toys or games in front to distract them in this position. You may need to help keep their knees straight and prompt them to 'stand tall'.

**Footwear:** Some children may benefit from ankle boots which are stiffer and more supportive than shoes and can be purchased at your local shoe shop. Occasionally it may be felt that your child would benefit from being referred to the orthotist or podiatrist for further advice on insoles to promote a neutral foot posture.

### Activities for school age children

Although children with DS usually show hypermobile joints, there is a risk of muscle shortening at the hip flexors (the muscles at the front of the hips). By encouraging lying on the tummy with the legs out straight behind (not frogged out to the sides) it allows the front of the hip to be stretched out. This is a great position to look at books together or play a game.

All children benefit from regular exercise, but those with DS may feel that they struggle to keep up with peers in competitive sports. Consider trying an individual sport where they compete against themselves by improving their time or technique such as swimming, gymnastics, cycling. Some children with DS may be advised against forward rolls in gymnastics.

Check out local councils and charities for sports and activity groups which are held in your local area. Regular exercise can be a useful way to promote cardio-vascular activity which we all benefit from, in addition to helping reduce the risk of becoming overweight or obese which can affect children with DS as they get older and adopt sedentary lifestyles.

It is important to remember that every child is an individual. As such there are no standard physiotherapy programmes which every child should follow. Not every child with DS will need to be seen by a physiotherapist. If you have any concerns please speak to your Paediatrician, Health Visitor or GP for further advice.