

Gross motor skill information for children with Down Syndrome

Introduction

Information for parents and carers

What are motor skills?

- **Gross motor skills** describe the way your child moves around, e.g. by rolling, sitting, crawling, standing and walking, and their abilities within these positions.



- **Fine motor skills** describe how your child uses their hands, both separately and together and how this affects their self-care skills and independence, e.g. playing, feeding, dressing and writing.



Development in children with Down Syndrome

- Most children with Down Syndrome follow the same pattern of physical development as any child.
- Being included in every day play and family activities will help children meet their motor milestones at their own pace without any specific physiotherapy input.
- Children with Down Syndrome are usually delayed in all areas of their development, e.g. gross and fine motor skills, communication and learning.
- If learning and understanding are very delayed, this affects how a child learns to move from one position to another and causes a delay in physical skills as well.
- All children develop differently; some children may achieve their motor skills at similar ages to children without Down Syndrome and some may be very delayed.
- Although the activities in each section are written in a sequence, it is not essential that your child achieves one skill before you move on to the next.
- This is especially true in the early stages of development where it is important to spend time in a variety of positions to develop different skills as each position has an effect on the other.
- For example, at around six months old, you can spend a lot of time playing with your child on the floor and can practice rolling alongside playing in a supported sitting position.



Babywalkers

Physiotherapists **DO NOT** recommend babywalkers or bouncers for any children, particularly those with developmental delay and altered muscle tone.

Why not?

Babywalkers place your child in a position which is not quite sitting or standing. They enable movement without your child having the proper awareness or control of their body. Development is a progressive sequence and at each stage, children learn different aspects of controlling their body which gradually come together to enable independent walking.

Please see our separate leaflet about babywalkers for further information.

What other factors affect motor skill development?

There are several factors which contribute to gross motor delay in children with Down Syndrome. The most important of these are explained here.

Low muscle tone

Children with Down Syndrome tend to have quite floppy muscles (*hypotonia* or *low muscle tone*). This makes it harder for them to move and can affect all aspects of their physical development.

For example, in lying, their arms and legs will often rest flat on the floor or it may be difficult for them to learn to pull into a standing position.

Although the hypotonia will never disappear completely, with appropriate stimulation and good positioning, your child will develop movement skills following a typical, but delayed pattern.

Hypermobility

Children who have low muscle tone can be very flexible. They are often described as having *lax ligaments*, *hypermobility* or being *double-jointed*. This is because the muscles do not hold the joints together as tightly as in people with normal muscle tone. In most cases, although hypermobility is a factor in gross motor delay, it does not have any serious effects.

This extra flexibility is usually most noticeable in the fingers, ankles and knees. It can make it hard to control the position of the joints. People with hypermobility can find it difficult to know where their body is in relation to their environment, e.g. slopes, different surfaces, where obstacles / furniture are.

Muscle strength

Muscle strength of children with Down Syndrome can be reduced compared to other children of the same age. This can contribute to gross motor delay as children lack the strength and endurance (ability to keep going) to learn new skills quickly.

Muscle strength and endurance will improve as your child becomes more active, but children with Down Syndrome may continue to be less co-ordinated than their peers.

Children with Down Syndrome often have shorter arms and legs than other children, which can make some physical activities harder, e.g. when they are learning to sit and want to balance with their hands.

Although children with Down Syndrome can find it harder to develop new movement skills, we know that unless there are other developmental problems, most children will get there in their own time.

Footwear / orthotics

For most children with Down Syndrome, **boot-style shoes** from a good shoe shop will provide adequate support. Have your child's feet **measured properly** for length and width.

Avoid shoes which have very squashy soles and heel areas.

If your child is extremely flexible, a physiotherapist may refer to Orthotics to assess for supportive boots or insoles to help control foot posture while they are learning to stand and balance. These boots are not needed indefinitely and are not prescribed routinely.



We hope these leaflets provide information, advice and practical activities to help babies and young children with Down syndrome develop their motor skills.

They have been produced by therapists from LCH Children's Physiotherapy and Occupational Therapy.

If you have any questions that are not answered in this booklet, a physiotherapist would be happy to discuss them with you, so please do not hesitate to contact the physiotherapy department on **0113 305 5208**.

Alternatively, talk to your Paediatrician or Portage worker.

References

Winder PT (1997) *Gross Motor Skills in Children with Down Syndrome; A Guide for Parents and Professionals*, Woodbine House Inc.

Diamant RB (1992) *Positioning for Play: Home Activities for Parents of Young Children*, Therapy Skill Builders

Crombie S (1997) *Physiotherapy Home Programmes for Children with Motor Delay*, Winslow

Parent support - local groups

Hawthorn Family Support Centre (Mencap)

The Vinery Centre, 20 Vinery Terrace,
Leeds LS9 9LU
www.leedsmencap.org.uk/support-for-young-people/hawthorn-family-support-centre
Tel: 0113 235 1331
Email: kath.surtees@leedsmencap.org.uk

Bradford Down Syndrome Training and Support Service Ltd

www.downsupportbradfordbtck.co.uk
Tel: Wendy Uttley 01274 561 308
Email office@downsyndromebradford.co.uk

Wakefield and District Down Syndrome Support Group

www.downsyndrome-wakefield.net
Tel: 07814 367 594
Email: info@downsyndrome-wakefield.co.uk

Sunshine and Smiles

www.sunshineandsmiles.org.uk
Tel: Ailith Harley-Roberts 0113 226 8457
Mob: 07902 054 355
Email: hello@sunshineandsmiles.org.uk

SNAPS (Special Needs and Parent Support)

www.snapsyorkshire.org
Email: dean@snaps-vol.org.uk
Mobile: 0796 484 7775

Little Hiccups

Tel 07831 230 741
Email: info@littlehiccups.co.uk

Parent support - national organisations

Down Syndrome Association

www.downs-syndrome.org.uk

Down Syndrome Educational Trust

www.downsed.org

Babywalkers leaflet produced by Bliss – the premature baby society www.bliss.org.uk
Search for “babywalkers”

Contact a Family

www.cafamily.org.uk

Family information

The Family Hub

www.familyinformation.leeds.gov.uk/Pages/default.aspx

Leeds SENDIASS

www.leedssendiass.co.uk
sendiass@leeds.gov.uk
0113 3951 200

Leeds Local Offer

www.leeds.gov.uk/residents/Pages/Leeds-local-offer.aspx

Leeds City Council Sport and Active Recreation Programme for Disabled People

www.yorkshiresport.org/cc
Search “Leeds Inclusive Sports Programme”.
Tel 0113 395 0159
Email: glenn.holdsworth@yorkshiresport.org

Contact us

ICAN Admin

3rd Floor Stockdale House
Headingley Office Park
Victoria Road
Leeds LS6 1PF
Tel: 0113 843 3620

Help us get it right

If you have a complaint, concern, comment or compliment please let us know by speaking to a member of our staff. We learn from your feedback and use the information to improve and develop our services.

If you would like to talk to someone outside the service contact the **Patient Experience Team** on **0113 220 8585**, Monday to Friday 9.30am to 4.30pm or email lch.pet@nhs.net

We can make this information available in Braille, large print, audio or other languages on request.