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Sessions**



Physiotherapy Sessions

Low Tone

www.downsyndromeuk.co.uk

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Low Tone

What is it?

HYPOTONIA OR LOW TONE

Hypotonia, is the term for decreased muscle tone. Signs include your child having an inability to control their neck muscles or hold their head up, limpness when held, poor lip closure and flexible unstable ankles, to name just a few.

Tone refers to the tension of a muscle when moved passively. Hypotonia (low tone) is when a limb moves too easily, showing little tension or resistance.

Children with low tone have difficulty controlling their muscles and, exert 2-3 times more energy than a child with typical tone to effect movement.

Muscle strength is not affected in children with Down syndrome but the child may be weak through lack of movement caused by the low tone.

Children with Down syndrome will have varying degrees of hypotonia.

Children with Down syndrome generally have a more extended posture when they are born due to their lower muscle tone.

This puts them at an immediate postural disadvantage as they have to work harder to fulfil the first milestones such as hands to hands or holding their heads in the middle.

Low tone causes poor core stability. However, tone tends to increase with age in children with Down syndrome possibly as muscle strength improves.

What can you do to help?

EFFECTS OF LOW TONE

The effects of low tone can vary from hour to hour and person to person.

- **Gross motor skills**

Children with low tone may find it harder to initiate an activity as they need to bring their tone to normal and then to active, working twice as hard as other children. This means they are less likely to be active which reduces underlying strength.

- **Poor rotation and weight shift**

Children with low tone can find this twice as difficult, struggling to make two dimensional movements, for example, from lying prone to sitting.

- **Poor balance**

Due to poor core stability, making it more difficult to achieve motor milestones.

- **Fine motor skills**

Distal* actions are dependent on good central control. If core or shoulder stability is not good, then fine motor activities will be harder for the child.

- **Body awareness and sensory integration**

Children with low tone can have decreased proprioception (an understanding of where you are in space). Children with low tone can feel less and therefore can have less sense of self in space.

*Distal = situated away from the centre of the body or from the point of attachment

- **Communication**

Weak oro-motor skills and difficulty achieving firm lip closure have an impact on sound/word production.

- **Concentration and attention**

Low tone can have an impact on how a child's behaviour is perceived. They may be considered to be a passive, or lazy child.

- **Low tone** can affect muscles around the eye and vision. If hearing is affected baby may not respond to stimulation as readily.

- **Oromotor function**

Wake up mouth with electric toothbrush, gentle and controlled by child.

- **Eye muscles** also work best at the end of range so child might turn head to one side to see more easily

Your new baby may feel like they are always lying on a squishy bean bag and find it difficult to recruit enough energy to move arms and legs like a typical newborn.

What can you do to help tone and help your baby's development?

- Increasing muscle strength around the joints.
- Anti-gravity. Working against gravity will be a little more challenging and will help to increase tone.
- Your baby's environment is completely dependent on the parent. It is important to think about the sensory and movement

experiences that your baby has access to. Use all the sensory pathways to stimulate your baby. You can maximise stimulation and therefore tone by playing and interacting with your baby when they are awake and alert.

- It is important that your baby experiences different positions when awake and alert. This can be done easily by the way you handle and position your baby.
- Rocking, up/down movements when carrying are really helpful. Ensuring baby is positioned in tummy time/sidelying supported upright positions and free back play is essential.
- Optimum Positioning - ensure that you position your baby for activities so that they can use their muscles efficiently. Lying on their back they may need to have support behind shoulders to enable hands to reach midline. Also may need a pillow under bottom to bring feet towards hands. Muscles work best MID-RANGE, elbows, hips, knees flexed 90degrees.
- Face-face chatting with your baby: songs/nursery thymes, changes of tone and rhythm: encouraging visual tracking with interesting objects.
- Reading with your baby making sure they can see your face and the book/images.
- If your baby is irritable, hungry, tired or ill, their tone will be affected adversely. This is to be expected so don't worry if they aren't as co-operative with low mood. Again the opposite is true in that they will be able to perform better with good mood.

- If your baby isn't challenged they may not be motivated to move against low tone. It is a balance of making a task achievable but worthwhile.
- Illness effects overall muscle tone and strength.
- Touch sense is very important. Low tone can affect your baby's ability to feel what their body is doing. Firm handling, stroking, massage, tapping and tickling can give great sensory feedback and help your baby respond better. It is invaluable to have hands-on touch on your baby's skin with particular emphasis on the hands feet and back area.



Key points to remember

Your baby may be really chilled out, sleepy and content in the first few months, happy to accept whatever comfy position you put them in.

This can be due to:

- Nature/disposition like any typical baby
- Low tone in their body
- Medical conditions, such as heart issues

Parents have the opportunity give their new baby the stimulation they may not get if left to their own devices. This can be achieved using some simple handling tips and tricks (see tummy time advice) such as:

- Tummy time
- Rocking your baby
- Chatting and singing
- Face to face interaction
- Firm stroking/tickling and touch

If your baby has serious heart issues they may not tolerate much handling or tummy time. Skin-to-skin on parent's chest is still very valuable and a great way to get short periods of tummy time and face-to-face interaction as tolerated.

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