

Low Tone Defined:

In an article by Diane E Gagnon, M.Ed., PT,[3] she explains

"True muscle tone is the inherent ability of the muscle to respond to a stretch. For example, if you quickly straighten the flexed elbow of an unsuspecting child with normal tone, the biceps will quickly contract in response (automatic protection against possible injury). When the perceived danger has passed, which the brain figures out really quickly once the stimulus is removed, the muscle then relaxes, and returns to its normal resting state.

"...The child with low tone has muscles that are slow to initiate a muscle contraction, contract very slowly in response to a stimulus, and cannot maintain a contraction for as long as his 'normal' peers. Because these low-toned muscles do not fully contract before they again relax (muscle accommodates to the stimulus and so shuts down again), they remain loose and very stretchy, never realizing their full potential of maintaining a muscle contraction over time. " Mild or benign hypotonia is often diagnosed by physical and occupational therapists through a series of exercises designed to assess developmental progress, or observation of physical interactions. Since a hypotonic child has difficulty deciphering his spatial location, he may have some recognizable coping mechanisms, such as locking the knees while attempting to walk. A common sign of low-tone infants is a tendency to observe the physical activity of those around them for a long time before attempting to imitate, due to frustration over early failures. Developmental delay can indicate hypotonia.

A child is said to have low muscle tone — hypotonia — if his muscles are on the loose, floppy side. You may find it unusually easy to move your child's arms and legs when they are relaxed, or that he seems to slip through your arms when you pick him up. Although hypotonia is not a well-understood phenomenon, children with low muscle tone often have delayed motor skills, muscle weakness, and / or coordination problems.

While low muscle tone in an infant can be caused by a variety of fairly serious problems including hypothyroidism, Down syndrome, or a neurological problem, if your child was not diagnosed with the problem until after his first birthday, his problem is likely to be milder.

In some cases, doctors are unable to identify a cause for a child's hypotonia and it gets better over time without treatment. The clinical name for this form is benign congenital hypotonia. Interestingly, many children with benign congenital hypotonia will have a parent or sibling who likewise had low muscle tone during their childhood, suggesting a genetic connection.

Because your toddler needs to build muscular strength and agility, it's important that he be as active as possible. It doesn't much matter what he does — whether it's swimming, gymnastics, or general running around — as long as he does something that gets him going. Pick an activity he likes to do, simply because he's more likely to stick with it if it's fun. Although physical therapy is sometimes recommended for children with low muscle tone, few studies have been done and

experts disagree on how effective it is. Mild hypotonia typically improves over time with or without therapy.

You may, however, have to lower your expectations for your child's future athletic prowess, since children with mild hypotonia are more likely than other children to have coordination problems and may well be less adept at — and therefore less interested in — sports during their grade-school years. A non-competitive environment that focuses on enjoyment and self-improvement rather than performance or winning will help your child participate enthusiastically without feeling penalized if he's less agile than some of his peers. And it's important to keep in mind that even if your child isn't destined to be a Little League star, he'll be able to have a fine life in many other ways.

My child has been diagnosed with low muscle tone. What does this mean?

Children with movement difficulties are sometimes diagnosed as having "low muscle tone", and many of the difficulties the child experiences are ascribed to the same "low muscle tone". In most cases these children do not have a particular disorder of the muscles or the brain that might cause movement or muscle dysfunction. So what is this disorder called "low muscle tone" and what causes it?

Technically the term low muscle tone (also called hypotonia) refers to a decrease in a muscle's resistance to being stretched. This can be caused by a number of factors related to the structure of muscle itself, as well as the function of the neural systems that activate and regulate the signals between the muscles, the spinal cord and the brain.

Low muscle tone can result from a great many disorders that affect the muscles, connective tissues, nerves, the spinal cord and the brain. Or it can be a normal variation in the structure and function of the muscles or movement systems of the brain. Low muscle tone is always found in children with benign congenital hypotonia, joint hypermobility and Down's syndrome. It may also be feature of autism, delayed motor development, developmental coordination disorders, and dyspraxia. In each of these disorders the cause of the low resistance of the muscle to stretching is the result of one, or more, mechanisms.

Low muscle tone is not a disorder in itself - it is a symptom. It may be the result of a specific disorder or, as stated before, it may be a normal variation in the structure of the muscle and the way in which the movement systems of the brain operate.

Clinically muscle tone is assessed by passively moving the limb and feeling the resistance to the movement, as well as by palpating the muscle for firmness. This method of assessing muscle tone has been shown to be very unreliable. Without special equipment to measure the resistance to lengthening it is not really possible to accurately quantify the amount of tone in a muscle. So labelling a muscle as having low tone is a judgement call. Research has also shown that there is no direct connection between a clinical judgment of low muscle tone (ie measured by moving the limbs) and the control of movement and posture