

What is low muscle tone? How can I help my child?

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Your child has received a diagnosis of "low muscle tone" along with one or more of the commonly diagnosed developmental disorders (dyspraxia, developmental coordination disorder, autism, generalized joint hypermobility).

You have different reports from different therapists, saying different things and it is all a bit confusing. How do any of these "diagnoses" relate to the difficulties your child is experiencing with performing the tasks that have not-yet been mastered at an age appropriate level?

And most important, how can you as a parent (or teacher) help your child improve their ability to do the tasks that have not-yet been mastered.

The not-yet idea

Learning a new task takes practice, persistence, some success and as well as lots of failure. When it comes to tasks that are difficult, it helps to shift one's thinking from "I cannot do this - it is too difficult" to I cannot do this YET - it needs practice."

[In a TED talk Carol Dweck talks about the power of believing that you can improve.](#)

Moving past labels and diagnoses

Strictly speaking low muscle tone is not a diagnosis. Most often it is the label on a box into which is tossed a whole bunch of assumptions about the underlying reasons for a child's behaviour.

A label (or diagnosis) of low muscle tone does not tell you anything about who your child is. Children are very complex beings and their abilities and behaviour at any particular time are the expression of this complexity.

In no way do labels and diagnoses such low muscle tone, SPD, DCD or joint hypermobility describe, or account for a child's abilities in a general sense, and in particular they do not provide a full explanation for difficulties children experience with particular tasks.

Low muscle tone and joint hypermobility

In the article entitled "My child has been given a diagnosis of low muscle tone. What does this mean?" I argued that that joint hypermobility with associated muscle weakness and paradoxically some tight muscles is the underlying cause of the children's poor posture and poor performance on tasks that require effort and good muscle strength. (The joint hypermobility is related to increased give in the connective tissue that gives joints and muscles their inherent stiffness.)

This means that the way deal with the low muscle tone is the strengthen the muscles and increase stamina and endurance.

Strengthening exercises address the root of the problem: strength training changes the structure of the connective tissue in the joints, muscles and associated fascia. It also changes the structure of the giant muscle protein titin which gives the muscle its firmness.

Fitness training not only increases muscle strength and endurance, it also addresses many of the attention, avoidance and self-regulation difficulties children with joint hypermobility/low muscle tone have.

The power of T-I-E thinking

In children with a “diagnosis” of low muscle tone, muscle weakness and joint hypermobility **are just one aspect** of the difficulties children with a low muscle tone “diagnosis” experience with task performance.

A child's ability to perform any task is determined by a complex interaction between the structure of the body (muscles, joints, bones), the control of simple and complex movements that make up the task, past experience, attention abilities, motor planning, state of arousal, self-efficacy and more.

Task performance is also strongly influenced by things happening in the social and physical environment that may be changing and shifting in unexpected ways.

These interactions are reflected in the task-individual-environment (T-I-E) model of task performance.

To get to the local supermarket I walk through the subway under the railway line. When walking up the steps I take them 2 at a time as fast as I can. This helps to keep my 70 year-old legs strong. Going down the flight of steps is another matter altogether. I walk close to the hand rail and take the steps one at a time, looking down as I go. The reason for my cautiousness is past episodes of positional vertigo which resulted in a couple of nasty falls.

This story nicely illustrates the interaction between the task (going up and down a flight of stairs), my individual abilities, beliefs, past experience and the environment (the stairs are static, with a standard rise and depth but there are people moving past me and lots of noise). I

As I go up and down the stairs I notice how many older folk take the stairs very slowly, sometimes hanging onto the hand rail. Their problem is weakness and a bit of pain: the task and the environment are the same, the individual abilities, beliefs and past experience are different.

So where do I start?

The first step is to make the shift from "Oh my gosh!" to "Lets get moving"

Parents who have been told that their children have "low muscle tone" often feel overwhelmed and uncertain about what the future holds. There seem to be so many problems and issues and the a great deal of confusing and contradictory information available via Google.

***But here is the good news.** Research has shown that no matter what the underlying reasons may be for a child's movement problems, the only really effective way to improve a child's everyday home, school and playground function and participation is task based training which addresses all aspects of task performance: attention, engagement, strength and flexibility, coordination and motor learning.*

The second step is to identify your child's strengths, weaknesses and goals

A good way to start identifying your child's abilities and strengths, as well as the tasks that are causing difficulties, is to think about all the tasks and activities encountered in a routine day.

The **Goals for Everyday Tasks and Activities Checklist** is a list of goal statements that cover the common daily activities. A good goal statement describes what a child should be able to do and how well and under what circumstances they can perform the activity. Use the list to identify goals you would like to work on with your child.

The third step is to figure which of the many, many factors that contribute to task performance are affecting the child's abilities.

With this knowledge, it is possible provide opportunities for practising and improving task performance by adapting, adjusting and shaping the task, the individual child and the environment

Why it is important to identify your child's strengths and weaknesses?

- ▶ Because you will realize that your child has more strengths than weaknesses.
- ▶ Because it allows you, as parent, to make an important mental shift from: “There is something fundamentally wrong with my child” to a more positive sense of “There are some things my child can not-yet – but with some training these difficulties can be overcome and tasks can be mastered.

Task mastery and the not-yet concept

Putting tasks which are difficult for a child to perform into the not-yet mastered category leaves the door open for progress and improvement, as well as thinking about changing the environment to allow the child to achieve the desired outcome.

My 2 year old granddaughter was struggling to climb up onto my bed - it was just too high and she was just too short. So I provided a small step which made clambering up easy and achievable. (I adjusted the environment). The next time she wanted to get up she grabbed onto the bedding and pulled herself up. This time the adjustment that allowed her to perform the task was in her own sense of what was possible.

Considering the whole child

It is useful to take some time to observe your child participating in daily activities. Think about your their abilities in a way that considers the totality the child's mental and physical abilities, temperament and experience as they relate to this task, at this time and this environment.

Cutting a hole in a cardboard box with a not-very-sharp pair of scissors requires patience, persistence, tolerance of discomfort in the hands. This 4-year-old values his independence and ability to perform difficult and challenging tasks. In fact, he thrives on just-right challenges.

He also has a Nana who provides the cardboard boxes.



Four steps to improving task mastery

1. Adopt a task oriented movement training (TOMT) approach: this allows children, therapists, parents and teachers to focus on the everyday tasks (home, classroom, playground, out and about) tasks that need work and importantly to measure progress.
2. Take time to observe the child performing the task in different situations. Try to figure out what is hindering or helping task mastery.
3. Use this knowledge to adapt the task and/or the environment to allow the child to succeed.
4. Provide opportunities for practice.

Jack learns to do push-ups

Ten year old Jack hates PE classes because he cannot do 10 good push-ups like his classmates. He finds this experience humiliating and to hide his negative feelings he starts to fool around and annoy the other children.

He would like master this ability but every time his dad want him to work on this task, he struggles to do even one push-up, gets angry and storms off.

After some negotiation I manage to get Jack to show me **how he cannot do a push-up**. I notice that when he supports himself on his arms his back sags and he locks his elbows into hyperextension. When he unlocks his elbows he collapses.

My next step is to adapt the task to make it easier and allows Jack to succeed.

Reluctantly he stands on his hands and knees with his weight shifted a little way back over his hips. He is able to bend his elbows and lower his nose to the floor and then straighten his arms again. He manages to do this five time without too much effort.



I challenge him to do 5 more push-ups, but this time lowering his nose to ahead of his hands. This requires a bit more effort, but he manages to complete the 5 push-ups.



We also do another exercise. Standing on the hands and knees with the elbows slightly bent Jack practices lifting his knees about 20 cm up off the floor and we count how long he can maintain the position.



He enjoys this challenge and manages to stay up for 20 seconds.

Now the negotiation starts with his dad about goals and rewards.
