Why You (and Your Insurance Company) Need to Get Your Child Standing

by Susan Agrawal


These are just a few common problems that plague children with cerebral palsy and other disorders that prevent or restrict independent ambulation. But what if you could prevent or possibly improve some of these problems in as little as 30 minutes a day?
It may sound too good to be true, but it really is not. Almost all of the above-listed problems can be improved and sometimes prevented by a very simple daily intervention: standing or bearing weight on the legs in a standing frame.

The Benefits of Standing

There are numerous benefits to standing, some of which have been evaluated scientifically and others that have been noted anecdotally by children and adults using standers. These are just a few of the potential benefits:

- Improve muscle strength in the legs
- Improve endurance and overall cardiovascular health
- Prevent or improve contractures in the legs by providing a gentle stretch
- Reduce spasticity in the legs
- Improve bone mineral density and strengthen bones
- Prevent fractures
- Prevent or minimize hip dislocation or the development of hip dysplasia
- Prevent pressure sores by offering another position
- Improve circulation
- Improve breathing
- Improve constipation
- Improve urinary function
- Improve hand use by allowing use of the hands in a supported position
- Improve sleep and fatigue issues
- Improve self-esteem and social interaction by placing the child in a position more typical of his peers

Some of these benefits are strongly supported by quality research studies. For example, standing can increase bone mineral density in the spine and femur, a very important benefit that may prevent fractures, pain, and surgeries in children. Children with cerebral palsy and similar conditions often do not walk or bear much weight on their legs, leading to thinning bones (osteopenia and osteoporosis), and often progressing to fractures, pain, and weakness. Thinning bones may create a vicious cycle for children, in which thinning bones lead to fractures, which lead to periods of immobilization and deconditioning, that ultimately lead to more thinning of the bones and more potential for fractures and overall decline.
While bones may thin due to a lack of weight bearing, malnutrition, and certain medications, bone thinning can be prevented or improved by a daily standing program. For example, a controlled study by JM Caulton et al. demonstrated that standing for a longer period of time increased bone mineral density in the vertebrae. Other less rigorous studies, summarized in a review of the literature, showed increases in bone mineral content in the femur, neck, and spine.

The above mentioned review also states that there is some evidence that standing reduces spasticity and stretches the muscles in the leg, and limited evidence that hand function is improved while standing. A recently released article on hamstring length and standing supports these assertions. While not a randomized, controlled, or blinded study, this study compared the hamstring length in children who stood for four hours per week for six weeks with the hamstring lengths of the same children after six weeks without standing. During the periods when the children were standing, hamstring length improved considerably. Conversely, in as short a period as six weeks without standing, the hamstrings began to shorten. Caregivers also responded that they saw improvement in daily activities, such as transfers and dressing, with the standing regimen. Preventing contractures of the hamstring can reduce the need for orthopedic surgeries, including hamstring lengthening, and may help to reduce spasticity.
While there have not been any scientific studies on bowel and bladder functioning after using a stander, several articles that rely on self-report note dramatic improvement in both the ability to urinate and stool with ease. A survey of adults with spinal cord injuries showed that 21% were better able to empty their bladders more completely with a standing program. Another survey of a similar population showed about 53% of respondents had improved bowel and bladder function.

These studies, along with caregiver and therapist reports, also document improvements in overall wellbeing, pain levels, breathing, the ability to sleep, greater ability to interact socially, and relieving discomfort from prolonged sitting.

A Standing Program

Almost all children are able to stand, given the right type of stander, integrated supports within the stander, and appropriate braces and orthotics. Children with mild to moderate physical disabilities should be able to use an upright or prone stander. A prone stander, which leans the child forward slightly, can be helpful in improving head and hand control for certain children. Children with greater physical involvement, typically with little or no head and trunk control, usually use supine standers that recline them back slightly. For children who are young or whose needs could change, it may be appropriate to purchase a three-way stander that allows prone, supine, and upright standing. A good stander is also designed to accommodate years of growth for a child.

Good quality standers can be outfitted with custom supports individual to each child. Different headrests, lateral supports, trunk vests, knee supports, thigh supports, footplates, and other similar supports can help position even children with significant physical involvement. Some children may still need to wear a head support, trunk support vest or TLSO in a stander, and most children require the use of AFOs or SMOs to support their ankles while in a stander. A good quality stander can usually accommodate children with contractures, scoliosis, leg length differences and similar issues, since each element can be adjusted independently.

Children typically stand for 30 to 120 minutes per day, though some children who use dynamic or mobile standers may stand for greater portions of the day. In general, longer periods of time should be broken up, such as standing for 45 minutes twice a day instead of all at once. The child should be positioned as upright as possible. Children may begin using a stander as early as about 10 months, when a typically-developing baby is beginning to pull to a stand and cruise.

A physician and physical therapist should evaluate all children before beginning a standing program. There are some cases when children should not use a stander, including diagnoses of severe osteoporosis, moderate to severe scoliosis, or in children with significant contractures. Children whose hips are completely subluxed or out of their sockets may also not be able to stand. Finally, some children may experience a drop in blood pressure when standing, may have difficulty breathing, or may experience
significant pain in a standing position. While standing may actually help to improve these symptoms in the long run, standing may be very difficult for these children.

The Reluctant Stander

While most children love their standers, some children are initially reluctant to stand, especially if they did not begin a standing program as an infant. Similarly, some parents have difficulty placing their children in the stander, as some standers do resemble medieval torture devices. In these cases, start slowly and hopefully over time the child (and parent) will learn to enjoy standing.

At first, you may want to try keeping the stander in a reclined position, gradually increasing the angle as the child becomes more accustomed to standing. This is particularly true if the child experiences dizziness or lightheadedness when standing, which may be due to a brief drop in blood pressure. Over time, this should improve as the child becomes more accustomed to standing.
Make sure the stander has a tray or can be pulled up to a table. Your child will definitely enjoy the experience more if he has an activity to do or is included in some form of social interaction. Most children can trigger cause and effect switch toys in a stander. Some children really enjoy watching television or a movie while in the stander. Still others enjoy doing art projects or simply interacting with a sibling at eye level. Always try to associate the stander with positive activities and pleasure.

Keep sessions brief at first. Five minutes may be the maximum for some children, especially those with anxiety, sensory issues, or who have never stood before. Gradually increase the time as tolerated.

If your child screams while in the stander, have a physical therapist check the stander and the child’s body to ensure she is positioned appropriately and nothing is causing her pain.

**Obtaining a Stander Through Insurance**

Insurance companies have begun to deny standers more frequently in the past five years. In order for you to get your stander covered by insurance, you may need to write a comprehensive appeal statement describing the medical benefits of a stander.
It is always extremely helpful to cite actual studies, such as those listed above, that have presented scientific evidence on the benefits of standing. A comprehensive list of studies may be found at http://www.easystand.com/health-benefits/display.cfm and an overview of standing benefits at http://www.easystand.com/PDFs/Synthesized%20Lit%20Review%20Ginny%20Paleg.pdf.

It is also best to cite a cost/benefit analysis that is specific to your child. In other words, the cost of the stander, while expensive, may ultimately save money by preventing costly hospitalizations and surgeries. Here are two examples:

1. Jane’s orthopedist has already noted that she is beginning to develop contractures in her legs due to hamstring tightness. He has recommended surgery within the next six months, followed by intensive physical therapy after surgery, if we are unable to improve her hamstring length.

Using a stander prevents contractures in the legs by providing a gentle stretch to the hamstring muscles. A recent study by Susan Gibson et al. showed that children who stood for four hours a week improved their hamstring length considerably. [Susan K. Gibson et al. The Use of Standing Frames for

Enacting a standing program may prevent costly surgery and hospitalization, not only for her hamstrings, but in the future as well, since standing will likely minimize ankle, hip, and spine deformities. The cost of an upright stander, approximately $2000, is far less than the cost of surgery to release her hamstrings, which has been estimated at $10,000 to $30,000.

2. John has already experienced two fractures in his back and leg. Imaging has demonstrated that he has bones that are 50% thinner than they should be. While he has been started on IV treatment to improve his bone mineral density, his orthopedist has recommended a standing program as well.

Standing has been shown to improve bone mineral density in a variety of studies. A randomized study by VM Caulton demonstrated great improvements in bone mineral density, especially in the vertebrae, from using a stander. [VM Caulton *et al.* A Randomised Controlled Trial of Standing Programme on Bone Mineral Density in Non-Ambulant Children with Cerebral Palsy. *Archives of Diseases in Children* 2004;89:131-5.]

Implementing a standing program will improve John’s bone mineral density, thereby preventing fractures, which in the past have led to emergency room visits, surgery, hospitalization, casting, and increased needs for physical therapy. John’s last fracture required an $18,000 hospital stay, while the cost of the stander to prevent these sorts of fractures is approximately $3000.

With appropriate assistance from your physical therapist, physician, and a well-written letter of appeal citing medical evidence, you should be able to obtain a stander for your child. If insurance refuses, you may be able to borrow one from a state lending program or purchase one used through an equipment exchange or Ebay.

*Thanks to the ladies at P2P for kindly sharing photos of their happy standers!*

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1 VM Caulton *et al.* A Randomised Controlled Trial of Standing Programme on Bone Mineral Density in Non-Ambulant Children with Cerebral Palsy. *Archives of Diseases in Children* 2004;89:131-5.
4 RB Dunn *et al.* Follow-up Assessment of Standing Mobility Device Users. *Assistive Technology* 1998;10(2):84-93.