

# **LECKEY Squiggles+ Stander Supine/Prone/Upright/Abducted Standing Device**

## **Sample Letter of Medical Necessity**



### **Introduction**

*(Describe your relationship with the child, their disability, and the product requested)*

As \_\_\_\_\_ therapist, I am requesting insurance funding for a Leckey Squiggles+ (known as Squiggles+ Plus) Stander. This DME has been prescribed by \_\_\_\_'s physician and is a medical necessity that would not be used in the absence of disability, illness, or injury. It is essential for \_\_\_\_\_ to enable to stand, a normal activity of daily living (ADL). Standing therapy stretches and strengthens his/her muscles, stabilizes the joints, and promotes normal bone development. It also enables him/her to interact with his/her peers at eye level, thereby promoting both neurological and musculoskeletal development.

What follows is a breakdown of \_\_\_\_\_'s clinical needs and the safety requirements of him/herself and his/her caregivers.

## Diagnosis & Disability

*(Describe the ability to sit, stand, walk, and transfer including the amount of assistance needed for each activity. Where appropriate, describe other related equipment, such as mobility devices, and patient lifts. May also include clinical evaluation in place of this narrative)*

\_\_\_\_\_ is a \_\_\_-year-old boy/girl who has been diagnosed with \_\_. Due to his/her impairment, he/she has limited control of his/her head, trunk, upper and lower limbs, and is unable to stand or walk independently. As a result, \_\_\_\_\_ has difficulty with many of the usual activities of daily living (ADL) and does not experience the typical range of movements and magnitude of forces that stimulate muscle and bone growth. Unfortunately, this is detrimental to his/her long-term development and physiological function.

\_\_\_\_\_ is doubly incontinent and is prone to urinary tract infections and constipation. His/her family finds that being upright helps with bladder emptying and bowel function. \_\_\_\_\_ shows some skin reddening if left sitting for long periods and needs frequent re-positioning as part of his/her 24-hour postural management program. He/she uses a special needs stroller for mobility and is currently lifted for transfers. He/ She has a seating system for postural support at home and at school.

## What are the implications on the lives of the child and caregivers without a Squiggles+ Standing Frame?

*(Include how the child is currently supported)*

The implications of not having access to a Squiggles+ standing frame are enormous. Children are born with anatomically normal joints, without evidence of hip displacement or dislocation. During infancy, long bone growth of the femurs takes place at cartilaginous plates near the ends of the shaft. This growth is principally influenced by mechanical loading (forces and moments) and causes bony remodeling. As well as correctly aligning the hip, knee, and ankle for efficient walking, this re-shaping ensures a structurally sound and strong hip joint. Children with a physical impairment that restricts their mobility are at risk of hip migration with up to 90% of the least active children experiencing hip displacement (Soo et al, 2006). Unfortunately, hip displacement is associated with pain, spinal deformity, and surgery for the child and greatly increases the care requirements for the caregivers.

Standing typically occurs at 9-12 months - feedback from the visual, vestibular, and somatosensory systems (sensors in our muscles and soles of feet) combine, informing the brain of the position and orientation of the body in space. Without this feedback, learning to control the head, trunk, and upper limbs becomes much more difficult. Standing also puts children at eye level with their peers and encourages interaction and socialization. Without a standing frame \_\_\_\_\_ will be restricted to a seated position. Arva et al (2009) showed that 'time spent in a standing position can give wheelchair users a sense of confidence and equality through face-to-face contact with the non-disabled community' thus improving their sense of well-being and quality of life. In a systematic review (Glickman, 2010) of the benefits reported by therapists and users, there was also a manifest improvement in psychological function which is associated with increased well-being, alertness, and sleep patterns.

## What are the clinical benefits of the Squiggles+ Stander?

*(Explain how this product's features provide a benefit to the client, in terms of mental and physical wellbeing, and how this would be applied in a real-world environment. Adjust the suggestions below to suit the individual benefits to the child)*

A review of research demonstrates that the benefits of standing therapy are wide-ranging. The Squiggles+ provides support to the pelvis, trunk, and extremities, promoting the desired

position. Systematic reviews completed by Paleg, et al in 2013 and 2022 consolidated the evidence.

**Increase bone density:** Bone density is a measure of bone strength. Stronger bones are less likely to fracture. Normal bone growth and development need a combination of good nutrition and active weight bearing which involves muscle contractions to load bones (Pope, 2007). Standing frames have been shown to improve bone mineral density and are the first step in the journey toward upright movement (Glickman, 2010)

**Preventing contractures:** Contractures (shortening of a muscle in a non-reducible position) occur due to restricted movements and excessive time sitting as opposed to upright activity. The muscles most at risk are muscles that bend the hip (iliopsoas); those that straighten the hip and bend the knee (hamstrings); the calf muscle that bends the knee and points the toes (gastrocnemius); and/or the calf muscle which points the toes (soleus).

**Facilitates the formation of the hip joint** in early development: Children who stand at the normal developmental age of 12-16 months are considered more likely to form the femoral head and acetabulum (ball and socket) of the hip joint (Labandz, 2011 & 2010; Dobrich, 2010; Rosen, 2010).

**Improves respiration and voice control:** When we stand, the diaphragm has more room to expand and contract, meaning we can breathe in and out more easily, deeply, and efficiently (Labandz, 2010; Watanabe, 2010; Wechsler, 2009; Meyer, 2008). This aids in voice control as there is greater breath support- therefore better opportunity for communication.

**Enhances circulation and blood pressure:** Effective circulation is closely related to breathing, as it is the efficient supply of oxygen to the blood, followed by the efficient pumping of this oxygenated blood to the rest of the body which helps to keep us healthy. Active standing has been found to improve blood pressure, and heart rate and decrease edema (swelling) in the legs and feet.

**Aids digestion, bowel function, and bladder drainage:** Standing is believed to help with digestion and toileting through a combination of gravity (Wechsler, 2011; Watanabe, 2010; Meyer, 2008; and the activation of the stomach muscles (Labandz, 2010).

**Energy metabolism:** Studies (Ainsworth *et al*, 2011) have reported that energy metabolism is doubled merely by standing instead of sitting, which is highly relevant to people who spend many hours a day sitting in a wheelchair.

The Squiggles+ Stander enables children to **interact at eye level** which is reported to improve confidence, self-esteem, and self-image (Hohman, 2011; Kreuger, 2010; Rosen, 2010; Thompson, 2009; Wechsler, 2009; Meyer, 2008; Otzel et al, 2008).

**Improves skin integrity** by relieving pressure encountered during seating: When individuals sit for lengthy periods, the sitting bones (ischial tuberosities) and other bony areas like the bottom of the spine (sacrum) can become vulnerable to pressure and potential skin breakdown. It has already been established that standing improves breathing and circulation, so it seems logical that in the standing posture, oxygenated blood can more easily reach the tissues that are usually subject to pressure.

**Supports midline posture:** \_\_\_\_\_ has low/mixed/fluctuating/high muscle tone which makes her prone to scoliosis and pelvic instability. The Squiggles+ stander has adjustable pelvic and chest laterals to ensure she is positioned symmetrical and midline as she grows.

## What are the specific clinical benefits of the abduction feature?

*(Describe the specific requirements and benefits of abducted standing if used)*

During standing therapy, the goals for hip joint development are firstly, to keep the femoral head located centrally in the acetabulum and secondly, to normalize the stresses across the growth plates on the femoral neck. For typically developing children, the femoral neck shaft angle decreases from 140° at birth to 125° at skeletal maturity. This decreasing angle does not occur in children with cerebral palsy who have a neck shaft angle of 136° to 160°, with the greater the impairment the greater the angle. Forces shape bones, particularly in the early years. Clinical opinion advises that increasing the angle of abduction will help to engage the ball of the femur in the acetabulum and stabilize the hip joint during the early years of development when the risk of hip displacement is highest. This is the rationale for abducted standing. The Squiggles+ can accommodate up to 60° of hip abduction bilaterally in prone, upright, or supine.

## Describe needs and safety issues for both child and carers

*(Explain what the child's needs are, including any information about how they walk, move, and transfer. Explain the types of obstacles that a carer needs to overcome, discussing the possible injuries that may occur if the product is not in place. This may also be things such as fatigue and straining movements)*

Without access to a standing frame, \_\_\_\_\_ caregivers must provide total assistance for him/her to stand. Due to weakness and uncontrolled movements, this is awkward and tiring for the caregiver, putting strain on their shoulders and lower back. This strain will become more so as \_\_\_\_\_ grows and could result in future personal injury costs.

Despite best attempts, the caregiver *will not have enough hands* to provide appropriate support at the feet, knees, hips, and chest, to elongate the spine and stretch the lower limbs. It will also be difficult to achieve an active as opposed to a passive standing position. \_\_\_\_\_ has a walker/gait trainer but can only manage short periods due to weakness and it does not provide the extended muscle stretch of a standing frame.

## What are the equipment and accessory requirements?

*(What are you requesting funding for? Which components do you need to fulfill the requirements above?)*






The Leckey Squiggles+ Stander is a 3-in-1 standing frame developed to meet the individual needs of each child up to age 5 or 22kg/48lbs. It is designed and manufactured as durable medical equipment and is a registered medical device. Key features are:



- Hip abduction of up to 60° in prone, upright, and supine standing. With a measurement gauge to monitor and aid repeatability. Hip laterals also shift in sync with the legs as they move through the arc of abduction.
- Individually adjustable footplates and knee supports to accommodate leg length discrepancy.
- Height-adjustable, foldable push handle for ergonomic use.
- Light compact maneuverable frame which can be disassembled and folded for transport
- Fully horizontal loading in supine to ease transfers
- The Squiggles+ is low to the ground so that \_\_\_\_\_ is at eye level for interacting with her peers. This also makes it easier to step forward.

## Components of the Leckey Squiggles+ Stander

To meet \_\_\_\_\_ standing needs, I am requesting funding for the Leckey Squiggles+ Stander with the features and accessories set out below. *(Delete components and accessories that you are not requesting).*

This product will have approximately \_\_\_\_ years of growth.

Item	Description of Medical Necessity
<p>Support Shell</p> 	<p>The standing support is based around a long central spine, from which the headrest, chest, tray, and hip supports move freely.</p> <p>The lower leg supports are attached to this central spine and are individually adjustable for unique postural needs.</p>
<p>Pivot Chassis</p> 	<p>The pivot chassis provides pneumatic angle adjustment for 3-in-1 positioning: prone, supine, or upright. It can adjust from vertical to horizontal to make transferring in and out easier.</p> <p>The free-moving castors on the chassis make it easy to maneuver while the compact base ensures it goes easily through doors and along narrow corridors.</p>
<p>Knee Supports</p> 	<p>Larger comfortable medial knee supports distribute pressure, especially in abducted standing.</p> <p>Padded wraps maintain the knee in neutral alignment.</p>
<p>Headrest</p> 	<p>The flat headrest acts as a prompt to keep the head upright and positioned centrally. The minimally curved design enables the child to have a good field of view when they turn their head to the left and right.</p>
<p>Headrest &amp; Padded Laterals</p> 	<p>The headrest with padded laterals provides additional support for children who lack head control. The additional pads keep the head in a central position and can be used to attach switches for communication.</p>

<p>Activity Tray</p> 	<p>The activity tray is height depth and angle adjustable to ensure it remains in the optimum position for tabletop activities when the stander is in prone, supine, or upright. Playing at the tabletop encourages active rather than passive standing. Padding is also available for additional skin protection.</p>
<p>Sandals with Straps</p> 	<p>Where additional foot stability is needed, the footplate can be fitted with sandals. The individually adjustable footplates can move around the footplate to accommodate tight hamstrings and internal or external hip or foot rotation and can be bolstered with a footplate raiser to accommodate leg length discrepancy.</p>

## What alternatives are available but not suitable, and what are the benefits of the Squiggles+ Stander?

*(Give at least one example of another product that is a less costly alternative that has been trialed/considered and is similar but does not have as many features or benefits. This could also be a type or method of intervention in place of a product)*

The \_\_\_\_\_ is a simple pediatric standing frame which provides upright support. However, it does enable prone or supine positioning and does not have individually adjustable components to accommodate specific body shapes. Some standing frames are higher off the ground and do not offer the opportunity for closer interaction with other children. Planer lateral supports in some frames do not offer the circumferential support of the Squiggles +. The sternum support on the Squiggles+ stander is unique in encouraging trunk and spine extension while allowing the shoulder girdle to protract for tabletop play.

## Summary/conclusion

Standing therapy is an essential part of 24-hour postural management and confers a range of benefits to children including an increase in bone mineral density, improvement in range of movement, aiding bladder and bowel function, and formation of the hip joint. The associated psychological benefits of being upright with peers improve sleep, communication, and general well-being.

The Leckey Squiggles+ Stander is a versatile 3-in-1 standing frame that can be positioned in prone, supine, and upright. It has individually adjustable leg supports that support an abducted standing program or accommodate leg length difference giving a safe comfortable position for the child. Caregivers find the frame easy to move and easy to use.

The Squiggles+ Stander is the best frame to meet all \_\_\_\_\_'s medical needs and as such I do not hesitate to recommend that it should be funded.

## Activities that can be achieved with the Squiggles+ Stander



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