



# Squiggles+

## Clinical Justification

### Benefits of standing frames

- The benefits of standing upright are well established and include an increase in bone mineral density, decrease in spasticity, improved range of movement, improved bladder and bowel function, improved cardiorespiratory and cardiopulmonary function and increased pressure relief [Glickman, 2010].
- In addition to the numerous physical benefits of standing, there are an abundance of psychological, social and emotional benefits to being in a standing frame such as improved confidence, self-esteem and self-image, it encourages interaction at eye level with peers, improved ability to communicate, increased alertness and improved cognitive function [Paley et al, 2013; Taylor, 2009; Lind, 2003; Goodwin et al, 2018]
- Children with disabilities are more likely to lead excessively sedentary lives, with the greater the motor impairment the more inactive their everyday life [Verschuren, 2016]. Studies [Ainsworth et al, 2011] have reported that energy metabolism is doubled merely by standing instead of sitting, which is highly relevant to children who spend many hours a day sitting in a wheelchair or specialist seat.
- Studies have shown that standing with hips in abduction may also improve hip migration percentage and maintain hip muscle length and therefore reduce the risk of hip displacement in children with Cerebral Palsy [Martinsson and Himmelmann, 2021; Macias-Merlo et al, 2015].



# Reasons why the Squiggles+ is the best prescription for this child (Delete as appropriate)

- **3-IN-1 FRAME:** The Squiggles+ enables children to be supported in a prone, upright or supine position whilst maintaining good postural alignment. The individual footplates are able to accommodate children who have a leg length discrepancy.
- **IMPROVED COMFORT AND POSITIONING:** The padded supports will ensure comfort whilst the child is in the frame. The medial knee supports distribute pressure, especially suited to abducted standing, whilst maintaining the child's knees in neutral alignment. The knee supports can be rotated to provide extra lateral support for children with low tone.
- **ACHIEVE ANATOMICALLY CORRECT HIP ABDUCTION:** The Squiggles+ standing frame enable the child to achieve hip abduction of up to 60° in prone, upright and supine standing. It has a measurement gauge to monitor and aid repeat-ability. The frame design promotes correct alignment of the hips, knees and feet as the abduction pivot points are in line with the hip joint centre. The hip laterals also shift in sync with the legs as they move through the arc of abduction to prevent discomfort.
- **SAFE AND EASY TRANSFERS:** When transferring children who have more complex needs and are using the standing frame in a supine configuration, the larger hip pads improve the carer and child's confidence and feeling of security during the transfer. The chassis pivot has also been improved to facilitate full horizontal loading.

## SUMMARY

Standing therapy is an essential part of 24-hour postural management and confers a range of benefits to children including: 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, aids communication and improves general wellbeing. The Leckey Squiggles+ Stander is a versatile 3-in-1 standing frame which can be positioned in prone, supine and upright. It has individually adjustable leg supports which support an abducted standing programme or accommodate leg length difference giving a safe comfortable position for the child.

## References

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