

"24-Hour Concept"



Around the clock

Support for everyday life

Children develop their own personality very early in life. They observe, feel, taste and smell the world from the time they get up until they go to bed – everyday. Special children do this in special ways. They need mobility solutions tailored to their particular needs.

Mobility – over which he or she has as much control as possible – is crucial not only for your child's physical development, but also for comprehensive impressions of the environment and social interaction.

Ottobock devices help your child develop optimally and participate in life together. They help facilitate the child's activity, avoid faulty posture and support therapy.

This brochure contains many tips and pointers on how to support your child daily. The supportive functions of devices which make everyday life easier for every age, every stage of development and every occasion arround the clock are described.

Prepared for every situation during the day: Eating & Drinking Lying & Grasping • Why lie? Lifting correctly Transportation & Trips 10 • Checklist for buying a rehab buggy • 10 tips to avoid back problems in parents Pre-school & School • Why sit? Leisure & Play Time 18 Locomotion & Sport 20 Therapy & Standing 22 • Why stand? • The most important therapies and their effects Personal Hygiene & Bathing 26 Sleeping & Dreaming .28

Eating & Drinking

Breakfast – support for the whole day

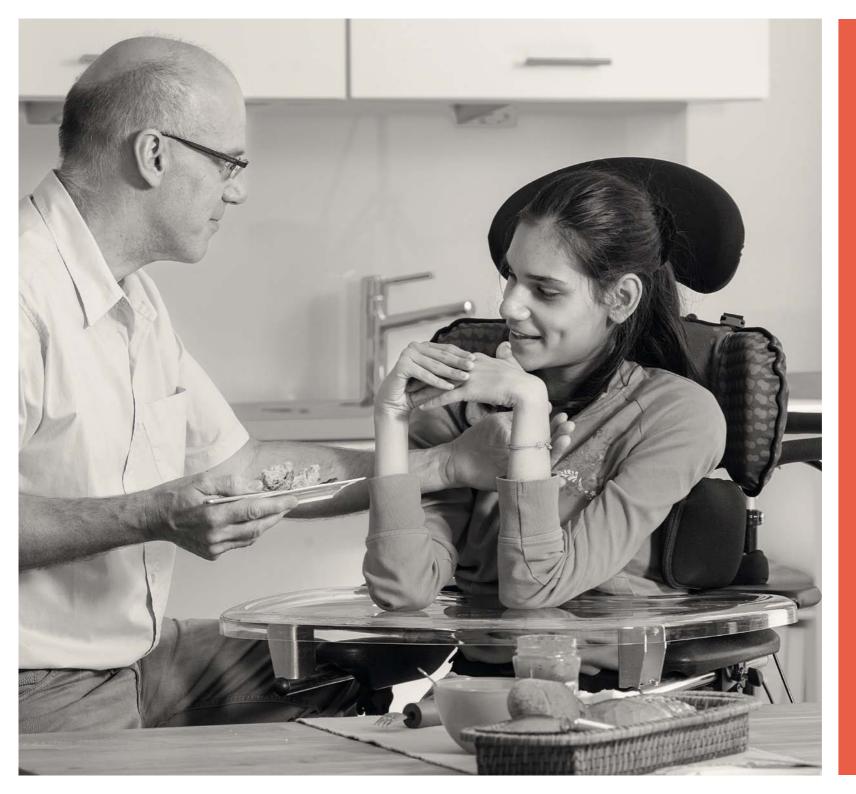
Wake up! It's a new day. Breakfast is on the table. We start the morning calmly and get energy for the whole day. Eating and drinking are elementary human activities – and are also communicative.

Ottobock and Leckey seating systems and therapy seats support the body and straighten the pelvis to prevent faulty posture which hinders your child while eating and drinking. Upright posture on the other hand actively helps your child and is nearly indispen-sable for children with swallowing disorders (see info box).

Breakfast with the family is a good start for a new day of exploration.



- 1 For children in the first five years of life with more severe disabilities, the Squiggles seating system positions pelvis, trunk, head and legs yet still allows the child to move easily.
- 2 Everyday Activity Seat is a therapy seat for every day and for all everyday situations in which a conventional chair is insufficient. Thanks to its many options and accessories, the chair can be used to correct weak posture and for sensory training.
- 3 The Mygo Seat safely supports children from age three to fourteen with greater disabilities thanks to a pelvic harness. The modular system in two sizes prevents faulty pelvis positions and can be adapted flexibly to suit the needs of your child.
- 4 The KIT Seat for older children over age 12 closes the gap to adult devices (in two sizes). It allows good positioning, for example for eating.



Dysphagia

In dysphagia (difficulty swallowing), coordination between muscles, joints and salivary glands, which is normally controlled by reflex, is impaired. It is often associated with poor head and body posture. Devices ensure proper positioning and posture.

Children with dysphagia require 24-hour supervision to prevent serious complications such as refusal to eat, malnutrition and dehydration, fever, bronchitis and aspiration (inhaling food with the respective consequences).

Lying & Grasping

First activities – the best starting position for life

The world is a large, fascinating place. Especially when observed while lying down. After just a few weeks, your child begins to explore the world – and move. Every different position opens up new, interesting perspectives to the child.

If a child is not able to mobilise himself/herself and later sit, he/she needs devices that support it, for example EAS and ESS from Ottobock und Leckey. They allow him or her to physically observe the new position and train it through "familiarisation". This has a positive effect on the development of the musculoskeletal system.

Mobilisation is indispensable not only for your child's physical development. Sensory and cognitive skills are also stimulated while interactioning with surroundings.

Only then can your child continue to explore – and grasp – the world.



- 1 The Early Activity System (EAS) supports the correct development of the child starting in the first few months after birth. The mat and various support elements provide support for the child in the most important positions including lying on his/her back, side, belly, sitting and kneeing, thus facilitating therapy.
- 2 The modular ESS (Early Sitting System) supports the child over 18 months of age securely so he/she can sit with legs extended. The dynamic trunk support allows movements to be made with the upper body and promotes balance while sitting.
- 3 The compact, portable Corner Sitter is a useful device for children aged 1 to 14 years with slight mobility disorders. It gives the child additional support while sitting, but also the freedom to move from this position at any time.



Support in the first months of life

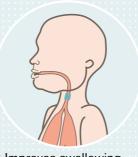
A child that takes longer to be able to turn over and sit up exhibits a slower overall development. Every step of development builds on the previous step. Mobilisation is also important for cognitive development. You should therefore actively support your child as early as possible.

- Get information on the individual steps of child development.
- Work out realistic goals with the therapist.
- Offer your child safety and support, but do not do all the work for him.
- Use many playful stimuli.

See the Early Activity System (EAS) therapy handbook for more tips.



3 Activates body perception



Improves swallowing process/food intake



Improves skin integrity by relieving pressure encountered during seating



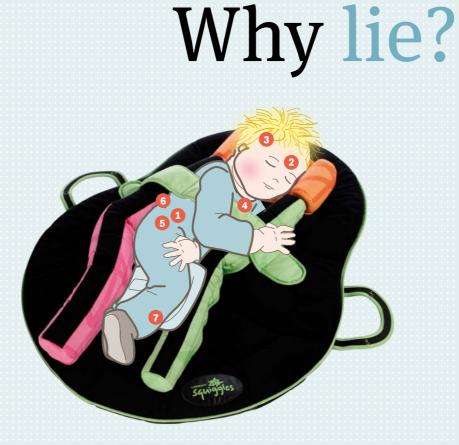
6 Facilitates maturation of the hip joint in early development

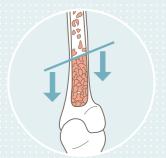


2 Facilitates contact and awareness



Supports head-trunk alignment in the middle of the body. Develops postural background (head-trunk stability).





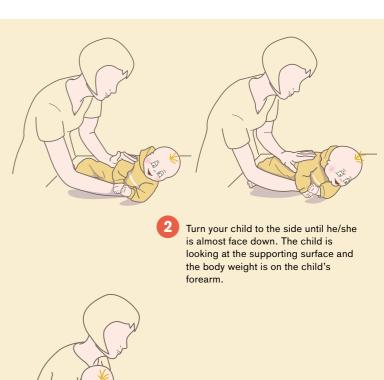
Increases bone density and reduces risk of fractures

Lifting correctly

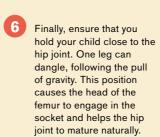
Children do not straighten up directly from lying on their back. That would be far too strenuous and put a lot of strain on the spine. All children first turn on their side or even get on all fours. Therefore, it is important to ensure that you always turn your child on his/her side before lifting him/her. You do not even have to support the child's head, because you are working with gravity when you lift correctly.

Your baby usually spends 40 weeks curled up in the womb. After arriving into this world, a flexed posture is maintained in the early months. Moving while bent over does not harm the child. Only hyperextension is dangerous – and is avoided by the rotation movement and correct carrying.













Transportation & Trips

Start the day – get there safely

Oh no, look at the time! Time to go. Whether by car, bus and train or on foot – on the way to school or pre-school, your child needs good support and should also be able to take in his/her surroundings.

Ottobock Rehab buggies/strollers and Lars car seat give your child the necessary stability, provide relief and support therapy. They "grow" with your child and can be adapted to possible changes in symptoms. For this reason, there are numerous models with many different options. They all have the same goal – facilitate transport.

So you can get where you're going quickly.



- 1 For children from one to ten who need more support, the Kimba Neo stroller is (almost) always the right solution. Kimba Neo absorbs jolts (protects against spasms), has an active and a relief sitting position and is individually adjustable for nearly every need.
- 2 In town and when travelling, Lisa is the optimal choice for children (from three to sixteen) with mild disabilities - Lisa is compact, lightweight, foldable and very sturdy. You can manoeuvre it easily in small spaces thanks to the front swivel wheels.
- 3 The compact, easy-to-manoeuvre Eco Buggy is just right for quick, easy transport of children from three to eight. Easy to manoeuvre even on cobblestones or uneven ground.
- 4 Lars is a car seat for children from two to ten. The seat can be rotated to the open door to make it easier to set your child into it and buckle up.



• Proper selection of a buggy/stroller

A few questions help you and your medical supplies advisor select the proper rehab buggy/stroller:

- How old is your child and how long will it be sitting in the rehab stroller/buggy?
- What are your child's needs and what are the therapy goals?
- To what extent must the rehab buggy or stroller adapt to different situations?
- Where do you primarily use the rehab stroller; will you need to transport it by car?
- How easy is it to use and transport by car or on public transportation?

See also the checklist on the next page.

Buggy or rehab stroller? What do you need?

There is no single answer to this question, as the selection always depends on the needs of your child. You can differentiate grossly between a buggy and a rehab stroller.

Rehab buggies are intended mainly for transporting children who need a vehicle for longer distances due to lack of motivation or mild postural weakness. This is also why you should not simply buy a conventional baby buggy. Our Rehab buggies are also suitable for older children. You can tell from the materials used and the maximum permissible weight. In addition, every Rehab buggy has a sturdy footrest that gives the child the necessary support and enhances perception. It helps your child observe its body better and straighten up. A Rehab buggy is always designed so that the seat is reclined and the material yields slightly.

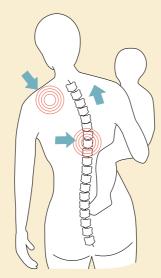
If your child cannot sit on its own at all, you need a Rehab stroller in which you can also position your child.

These children need study, upright, corrective seat and that means a stable, straight base. Therefore, in a rehab stroller, the base of the seat and back is always made of aluminium. You can attach padding, accessories, and positioning straps individually adapted to your child's needs. In addition, a rehab stroller has many other functions, for example seat tilt and adjustable footrest.

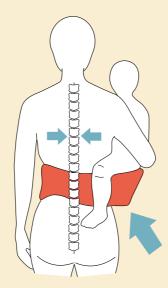
Features of the buggy	Kimba Neo	Buggy 1	Buggy 2	Buggy 3
Posture support	1			
Ability to switch between active and relaxed positions	√			
Suspension (to avoid spasms)	√			
Suspension individually adaptable to the weight of the child	√		•	
Individually adjustable seat width, depth and angle	√			
Individually adaptable head (optional) and hip supports	√			
Reclining position	√			
The seat can be rotated on the base to maintain eye contact with the child	√			
Sturdy material	√		•	
Sturdy wheels	√			
Swivel lock for uneven surfaces	√			
Is the rehab stroller aesthetically appealing to me?	1			

• Carrying your child in comfort

Special children require greater physical proximity; they need to be carried more often. This load is usually borne by the mother, or more precisely – by her back. She often holds the child in one arm and does housework with the other. The resulting extremely strenuous posture causes severe back pain relatively quickly. You should therefore maintain a posture that relieves back strain as much as possible.



without carrying aid



with carrying aid (e.g. EasyRider®, available from Ottobock)

10 tips to avoid back problems in parents

- 1 Avoid a hectic pace. Take a deep breath.
- 2 Do major housework when someone else can look after the child.
- 3 Put the child down when you are doing other tasks.
- 4 Stand in a stable position with both feet firmly on the ground.
- 5 "Stiffen" your hip, avoid buckling.
- 6 Do not set your child on the hip, otherwise you buckle automatically.
- 7 Do not bend forward or to the side with the child in your arms.
- Keep your back as upright as possible. (When you push your chest out and the shoulders back, you straighten up automatically.)
- On not lift loads by bending over, but push the weight up with your knees. Keep your back straight.
- Perform exercises to strengthen your back muscles (available from your health insurance company).

Pre-school & School

Excitement until lunchtime – learning for life

"Hi Nicklas! Hi Mareike!" Your child's friends are already at their places. At pre-school and school, children take in many kinds of stimuli, learn to concentrate, acquire knowledge and – what is at least just as important – social skills.

Your child needs to be able to sit stably and comfortably to learn for life. Seating systems should fulfil three criteria to allow your child to cope with the demands at school and pre-school: support postural control, be comfortable and protect the skin. Ottobock and Leckey seating systems and therapy seats stabilise the pelvis with individually adjustable pads that also position the trunk, head and legs. A stable pelvis is needed for correct trunk and head posture. And they in turn are needed for concentration and moving the arms freely.

And naturally for communicating with Nicklas and Mareike.

- 1 The individually adjustable PAL early intervention chair positions young children safely and allows them to participate in group activities, including sitting at the table. The wooden chair comes with various bases.
- 2 Everyday Activity Seat is a therapy seat for every day and for all everyday situations in which a conventional chair is insufficient. Thanks to its many options and accessories, the chair can be used to correct weak posture and for sensory training.
- 3 For children in the first five years of life with greater disabilities – the Squiggles Seat positions pelvis, trunk, head and legs, yet allows the child to move easily.
- 4 The saddle seat of the Squiggles active seat gives children from two to five with mild disabilities an active sitting position. The trunk is upright. It promotes good posture, balance and joint movement while training the muscles.
- 5 The Mygo Seat safely supports children from three to fourteen thanks to the pelvic harness. The modular system in two sizes prevents poor pelvic posture and can be adjusted flexibly to the needs of your child.
- 6 The KIT Seat for adolescents above twelve closes the gap to adult fittings (in two sizes). It allows good positioning, for example for eating.





○ Why is sitting so important?

Sitting is necessary for small children to achieve (independent) mobility. Sitting is important because it

- Promotes a sense of balance
- Strengthens muscles
- Is necessary for mental development
- For taking in stimuli and
- Participating in social life.

Children who cannot sit on their own require early assistance so that they do not use their energy to maintain an instable position, but can face their surroundings.



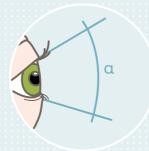
Improves respiration and voice control



More independence



5 Improved food intake and mouth and tongue motor function



6 Change of perspective

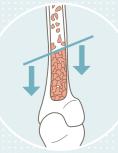


More opportunities for play, because hands can be used for grasping and feeling rather than support



2 Enables kids to interact eye-to-eye with peers





Increases bone density and reduces risk of fractures



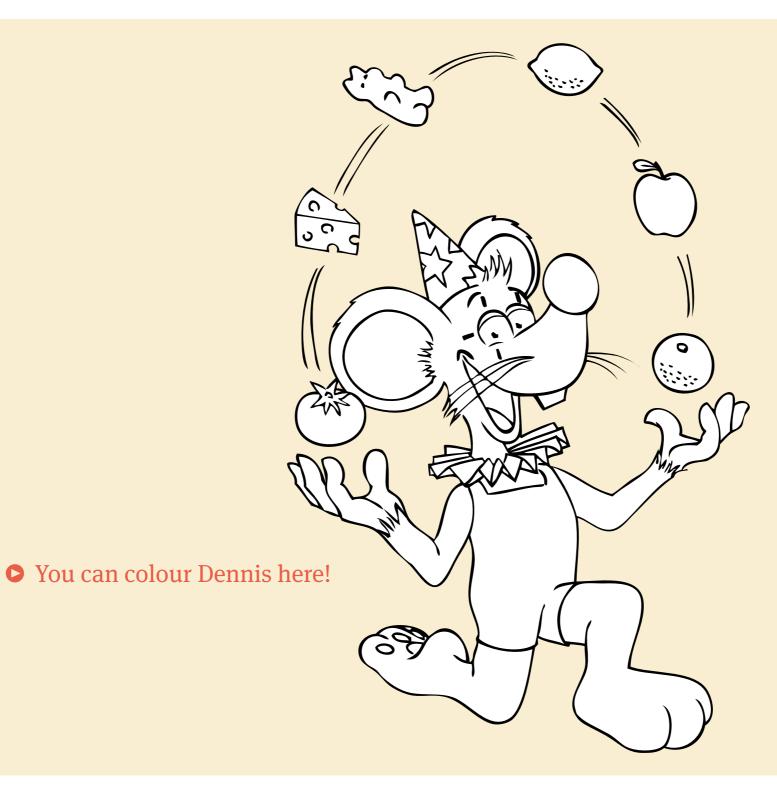
1 Enhances circulation and blood pressure



Creates the right conditions for locomotion



Changing awareness





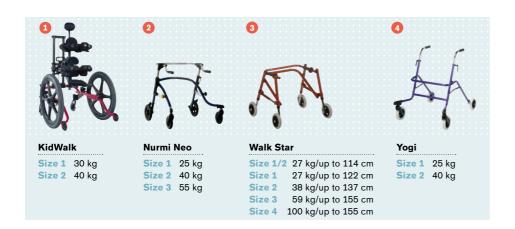
And now – explore the world

Free at last. To explore the world – or at least the home – with others. During play, children collect impressions and experiences, develop body and mind, gain self-confidence and practice social behaviour.

To do this, they need mobility and the ability to interact with others. A child should be able to stand on its own legs by the time he/she is 18 months old. Severely delayed or faulty development can seriously impair the ability to walk later. Body weight must press the thigh bones into the hip sockets so that the hip joint can develop fully.

Various Ottobock walking aids help your child acquire and practice important stance and gait functions. The frame of the walking aid is either in front of or behind the child; if it is in front, the walker provides stability for an insecure gait. A walker whose frame is behind allows the child to use the support muscles of the upper body.

So that he/she can look the world in the eyes.



- 1 The Kidwalk dynamic walking aid gives children from 1 to 12 with severe disabilities stable pelvis and trunk support and allows them to walk with a natural gait without help from others. The Kidwalk approach is based on the normal motor development of a child.
- 2 The Nurmi Neo is a foldable posterior walker for children and adolescents in three sizes that is positioned behind the body. Various handles and hip pads allow the optimal, individual adjustment to the gait.
- 3 The Walk Star is a foldable posterior walker with a narrow, lightweight design to be pulled behind the body, in five sizes for children, adolescents and adults that is suitable for easy transport.
- 4 The Yogi is a foldable anterior walker for children and adolescents in two sizes that is pushed in front of the body. It is intended for children who can bear their own weight but have difficulty walking.



• Why is walking so important?

Physical

- Trains the muscles
- Trains coordination, body perception and sense of balance
- Promotes extending the hips and straightening the pelvis

Neurological

- Trains spatial awareness
- Supports sensory perception

Social

- Allows contact at eye level
- Helps explore the surroundings

Psychological

- Promotes independence
- Enhances self-confidence

Locomotion & Sport

In the midday sun – gaining pace

Feel the wind, be active and feel at one with the world. Children who cannot walk with walking aids also want to be independent and mobile, need to be active outdoors – together with other children.

Ottobock has developed a wide range of wheelchairs for children and adolescents of every age and disability; including for many sports. They follow the principle "as much own activity as possible, as much support as needed".

The wheelchairs should support your child securely, prevent poor posture, protect the skin – and be easy to integrate in daily life. The medical supply dealer will adapt the wheelchair individually to your child's needs. On request, we also develop special custom-built models.

Because every child has a right to be mobile. And to have its own place in the world.



- 1 The individually adjustable power wheelchair Skippi with optional seat lift and various control options supports children's need to move about and explore, even for those who cannot drive a wheelchair on their own.
- 2 The BRAVOracer is a manual wheelchair with various positioning aids for active children with physical disabilities. The highly stable frame with the wide front frame provides maximum space for abduction.
- 3 Adolescents with physical disabilities tend toward the Avantgarde Teen2/VR. It is easy to drive, manoeuvrable and collapsible. The special abduction frame keeps pelvis, feet and legs in the correct position.



Which wheelchair when?

It is impossible to make a blanket statement about which wheelchair is the right one for your child.

As a general rule, the greater the disability, the more important positioning aids, safety features, stability, low weight and individual adjustment options are.

- Manually propelled active wheelchairs are for children who can operate and manoeuvre the wheelchair on their own.
- Power wheelchairs are helpful when they do not have enough muscle strength or a lack of fine motor skills. They can be operated with a joystick or other special controls.
- What are known as **envi- ronmental control** units
 give children access to the
 world of technology. They
 can use them to operate
 doors, computer or radio
 with infrared, wireless or
 Bluetooth technology.

Therapy & Standing

Off to therapy in the afternoon – making progress

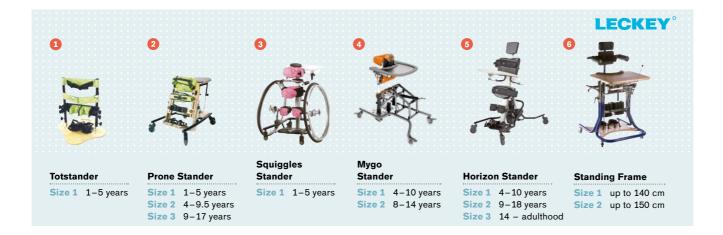
Therapie is calling again. To the standing frame. Because standing, even with a support, is important for physiological and social reasons.

Especially during development of a child. Early standing pogramme during this period allows the hip to develop properly. Otherwise, orthopaedic damage could ensue that would make standing upright and moving considerably more difficult (see the info box at the right).

Children who cannot stand up on their own can stand using Ottobock devices. We have developed standing systems to meet the varying needs of these children, depending on age and stage of development. The principle is to allow the child as much activity as possible to promote his or her muscles, but give him or her as much support as necessary to prevent faulty posture.

Then they will be ready for fun.

- 1 The Totstander is a simple standing aid for toddlers from one to five to support upright, active standing during therapy.
- 2 The Prone Stander is a mixture of standing device and positioning device for severely disabled children and adolescents up to age 17, who need to assume positions aside from lying down primarily for medical reasons.
- 3 The Squiggles stander provides early support for the social and physiological development of your child. With it, children from one to about five years can participate in life in an upright position.
- 4 The Mygo Stander enables children over four who require complex support to assume a natural upright posture with complete support of their body. Thanks to the combination of pivot footplate and knee support, children and adolescents with hip and knee contractures can stand upright.
- 5 The Horizon Stander is a sturdy, power adjustable standing device for 4 to 18-year-olds that can be used in a supine or prone position.
- 6 The standing frame encourages children and adolescents from age six to adulthood to stand independently. Depending on his or her strength, the child can gradually move into a standing position alone or using the manual or electric strap roll device.



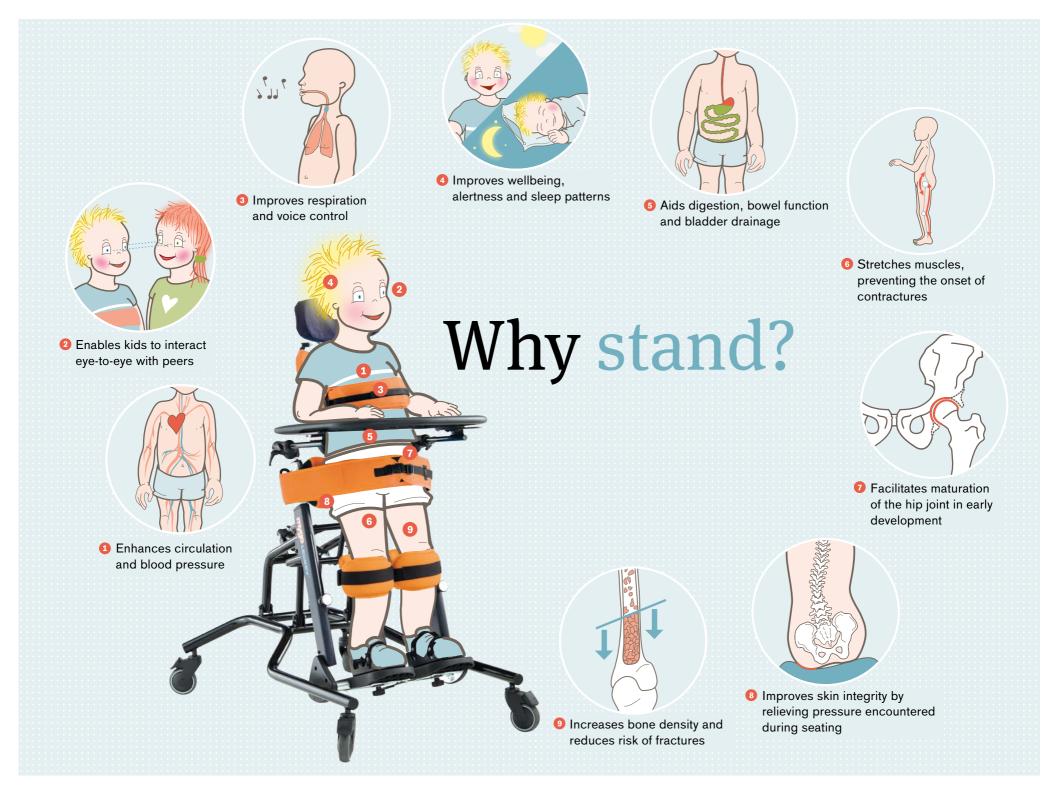


O How do I use standing frames properly

Children with shortened muscles must complete daily standing programme. They frequently participate actively in other daily activities. They practice **standing upright** and need depending disease pattern a standing frame for supine or prone positioning.

Children with very low muscle tonicity, for whom it is not easy to put weight on their feet when they first attempt to stand, should begin from a **supine position**. This also applies to children with pathological movement patterns and those who hyperextend backwards greatly.

Children with respiratory problems can easily use the standing frame from a **prone position** because they can "cough up" and the secretion can run off. The prone position is also good for children who increasingly use the forearm or hand for support.



• The key therapies and their effects

Children with neurological disorders have to learn many things others acquire naturally. Every child has its own learning goals, and various therapies are individually combined to achieve them.

Naturally, physical therapy is of special importance. Its main objective is to help the child master his/her own body while avoiding malpositions. Many different methods and concepts have been developed to achieve this.

1. Bobath Concept

The Bobath concept is a neurologically based, interdisciplinary approach involving the assessment and treatment of neurological or developmental disorders and support in coping with everyday activities for individuals whose ability to participate in daily life is impaired by these disorders. It utilises the interaction of motor, sensory, perceptual, cognitive, communicative, emotional and social functions in therapy. Assessment and treatment are the two major elements of the therapeutic process.

Among the special features of the concept are interdisciplinary management and a problem-solving approach, combining the development of solutions for the patient's individual problems on the one hand with a task- and problem-solving approach to therapy on the other. (Definition from the Joint Conference of German Bobath Courses)

2. Perfetti Therapy

Like Bobath, the neuropsychiatrist assumed that connections have to be created in the brain. But he recognised that stimuli alone would not be enough; children also have to consciously experience the movement patterns that are learned. The goal is for the patient to learn controlled movements.

3. Vojta Therapy

The Czech neurologist Václav Vojta believed that there are natural movement patterns which are inherent in all of us. These movements can be triggered reflexively when the right stimuli are applied in certain positions.

A special advantage of this therapy is that it can be used even during infancy.

4. Conductive Education

Conductive education is based on the concept that the body, emotions, spirit and language influence each other, and that every person must be supported equally on all levels. Children learn how to consciously perceive their environment and integrate themselves in a group during interactions with others.

Therefore this therapy approach is not considered a treatment, but is viewed as education.

5. Occupational Therapy

Occupational therapy practices concrete activities that are important for an independent life, such as getting dressed, eating, playing or cleaning. Naturally, it also promotes the social and cultural development of the child, who learns how to master everyday situations while moving and developing as part of society.

6. Speech Therapy

Speech therapy helps disabled children improve their verbal communication skills. It addresses language and speech impairments, trains the voice and pronunciation, and practices techniques against swallowing and hearing disorders. Speech therapy therefore plays a special role in social integration.



Personal Hygiene & Bathing

At the end of a long day – into the bathtub

Wow, that was hard work. Now it's time for a bath. To make sure the bath is not another workout (for child and parents), Ottobock and Leckey has devices that make bathing and washing easier.

You can't have enough hands to secure your child, wash and massage him or her, and play and communicate with him or her. And that's just for daily hygiene. Bathing aids are therefore very important for all involved.

If showering and bathing are pleasant, children find it easier to accept daily hygiene as an important part of their day. Every child loves the physical contact with parents (see "basal stimulation" at the right).

Shower and bath supports make it easy and comfortable for the child. And for the parents as well, because they increase safety on slippery surfaces – and with the Hubfix, they also make lifting easier for the parents.

After all, the day was strenuous enough.



- 1 Thanks to the low centre of gravity, the Robby bath support (in two sizes for children up to 60 kg) needs comparatively little water in the tub. It can be folded up to a compact size, is easy to take with you, and can be stored almost anywhere.
- 2 The Leckey shower and bath support (in four sizes for children up to 72 kg) is ideal for daily hygiene. It consists of a multifunctional adjustable frame and a special base for the shower (4).
- 3 Hubfix is a mechanical lift for the bathtub, which has strong suction feet to keep it stable in the tub. Various bath supports can be put onto its pull-out sides.



Basal Stimulation

You can use bathing and washing your child especially well for basal stimulation (a therapy method). Basal stimulation gives simple stimuli for the senses with which you can train your child's perception and develop (nonverbal) communication. You should consciously use basal stimulation in activities of daily life.

Basal stimulation:

- Acoustic, e.g. singing, humming, talking, drumming, etc.
- Optic, e.g. light, colours, water games, mobiles
- Tactile, e.g. stroking, showering
- Physical, e.g. changing positions, massages, swinging
- Scent, e.g. flowers, food, etc.
- Taste, e.g. attractive food



The moon has risen – sweet dreams

Relax. Sleep well and have sweet dreams of the day's events. This is most successful with proper positioning so the child can relax and spasms are prevented.

This involves not only relaxed positioning, but good relief for areas – and skin – especially subject to pressure as well as proper temperature regulation.

For this, Ottobock has a special mattress with the respective accessories. You as the parent know the best position better than anyone. Your therapist will explain what else you need to watch for. Then your child can recover at night. And in addition, proper positioning also promotes your child's physical development.

So he or she can learn almost in while sleeping.



1 Sleepform positions children from 0 to 16 years while at rest and asleep. The combination of vacuum pillow (for positioning), airflow mattress (to relieve pressure) and temperaturecontrol sheet (to regulate temperature) supports and relieves your child.



• Why positioning during sleep is so important

Your child spends most of the day sleeping. Good positioning is an essential step for physical development and is decisive for later mobilisation. Conventional household objects (positioning tubes, pillows, towels, blankets) can move out of place, with potentially devastating consequences:

- The child moves back into a faulty position.
- Pressures points can develop because the material no longer relieves the areas where skin is at risk
- The lack of head-trunk support can lead to swallowing problems.
- Children with changing muscle tonicity can easily slip under the pillows and even suffocate.

Positioning systems relieve the skin, regulate temperature and ensure stable and safe sleep.

Notes







