



Guidebook




Thomashilfen

ThevoSiiS – The seat with impulse effect

Thomashilfen



People need impulses – and to learn, one needs to feel good.

But what happens when a person is handicapped in their sensory and motor abilities due to deficiencies in cognitive processing or due to spasticity?

What if e.g. a child has to manage long periods of sitting down at school?

This results in:

- Decrease in proper posture
- Increased spasticity in the hands
- Premature lapses in concentration
- Symptoms of fatigue
- Fidgety or agitated behavior

These are poor conditions for academic learning or for activities in therapeutic situations and perceptive participation in the environment.

Learning, perceptions, and movement are basis for activities!

What does a person need in order to be awake and concentrated?

- A stable sitting position
- Regulating compensatory movements / balance
- Good perception of the own body
- Active support function
- Motivity in the upper extremities
- Head control
- Suitable body tension





Seat with integrated impulse Sensors

The ThevoSiiS therapy chair provides a second chance for those with spasticity as well as persons with cognitive processing deficiencies.

- Stable base
- Body perception
- Finding of the body center
- Sensory input
- Initiation of a physiological posture

Areas of application / clinical pictures

- Cerebral apraxia (diplegia, tetraspasticity, single-side problems).
- Cognitive processing deficiencies / ADD.
- Tonus dysregulation deficiencies (so-called "floppy" and "hypertonus" children and adults).
- Diverse disabilities affecting the motor activity

„Less chair – with a lot of impulse effect“
Active people achieve more!





Properties of the **ThevoSiiS** Therapy Chair

ThevoSiiS Therapy Chair - **seat**

- The firm seat block provides the person with a maximum of sensory
- The longish shape of the seat helps the forward facilitation of the arms. (Stabilisation, symmetrisation, tones regulation). In addition, by bracing the arms on the set block an interim impact change for the spine can be achieved.
- The seat block sets the physiological body posture.
- The sloped seat surface at the rear end of the seat block area slightly tilts the pelvis, so the spine can be straightened.
- Ergonomic seat block design

ThevoSiiS Therapy Chair - **back**

- The small, firm iliac crest support with low body contact is for stabilization.
- The iliac crest support and the impulse generators can be individually adjusted to the person in height and depth.
- The punctiform impulse generators communicate orientation regarding the position of the back and at the same time have a stimulating effect on the body straightening and orientation process.

ThevoSiiS Therapy Chair - **base frame**

- The seat height adjustment is infinitely variable, allowing the legs to be positioned correctly.
- The chair is adjustable to ensure individual adaptation
- The user can independently operate the lever brake and height adjustment, which provides them with a certain degree of autonomy.
- The base frame guarantees good rolling functionality and a lot of leg room which, if applicable, offers sufficient freedom of movement during the initiation of a contra lateral gait pattern (alternately setting down the feet) from a seated position.
- The therapy chair is tilt resistant.
- The push bar provides good conditions for the chair to be pushed by an assistant, even over longer distances.

Expert view:

*The basic conditions for the provision with a **ThevoSiiS** Therapy Chair are:*

The person has to show a minimum amount of leg support function.

The person has to show a minimum amount of torso control, which can be activated through stimulation (e.g. compensation movement, prop up of the arms to the front) and is changeable in normotone direction.





Before



After



Mustafa

Age: 6 years

Diagnosis:

Tetraparesis, accentuated in the legs

Before being supplied with ThevoSiiS M:

- Little floor contact of the feet
- Position not suitable for the development of the femoral head
- Severely backwards tilted pelvis with round back
- Difficulties in keeping head and trunk upright for longer periods
- Raised shoulders
- Restricted view due to poor straightening of head
- Well-directed activation of fine motor skills hampered due to poor body straightening

After being supplied:

- Firm floor contact of the feet
- Improved position of hips due to sitting in abduction (wide)
- Straightening of pelvis and spinal column
- Relaxation of shoulder muscles
- Head can move freely, resulting in improved fine motor skills
- Mustafa can leave the table with the chair without assistance. He then moves alternating his feet over shorter distances and independently reaches, e.g. his posterior walker.

Possibilities to include ThevoSiiS in the therapeutic work with Mustafa:

- Crossing the center line with hands and arms to achieve trunk rotation around the vertical axis of the body
- Extending free sitting on ThevoSiiS by sequences, in which he shall pick up items from the floor or a low box
- Sitting up to stand in front of a table without assistance

Therapist of Mustafa

- *Sitting on ThevoSiiS, his hand activities have improved. Now, he even starts cutting with scissors.*



Farhan

Age: 3 years

Diagnosis:

Global hypotension
of unknown genesis



Before being supplied with ThevoSiiS M:

- His feet do not remain in firm floor contact
- Farhan cannot build muscle tension in his trunk
- The head often is super extended. This inhibits the eye-hand-coordination
- He quickly gets tired
- He feels insecure sitting on the stool and is afraid of falling

Farhan and Mustafa playing

- His feet stand planar with force, he feels secure, because he now has a good basis to sit
- Farhan's pelvis position facilitates him sitting upright at least temporarily
- His head control improved. There is more stretching in his neck, allowing him for eye-hand-coordination

Farhan and Mustafa playing



Expert opinion

Children with special needs often use movement patterns deviating from the optimal physiologic human patterns. These are inefficient in the biomechanical sense.

A proper sitting posture requires the least power and thus leaves capacity for other activities, e.g. concentration or fine motor skills during playing.

Before



After



His physiotherapist

- When Farhan perceives his body better, his body control improves, as well. The ThevoSiiS therapy chair helps him here.



Expert opinion

A person who can trust their body dares to move.

Before



After



René's teacher

- *He participates more attentively in class.*
- *His pace of work has increased noticeably compared to before.*
- *René has improved spinal straightening; the pectoral girdle and arms remain looser and therefore fine motor movements are easier for him.*



René

Age: 10 years

Diagnosis: Cerebral palsy in the form of a spastic diplegia

BEFORE being supplied with ThevoSiS Size 1

- Poor body tension during rest periods in the wheelchair.
- Tendency towards overstretched rearward head position.
- Adduction and tendency to turn the feet inward.
- Mouth closing problems.
- Tendency to fall / bend to the right in the trunk area.

AFTER being supplied:

- Active trunk straightening
- Adequate reactions with compensating movements on the seat block – resulting in balancing of the trunk / correct axial straightening
- Physiological leg position (45°).
- Noticeably better posture in the thoracic spine and cervical spine areas - this allows for improved closing of the mouth and easier swallowing.
- Increased and improved motor planning ability and movement competency through the independently induced transfers.
- Slightly more flowing movements
- Is beginning to introduce a contra lateral gait pattern (alternately setting down feet).
- Noticeable improvement in the support functions of the arms, which are actively employed during transfers.
- Noticeable improvement of hand-hand and eye-hand coordination through the centered seating position.



Melanie

Age: 15 years

Diagnosis: Spastic tetraparesis with considerable flexion tonus of the arms, athetosis, dysarthritic articulation problems.



BEFORE being supplied with ThevoSiiS chair Size 1:

- Decreased proper trunk pature
- Increased tones in the shoulder and arm region.
- Mouth closing problems.
- Unintentional hand slowdown with every attempt at fine motor movements.

AFTER being supplied:

- Active sitting position with centered posture.
- Straight positioning of pelvis, hips, knees, and feet as basis for active body straightening.
- Placement of hands toward the center of the body (inhibition of the spastic movement pattern) and balancing.
- A noticeable tones reduction in the upper extremities, resulting in improved grasping functions.
- Confident handling of gravity and balance.
- Noticeably better posture in the thoracic spine and cervical spine areas - this allows for improved closing of the mouth and easier swallowing.
- Development of a physiological contra lateral gait pattern (alternately setting down the feet) in the seat; concurrent placement of the hands toward the center of the body on the extended seat surface (inhibition of the spastic movement pattern in the arms)

Expert opinion

The ability to perform active holding tasks awakens pride and strengthens self-esteem!

Before



After



Melanie's teacher

- *Tension in Melanie's arms is reduced, making it easier for her to operate the PC keyboard.*
- *Small „scares“ at imminent a loss of balance increate her concentration (an awake mind in an awake body).*



Expert opinion

A person who can feel their body center well becomes flexible.

Before



After



Tjark's teacher

- *His concentration is improved by balancing on the seat, and it is easier for him to participate in class. There fore, Tjark no longer gets physically tired as quickly as before.*
- *Tjark's handwriting has noticeably improved through the straight body posture.*
- *Since using the ThevoSiiS therapy chair, Tjark's pace of work has improved considerably.*



Tjark

Age: 15 years

Diagnosis: Tetraspastic – accentuated on the right, hypotonus of the trunk, oral hypotonus with dyslalia, foot in valgus position, pronounced cognitive processing deficiencies

BEFORE being supplied with ThevoSiiS size 1 chair

- He has a hunched back
- He has poor body tension, falls to the side.
- He often is mentally absent and has problems focusing his attention.
- Reduced bilateral function.
- Mouth closing problems.

AFTER being supplied:

- He reacts to the seat surface with regulating compensating movements (vestibular and deep sensory stimulation).
- The physiological positioning of hips, knees, and feet triggers a deep sensory input, which induces the active straightening of the body.
- Tjark is required to balance activity on the seat in order to maintain his balance. This motivates assume individual responsibility for his body position himself.
- Balancing - the body is kept more centered - the hands are placed toward the center of the body when sitting freely.
- He establishes additional body tension during the independent initiation of the contra lateral gait pattern (alternately setting down the feet).
- Improved mouth closing and swallowing.
- Due to the upright sitting position, a noticeable improvement in perceiving both hands is given; this improves the initial conditions for grasping functions, hand-hand and eye-hand coordination.
- Tjark unintentionally experiences repeated deep sensory stimuli through the impulse generators, which makes it easier for him to sense his body in space and to center his body.



Application studies with children suffering from cerebral apraxia

- They find the center of their body – balancing
- Inhibition of spastic movement patterns
- Arms and hands are lead towards the center of the body
- Relaxation of the shoulder and neck region: The shoulders are no longer drawn in the direction of the head as much
- Start of a physiological seating posture
- Positive effect on body and head control
- To some extent, improvement in mouth closing and swallowing results
- Fine motor skills of the hands are noticeably improved
- Improvement of hand-hand and eye-hand coordination
- Positive effect on visual control
- Development of movement sequences for independent transfer

Application studies with children suffering from cognitive processing deficiencies

- The children experience their surroundings and environment with noticeably greater involvement.
- The floor contact of the feet, the firm seat surface, and the back support provide clear sensory information and tactile orientation.
 - “Where am I in space?” (body awareness, body scheme)
 - Better possibilities to target attention – it is easier for the children to orient themselves toward the center of the body.
 - Input is provided through floor contact, which induces a stable and centered orientation.
 - Firm seat surface has a positive influence on tonus regulation.
 - Compensating movements have an “organizing” / regulating influence on cognitive processing (proprioceptive and vestibular stimulation) and also result in tones regulation.

Expert opinion

A person who can trust their body dares to move.

Transfer example





Expert opinion

If muscles work more actively, mental alertness increases, too

Before



After



Kai

Age: 41 years

Diagnosis:
Mental disability,
Significant hypotension
in trunk and extremities,
reduced drive

Before being supplied with ThevoSiiS P:

- Little floor contact with the feet, he sits with crossed legs most of the time
- Severely backwards tilted back, buttock slips forward on seat surface
- Thoracic spine severely kyphotic
- Super extended neck muscles (vulture head posture)
- Fine motor activities are done without power and very slowly

After being supplied:

- Plane floor contact of the feet with proprioceptive input. Weight shifting induced by the open hip angle, pressure on lower extremities is increased
- Crossing the legs is inhibited by abducted sitting posture. Blood circulation in lower extremities improves
- The pelvis becomes more flexible due to the abduction. It straightens up easier. The iliac crest support helps maintaining the upright posture
- The tilted pelvis makes the spinal column regain its natural shape. Balancing the head is facilitated. Super extension is hampered
- Kai's visual field grows and his concentration improves
- He can move away from his desk into the room without assistance and thus can more actively participate in things going on around him
- His movements become freer. He continuously stretches and activates his muscle tone of his own accord



Andre

Age: 21 years

Diagnosis:

**Down's Syndrome
(trisomy 21)**



Before being supplied with ThevoSiiS P:

- Andre rarely puts his feet plane on the floor; he consistently sits crossed-legged on the chair, which makes him lose trunk stability
- Stiff, rigid shoulder muscles, raised shoulders
- Super extended neck with hypotonic facial muscles results in insufficient mouth closing, the lower jaw is shifted forward

After being supplied:

- Improved neck straightening results in better mouth closing
- Better floor contact of the feet and repeated stimulus given by the impulse sensors provide for better input about body borders
- Andre's shoulder muscles relax
- His fine motor skills are more fluent and differentiated
- The pelvis is straightened which reduces the round back

Mouth closing before



Mouth closing after



Expert opinion

Floor contact of the feet gives continuous information about the posture of joints and position of the body in space.

Before



After



Andre's workshop manager

- Compared to before, he considerably increased his pace of work



Work situation



Application study with mentally disabled adults:

- An upright sitting posture promotes motivation in many cases
- The often too low muscle tone in the trunk is regulated by straightening the pelvis; muscles are activated
- The firm seat block gives clearer information over the seat surface

Application experiences in promotion workshops:

- Employees are less sleepy, even after longer periods of working
- The radius of action grows. Employees become more mobile on the chair
- Controlling hands and practical are facilitated by the open back and arm area
- The firm seat surface has a positive influence on tone regulation

Dosed application of the ThevoSiiS chair:

- When sitting on the ThevoSiiS therapy chair muscles are approached different as if "sitting passively"
- Especially at the beginning, muscular tensions may absolutely occur, the person may even have aching muscles
- Initially, the chair shall only be used in short work/therapy sequences, so the person can take breaks
- By and by, it will become easier to keep the upright sitting posture
- *ThevoSiiS literally is a "therapy chair", continuously supporting and challenging the abilities of the person.*



Positioning recommendation for the ThevoSiiS Therapy Chair

First step:

The feet must always have firm contact with the floor .

Second step:

Height adjustment – in order to accomplish the correct positioning of the knee and hip joints. The height of the seat has to be adjusted so that the person is standing with their feet on the floor. In practice, a knee angle and hip angle above 90° has proven itself and has resulted in good body straightening results.

Third step:

Adjustment of the body straightening and orientation impulse using the small, firm iliac crest support. It is positioned at the lower iliac crest – often in direct contact with this region. This iliac crest element can be adjusted individually in height and depth, as described in the brochure.

Fourth step:

Positioning the punctiform impulse generators: Each person reacts to individual stimulation points located between the lower part of the thoracic spine and below the shoulder blades.

Expert recommendation

First step



Second step



Third step



Fourth step





Application examples



Expert recommendation

In the long-term, the sitting posture on ThevoSiiS can prevent spinal column deformities and hip dysplasia.

ThevoSiiS M

- Optimally suited for the use in kindergarten
- Children are made accustomed to independent sitting very early
- Malpositions can be better corrected at young age
- The free arm and foot area promote autonomy

ThevoSiiS Size 1 + Size 2

- Especially suitable for school kids
- Optimum position to work at the writing table

ThevoSiiS P

- Wider seat surface for bigger persons
- Is often used in sheltered workshops or in neurological areas

ThevoSiiS H

- Optimally suited for large adults
- Suitable for standing workplaces
- Malpositions can easier be corrected
- In particular, sitting ergonomically is supported
- The free arm and foot area promote autonomy

ThevoSiiS S

- Especially suited for small children
- Optimum position to work at the writing table



ThevoSiiS M

Seat height	32 - 40 cm / 12.6 -15.8 "
* 5 cm / 2" thereof by moving the gas spring unit upwards	
Seat width	15 cm / 5.9"
Height adjustment of impulse generators	27,5 cm / 10.6"
Iliac crest support - height adjustment	8 cm / 3.1"
- depth adjustment	3,5 cm / 1.4"
Total dimensions (w x h x d)	54 x 50 x 68 cm 21.3 x 34.6 x 21.3"
Wheel size	10 cm / 3.9"
Wheel distance front	53 cm / 20.9"
Wheel distance rear	54 cm / 21.3"
Max. weight capacity	22 kg / 49 lb
Weight	11 kg / 24 lb
Body size	max. 125 cm / 49.2"

ThevoSiiS

Size 1

Seat height	42 - 55 cm /16.5 - 21.7"
* 5 cm / 2" thereof by moving the gas spring unit upwards	
Seat width	19 cm / 7.5"
Height adjustment of impulse generators	18 cm / 7.1"
Iliac crest support - height adjustment	8 cm / 3.1"
- depth adjustment	3,5 cm / 1.4"
Total dimensions (w x h x d)	Size 1: 54 x 88 x 54 cm Size 1: 21.3 x 34.7 x 21.3"
Push bar height	88 cm / 34.6"
Wheel size	10 cm / 3.9"
Wheel distance front	53 cm / 20.9"
Wheel distance rear	54 cm / 21.3"
Max. weight capacity	50 kg / 110 lb
Weight	13 kg / 29 lb
Body size	max. 135 cm / max. 53.1"

Model overview

ThevoSiiS M



ThevoSiiS Size 1



Model overview

ThevoSiiS Size 2



ThevoSiiS P



ThevoSiiS	Size 2
Seat height	42 - 55 cm / 16.5 - 21.7" * 5 cm / 2" thereof by moving the gas spring unit upwards
Seat width	19 cm / 7.5"
Height adjustment of impulse generators	18 cm / 7.1"
Iliac crest support	
- height adjustment	8 cm / 3.1"
- depth adjustment	3,5 cm / 1.4"
Total dimensions (w x h x d)	Size 2: 60 x 88 x 56 cm Size 2: 23.6 x 34.7 x 22"
Push bar height	88 cm / 34.6"
Wheel size	10 cm / 3.9"
Wheel distance front	58 cm / 22.8"
Wheel distance rear	55 cm / 21.7"
Max. weight capacity	120 kg / 265 lb
Weight	14 kg / 31 lb
Body size	ab 130 cm / from 53.1"

ThevoSiiS P	
Seat height	49 - 68 cm / 19.3 - 26.8" * 5 cm / 2" thereof by moving the gas spring unit upwards
Seat width	22 cm / 8.7"
Impulse generators - height adjustment	18 cm / 7.1"
Iliac crest support	
- Height adjustment	8 cm / 3.1"
- Depth adjustment	3,5 cm / 1.4"
Total dimensions (w x h x d)	60 x 88 x 56 cm 23.6 x 34.4 x 22"
Push bar height	88 cm / 34.6"
Wheel size	10 cm / 3.9"
Wheel distance front	58 cm / 22.8"
Wheel distance rear	55 cm / 21.7"
Max. weight capacity	120 kg / 265 lb
Weight	14 kg / 31 lb
Body size	from 140 cm / from 55.1"



ThevoSiis H

Seat height	53 - 80 cm / 20.9 - 31.5"
* 5 cm / 2" thereof by moving the gas spring unit upwards	
Seat width	19 cm / 7.5"
Impulse generators	- height adjustment 27,5 cm / 10.8" - depth adjustment 3,5 cm / 1.4"
Iliac crest support	- height adjustment 8 cm / 3.1" - depth adjustment 3,5 cm / 1.4"
Push bar height	88 cm / 34.7"
Total dimensions (w x h x d)	60 x 88 x 56 cm 23.6 x 34.7 x 22"
Wheel size	10 cm / 3.9"
Wheel distance front	58 cm / 22.8"
Wheel distance rear	55 cm / 21.7"
Max. weight capacity	120 kg / 265 lb
Weight	15 kg / 33 lb
Body size	from 145 cm / 57.1" on

ThevoSiis S

Seat height	42 - 55 cm / 12.6 - 15.8"
* 5 cm / 2" thereof by moving the gas spring unit upwards	
Seat width	16 cm / 6.3"
Height adjustment of impulse generators	18 cm / 7.1"
Iliac crest support	- height adjustment 8 cm / 3.2" - depth adjustment 3,5 cm / 1.4"
Total dimensions (w x h x d)	60 x 88 x 56 cm 23.6 x 34.7 x 22"
Push bar height	88 cm / 34.7"
Wheel size	10 cm / 3.9"
Wheel distance front	58 cm / 22.8"
Wheel distance rear	55 cm / 21.7"
Max. weight capacity	120 kg / 265 lb
Weight	14 kg / 31 lb
Body size	from 135 cm / 53.2" on

Model overview

ThevoSiis H



ThevoSiis S





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Child orthopaedics, Manual medicine on children, Physical therapy, Sports medicine

Tested object: Therapy Chair “SiiS” of the company Thomashilfen

- therapists of the wards ‘occupational therapy’ and ‘physiotherapy’ at the residential school for the physically disabled of the Hellen Keller School in Damp, Germany
- nursing staff of the residential school
- educationalists for special needs and
- pupils of the school

Test duration and execution:

Over a period of five years, the innovative therapy chair was tested, checked, and improved in its several components in the areas ‘occupational therapy’, ‘physiotherapy’, and during the school lessons. Thus, therapeutic as well as pedagogic, and orthopaedic-medical considerations entered the design and utilisation of the chair. When the chair went into serial production by the company Thomashilfen, children with various dysfunctions in the field of sensorimotor control could be supplied with the “SiiS”. The children themselves as well as therapists and pedagogues experienced a fundamental change in the children’s posture, cognition, vigilance, and efficiency of therapeutic measures.

The chair has been tested by children with spastic hemiparesis and tetraparesis, hypotonic and dystonic cerebral apraxia, perception disorders, concentration disorders, and severely to very severely multi disabled children.

The prerequisite for an expedient use of the chair is that the child is able to control their head and stabilise their trunk in the vertical - at least for a short period of time.

Efficiency:

The chair stands out from other systems by the fact that it does not need any other restraint systems and redressment pelottes when correctly adjusted. When the children are growing, the individual height adjustment and the facile adaptation of the support in the lumbar sacral transition area are each easy to be readjusted. The innovative ball-shaped reminder points are also easily and individually adjustable, whereby the therapist can quickly reposition the support chair to changes in height, ability, and therapeutic circumstances. A handbrake which can be operated by the children themselves provides for an independent change of the position during therapeutic situations and in school on one hand. On the other hand, the detachable handbrake guarantees a reliable blocking of the therapeutic seat. The handy and stable push bar can easily be detached during therapy. When mounted, it is a safe support for the children to get onto the seat. The firm seat ensures a stable supportive surface and is for most children suitable without changes in the tested size and delivered shape. However, eventually necessary modifications of the core seat are possible without much time and effort.

The therapy seat needs little space whilst being transported between two places because of its easy handling and the possibility to detach single parts.



Therapeutic advantages:

The chair was developed during therapeutic situations and therefore primarily is a therapeutic device. Through abduction of legs and plantigrade position of the feet an optimal proprioceptive control is given. This was shown by an improvement of body control and upright posture of all children. The stimulation points, which are easily adjustable in height and in prominence, support the straightening of the trunk. They also help therapists e.g. to work with a child's upper extremity without having to facilitate the straightening of the body with one hand over and over again.

Through the active body straightening from the pelvis to the back of the head, a tension improvement also of the ventral trunk muscles, the hyoid muscles, and the perioral muscles is achieved. Thus, an increased saliva is positively influenced and in the area of speech therapy the speech initiation is promoted. During tests at school the seat's positive influence on concentration abilities, and amazingly also on the agitation, became noticeable. The initial position achieved with the help of the seat makes work on a higher motor level during physiotherapy possible. Preparing therapeutic stimulations and constant position corrections are mostly not necessary any longer. The chair's construction supports - dependent on the child's personal capacities - an independent assistance during transfers thanks to the push bar, the rotating seat unit, and the smooth surface. Besides other aspects, this leads to a high acceptance of the SiiS among children. Other aspects are easy handling without pelottes, belts, and velcro. Due to an incomplex adjustable height via pneumatic spring and a flexible support of the loin and pelvis area, a "growing along" of the SiiS is possible without additional costs over a long period of time. Various adjustment settings take easy care of changes in joint mobility of the lower extremity. The possibility to support the body by hand between the thighs gives a feeling of safety and also helps with balancing arm activities. Children with spastic palsies noticeably develop a more frequent utilisation of their upper extremities plus a reduction of pathological muscle tension through improved postural control.

After loosening the ergonomically well-fitted brake, children have the opportunity to reach a reciprocal self-determined mobility.

Reliability:

Already during development a lot of attention was paid to the stability of the chair. This was reached through the base frame width and the relatively low centre of gravity. The detachable brake also supports stability, but also offers a hassle-free change of location after loosening. The surface is sturdy, washable, sanitisable, and, if needed, removable without any problems.



Functionality / handling:

The “seat with integrated impulse sensor technology” is characterised by its many-sided therapeutic availability, easy handling, gratuitous possibility of “growing” with the child, plus multifunctional individual adjustability. The fact that the seat was developed during occupational therapy everyday life is in every respect also the reason for the handy design and technology of the SiiS. Implementation in physiotherapeutic everyday life, in occupational and speech therapy, also in school, and homely surroundings is of great use for patients with sensorimotor dysfunctions. Indoor transportation is easy due to wheels. Transportation inside a car is possible without trouble thanks to the facile construction. The size of the space-saving seat can be reduced by everyone with the help of a provided allen wrench as the brakes and the holding frame are detachable.

Conclusion:

SiiS is a therapy device of surprising convenience and excellent functionality. Its versatility makes utilisation in many different therapeutic situations possible. It allows children with various, even severe disabilities a change in their body cognition and posture control by influencing their tension. High acceptance of the chair contributes to an improvement of existential orientation, vigilance, and willingness to achieve therapeutic measures. The seat will make certain treatments unnecessary. It is surprising that this concept has not been developed earlier. Medical indications range from all kinds of sensorimotor dysfunctions like cerebral palsy with spastic agitation disorders to hypotonic dysregulations, perception disorders, as well as concentration disorders.

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