

www.iStander.eu

# **USER MANUAL**



Rehabilitation device

CE

2017

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CE

#### **1. GENERAL**

#### **INFORMATION:** Purpose of

#### the manual:

This manual contains detailed information about the use of iStander rehabilitation device. Manual is intended for the direct users, their carers, doctors and physiotherapists who care of disabled people using the device. Before proceeding with any activity related to using iStander, please read this manual thoroughly and make sure all the entries are understandable. In the event of any ambiguity, please directly contact the manufacturer of iStander device:

#### **Contact information:**

ALREH Medical Sp. z o.o. ul. Złotno 135 94-315 Łodź phone/fax: 00 48 42 634 22 14 e-mail: <u>ffice@alreh.plo</u>

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#### Marks in the manual:

In the manuals of medical devices manufactured by ALREH Medical, there are notes marked with the  $\cancel{NOTE}$  symbol, whose task is to pay special attention to read the contents.

#### 2. INTENDED USE OF THE DEVICE.

iStander rehabilitation device is intended for rehabilitation and motor activation of disabled people with paralysis or paraplegic (paraplegia) and people who, for various reasons, use a wheelchair every day. It was designed for individual use at home.

iStander is based on the Measurement Card, and is adjusted to the user's body parameters, fitness and needs.

#### The main exercises with iStander:

- Independent, safe standing in an upright position,
- Exercises of movements of ankle, knees and hips joints, by performing squads and half-squads,
- Exercises that activate the upper body using the multimedia programme.

iStander is equipped with a wheelchair-mounted lifting mechanism, i.e. GymUp, and a sturdy seat that makes iStander particularly useful and safe for people who want to be as independent as possible, live actively and perform exercises of the upper body parts in a standing position.

It is easy and safe to enter iStander, and compared to other solutions available on the market, it is comfortable, as well. By standing in iStander, a person with paralysis of the lower limbs can take advantage of the solutions offered by the specialized multimedia programmes, and perform exercises involving the upper body parts without being assisted by another person.

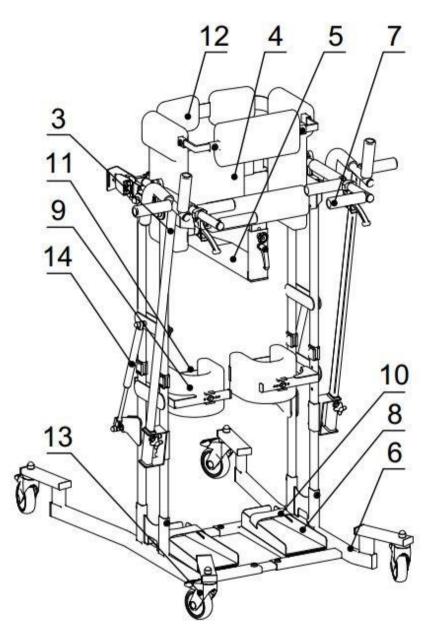
iStander can be used in the following conditions:

- Traumatic paraplegia
- Multiple sclerosis and other demyelinating diseases
- Children with cerebral palsy
- Stroke
- Myelomeningocele
- Muscular dystrophy and other demyelinating diseases (unless there are no contraindications)
- Parkinson's disease
- And other diseases with indications for verticalization

With proper selection and optimal use of the functions of the device, iStander can be used to treat and prevent from complications from long-term wheelchair use. The therapeutic effects of iStander:

- Improved cardiovascular system functions
- Treatment of orthostatic hypotension,
- Prevention from and treatment of venous thrombosis
- Prevention from pneumonia and improved lungs ventilation
- Prevention from pulmonary embolism
- Prevention from and treatment of osteoporosis
- Prevention from and treatment of stasis in the urinary system
- Prevention from urolithiasis
- Improved intestinal peristalsis
- Assist in the re-education of the neurogenic bladder
- Improved stool excretion
- Improved mental condition
- Improved bone calcification
- Prevention from muscular atrophy
- Prevention from and treatment of contractures, improved joint mobility

### 3. iStander CONSTRUCTION:



|   |        |   |              |    | Figure 1.           |
|---|--------|---|--------------|----|---------------------|
| 1 | holder | 6 | skid         | 11 | knee safety belt    |
| 2 | latch  | 7 | front handle | 12 | back safety<br>belt |
| 3 | lever  | 8 | platform     | 13 | wheels              |
| 4 | corset | 9 | knee support | 14 | GymUp system        |

| 5 | seat | 10 | feet safety belt |  |
|---|------|----|------------------|--|
|   |      |    |                  |  |

#### 4. PREPARATION OF THE DEVICE FOR USE.

A sitting position is the starting position to use iStander.

In order to set the device to a sitting position, you need to be assisted by a person without disabilities. Such a person must perform the following:

- lock the wheels [13] of the device
- enter inside the device
- close the back of the corset [4] -
- unlock the holders [1] by pulling upward (as shown in Figure) -
- pull the level with his/her hands [3] and set the device in a standing position
- lock the holders [1] by pressing the red latch [2] (as shown in Figure 3)
- open the back of the corset [4]
- exit the device \_

## **NOTE**

The above procedure describes the only acceptable way to set the device from a standing to a sitting position.



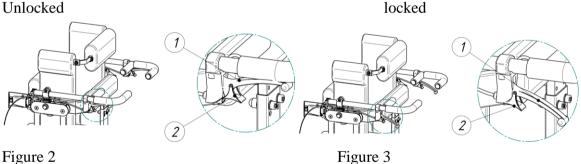


Figure 2

SAFETY NOTE! It is important to lock the holder

(1) of the brake when leaving the device in a sitting position without load.

### <u>NOTE:</u>

The device manufacturer cannot guarantee that all users will be able to use it in the same way, i.e. they will be able to stand up independently

to the device directly from the wheelchair, and back to the wheelchair.

Mastering all these activities requires training and willingness to overcome one's own weaknesses. For some users, full using the device will only be possible with assistance of a person without disabilities.

#### **5. INTENDED USE**

#### 5.1. CHANGING FROM A SITTING TO VERTICAL POSITION

1. Lock the wheels of the device [13]

2. Open the back of the corset [4]

3. Move a wheelchair to the back of the device; enter the wheelchair wheels between the back skids [6] so that the seat [5] rests on the seat of the wheelchair from the top. In special cases, the seat cannot be rested by the seat of the wheelchair: then GymUp must be lowered to the maximum [14] so that the seat is as low as possible.

4. Lock the wheels of the wheelchair.

5. Move forward to the edge of the wheelchair seat.

6. Lay your feet on the platform [8] and fasten the safety belts if you need them [10] (you need assistance of another person).

7. Tilt the torso against the front part of the corset, place your hands on the front holders [7] and slide into the iStander seat [5].

8. Slide your knees into the knee supports [9] and fasten the safety belts [11] (you need assistance of another person).

9. When sitting on the iStander seat [5], unlock the wheelchair brake and slide it so that it is not in the way of closing the corset [4].

10. Close the back of the corset [4] and secure with the closing mechanism.

11. Fasten the belt on your back [12].

12. Unlock the holders [1] of GymUp system [14] (as shown in Figure).

13. Grab both levers [3] of the handle that you consider the most convenient.

14. Pull the handles towards you in such a way that the device lifts.

15. After reaching an upright position, lock the holders [1] of GymUp system [14] (as shown in Figure 3).

**NOTE!** You may need assistance of another person to perform some of the activities described above, in particular to fasten the safety belts.

The safety belts set for lower limbs is included with every product, and their use depends on the individual needs of the user. Consult your doctor or physiotherapist.

#### 5.2. RETURN TO A SITTING POSITION

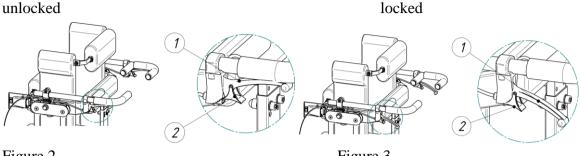


Figure 2

Figure 3

- 1. Unlock the holders [1] of GymUp system [14] (as shown in Figure 2).
- 2. Grab the lever handles with your hands [3].
- 3. Push from the handles [3] in such a way that the device lowers.
- 4. Lower the seat [5] so that it rests on the seat of the wheelchair.
- 5. After reaching an upright position, lock the holders [1] of GymUp system [14] (as shown in Figure 3).
- 6. Open the back of the corset [4] and unfasten the seat belt on the back [12].
- 7. Unfasten the knee seat belts [10] (you will need assistance of another person).
- 8. Move your feet from the platform [8] to be between the platform and the wheelchair.
- 9. Using your hands, slide from the iStander seat [5] to the seat of the wheelchair.

Note! The wheelchair brakes must be locked!

#### 5.3. Exercises of movements of ankle, knees and hips joints.

Exercises of movements of joints is a very important element of rehabilitation performed in both home and hospital conditions. The lack of regular exercise can result in contractures that can usually be removed only through surgery.

For the exercise of joints in iStander, we use the GymUp lifting mechanism, which allows to change a position from sitting to standing, and thus the work of knee joints in the range of 90°-180°, and ankle joints of 0°-10°. This range of movement is sufficient to maintain full joint mobility. An exercising person can, depending on the individual's ability, perform alternatively sitting and standing up exercises both in full or partial range.

#### 5.4 Extension of contractures in knee joints.

Exercises to reduce or completely eliminate contractures in knee and hip joints are performed similarly to joint mobility exercises.

In the initial period, we lift to the height that contractor allows, and for we lock the lifting mechanism for a few seconds. After a few seconds, we release the locks and return to a sitting position, then we lift again and lock the springs. Repeat the whole cycle several times. Later, we can apply dynamic stretching, i.e. lift to a height at which contracture allows, and perform several moves up and down, try to stretch contract a bit, then return to a sitting position, move at the full range of joint movement, and again perform several stretching movements. Repeat the cycle several times.

### **NOTE:**

Stretching contractures at an early stage should always be performed under the supervision of an experienced physiotherapist or physician.

#### 5.5. Verticalization of patients with high spasticity with an assistance of a carer

iStander allows form verticalization of people with high spasticity with an assistance of a carer. This is performed in several stages.

Lift a patient so high until you feel resistance, then stop the device, lock the springs and allow a patient to relax; you can perform muscle relaxation exercises, then release the springs, and try to lift a patient a little higher, and then lock the springs again.

Repeat these activities until a patient is set in a full standing position.

# **NOTE:**

For users with high spasticity, iStander should be used with an assistance of another person.

#### 6. USING THE MULTIMEDIA PROGRAMME

The multimedia programme for iStander is available in two variants:

- 1. Imitating movement from the screen (without detecting the correctness of the movements)
- 2. Performing visual or voice commands with movement detection (the type of a detector depends on the characteristics of the multimedia programme)

### Note!

- 1. Starting exercises with the device using the programme depends on the type of the multimedia programme.
- 2. We recommend to operate the programme with the remote control proper for the software device. Remember that the device you are operating is within the reach of your hands while standing in the device.

## 7. A SAFETY NOTES

- This device is intended for a house use only on a flat, level surface.
- Standing up from a wheelchair with the unlocked brake or a wheelchair that can slide backwards is a risk to the user, and can result in an accident that could result in bruising or injury.
- It is not allowed to smoke, drink alcohol, take narcotic drugs and psychotropic medicaments when using the device.
- Read the content of the manual carefully before any attempts to use the device.
- Before using the device, make sure all screws and fasteners are properly tightened. Failure to tighten screws, adjusting bolts can cause damage to the device and/or thereat the user.
- Contraindications for iStander: severe mental retardation, all conditions precluding vertical alignment or axial limb limitation, limited or impossible to move within upper body parts.
- In the event of a fault or notice of a malfunction, immediately discontinue using and contact the manufacturer. Do not attempt to repair the device yourself without consulting the manufacturer's service.

#### 8. STORAGE, CLEANING AND MAINTENANCE.

iStander is a mechanical device with a bearing structure made of steel coated with powder lacquer, aluminium coated with powder lacquer and stainless steel. Metal parts that come in direct contact with the user's body are covered with soft upholstery made of SANMED special medical cloth and modified foam. **Storage:** The device should be stored in a dry, ventilated room. It cannot be exposed to water, moisture or dust. When wet, the device must be completely dried quickly. **Cleaning and maintenance**: Lacquer coatings and stainless steel should be cleaned with a soft cloth dampened with one of the household cleaning products. Upholstery covers can be cleaned with generally available disinfectants. Clean lining of the platform with a damp cloth in a way similar to shoe cleaning.



- 1. Do not use aggressive disinfectants on lacquer coatings and upholstery covers.
- 2. Do not use water-steam sterilization.

# 9. CONTACT INFORMATION OF A SERVICE CENTRE OF THE MANUFACTURER

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