

AXELERO

GAIT & BALANCE



A device for training gait pattern disturbances and balance

This leaflet contains information on a medical device that should be operated by qualified medical personnel and used in accordance with the user manual or label.

Axelero Gait & Balance is the most advanced device of all the Axelero products from Meden - Inmed. Our design experience has enabled us to create a product that is used not only for motor rehabilitation or training with the use of biofeedback, but also for the objective registration of spatial and temporal parameters of the patient's gait and running.



CHARACTERISTICS

The Axelero Gait & Balance device, designed for the training of gait and balance disorders, is intended for patients suffering from neurological disorders and motor system disorders of the lower limbs. The device can be used to determine the gait parameters, to support the rehabilitation of patients with imbalance, to alleviate the symptoms of various diseases and consequences of injuries.

INDICATIONS FOR USE

The Axelero Gait & Balance device is designed to train patients with balance and gait disorders due to neurological, orthopaedic problems, muscle injury or cardiovascular disease. These include stroke, cerebral disorders, spinal cord injury, Parkinson's disease, cerebral palsy.



DESIGN ADVANTAGES

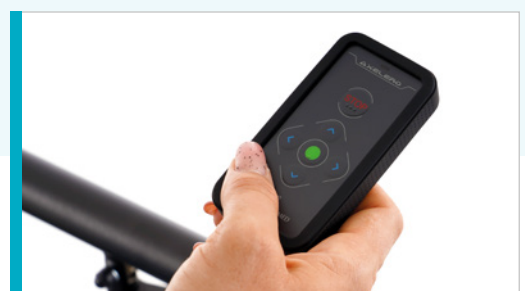
Axelero Gait & Balance is used for training gait symmetry, improving balance and general motor skills of the patient. The device has a speed regulation of the belt, a scale on the handrails, as well as a posturographic plate that is installed under the belt of the device. Thanks to its functional characteristics, the product stands out among others on the market. The built-in posturographic plate, which locates the CoP (Centre of Pressure) and allows us to detect the presence of the patient on the device, is one of the most important features and advantages of the product.

The presence of integrated handrails, adjustable in both height and width to increase patient comfort and safety, is another equally important feature that distinguishes Axelero Gait & Balance. The range of adjustment is wide enough to allow patients of different heights to train on the device.

The product has been designed to improve the efficiency of the training as well as the level of engagement of the patient through the biofeedback function. The patient can observe gait parameters in real time on the large 43" screen with available adjustment options. These include stride length symmetry, weight distribution symmetry, and CoP movement.



The Axelero Gait & Balance device has been designed for intuitive use, allowing the patient to control the speed and screen content. Meden - Inmed has prepared a special remote control. It allows easy navigation through the software menu, starting and stopping (with a special emergency STOP button).



INDEPENDENT SAFETY MECHANISMS



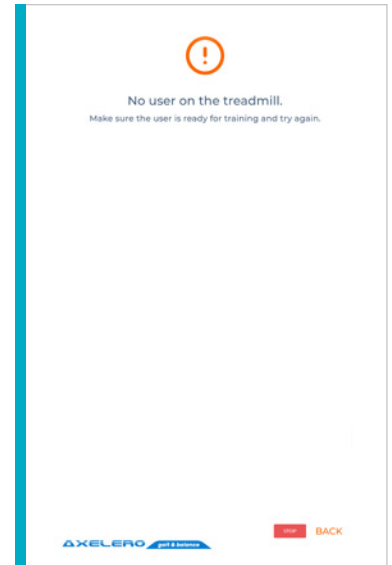
security key



remote control



emergency stop button

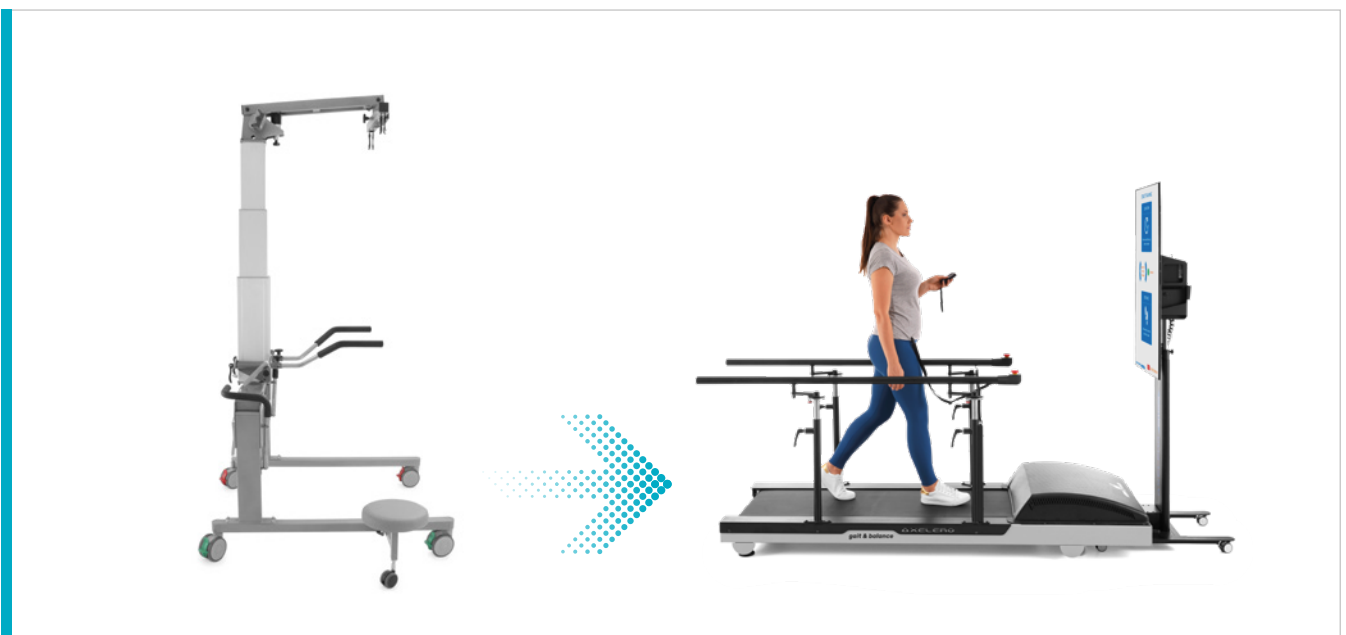


no user on the device

This makes the training session not only effective but also very safe, even for the patients with severe gait disorders.

INTEGRATION WITH ELEVEO

For more than 30 years, Meden - Inmed has focused on designing not only unique products, but also solutions that allow integration with other rehabilitation systems available on the market. The design of the Axelero Gait & Balance device makes it possible to integrate dynamic partial weight bearing gait therapy into the patient's training. It's simple and easy - you just need to place the Eleveo device on top of the Axelero Gait & Balance. The combination of the two devices not only provides the highest safety standards, but also allows the patient to be relieved of weight (up to 160 kg), which helps with training.



SOFTWARE

PATIENTS' DATABASE

The Axelero Gait & Balance is an intuitively operated device with the possibility of aggregating training data for the therapist. In order to achieve this, the device is equipped with a wireless tablet that makes it possible to create accounts for the patients and to record the parameters they have achieved in its memory. Thanks to this solution, the therapist can go back at any time to any training session that has taken place in the past and compare it with the current results. The therapist can also start and stop the patient's training from a distance using the tablet. He can also monitor the results in real time.

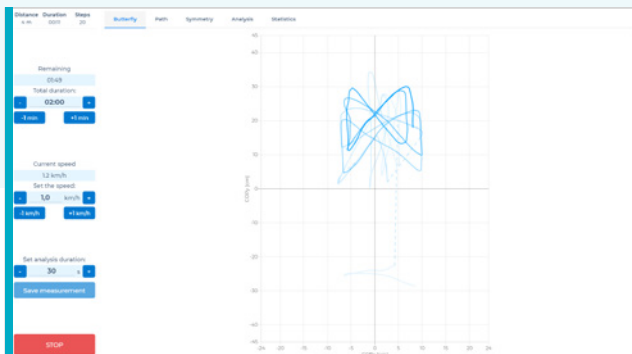


BIOFEEDBACK FUNCTION

The biofeedback function allows real-time feedback of changes in gait pattern parameters. The main and measured parameters consist mainly of:

"BUTTERFLY"

Displays changes in CoP over time. The intensity of the blue colour on the graph indicates the time when the measurements were taken. The less intense the colour, the older the record. The intersection of two thick grey lines on the graph indicates the centre of the device.



"butterfly"

BAR CHARTS (DATA ANALYSIS)

The basic way of displaying data on the device is through bar graphs. These provide a simple and graphical representation of gait symmetry (spatial and temporal parameters). Both patients and therapists can react and make changes to gait patterns thanks to simple and clear bars that change in real time.



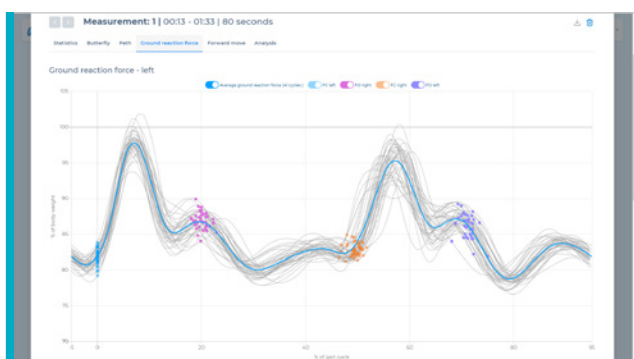
data analysis

DIAGRAMS

(STRENGTH, AMPLITUDE, CoP, BELT SPEED)

Diagrams and parameter tables are available to summarise training progress and help analyse current and historical data for:

- CoP on the x and y axes,
- pressure applied to the belt,
- belt speed,
- gait stance phase.



diagrams

SYMMETRY ANALYSIS

The gait symmetry analysis function is available for easier interpretation of the results obtained. An easy-to-interpret table makes it possible to put together the results obtained for the left and right lower limbs, considering the stride length parameters:

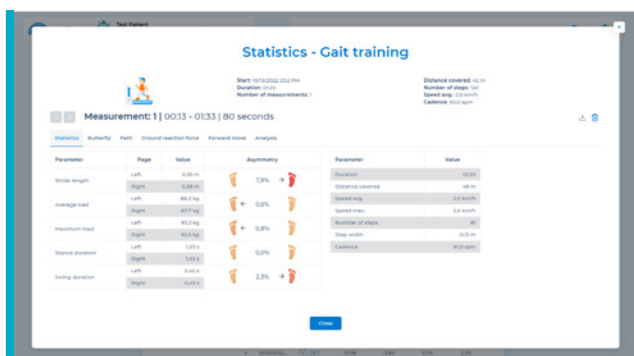
- average weight load,
- maximum weight load,
- stance phase time,
- swing phase time.



symmetry analysis

SPATIAL AND TEMPORAL PARAMETER

In addition to the percentage data, the therapist also has access to time, distance, and weight data. This is collected for both left and right lower limb. Information on cadence, speed, number of steps and distance travelled is also collected.



spatial and temporal parameters

TESTS

To optimise the objective assessment of the patient, the device allows us to perform a 6-minute walk test (6MWT). In the same way, the software of the Axelero Gait & Balance device allows us to carry out static tests:

- Limits of Stability (LoS) test,
- Romberg's test (30 seconds eyes closed, eyes open test).

TECHNICAL SPECIFICATIONS

Dimensions (L x W x H) [cm]:	256 x 78 x 195
Maximum acceptable weight load [kg]	160
Handrail width [cm]:	43 - 69
Handrail height [cm]:	66 - 94,5
Display size ["]:	43
Belt dimensions [cm]:	140 x 52
Utility area dimensions [cm]:	99 x 50
Belt speed regulation range [km/h]:	0,2 - 10
Device weight [kg]:	200
Application part (running belt, handrails):	type B



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