

AXELERO

GAIT & BALANCE



Rehabilitation treadmill for training
of the gait and balance disorders

AXELERO Gait & Balance is the most advanced treadmill from all AXELERO products of Meden - Inmed. Design experience allowed us to create a product 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 gait and run of the patient.



CHARACTERISTICS

Device AXELERO Gait & Balance, designed for training of the gait and balance disorders, is dedicated for patients suffering from neurological disorders, as well as lower limbs motor system disfunction. The treadmill can be used for calculation of the gait parameters, support of rehabilitation in patients with imbalance, relieving symptoms of various illnesses and results of injury or physical disability.

INDICATIONS FOR USE

AXELERO Gait & Balance treadmill is dedicated for training patients with balance and gait disorders due to neurological and orthopedic problems, muscle injuries or diseases of the cardiovascular system. Those include: stroke, cerebral disorders, spinal cord injuries, Parkinson's disease, cerebral palsy.



DESIGN ADVANTAGES

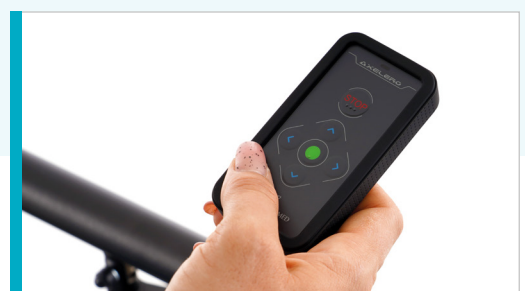
AXELERO Gait & Balance is used for training of the gait symmetry, improvement of balance and general motor skills of the patient. The device has a belt's speed regulation, as well as a posturographic plate installed beneath the treadmill's belt. Thanks to its functional properties, the product stands out amongst others on the market. One of the most important characteristics and advantages of the product is the build-in posturographic plate, which locates CoP (Center of Pressure) and allows us to detect presence of the patient on the device.

Another equally important feature that makes AXELERO Gait & Balance stand out, is the presence of the integrated handrails, adjustable both in height and width, to increase the comfort and safety of the patient. The range of the adjustment is big enough to allow both child and adult patients to train on the device.

The product was made in order to improve the efficiency of therapy, as well as the level of patient's engagement through biofeedback function. Big 43" screen with available regulation options, allows the patient to observe gait parameters in real - time. Those include: stride length symmetry, weight distribution symmetry and movement of the CoP.



AXELERO Gait & Balance treadmill was made for intuitive use in order to let the patient control the speed and screen contents. Meden - Inmed has prepared a designated remote, that allows an easy navigation of the software's menu, starting up and stopping (with special emergency STOP button).



INDEPENDENT SAFETY MECHANISMS



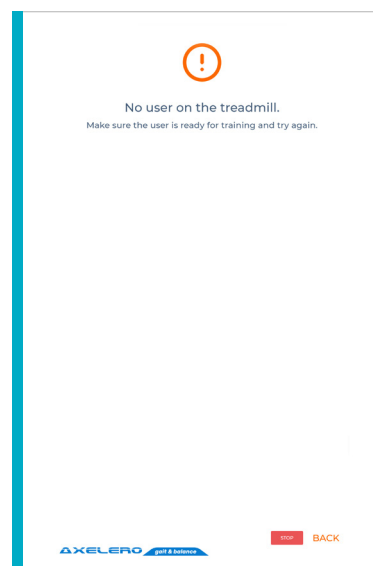
security key



remote control



emergency stop button

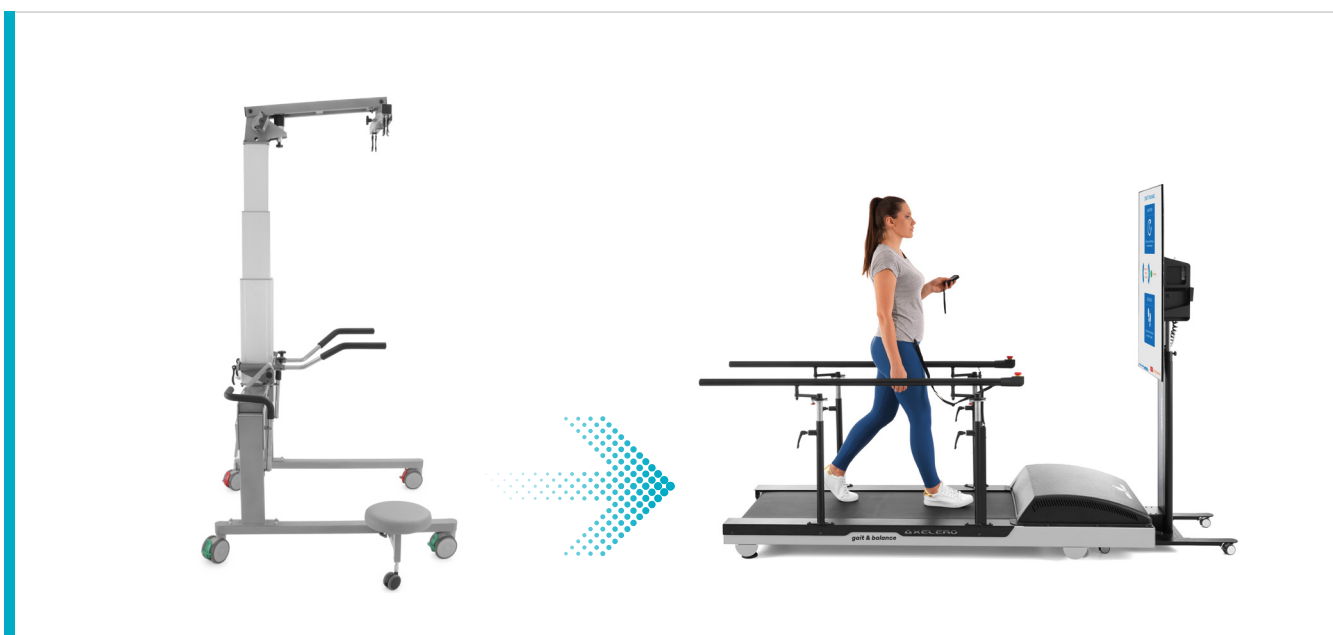


no user on the treadmill

Thanks to that, the training session is not only effective, but also very safe, even for patients with serious gait disfunction.

INTEGRATION WITH ELEVEO

For more than 30 years, Meden - Inmed has been emphasizing on designing not only unique products, but also solutions that allow integration with other rehabilitation systems available on the market. The construction of the treadmill AXELERO Gait & Balance allows it to incorporate systems for dynamic unloading into the patient's training. It's easy and simple - you only need to put system ELEVEO above the treadmill. Putting both devices together not only provides the highest safety standards, but also allows the possibility to relieve (even up to 160 kg) the patient of weight which helps with doing the training.



SOFTWARE

PATIENTS' DATABASE

AXELERO Gait & Balance treadmill is a device controlled intuitively with the possibility of aggregation of training data for therapist. To achieve that, the device is equipped in a wireless tablet, which allows to create patients' accounts and record their achieved parameters in its memory. Thanks to this solution, the therapist can return to any training session that took place in the past and compare it with the present results, at any given time. In addition, thanks to the use of the tablet, therapist can remotely launch or stop the patient's exercise, as well as observe the results in real-time.

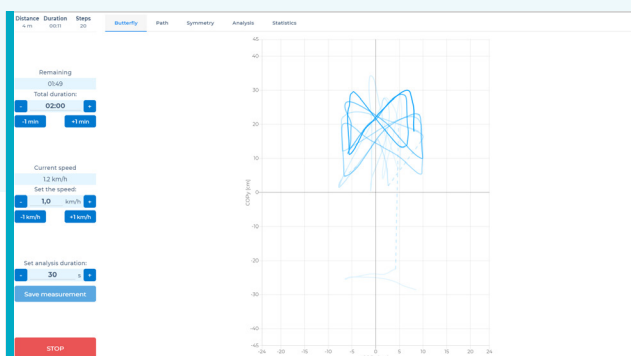


BIOFEEDBACK FUNCTION

Biological feedback function allows a real - time feedback of the gait pattern parameters changes. Main and measured parameters consist mostly of:

„BUTTERFLY”

Shows changes in CoP through time. The intensity of the blue color on the chart informs about time in which the measurements were taken. The less intense the color, the older the record. The crosscut of two thick grey lines on the chart designates the middle of the treadmill.



„butterfly”

BAR CHARTS (DATA ANALYSIS)

The basic way of displaying data on the device are bar charts, displayed as simple and graphic presentation of gait symmetry (spatial and temporal parameters). Thanks to simple and clear bars that change in real-time, both patients and therapists can react and make changes in gait patterns.



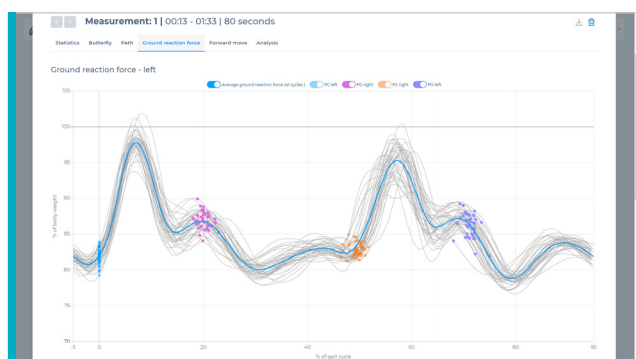
data analysis

DIAGRAMS

(STRENGTH, AMPLITUDE, CoP, TREADMILL'S BELT'S SPEED)

Available diagrams and tables with parameters sum up the course of training and help to analyze present and past data for:

- CoP in x and y axis,
- pressure on the treadmill's belt,
- speed of the treadmill's belt,
- gait stance phase.



diagrams

SYMMETRY ANALYSIS

Function of analysis of the gait symmetry is available for easier interpretation of achieved results. Easy for interpretation table allows to set together results achieved for left and right lower limb, while taking stride length parameters into account:

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



symmetry analysis

SPATIAL AND TEMPORAL PARAMETERS

Aside from the data available as percentage values, therapist has also access to data with time, distance or weight values. This data is collected for both left and right lower limb. In addition, the information about cadence, speed, number of steps taken and distance traveled is accumulated.

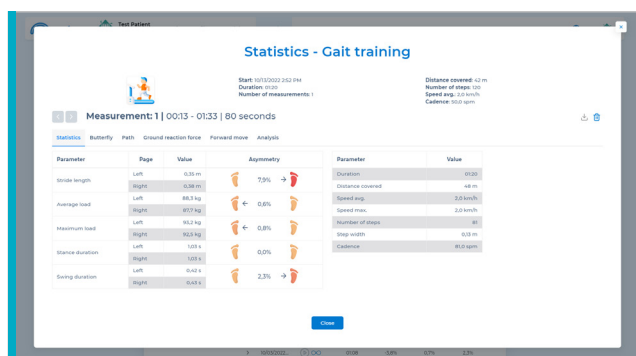


table of spatial and temporal parameters

TESTS

In order to optimize an objective evaluation of the patient, the treadmill allows us to execute a 6-minutes walking test (6MWT). Likewise, the software of the treadmill AXELERO Gait & Balance let's us make static tests:

- limits of stability test (LoS),
- Romberg's test (30 seconds eyes closed / open test).

TECHNICAL INFORMATION

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's dimensions [cm]:	140 x 52
Utility area dimensions [cm]:	99 x 50
Belt's speed regulation range [km/h]:	0,2 - 10
Weight of the device [kg]:	200
Class of the device:	I, typ B



Goal

0,5 min

00:00

min

Butterfly

Distance

2 m

Duration

00:10

Steps

100

Speed

0,8 km/h

Remote control operation



SWITCH VIEW

STOP

KELERO gait & balance



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