

EXOATLET

IT **ALL**
BEGINS
WITH THE
FIRST
STEP

ExoAtlet II

is intended for use as a **gait training and rehabilitation device** to improve walking function and independence in patients with a **neurological or muscular injury, illness, or weakness.**



2020



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for further information.

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EXOATLET II

Provides supported gait training that enhances the process of rehabilitation and improves quality of life for patients with locomotive impairments of the lower limbs.



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Pilot's weight should not exceed **100 kg**.



Pilot's height from **160 to 190 cm**.



KEY FEATURES

1. ExoGait Assistance Control

Adaptive movement support depending on the patient's abilities;

2. ExoCloud: Real-time and Progress Reporting

Full analytics and training reporting;

3. Self-ExoWalking Mode

Movement can be initiated by the patient's efforts;

4. Integrated Module FES (Functional Electrical Stimulation)

Pending certification;

5. Stairs Walking

Walking on stairs and other uneven surfaces;

6. Easy adjustment

No more than 10 min adjustment for every patient.

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INDICATIONS FOR USE

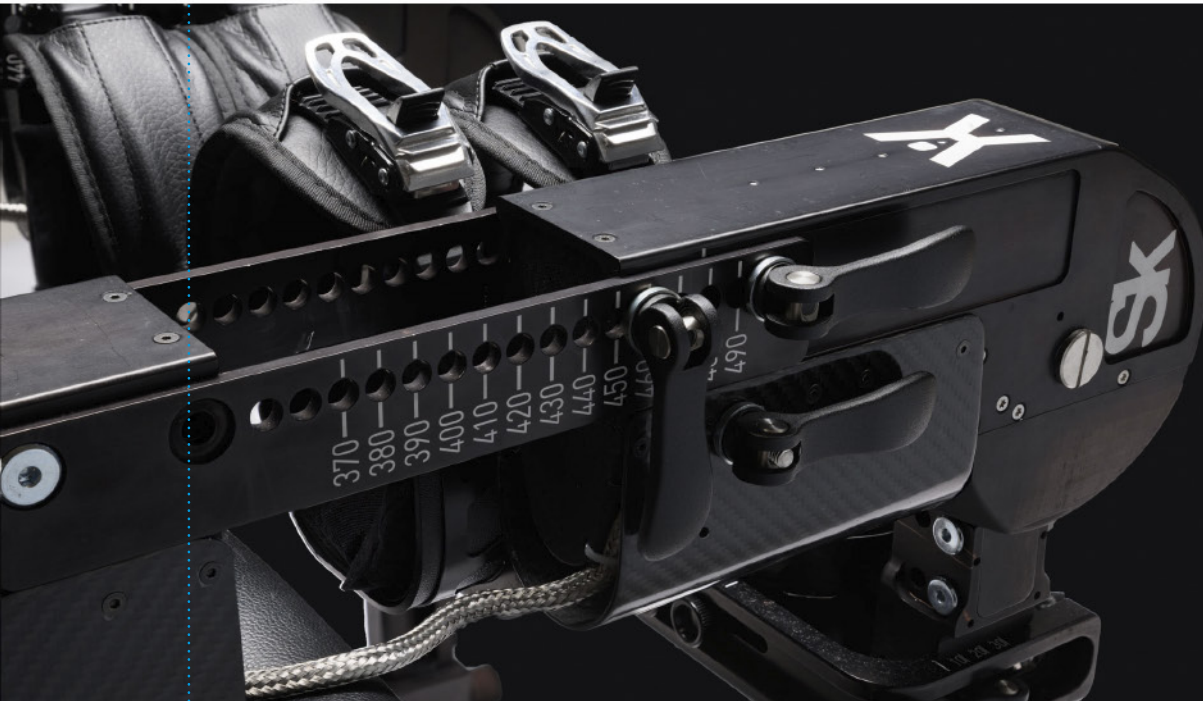
Patients with an Spinal cord injury, Multiple sclerosis, Cerebral palsy, the effects of a Stroke, and those recovering from Arthroplasty.



USABILITY AND SAFETY FEATURES

- Natural gait pattern: accurate adjustment for every patient;
- Ergonomic handles on the back for physical therapists with the control button;
- Emergency shutdown & Spasticity Protection Unit;
- Back support for patients with high degrees of injury;
- Ergonomic materials that are easy to clean;
- One battery charge for a full day's training;
- Adjustment without specific tools.

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A large number of anthropometric settings (13 positions), including **adduction and abduction of the thigh and inversion and eversion of the foot** - the exoskeleton geometry is restored as correctly as possible so the load on the joints is as physiological as possible.



MEANS OF CONTROL

ExoAtlet II has advanced wide possibilities of control and design, which allow **conducting the trainings by just one medical specialist.**

TABLET

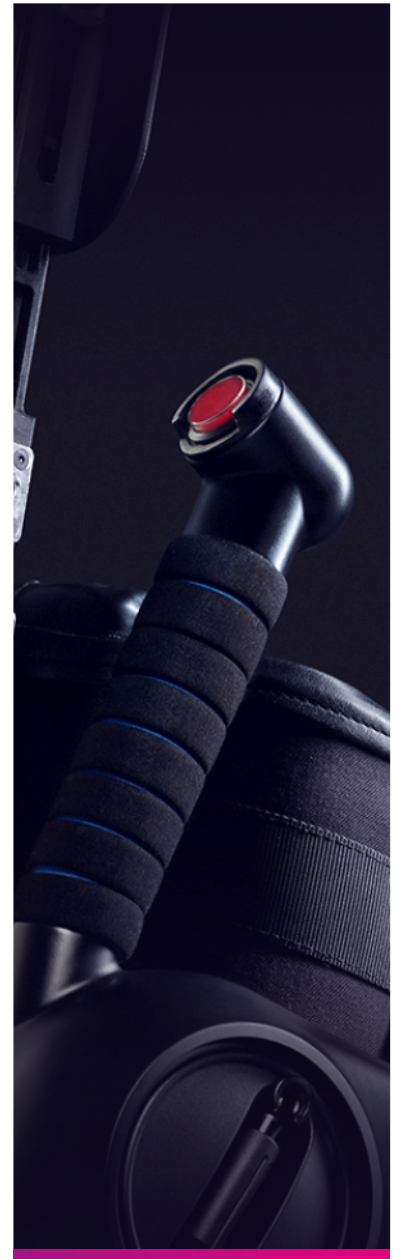
With attachment to the back of the exoskeleton.

EXOCRUTCH

The crutch with a remote control for patients.

ERGONOMIC HANDLES

With an emergency stop button.





EXOCLOUD:

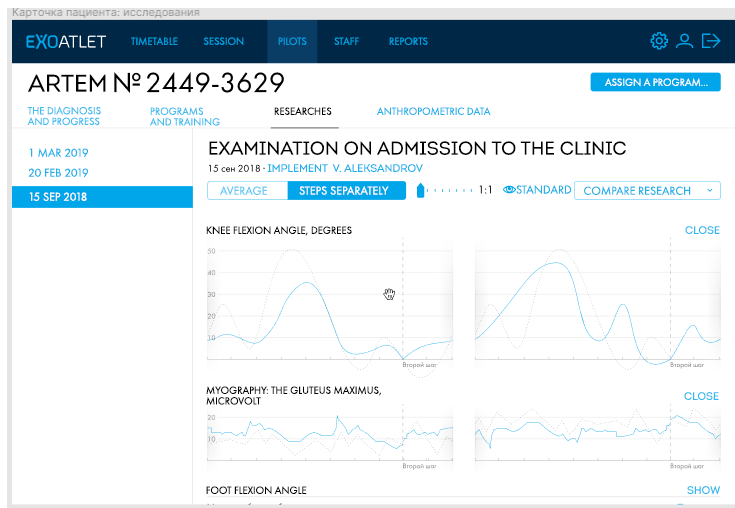
Real-time and Progress Reporting

Convenient way of controlling the training sessions.



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ExoCloud is a platform that provides doctors with stored data on training sessions and gives them an opportunity to analyze the data and tailor the ExoRehabilitation sessions more efficiently to the patient's needs.



EXOPROGRESS REPORTING

Full analytics of different kinds of training sessions and training reporting.

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CLINICAL TRIALS

SPINAL CORD INJURY

481 patients 16 clinics

SINCE 2015

MULTIPLE SCLEROSIS

72 patients 1 clinic

SINCE 2016

CEREBRAL PALSY

46 patients 3 clinics

SINCE 2018

STROKE

29 patients 3 clinics

SINCE 2017

ARTHROPLASTY

20 patients 1 clinic

SINCE 2019

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EXPERTS' TESTIMONIALS



MIKHAIL LEBEDEV

Ph.D., Senior Research
Scientist at Duke University,
the USA.

"ExoAtlet is the best solution not only for the practical tasks involved in my patients' rehabilitation but also for research on the motor control of posture and locomotion – the fundamental studies that eventually lead to new clinical applications. With the aid of a brain-machine interface, human participants can simply give commands to the exoskeleton by thinking about it. We have also been investigating how such a brain-to-exoskeleton link could contribute to functional restoration and rehabilitation of patients suffering from lower-limb paralysis".



MIGUEL PAIS-VIEIRA

Professor, PhD.,
Doctor at Católica
University, Portugal.

"ExoAtlet exoskeleton allowed me to test my scientific hypothesis, answer the questions that would otherwise have remained unanswered, and ask new questions. With its help, I compared patterns of neural activity occurring in the human brain in healthy people and those with pathological conditions. For example, the use of the exoskeleton during brain-machine interface control tests revealed fundamentally different dynamics of neural activity occurring in different patterns of locomotion".



SERGEI KOTOV

Professor, Advanced Doctor
of Medical Sciences, Russia.

"We have tried to rehabilitate our patients by using an advanced rehabilitation method – an exoskeleton. Both patients with severe conditions who were unable to walk independently and patients with mild disorders showed very good results. Together, we managed to start the restoration of their locomotor function. Notably, their EDSS index reduced after training and, most importantly, stayed the same three months after therapy".



ELENA SHAPKOVA

Ph.D., Leading Researcher
at the Laboratory of Clinical
Neurophysiology
and Neurorehabilitation
Technologies, Russia.

"Our patients completed three rehabilitation programs and the outcomes are impressive – they improved their walking skills and their emotional condition. There was also a tremendous increase in muscle strength in fully paralyzed patients".



SU HONG CHOI

Doctor at Pusan National
University Yangsan Hospital
South Korea

"Our team uses ExoAtlet I to train as close to human walking patterns as possible. The exoskeleton walking program utilizes suspension stress to perform front-to-back, right-to-back, and body-controlled rotational movements, and based on this, it was trained to walk 100m from place to place. The impact of exoskeleton on the patient is verified through three assessments, starting point, 4 weeks post-intervention, and finally 8 weeks".



FES MODULE (PENDING CERTIFICATION)

12-channel electrical stimulation while walking for the patient's muscles and spinal cord to activate the locomotor neurons.

STIMULATION IS SYNCHRONIZED WITH EACH PHASE OF THE STEP.

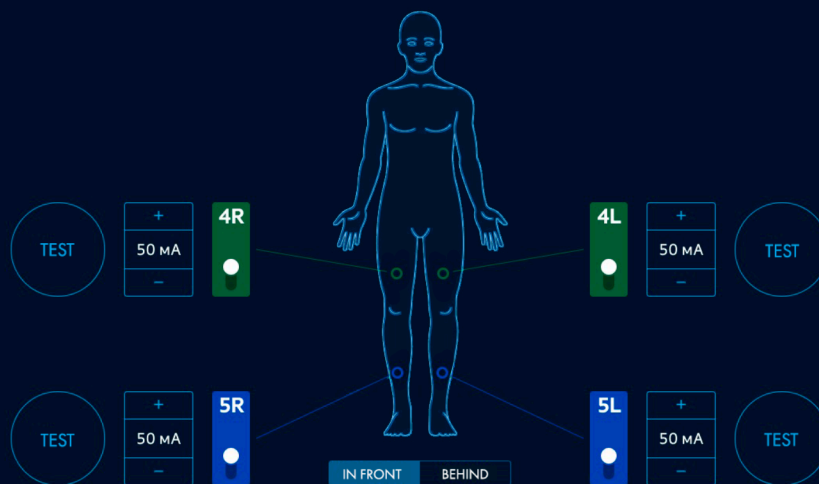
- 8 channels for the dorsal leg muscles;
- 4 channels for the front leg muscles;
- 2 of the channels can be used for spinal cord stimulation.

Current stage: **Clinical trials**

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STIMULATION

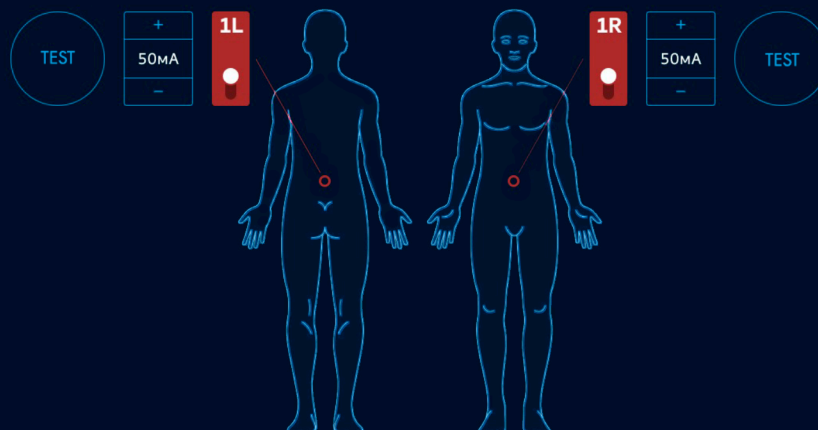
MUSCLES SPINAL CORD



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STIMULATION

MUSCLES SPINAL CORD





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We are an international company that develops and produces recovery devices - wearable exoskeletons for children and adults, and assistive robotic tools for industry workers and elderly people.

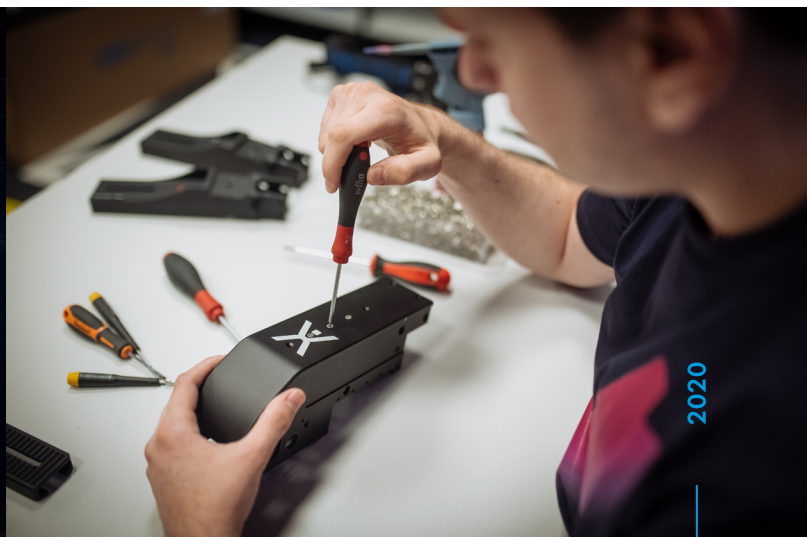
We are the architects of the technology-driven ecosystem for ExoRehabilitation. We collaborate with research centers in Europe on our mutual mission to advance ExoTechnology.

Since 2015, ExoAtlet exoskeletons have been set up in more than 70 clinics and around 6000 patients have gone through rehabilitation with them.

Manufacturing: **South Korea**

Manufacturing certified: **ISO 13485:2016**

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Q&A SESSION

1. HOW DOES AN EXOSKELETON WORK?

Powered lower limb exoskeletons have drives located in the hip and knee joints. These drives power up at certain intervals determined by the control system and move the user's legs in a way which is similar to how the patient should walk when healthy. This is called a natural gait pattern. The step is either initiated by the patient himself or by a pre-designed program, which has been developed in collaboration with the medical staff and is tailored to the specific nature of each individual patient.

2. WHERE IS EA II EXOSKELETON USED?

The intended area of use of the ExoAtlet is rehabilitation in clinics and rehabilitation centers under the supervision of trained support staff for safety reasons. ExoAtlet strongly encourages research programs using our equipment. The team is always ready to discuss all available options for universities and research institutions.

3. CAN EA II BE USED FOR A PERSONAL USAGE?

ExoAtlet exoskeleton is a medical device that can't be used without the supervision of medical specialists.

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4. IS REHABILITATION WITH YOUR DEVICE COVERED BY THE INSURANCE?

We are planning to apply for a Tool Aid Number for Europe. ExoAtlet is willing to use every option to facilitate access to the technology.

5. HOW IS THE MAINTENANCE OF EA EXOSKELETONS WORKS?

Maintenance is offered by an ExoAtlet team of highly qualified engineers located in the EU. The maintenance interval is carefully selected to ensure smooth operation of the device between servicing. In the unlikely event that attention or repairs are required between the maintenance intervals, the team is available for consultations or to make arrangements during normal working hours.

6. WHAT IS YOUR WARRANTY POLICY?

Our standard warranty period is 2 years. A replacement exoskeleton will be offered if it is not fixed within 72 hours.

7. WHY DO YOU CALL YOUR PATIENTS "PILOTS"?

Our patients are pioneers in using innovative robotic technology and they are proud to be the ones who are proving the efficiency of the use of our exoskeletons in exorehabilitation. They are discovering varied horizons leading to a new quality of life.

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