



Evaluation
of balance
and posture

Active therapy
of lower
extremities

Active therapy
of hand, wrist,
elbow and shoulder

Cognitive
treatment

Virtual reality
software



ACX.Rehab

Helping through technology

ACX.Rehab

Rehabilitation & Diagnostics in Virtual Reality

ACX.Rehab is a concept of modern rehabilitation and diagnostics in Virtual Reality combining proven classical methods with the possibilities of modern technology.



Due to these features, ACX.Rehab devices are particularly useful in neurological, post-traumatic, post-surgical, orthopedic and rheumatological rehabilitation. It is also suitable for pediatric and geriatric rehabilitation. Soon there will be also available special configuration for patient with cardiological and pulmonological diseases.

ACX.Rehab is a concept of virtual reality rehabilitation with the ability to work in all conditions, from small practices to the largest hospitals and spas.

Evidence Based Medicine:

- management of rehabilitation process
- automatic tracking of patient progress
- reliable and objective indicators from many categories
- reports based on performance and received data
- evaluation and research capabilities

Medical devices:

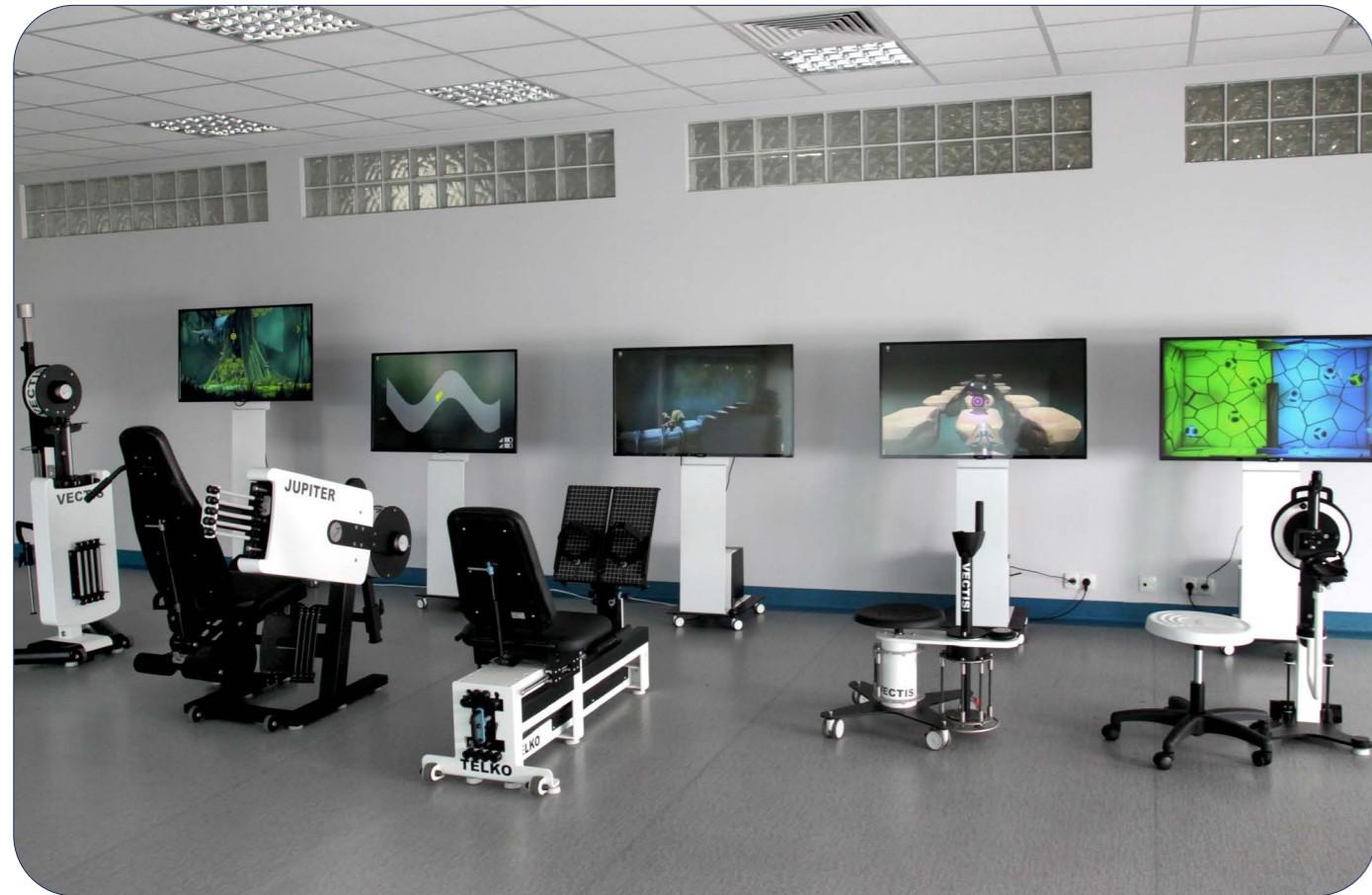
- 3 platforms (stabilometric, dynamographic and balance)
- 5 devices with elastic resistance
- depth camera (kinect) - total body training
- improve posture, sense of balance, muscle coordination, reeducation of proprioception
- increase range of motion, strength and endurance
- highest quality results of rehabilitation
- possibility to work with many patient at one time with high precision and individually planned training

Software that allows to take advantage of Virtual Reality:

- increase the motivation of patients to participate in the rehabilitation process
- integration of all patient records (automatically collected results of tests and rehabilitation exercises)
- therapeutic tasks targeted at: speed, strength, movement precision, functional movements, divided attention, memory, cognitive functions
- daily support for therapist: less time to fill documents, better focus on patient
- combining therapist's knowledge and support of Virtual Reality
- easy to use, intuitive, fully configurable

NEUROMUSCULAR DYSFUNCTIONS THERAPY

Devices with elastic resistance



SAFETY AND EFFICIENCY

- resistance increase proportionally to the applied workload
- exercises at close and open kinematic chain
- safe resistance adjusted to user range of motion
- dynamic and static exercises
- concentric, eccentric, isometric and plyometric training
- all therapy phases: from early to sport training

TO WHOM?

Therapy of various groups:

- neurological patients
- orthopedic disorders
- children
- elderly people
- sportsmen
- strength, coordination dysfunction
- range of motion limitations

WHY?

Diseases:

- musculoskeletal (joint arthritis, extremities and pelvis fractures, injuries, traumas, muscular disproportions)
- postoperative conditions (eg. knee ligaments, shoulder cuff)
- neurological disorders (eg. stroke, cerebrovascular accidents, spinal cord injuries, cerebral palsy, Parkinson disease, cerebellum diseases)

Impaired mental function

Involution:

- nervous system
- musculoskeletal system

EVIDENCE BASED MEDICINE - EVALUATION OF THE PATIENT

BEFORE AND AFTER THERAPY:

- measurement of ROM, balance, accuracy
- evaluation of generated power (Jupiter, Vectis)

Telko
18.166.105

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TELKO is used for the rehabilitation and training of the lower extremities in a closed kinematic chain. In this mode therapy is focused at functional movements, joints stability, coordination, dynamic neuromuscular control. TELKO allows to work multi-joint (hip, knee, ankles) with movement:

- legs flexion / extension

TELKO uses elastic resistance, which the most important advantage is to generate a slight resistance in the initial phase of the movement, increasing evenly in the later stages of the exercise. Device has also integrated two-plate dynamographic platform that extends the training with balance and coordination exercises.

Capabilities:

- measurement of the range of motion
- dynamic and isometric exercises
- measurement of feet loading
- exercises with integrated real-time biofeedback
- therapy of cognitive disorders: divided attention, memory, problem solving
- objectification of the rehabilitation process
- ability to adapt the level of difficulty of exercises to the current needs of the patient
- possibility to work with one or two legs

Benefits:

- increased range of motion through active movements
- increased muscle strength and endurance
- improved stabilization of joints by proprioceptive reeducation
- improved muscle coordination
- balance of limb distribution



JUPITER is designed for efficient rehabilitation of the knee joint. The device works in open kinematic chain which is focused on specific, isolated exercises of agonist and synergistic muscles of lower extremities. JUPITER allows to perform movement:

- knee flexion / extension

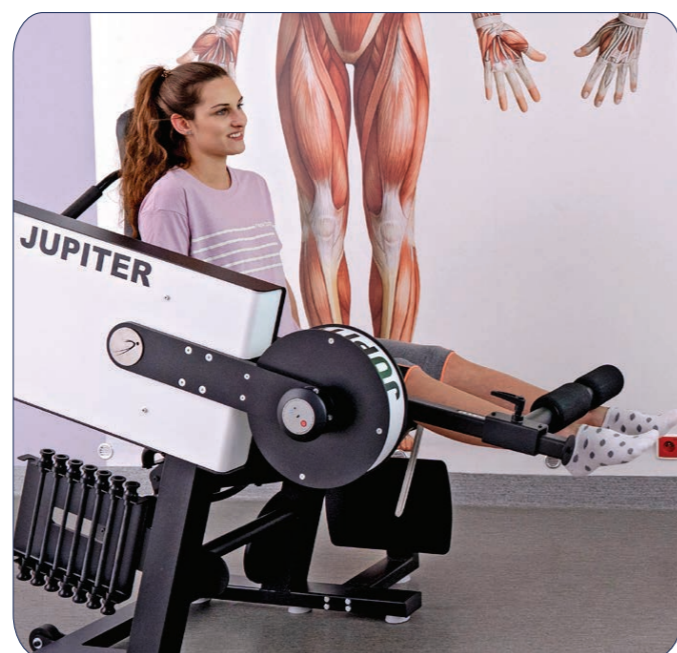
The device is designed to work with elastic resistance elements, which the most important advantage is to generate a slight resistance in the initial phase of the movement, evenly increasing in subsequent phases of the exercise.

Capabilities:

- measurement of the range of motion
- measurement of the generated power
- dynamic exercises and isometric exercises
- exercises with integrated real-time biofeedback
- objectification of the rehabilitation process
- adaptation of the exercise difficulty level to the current needs of the patient

Benefits:

- increased range of motion through active movements
- increased muscle strength and endurance
- improved stabilization of joints by proprioceptive reeducation
- improved muscle coordination



VECTIS MINI is used for therapy of rotator cuff dysfunctions, frozen shoulder, osteoarthritis and tendon or ligament inflammations. Device allows to work with:

- internal / external rotation

The device is designed to work with elastic resistance elements, which the most important advantage is to generate a slight resistance in the initial phase of the movement, increasing evenly in the later stages of the exercise.

Capabilities:

- measurement of the range of motion
- dynamic exercises
- exercise with integrated real time biofeedback
- objectification of the rehabilitation process
- ability to adapt the level of difficulty of exercises to the current needs of the patient

Benefits:

- increased range of motion through active movements
- increased muscle strength and endurance
- improved stabilization of joints by proprioceptive reeducation
- improved muscle coordination.





CUBITO uses elastic resistance in the comprehensive rehabilitation of forearm and wrist. Device allows to perform following movements:

- adduction / abduction
- internal / external rotation
- dorsal / palmar flexion

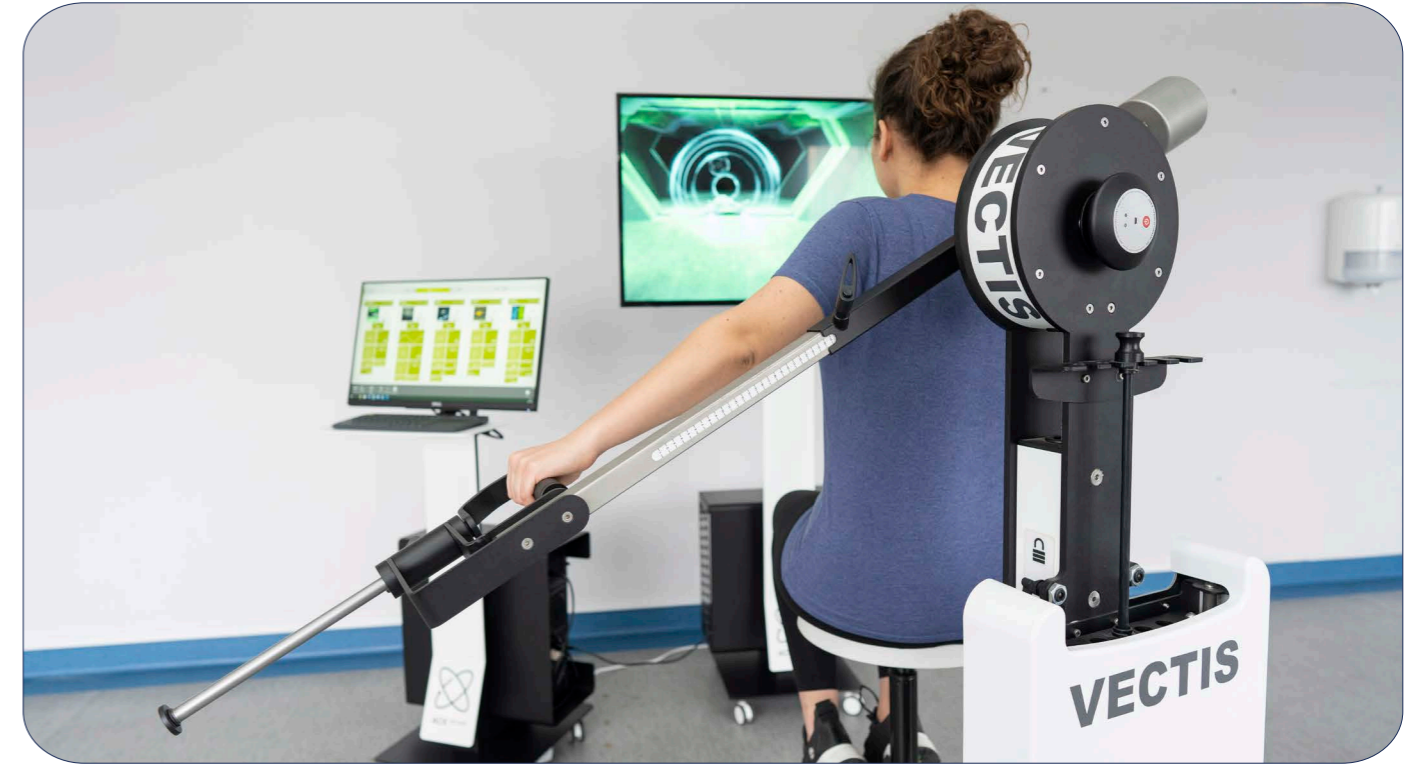
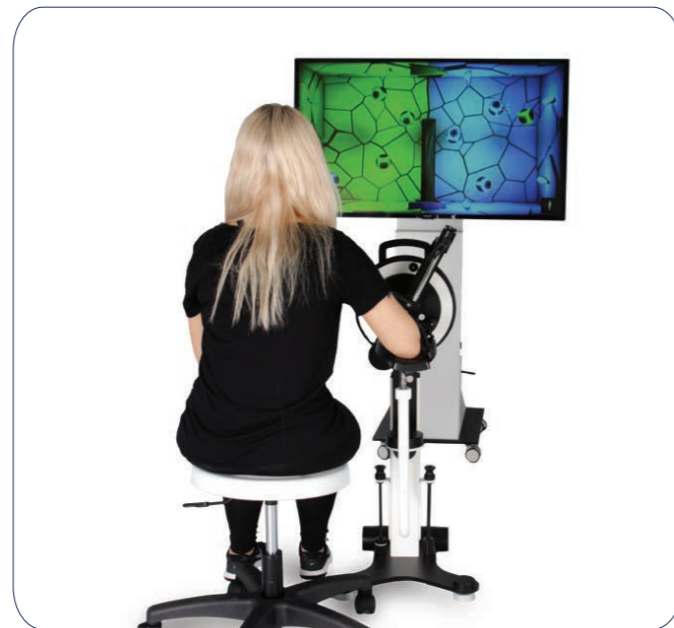
The device is designed to work with elastic resistance elements, which most important advantage is to generate a slight resistance in the initial phase of the movement, evenly increasing in subsequent phases of the exercise.

Capabilities:

- measurement of the range of motion
- dynamic exercises
- exercises with integrated real-time biofeedback
- objectification of the rehabilitation process
- adaptation of the exercise difficulty level to the current needs of the patient

Benefits:

- increased range of motion through active movements
- increased muscle strength and endurance
- improved stabilization of joints by proprioceptive reeducation
- improved muscle coordination



VECTIS is used for therapy of frozen shoulder, osteoarthritis, tendon or ligament inflammations and rotator cuff dysfunctions. Device allows to work with shoulder movement:

- abduction/adduction
- flexion/extension

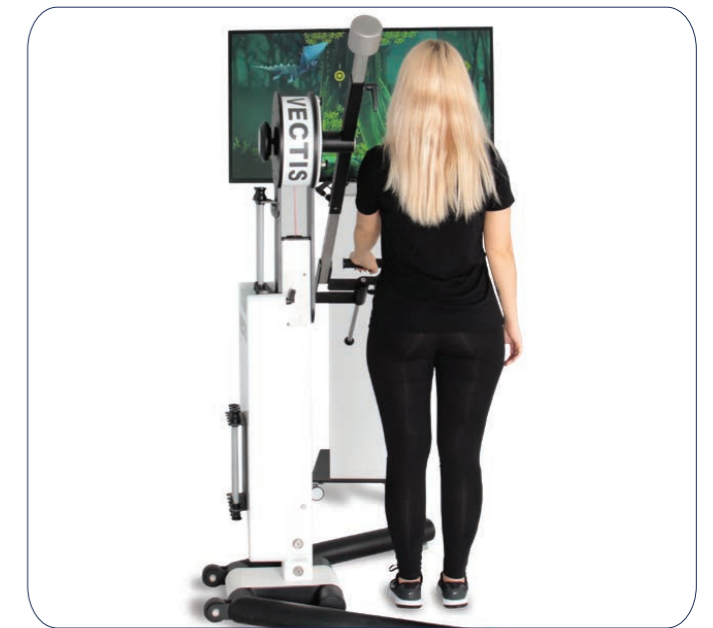
The device is designed to work with elastic resistance elements, which the most important advantage is to generate a slight resistance in the initial phase of the movement, increasing evenly in the later stages of the exercise.

Capabilities:

- measurement of the range of motion
- measurement of the generated power
- dynamic and isometric exercises
- exercise with integrated real time biofeedback
- objectification of the rehabilitation process
- ability to adapt the level of difficulty of exercises to the current needs of the patient

Benefits:

- increased range of motion through active movements
- increased muscle strength and endurance
- improved stabilization of joints by proprioceptive reeducation
- improved muscle coordination





SAFETY AND EFFICIENCY

- reeducation of posture and balance
- all therapy phases: from early to sport training
- exercises at standing or sitting position

EVIDENCE BASED MEDICINE - EVALUATION OF THE PATIENT BEFORE AND AFTER THERAPY:

Static test:

- COP (Center of Pressure) path length
- COP surface area
- speed in the X and Y axis
- length of paths compared at Romberg test

Dynamic test:

- COP (Center of Pressure) path length
- performed path in relation to the minimum path
- time to reach the targets

Load distribution test:

- COP (Center of Pressure) path length
- average limbs load (percentage)
- time of dominating limb load

TO WHOM?

Therapy of various groups:

- neurological patients,
- orthopedic disorders,
- children,
- elderly people,
- sportsmen,
- postural imbalances on various grounds,
- risk of falling,
- cardiological patients.

WHY?

Diseases:

- neurological disorders (eg. stroke, Parkinson disease, epilepsy, cerebellum diseases, peripheral neuropathy)
- musculoskeletal (arthritis, osteoarthritis and spine diseases, lower extremities and pelvis fractures, injuries, traumas)
- postoperative conditions

Impaired mental function

Involution:

- sensory organs (vision, hearing, proprioception)
- the nervous system
- musculoskeletal system

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ALFA is a modern stabilometric platform that allows both: balance assessment and training with neurological and orthopedic patients. This device helps to increase the performance of the patients after brain injuries, stroke, multiple sclerosis, Parkinson's disease and muscle dysfunction. Additionally, it accelerates recovery after lower extremities fractures, sprains and dislocation or endoprosthesis surgery. ALFA also allows treatment of patients after amputations of lower limbs. Training on the platform aims at stimulation of musculoskeletal and nervous systems responsible among others for balance control.

Capabilities:

- Romberg and Unterberger test
- evaluation of static and dynamic parameters involved in maintaining balance on a stable surface
- analysis of the COP during testing and training
- therapy of cognitive disorders: divided attention, memory, problem solving
- templates for testing and training programs and the ability to create your own exercises with integrated real-time biofeedback
- objectification of the rehabilitation process
- adaptation of the exercise difficulty level to the current needs of the patient

Benefits:

- learning of proper posture
- improved joint stabilization through proprioceptive reeducation
- improved muscle coordination
- improved cognitive abilities



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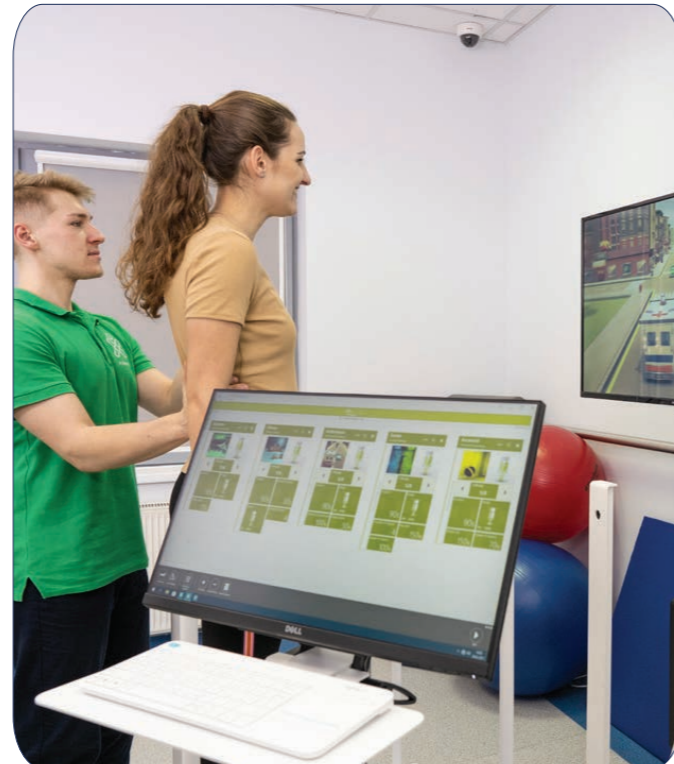
GAMMA is a modern two-plate dynamographic platform that enables both the testing and training of neurological and orthopedic patients. This platform has also advanced data collecting protocols and might be used for researches. GAMMA provides professional training for patients and sportsmen with impaired body balance and coordination. Its additional advantage is the possibility of free setting two plates of platform which enables the training of athletes in the particular, related to their sports discipline position.

Capabilities:

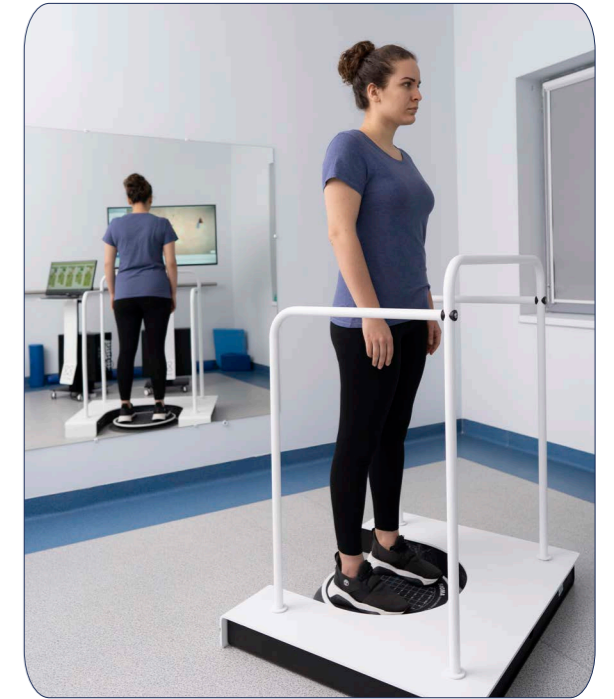
- analysis of loads redistribution in the vertical axis
- dynamic and static load measurement
- assessment of the patients balance
- measurement of the force, velocity and acceleration
- extensive data analysis capabilities
- ready measurement protocols and the ability to create your own exercises with integrated real-time biofeedback
- objectification of the rehabilitation process
- adaptation of the exercise difficulty level to the current needs of the patient

Benefits:

- learning of the proper loading of the limbs
- the opportunity to evaluate ground reaction forces during any movement
- improved stabilization of joints by proprioceptive reeducation
- improved muscle coordination



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SIGMA is a device for therapy of balance and proprioception. In sitting position it is possible to perform exercises with either pelvis or feet. Training in standing position is perfect tool to treat athletes. Sigma is designed for training of different groups of people, from sportsmen to patients on wheelchairs.

Capabilities:

- classic proprioceptive training
- exercises in one or two planes
- exercises in standing or sitting
- unilateral and bilateral exercises of the lower or upper limbs
- exercise with integrated real time biofeedback
- objectification of the rehabilitation process
- ability to adapt the level of difficulty of exercises to the current needs of the patient

Benefits:

- improved sense of balance
- improved trunk stability
- improved stabilization of joints by proprioceptive reeducation
- improved muscle coordination

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CAPRI is a therapeutic device that can be used for the rehabilitation of patients suffering from dysfunctions of grip control and accuracy, motor and movement coordination of hand. CAPRI system is typically used in occupational therapy and physiotherapy as therapeutic support, enhancement and intensification in addition to conventional forms of therapy.

Capabilities:

- classic proprioceptive training
- exercises in one or two planes
- exercise with integrated real time biofeedback
- objectification of the rehabilitation process
- different holders to enhance hand function
- ability to adapt the level of difficulty of exercises to the current needs of the patient

Benefits:

- better hand control and accuracy
- improved motor and movement coordination of hand
- proprioceptive reeducation



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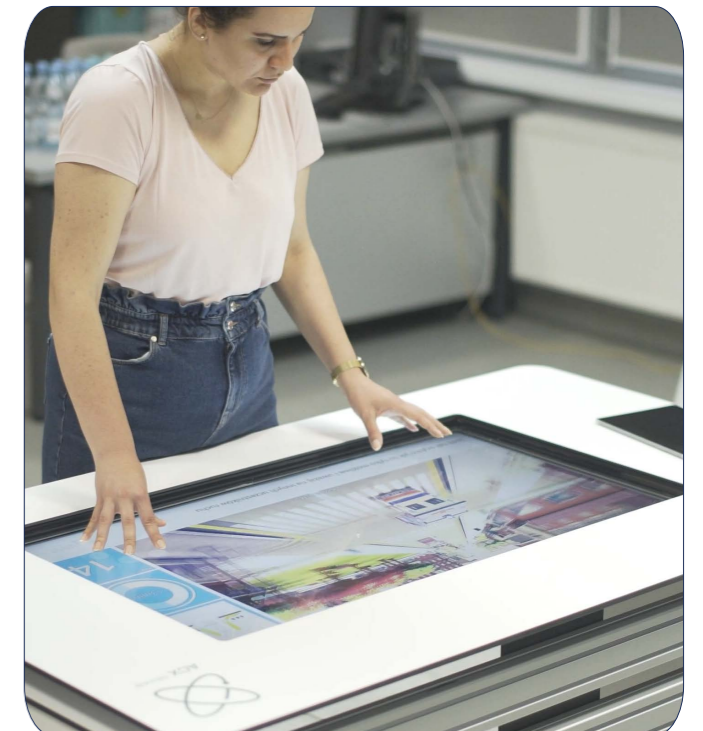
X-COGNI is a perfect example of modern technology used for therapy of any group of patients. This technology allows to work with patients in wide range of movement, engaging selected body segments, in many positions, with different targets and focused on functional movements. Protocols used for therapy are similar to computer games, which makes the training even more interesting. Kinect allows to work with patients after injuries, surgeries, with neurological and orthopedical problems, in different age (from children to elderly), also at home telerehabilitation.

Capabilities:

- training of patient's balance, movement precision, functional activities, dynamic and static movements
- therapy of cognitive disorders: divided attention, memory, problem solving
- range of movements evaluation
- balance disorders evaluation (Romberg test)
- objectification of the rehabilitation process
- adaptation of the exercise difficulty level to the current needs of the patient
- ready protocols and the ability to create own exercises with integrated real-time biofeedback

Benefits:

- improved the range of movements
- increased muscle strength and endurance
- improved stabilization and proprioception
- improved muscle coordination
- improved cognitive abilities



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MINI TENSOR is small, portable and multifunctional device for therapy of the trunk, lower and upper extremities in closed kinematic chain. The device can perform the following movements:

- flexion / extension
- adduction / abduction

MINI TENSOR uses elastic resistance, which the most important advantage is to generate a slight resistance in the initial phase of the movement, increasing evenly in the later stages of the exercise.

Capabilities:

- measurement of the range of motion and strength
- dynamic exercises: concentric and eccentric
- possibility to work unilaterally or bilaterally
- ability to exercise in multiple positions
- adaptation of the difficulty level to the current needs of the patient

Benefits:

- increased range of motion through active movements
- increased muscle strength and endurance
- improved stabilization of joints by proprioceptive reeducation
- improved muscle coordination



Are you a big rehabilitation center?
A hospital? Or a small, one person practice?

ACX.Rehab is perfect for you!

OPTIMIZE REVENUES

We let therapists work with many patients simultaneously. One therapist controls all the patient stations in the room. By learning to use the system once you're able to work with wide variety of patients.

MOTIVATION

VAST.Rehab will help you keep your patients more motivated to participate in their rehabilitation process. It will change the way patients feel about their daily exercises.

MAKE PATIENTS FOCUSED

Gamified therapy sessions let patients experience positive emotions, become more self-confident and in the same time heavily involved.

INTEGRITY OF RESULTS

All the results describing the progress patient is making are available in one place regardless of the device used to collect them.

INTERACTION IN VR

Transferring tasks to virtual reality allows you to separate patient's thoughts from the surrounding area of the hospital. Patient receives both visual and acoustic biofeedback.

POWERFUL REPORTS

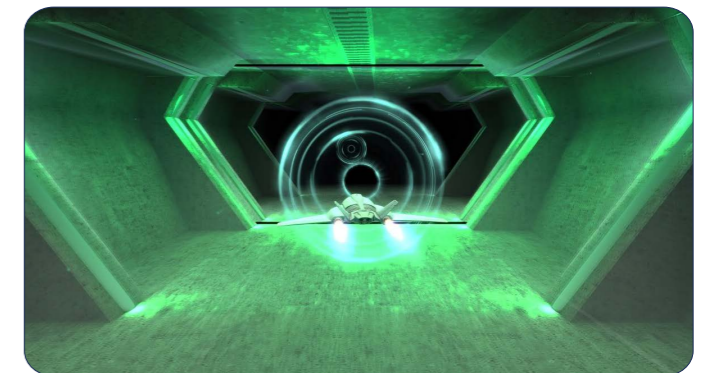
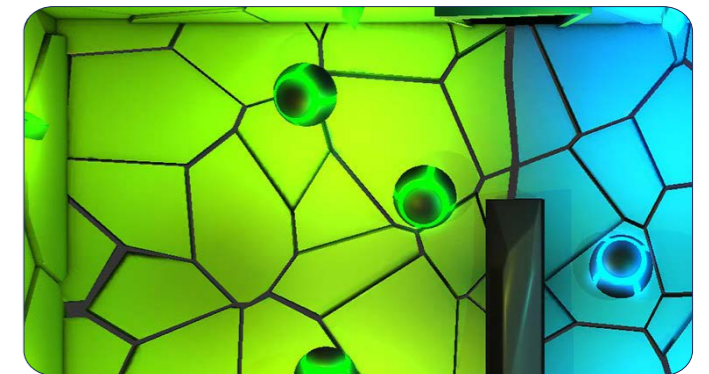
Biofeedback, delivered by the system, enables detailed insight into the course of each training and long-term progress as well. It allows you to collect objective results of treatment progress.

FLEXIBLE FINANCING

The system can be employed in big and small institutions as well as in the patient's home. It is highly scalable and can be adjusted to your needs.

INDIVIDUAL CONFIGURATION

It is possible to work from 1 to 16 devices. Depending on the type of performed therapy, patients, available space there are different configuration of hardware and accessories.





See more:

www.technomex.eu/products/diagnostic-therapeutic-equipment



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P_ +48 32 40 10 350
M_ export@technomex.pl
W_ technomex.eu

A_ PHU Technomex Sp. z o.o.
ul. Szparagowa 15,
44-141 Gliwice
POLAND

f facebook.com/technomex
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