

CURE[®] 2.0

Virtual Therapy – Real Success

efficient, intuitive, resource-saving

- Personalized training plans
- Progress visualization
- Advanced hand therapy
- Enriched Environments
- More languages



What is CUREO®?

Countless studies demonstrate the high potential of immersive therapy based on virtual reality (VR). But so far, practical implementations have not yet met clinical needs.

With CUREO®, an innovative, sophisticated VR therapy system is finally available to you and your patients. Consisting of hardware and the pre-installed software, CUREO® is immediately applicable and already in use in leading clinics. Modular training units in a VR environment playfully support cognitive and sensorimotor rehabilitation. The motor function of the upper extremities as well as the trunk is promoted. From the hospital bed in clinical rehabilitation, to outpatient therapy, e.g. in a wheelchair, to aftercare, CUREO® can be used transectorally.

CUREO® motivates patients and can thus promote the success of therapy. In addition, therapists can care for several patients in parallel - in this way, resources can be used optimally and high-frequency therapy can be guaranteed for the patients.

The CUREO® software is CE-certified as a medical device. 

Our innovative therapy approach has received several awards:



DIGI HEALTH AWARD WINNER

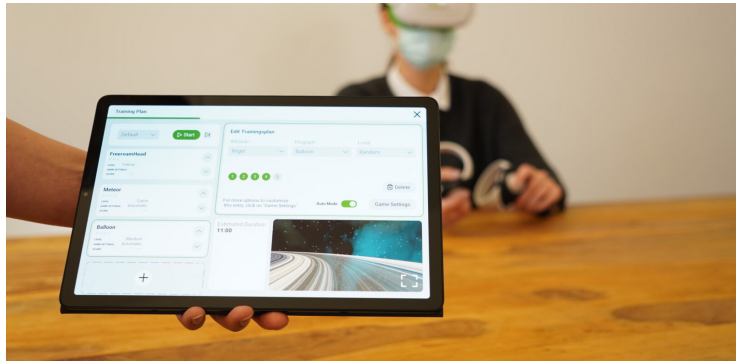


2020



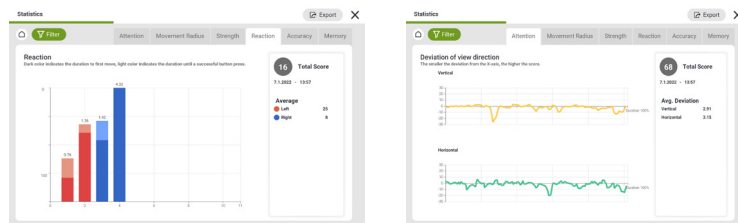
Update CUREO® 2.0

More efficient, intuitive, and resource-efficient: That is CUREO® Update 2.0! With our new tools you can now create a unique, multi-faceted therapy experience for your patients in just a few clicks and discover a variety of new details.



With the training plan you have the possibility to compile a personalized sequence of games from all our programs even before the start of therapy, which facilitates the daily therapy routine.

The optimized user interface allows for quick and easy navigation around menu and settings.



Therapy among users of different languages?

No problem: CUREO® is multilingual and now offers French, Italian and Dutch in addition to German and English. Most importantly, you can set the operating language for the therapist and the feedback language for patients independently.

Hand tracking is now available in other modules beyond just the finger module to provide additional therapy options for hand and finger rehabilitation.



Let your patients dive into detailed environments: whether archery, photo excursions in a canyon, kite flying on a mountain or even playing with a dolphin - with CUREO® 2.0 imagination becomes (virtual) reality.



Update 2.0 optimizes therapy with efficient and intuitive tools



CUREO® makes therapy more efficient

Time is the most important resource in clinical rehabilitation. Therapists are often overworked, even though the therapy needs of patients are insufficiently met. By automating the planning and execution of repetitive exercises, therapy becomes more efficient: Therapists are relieved and can treat more patients. Patients benefit from the varied, high-frequency therapy offered.

- Intuitive, goal-oriented menu navigation with just a few clicks
- Creation of personalized, storable therapy plans
- Automated therapy execution
- Options for small group therapy
- Adjustment of the difficulty level thanks to Auto mode



CUREO® visualizes progress

The documentation and planning of therapy progress using traditional pen-and-paper methods is time-consuming and out of date. **CUREO®**'s efficient digitization tools allow for documentation and visualization of therapy progress.

- Gamified testing with documentation
- Memory, reaction, holding, range of motion and attention tests
- Individual results or progress overview can be exported
- Good overview for therapists
- Motivation of patients thanks to visualization of progress



CUREO® is multilingual

CUREO® bridges language barriers between patients and therapists of different nationalities. Our modular, agile development concept enables additional languages upon request.



- CUREO® previously operated in German and English and is now available in 3 more languages: French, Italian, Dutch
- Therapist's operating language can be set independently of patients' therapy language
- Further languages upon request

CUREO® opens new worlds

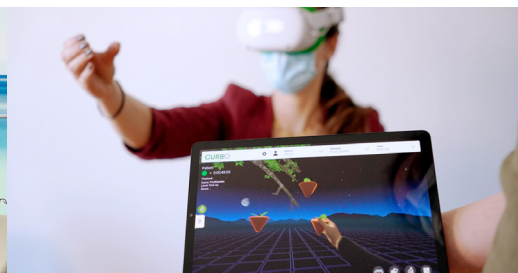
Recent studies show (see p. 13), enriched environments, multisensory stimulation and game-based motivation have a positive impact on neurological rehabilitation. Incorporating these features in therapy is a logistical challenge in everyday clinical practice. CUREO® offers a variety of additional, motivating therapy environments.

- To encourage exploration in detailed worlds
- Distraction from pain and everyday life possible
- Contemplative Qi Gong exercises
- Interactive, stimulating mini-games such as playing with a dolphin, archery or flying a kite

CUREO® expands hand therapy

Hand function is the motor skill that has the greatest impact on patients' independence. It may be affected by neurological or musculoskeletal problems. That is why we have significantly expanded hand therapy options.

- Optimized, controller-free single finger tracking
- Available in additional modules and therapy applications, e.g. fruit garden or meteor
- Fine motor training of different grip types
- Post rehabilitative hand rehabilitation



CUREO® one system, many advantages

CUREO® was developed in an iterative process together with therapists, physicians and patients.



Immediate therapy start

CUREO® is suitable for hospital beds, bringing the therapy to the patient. It enables an immediate therapy start and high-frequency training. There are no infrastructural requirements.



Increased motivation

By immersing yourself in a virtual world the effect of pathologizing clinical surroundings is reduced. Through gamification, patients experience a sense of achievement, increasing intrinsic motivation and therapy success.

“
What makes CUREO® unique, is the positive effect of using virtual reality and gamification of digital content for effective therapy and patient’s recovery time.



Alexander Felsenberg, Chairman WSA-Germany,
Member of the Board WSA-Global



High therapy frequency

With CUREO® one therapist can care for several patients at the same time a reduction in staff needs as well as a qualitatively and quantitatively improved care.



Suitable for aftercare

CUREO® enables new aftercare concepts through mobile, outpatient use and susatiable quality of care.

Indications

The therapy system was designed for patients with the following indications, among other:

- Stroke of ischemic or hemorrhagic origin with residual hemiplegia/paresis
- (Infantile) cerebral palsy
- Spinal cord injuries (Commotio, Contusio, Compressio Spinalis)
- Traumatic brain injury
- Musculoskeletal diseases
- Neuropathy (Guillain-Barré Syndrom, PNP)
- Neurodegenerative diseases (e.g. multiple sclerosis, Parkinson's, ALS)
- Ataxia of the upper limbs and trunk

Areas of application

CUREO® addresses cognitive, sensorimotor and perceptual impairments such as:

- Perception and attention disorders
- Memory and learning disabilities
- Planning and orientation impairments
- Limited problem solving and orientation
- Proprioceptive impairments, shape and color recognition
- Neglect/ restricted field of vision
- Apraxia

CUREO® addresses the upper body region:

- Upper extremities including shoulder girdle, upper arm, forearm and hand
- Head movements
- Trunk

Therapy goals

Promotion of cognitive skills such as:

- Perception of space, shape and color
- Attention
- Memory and learning
- Planning and executive functions

Promotion of the motor skills of the upper extremities and the trunk such as:

- Range of motion, quantity and quality of movement
- Coordination and proprioception
- Postural control in sitting and fall-secured in standing position
- Reach of the upper extremities
- Hand and finger functions (basic grip strength/ hand opening)
- Fine motor training of the hand, e.g. tweezer grip, power grip
- Finger movement

General improvements such as:

- Stress, anxiety and pain reduction, alleviation of depression
- Body awareness and tone regulation
- Therapy motivation (compliance and adherence)
- Mood improvements
- Neuroregulation

Disclaimer: On our website you will find a detailed list of indications, therapy goals and areas of application. More infos at: <https://www.cureosity.de/indikationen>

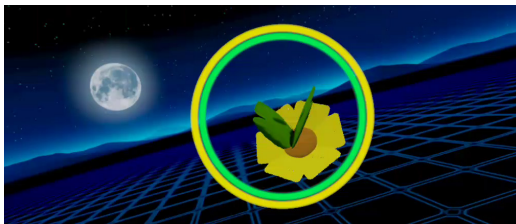
Targeted modules for a successful therapy

CUREO® offers 6 modules that build on each other and can be flexibly and finely adjusted in terms of difficulty. Thus, depending on the patient's ability and needs, it is possible to select which module should be performed. For example, if the patient can only move his or her head, the „active“ module offers suitable exercises in which objects are tracked only with the gaze. In the game „Taiko“, for example, the location of the drums can be adjusted to the patient's range of motion as part of amplitude training.



active

The „active“ module is suitable for severely affected patients. From the beginning of the rehabilitation, it stimulates and activates attention while diminishing neglect. The therapy can be completed using gaze guidance.



moto

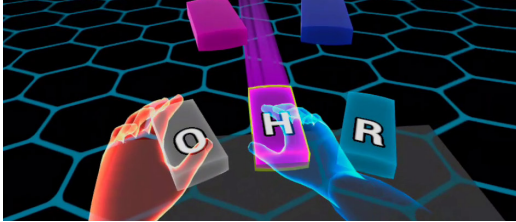
The module „moto“ includes a bi- and unilateral motor training of the upper extremities and promotes active and goal-oriented mobility in motivating therapy games.





Cogni

The „cogni“ module offers cognitive and sensory aspects training. It promotes color and shape recognition, word finding, spatial perception, coordination and memory.



Daily

In the „daily“ module patients are immersed in a virtual environment, i.e. a virtual kitchen. Everyday situations are simulated and daily tasks are practised, i.e. the use of tools.



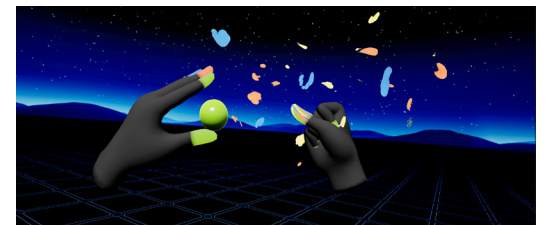
Relax

The „relax“ module promotes neuroregulation, stress reduction and pain relief and is suitable for all patients. It supports therapy compliance and willingness through explorative environments, interactive mini-games, breathing exercises, and color therapy.



Finger

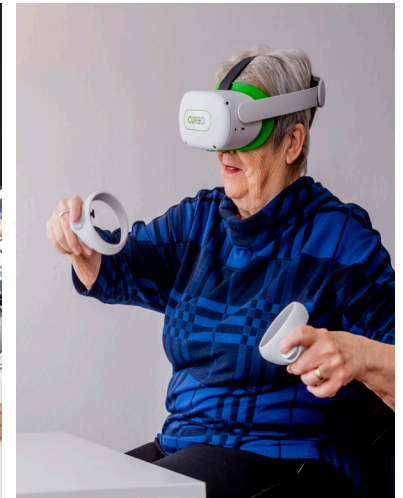
In the „finger“ module, fine motor skills as well as the mobility and coordination of the hands and individual fingers are trained. By performing manual activities, the patient practices skills such as holding and grasping (e.g. power and tweezer grasp).



CUREO® for high-quality care

The **CUREO®** system offers new possibilities in rehabilitation and helps you meet the diverse and demanding challenges in every therapeutic situation.

- **CUREO®** enables parallel, individualized therapy of several patients by one therapist saving valuable resources
- In the responsibility of therapists, therapy may be assisted by or performed by medically trained personnel
- **CUREO®** makes it possible to benefit from several therapy methods and options simultaneously
- **CUREO®** is light-weighted, compact, can be used on the move



Remote capability

Wireless “remote” functionality enables therapy control by the therapist at a distance. This expands the range of applications and the training can be performed entirely contact-free and presents a significantly reduced risk of infection.

Transsectoral use

As a compact therapy system, **CUREO®** is mobile and can be used anywhere and at any time. This allows therapies to be adapted transsectorally to phases B to F of rehabilitation.

Efficient therapy tools

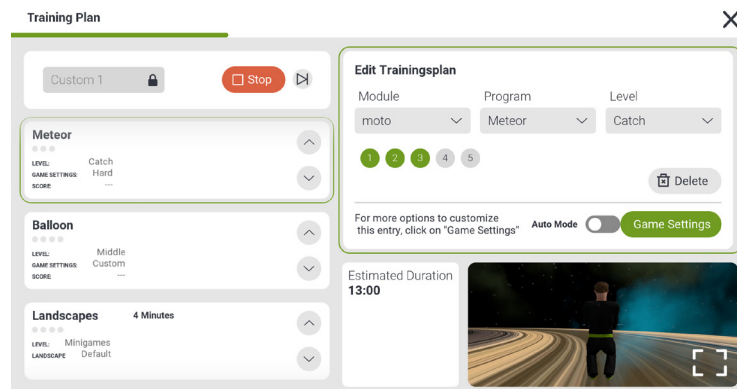
Auto-mode relieves therapists

In auto mode various repetitive functions are automatized to relieve the therapist and increase the therapy efficiency. The degree of difficulty is individually adapted to patients avoiding too much as well as too little stimulation.

Automated training plan

The training plan is an efficient tool to personalize therapy programs:

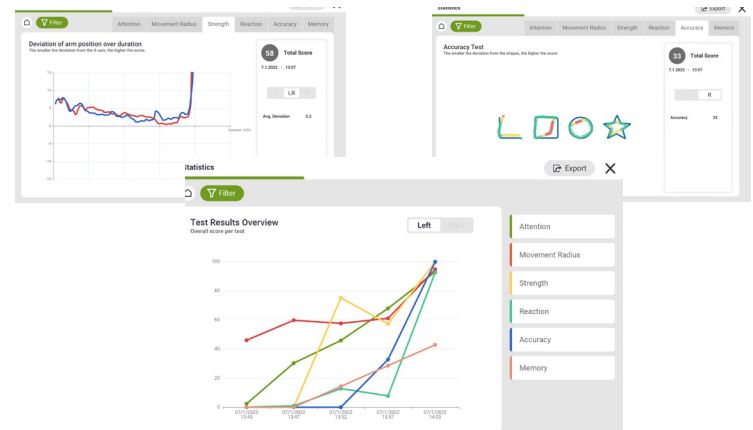
- Available at the touch of a button
- Adapts to the changing needs of patients during the course of therapy
- Can be edited and saved
- Provides relief for the therapist
- Combination of competitive, concentration-enhancing and stress-reducing applications possible without much effort



Extensive patient testing

Various tests have been developed to assess patients' abilities and make the correct training adjustments making it easier for therapists to assess the patient's cognitive and motor strengths. The following abilities are tested:

- Active Range of Motion
- Attention Span
- Memory
- Reaction
- Holding
- Accuracy



After the tests have been performed, the results can then be exported. They give therapists an overview of individual training sessions or the entire course of therapy. The patients benefit as well: seeing progress can increase motivation.

Unique, innovative therapy functions

Embodiment via an Avatar

CUREO® is based on the principle of immersion – the immersion in a virtual reality. Visual and acoustic feedback of an executed movement is transferred to an avatar in the virtual scenario.

Gamification

With the help of a virtual environment and gamified immersive scenarios, **CUREO**® makes patients curious and motivated. The level-based and diverse game modules activate patients' reward systems and ensure sustainable intrinsic drive.



Mirror therapy

CUREO® uses mirror therapy in an immersive environment with unique benefits in terms of adjustability and precision. We overcome physical limitations through a virtual environment eliminating the use of physical mirrors that form an obstacle for patients during therapy.

Sonification

In the sonification-mode, patients generate sounds through free movements that change based on horizontal and vertical motions. By connecting movement with sound, the perception of the affected extremity is synaesthetically activated.

Visualization, history and statistics

The integrated display visualizes patients' movements in real-time and provides an overview of the therapy progress

Individual adjustability for every patient

Effective and user-friendly therapy control

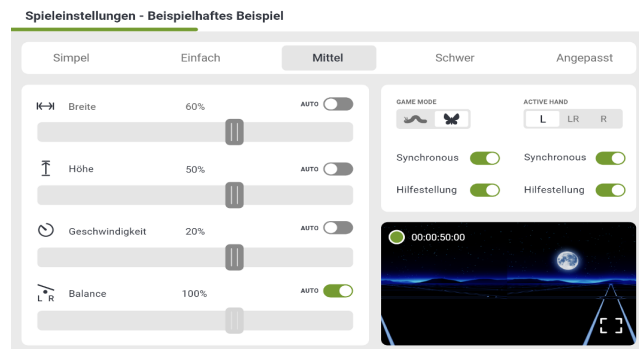
The therapist can change the therapy applications uninterrupted and without interference during an ongoing therapy and consider different perspectives. These interventions are not noticed by the patient.

Individual fitting

In each module, the level of difficulty can be defined. Focus and speed of the exercise can be adjusted, as well as stepless differentiation of the therapy focus between sides (from unilateral left, via bilateral to unilateral right). The virtual environment can be adapted to the therapy situation.

Motion sickness prevention

All therapy applications have been designed in such a way that patients should not experience dizziness or motion sickness by applying neurophysiological and neuropsychological principles. The special development effort pays off and ensures satisfied patients.



Clinical evidence in VR therapy

A large number of studies show that the use of virtual reality (VR) within rehabilitation offers great potential. It has long been recognized that the use of new technologies and digitized applications can optimally complement classic therapy methods to create greater added value for patients.

VR-Therapie as a valuable support in rehabilitation

For example, a systematic review from the Research Centre on Aging demonstrates that VR therapy applications reduce pain while improving motor function (Bordeleau et al. 2021). Furthermore, an article from the American Journal of Physical Medicine & Rehabilitation describes the benefits of traditional therapy methods in conjunction with VR-based rehabilitation after stroke. The authors summarize that this combination improves motor skills as well as manual dexterity (Fang et al. 2021).

Enriched Environments

Another focus of various studies is the so-called enriched environment. Enriched Environments lead to the brain being stimulated and ultimately showing more activity. Yun et al. (2020) demonstrate that Enriched Environments lead to patients better maintaining selective attention and they can effectively train their cognitive skills in just one session. In addition, Enriched Environments have a positive impact on synaptic plasticity in the hippocampus of patients with depression. This has been shown to improve learning deficits, Mahati et al. (2016) report.

On www.cureosity.de, we will provide ongoing updates on the evidence of VR in rehabilitation. At www.cureosity.de/literaturangaben you will also find the detailed references.

The CUREO[®] therapy system at a glance

CUREosity offers a compact, mobile complete system. Thanks to the pre-installed software it is ready for immediate use. The CUREO[®] therapy system consists of the CUREO[®] software, which is CE-certified as a medical product, and the associated hardware.



CUREO[®] service

Full Service & Support Package

- Initial training ensures that you can start your therapy immediately
- You and your patients benefit from all new developments through updates and functional development
- Our technical support is available for all questions by phone
- Connection to building technology is not required
- Individual adjustments and additions are possible by request

CUREO[®] system

All required hardware included:

- Tablet
- VR headset
- Controller
- WLAN router
- Disinfectable silicone cover
- Practical carrying case
- 2,5kg light



About CUREOSITY

CUREosity is an award-winning Med-Tec company that changes rehabilitation sustainably by implementing innovative therapy concepts.

The founders are motivated by personal fates. Unsuccessful attempts at conventional therapy has made it their mission to help affected patients regain their skills and quality of life through novel approaches.

Our VR therapy system combines neuroscientific findings, especially the potentials of neuroplasticity, with decades of therapy experience as well as the technical, digital and creative know-how of our development team.

CUREosity's goal is to provide clinics, doctors and therapists with innovative products that help improve the quality of their care of affected patients. An interdisciplinary team of over 30 specialists in the areas of 3D visualization, IT, game design and medicine created a system that turns virtual therapy into real success: **CUREO®**.



CUREOSITY

Satisfied patients report new found motivation and successful therapies.

More at: www.cureosity.de

Here CUREO[®] is already applied among others:



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MAINKOFEN



SEGEBERGER
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