

Bimeo PRO



Bimeo PRO is a sensor based rehabilitation device for post-stroke and other neurological patients.

Bimeo works by involving the patient in a motivating virtual reality environment. Bimeo is designed to make therapy effective and motivating for patients and facilitating for therapists. Therapy with Bimeo goes one step beyond state-of-the-art methods in rehabilitation medicine.

The patient is encouraged to use the more affected arm, supported by the movement of the less affected arm. The support is supervised and optimised through automatic therapy task adaptation. Therapy is augmented with activity of daily living type exercises and cognitive tasks, while specific tasks are designed for objective motor function assessment.

Physicians can easily track progress of the patient and adjust the therapy difficulty according to the patient's needs. Therapy is therefore more effective and the rehabilitation process shorter.

Bimeo PRO was primarily designed for post stroke and patients with neuromotoric disorders, but during initial clinical trials therapists have successfully treated many types of different pathologies. Bimeo has been tested and successfully used in following indications:

- Stroke - cerebrovascular accident (CVA)
- Spinal cord injury (SCI)
- Multiple sclerosis (MS)
- Traumatic brain injury (TBI)
- Amyotrophic lateral sclerosis (ALS)
- General traumatic injury

Therapy modes

Therapy with Bimeo PRO offers wide variety of modes. Different therapy modes require different therapeutic attachments. With help of a quick release mechanism, attachments can be easily exchanged and the new therapy can be started simply by a few clicks in a simple user interface.



Bimanual mode:

Arms are coupled to provide necessary assistance or resistance during movement. The coupling of arms enables controlled movement of the more affected arm in free space and in gravity minimised position. It enables the assessment and evaluation of passive arm range of motion.



Unimanual mode:

Therapy of the more affected arm in free space or gravity minimised position. It enables the assessment and evaluation of active arm range of motion.



Isolated arm joint mode:

Isolated therapy of individual arm joints: shoulder (flexion/extension, abduction/adduction, internal rotation), elbow (flexion/extension), wrist (flexion/extension, pronation/supination, ulnar/radial deviation).



Unimanual mode with support:

Therapy of the more affected arm with arm weight compensation on support surface. It enables the assessment and evaluation of active arm range of motion.



Bimanual mode with support:

Less affected arm assists or resists more affected arm movements with weight compensation on support surface. It enables the assessment and evaluation of passive arm range of motion.



Support sphere mode:

Isolated wrist therapy with support and assessment of active joint range of motion.

Therapy tasks

Therapy tasks of the Bimeo PRO system are comprised of two groups. The first group are assessment tasks. The aim of the first group is to encourage the patient to perform simple isolated movements as accurately as possible. Algorithms of the Bimeo PRO system accurately and objectively assess each patient's movement. Assessment scores for each session are stored into a database. This way the physician or therapist can objectively monitor the progress of each patient.

The second group are therapy tasks. Patients are challenged with more complex movements which imitate the movements of activities-of-daily-living, focus on cognitive tasks and include fun games. Several parameters and points scored during these tasks are also stored in the data base

The Benefits

Patient motivation: The Bimeo uses virtual reality gaming to enhance patient motivation. The positive impact of virtual reality in rehabilitation is scientifically validated.

Objective patient assessment: Data acquired by sensors and specific tasks enable an objective insight into the patients state and progress.

Wide variety of therapy options: Therapists can prescribe wide variety of therapy options including arm-weight (un)supported isotonic/isometric bimanual and unimanual, isolated exercise of individual arm joints and active assisted movement controlled by the therapist.

Ease of use: Bimeo is simple and intuitive. The therapist adjusts therapy settings with just a few clicks on a straightforward user interface. The settings are stored and later retrieved when starting a new therapy session.

Short setup time: The setup and initialisation process takes around a minute without disturbing the patient.

Reduced therapy costs: A single therapist can simultaneously assist multiple patients exercising with Bimeo.

Evidence based rehabilitation: Patients benefit from clinically validated rehabilitation therapy.

No risk of injury: The system consists of lightweight battery-powered sensing units without actuators, thus completely eliminating the risk of injury to the patient or therapist.

Pricing:

Bimeo PRO System (incl. Windows PC & Monitor):
€8,999 +VAT

Monthly Rental (Min.12 Months): €499 +VAT