

Intuitive and  
rewarding arm  
rehabilitation



bimeo

## Life in Your Hands

Bimeo makes therapy motivating and rewarding for patients and facilitating for therapists. The patient is encouraged to use the more affected arm, supported by the activity of the less affected arm. The Bimeo merges virtual reality gaming with proven rehabilitation methods. The therapy is focused on

activity of daily living type exercises, cognitive tasks and specific tasks for objective motor function assessment. Clinician can monitor patient's progress and personalize the therapy program according to patient's needs. Rehabilitation process becomes more effective and consecutively shorter.



▲ Bimanual in free space



reddot design award



# Bimanual therapy

Patients use their less affected arm to assist or resist the activity of their more affected arm. Therapy is performed on the support surface therapy pad, compensating arm weight or in free space.

- Arms are coupled to provide necessary assistance or resistance during movement.
- The coupling of arms enables controlled movement of the more affected arm.
- Measurements of passive range of motion.
- Synchronous arm movement allows evaluation of bimanual coordination.
- Support surface provides arm weight compensation.



▲ Bimanual on support surface

## Unimanual therapy

Patients execute tasks with their affected arm. Therapy is performed on the support surface therapy pad, compensating arm weight or in free space where each joint can also be exercised individually.

- Exercises can be performed in gravity minimized position.
- Support surface provides arm weight compensation.
- Measurements of active range of motion.
- Simultaneous therapy of wrist joint functions on a spherical support.
- Movements of each arm joint can be performed individually.





▲ Unimanul in free space

# Indications

Bimeo is indicated for patients with various neuromotor impairments:

- Stroke - cerebrovascular accident (CVA).
- Traumatic brain injury (TBI).
- Spinal cord injury (SCI).
- Musculoskeletal impairments of the upper limb (traumatic, orthopedic, rheumatic, etc.).



Spherical support ▲



# Benefits

## **Patient motivation**

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: 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 whole setup and initialization process takes just 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.



# Simple yet powerful

Patients are engaged in a motivating rehabilitation environment. Therapy modes are set up in seconds using quickly interchangeable therapy attach-

ments. Intuitive software and wireless sensing units empower therapists with a hassle free operation.



**1. Bimeo master** is the main sensing unit of the Bimeo system. It is held in the hand of patient's exercising arm and used in all therapy options.

**2. Bimeo servant** is a therapy attachment held in the hand of patient's supporting arm. It is used in bimanual therapy options.

**3. Bimeo upper-arm sense** is a sensing unit attached to the patient's exercising upper arm.

**4. Bimeo forearm sense** is a sensing unit attached to the patient's exercising forearm.

**5. Bimeo double disk** is a therapy attachment used for bimanual therapy on support surface and for wrist therapy.

**6. Bimeo disk** is a coupling element for joining different therapy attachments and is also used for unimanual therapy on support surface.

**7. Bimeo wireless dongle** enables communication between sensing units and personal computer.

**8. Support surface training pad** is a sensor used in all support surface therapy modes.





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