

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 to provide patients

with activity of daily living type exercises, while specific tasks are designed 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 training

Patients use their less affected arm to assist or resist the activity of their more affected arm. Therapy is performed in the **arm-weight compensated mode** on a support surface or in the **unsupported mode** 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.
- Synchronous arm movement allows evaluation of bimanual coordination.
- Training elements of activities of daily living are provided.
- Support surface can provide compensation for the arm weight.



▲ Compensated mode

Unsupported mode ▼



Unimanual training

Patients execute tasks with their affected arm. Therapy is performed in the **arm-weight compensated mode** on a support surface or in the **unsupported mode** in free space where each joint can also be exercised individually.

- Exercises can be performed in gravity minimized position.
- Support surface can provide compensation for the arm weight.
- Measurements of active and passive arm range of motion are possible.
- Wrist joint functions can be trained simultaneously on a **spherical support**.
- Training elements of activities of daily living are provided.
- Movements of each arm joint can be performed individually.



▲ Compensated mode

Unsupported mode ▼



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

Evidence based rehabilitation

Patients benefit from clinically validated rehabilitation therapy. Bimeo's ergonomic design perfectly suits patients of various anthropometric characteristics and pathological conditions.

Wide variety of training modes

Therapists can prescribe wide variety of training modes which include arm-weight (un)supported isotonic/isometric bimanual and unimanual training, isolated exercise of individual arm joints and active assisted movement controlled by the therapist.

Ease of use

Bimeo application is simple and intuitive. The therapist adjusts the training mode and range of motion for an individual patient with just a few clicks on a straightforward user interface. The settings are stored and later retrieved when starting a new therapy session.

Reduced therapy costs

A single therapist can simultaneously assist multiple patients exercising with Bimeo. The patient can also benefit from the same therapy concept at home after being discharged from the clinic.

Short setup time

The whole setup and calibration process takes just a minute without disturbing the patient. Sensing units are attached to a patient with easy-to-use Velcro straps.

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 motivating rehabilitation environment. Training modes are set up in seconds using quickly interchangeable therapy

attachments. 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 training modes.

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

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 training on a support surface and for the wrist therapy.

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

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



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Patent pending