Movement Therapy in Supine Position

MOTOmed® letto2
MOTOmed® – Getting active in supine position
The MOTOmed letto provides supine patients the opportunity to engage in daily, motor-assisted movement therapy. This helps to prevent and counteract the complications of being bedridden. Movement improves blood circulation, stimulates nutrition, and the cardiovascular system and prevents muscle loss (atrophy) as well as joint stiffening (contracture-prophylaxis).

Scientific research confirms: Movement benefits
Movement therapy conducted from the hospital bed can lead to reduced stays in the intensive care, minimize ventilation time (weaning), prevents subsequent neuromuscular damage, helps improve the cognitive performance of the patients.

MOTOmed® Movement Therapy
- **passive**: Passive training of the extremities maintains joint flexibility, loosens the muscles, supports blood circulation and prevents contractures (joint stiffness).
- **motor-assisted**: Any active impulse in the legs or arms is detected and supported by the ServoCycling feature (see pg. 8), which enables repetitive active rotations even with minimal residual muscle strength.
- **active resistive**: Allows for active training against 20 finely adjustable resistance levels, from very easy to difficult. Active training strengthens the leg, arm, and respiratory muscles, and therefore the cardiovascular system as well as the immune system.

MOTOmed® – Improvement for your physical and cognitive state
Even short term confinement to bed tremendously decreases physical capabilities. Especially elderly persons have to face declining cognitive (mental) functions. The MOTOmed Movement Therapy substitutes for the lack of movement in bedridden patients. If used regularly, it can optimally enhance the effectiveness of other therapies which leads to an overall improvement of well-being.
Areas of application
The MOTOmed letto2 is a safe, software-controlled cycle movement device for lower and upper extremities which is effective for:

- Bedridden patients who are in facilities, nursing homes or in domestic environment
- Early mobilization in intensive care
- Passive mobilization of comatose patients or those with apallic syndrome (coma vigil)

For pediatric use
The »pediatric version« of the MOTOmed letto2 model is equipped with smaller foot shells and leg guides. It also comes with a reduced distance between the foot shells (14 cm / 5.5 in. instead of 21 cm / 8.3 in.). This allows for a physiological movement pattern which prevents the strain on the child’s hips and knee joints.

For hemodialysis centers
Regular physical activity improves the overall performance in patients undergoing dialysis treatment. It improves the effectiveness of the dialysis treatment and improves the patient’s tolerance. The special construction of the MOTOmed letto2 enables easy access to and use of all common bed or therapy chair models. The motor-assistance feature enables even very weak dialysis patients to train safely and actively on their own.

Therapy goals
- **Assistive tool for physical therapy**
  Passive movement to assist the therapist to prepare the patient for manual therapy.
- **Regulation of muscle tone and spasticity**
  Permanent reduction of muscle tone by means of smooth, uniform movement, and reduction of spasticity with the MOTOmed MovementProtector feature including MOTOmed SpasmControl.
- **Improved bladder and bowel function**
  The indirect activation of the stomach and pelvic floor muscles can prevent complications such as constipation and urinary tract inflammations.
- **Early mobilization**
  By utilizing the MOTOmed ServoCycling feature for motor-assisted movement, even weak patients can be mobilized in a gentle and safe manner.

Stimulation of circulation
Movement supports the mechanism of the muscle vein pump which helps with prophylaxis of thrombosis, edema and decubitus.

Regulation of muscle tone and spasticity
Permanent reduction of muscle tone by means of smooth, uniform movement, and reduction of spasticity with the MOTOmed MovementProtector feature including MOTOmed SpasmControl.

Maintaining mobility
Regular MOTOmed movement can help to prevent contractures and ease joint stiffness.

Weaning process
The arm/upper body trainer in particular, can strengthen the respiratory muscles and supports weaning off ventilation.

Improving the well-being
Movement improves the overall well-being. It has a motivational and mood-lifting effect.

For an effective hemodialysis treatment

You can request a free special brochure or an overview of studies.
Individual adaptation
MOTOmed® Equipment and Accessories

1. «TrainCare Comfort» including adjustable knee support
   Recommended for paralyzed, unconscious and weak patients. Safe hold and secure guidance of the legs with knee protection. Each leg’s position can be independently adjusted. The legs are secured with elastic Velcro straps.

2. Knee bending adjustment including adjustment wheel
   Enables the range of motion of the knee or elbow joints to be easily adjusted even during the training session.

3. Expandable chassis
   Avoid obstructions under the bed by simply adjusting the width (wider/narrower) of the tracks with a lever. Suitable for all common bed or therapy chair constructions.

4. Hygiene solutions
   For areas requiring strict hygiene control fully disinfectable plastic-coated foot shells, leg guides and handles are standard feature. Disinfectable rubber securing straps are also available as an accessory.

Active and passive safety
MOTOmed® Safety Concept

MOTOmed MovementProtector with SpasmControl
The MOTOmed MovementProtector monitors the muscle condition throughout the training session and stops the pedals once a sudden cramp occurs (spasticity), preventing injury to the lower and upper extremities. After a brief pause, the MOTOmed SpasmControl will change the cycling direction. This process is repeated multiple times until the cramping has been relieved.

Unique and empowering
MOTOmed® ServoCycling
The MOTOmed can recognize even the slightest muscle impulse. When minimal muscle impulses are detected, the ServoCycling feature then assists with the pedalling. Thereby, it enables individuals to train actively even with minimal residual muscle strength. Residual muscle strength that may not be sufficient for a fully active movement can be discovered, applied and strengthened.
Motivating and target-oriented
MOTObiofeedback, functions and programs

Always well informed: Biofeedback
Different biofeedback screens present the patient or the therapist with continuous activity feedback which helps to control the training and to effectively better correct the training patterns of the patient.

Biofeedback, e.g. in hemiparesis: SymmetryTraining
The integrated 2-bar-diagram lets you track the applied strength with the left vs. the right side of the body. Particularly hemiplegic patients (e.g. stroke recovery) profit greatly from this sensory-motor perception and coordination training.

Fun and Games: MotivationProgram
It combines the different forms of coordination, concentration, strength and endurance training into a fun therapy session. By applying targeted strength from the left and right extremities, the user can guide the game character MOTOMax into reaching a higher level where more stars can be collected. The user is rewarded with jumps for joy, champion points and stars which motivates to engage in regular training.

Targeted and Comprehensive Training: CoordinationProgram
There are 15 training sessions (segments) available that contribute to a diversified and interesting training by engaging the user’s concentration, coordination, strength, and endurance. The user can start off with simple sessions and move up from there.

Simply convenient: individualized training programs
You can choose one of the TherapyPrograms in accordance to the medical condition and the therapy goal (e.g. better mobility, strengthening, endurance, coordination). The expert mode allows you to adapt or change each program to your individual needs, directly from the operating panel.

Smart and intuitive
The MOTObiofeedback Operating Panel
For any user, a simple and comfortable control of the training session is one of the most important criteria. You will find this with the MOTObiofeedback operating panel: The big, easy-feel buttons help you to navigate through the menus very intuitively. For an easy user guidance, the next user prompt is marked in green. The tips and menu prompts are displayed in big, legible font. All the operating prompts and the training feedback can be displayed in 27 different languages.
Leg training made easy
MOTOmed letto2

**Everyday Flexibility**

The four big transport castors give the MOTOmed letto2 the mobility that is required in a daily hospital routine. Different MOTOmed letto2 chassis options and the spring supported height adjustment assure optimal adaption to different bed or chair constructions.

With the flexible floor fixation (also called the 4-Brake-Stop) the unit can be easily secured in place, without having to attach it directly to the bed. The position of the knee joints is easily adjustable with the knee bending adjustment, either after inserting the legs or even during the training.

**Handling**

Simple foot insertion before the training

MOTOmed letto2 Technical specifications of the basic model:

- measurements: 126 – 156 cm / 49 – 61 in (h) x 55 – 85 cm / 21.7 – 33.5 in (w) x 117 cm / 46 in (d); weight: approx. 63 kg / 139 Lbs.
- chassis inside: 43 – 71 cm / 16.9 – 28.7 in; height adjustment (max bed height): from approx. 72 cm – 102 cm / 28.3 – 40.2 in;
- chassis height (ground clearance for bed units): 14 cm / 5.5 in.
- mains Voltage: according to country specifications; frequency: 50 Hertz; construction: all-metal construction, medical device class MPG IIA

- Simple start and finish of the training with the user-friendly operating panel

**Recommended accessories**

- Knee bending adjustment including adjustment wheel
- Detailed adjustment of the leg and arm bending angle.
- »TrainCare Comfort« Safe and secure guidance of the legs.
- Expandable chassis Chassis adjustment for the optimal positioning to the bed or therapy chair.
The all-round movement in supine position
MOTOMed lettuce2 leg/arm

In addition to the leg training, the MOTOMed lettuce2 leg/arm unit offers the option of arm/upper body training. This allows for training up to 80% of the skeletal muscles in supine position. Early mobilization can help to maintain the flexibility of the upper body (regulation of muscle tone and contracture prophylaxis) and to initiate basic movements (e.g. after a stroke). Arm/upper body training strengthens respiratory muscles and can so help to reduce ventilation time and length of a stay at the intensive care unit. A better lung function can improve the general condition of patients significantly. The MOTOMed lettuce2 leg/arm provides a comprehensive therapy in the supine position.

Convenient use: Application from three bed sides
Depending on the desired training option (leg or arm training) or whether the user is bound to space limitations, the MOTOMed lettuce2 leg/arm can be positioned from the left or the right side, or at the foot part of the bed (frontal).

Get motivated by receiving feedback
MOTOMed lettuce2 leg/arm basic configuration (additional accessories to the MOTOMed lettuce2 basic model)

1. Safety foot shells (leg training), Handles (arm/upper body training).
2. Knee bending adjustment with thumb wheel
3. Quick release system
4. Accessory storage: For the storage of foot shells, handles/forearm shells and »TrainCare Comfort« leg guides.
5. Hydraulic height adjustment

Arms

Recommended accessories
- »TrainCare Comfort« (see pg. 9)
- Pivot arm
  Patients are able to follow training information that is displayed as well as control the training by themselves. This replaces the patient remote stop button.
- Expandable chassis
  Chassis adjustment for an optimal positioning to the bed or therapy chair.
- Forearm shell
  Safe guidance and fastening of the arms.
- Hand cuffs
  Soft cuff for securing the hands.

Legs

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Become active!

**Competent consultation** Our team of consultants consists of more than 10 experienced certified sport scientists and physical therapists and occupational therapists. You can be confident that you will receive a competent consultation when it comes to choosing the right MOTOmed model or the TherapyProgram that is most suitable for you.

**Free trial!** In most cases a trial period is necessary in order to test the effectiveness and benefits of this therapy. Your MOTOmed partner can offer you the opportunity to test the device at your medical facility or at home.

**Product presentation** Your local MOTOmed partner will be happy to arrange a product presentation for you. The presentation is non-binding and free of charge.

**Renting** Ask your local MOTOmed provider about renting options available to you.

**Purchase** In order to quickly obtain your MOTOmed Movement Therapy, in the most uncomplicated manner, talk with your MOTOmed representative about different financing options available in your place of residence.

**Get informed!** Ask us about specific brochures, prices, studies, special product offprints, comprehensive pieces of literature or MOTOmed videos (DVD).