

Meissa OT

Meissa OT is an advanced robot designed for upper limb rehabilitation. It serves both as a training and assessment tool, utilizing a **4-channel EMG/EMS (Electromyography/Electrical Muscle Stimulation)** system.



The primary functions of the Meissa OT robot include

- ✓ **Continuous Active Motion (CAM)** - allowing patients to perform controlled active movements to improve
- ✓ **Continuous Passive Motion (CPM)** - supporting passive limb movement, especially beneficial for those with limited mobility
- ✓ **EMG-Triggered Robotic Assistive Movement** - the system responds to EMG signals, enabling patients to control the robot's movement with their own muscles.
- ✓ **Electromyography Measurement and Biofeedback (EMG Biofeedback)** - the robot can measure EMG signals and provide feedback to help patients better understand and control their muscles.
- ✓ **Electrical Muscle Stimulation (EMS)** - the device can stimulate muscles using electrical impulses, aiding in the rehabilitation process.
- ✓ **Electromyography-Triggered Electrical Muscle Stimulation (EMG+EMS)** - this feature allows precise adjustment of muscle stimulation to the patient's muscle activity.

Meissa OT enables rehabilitation through

- ✓ Assessment and training of various types of grips: cylindrical, pincer, hook, palmar, tweezers, spherical and lateral
- ✓ Functional exercises, activities of daily living (ADL) with variable strength
- ✓ Active-assistive exercises with supported movement of the upper limb (EMG activated)
- ✓ Exercises for flexion/extension and abduction/adduction of the wrist and pronation/supination of the forearm
- ✓ Each movement enables synchronised electromyography with electrostimulation, supporting muscle contraction during movement phases (Lovett 0-5)



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WHAT IS INCLUDED IN MEISSA OT

- ✓ Extensions for elementary and occupational therapy movements of the hand and fingers (ball, key, screwdriver, knob, door handle)
- ✓ Easy to use with quick and simple exchange of extensions and touchscreen operation
- ✓ Device mounted to the table top and easy to adjust axis of movement to the patient
- ✓ Can be rotated in relation to the platform horizontally in a range of -180° to 180° and vertically in the range of 0° to 90°
- ✓ Pre-set therapeutic protocols and therapeutic games
- ✓ Programs for home therapy and telerehabilitation

INTENDED USE FOR NEUROLOGICAL AND ORTHOPAEDIC PATIENT

- ✓ Helps to relearn voluntary motor functions of the upper extremities
- ✓ Maintaining or increasing range of motion
- ✓ Measurement, evaluation and increase of upper limbs strength
- ✓ Relaxation of muscle spasms
- ✓ Prevention or retardation of disuse atrophy
- ✓ Increasing local blood circulation

EVALUATION

- ✓ Range of Motion
- ✓ Force
- ✓ Muscle activity

Meissa OT is an advanced rehabilitation robot that is suitable for both **adults and children**, providing **effective rehabilitation** solutions for **in-clinic and home-use** applications.