

The NeuroGym Trainer



SOPHISTICATED SENSORS HELP TO IMPROVE MOTOR CONTROL AND COORDINATION
WHILE ENCOURAGING FREQUENT USE AND INTENSIVE TRAINING



The NeuroGym® Trainer is a mobile, multi-faceted biofeedback device designed to help clients regain motor control and coordination. The NeuroGym Trainer uses input from various sensors to control the action of computer games, for instance to move a paddle to intercept a ball or to steer a car along a track. Targeted muscle activity and movements can be encouraged or discouraged by simple adjustments to software parameters. Successfully playing the game, then, depends upon meeting the minimum therapist-determined muscle activation or movement parameters. This mechanism provides real-time, speed sensitive feedback, allowing highly intensive goal-oriented and motivational rehabilitation.

Unlike traditional biofeedback devices, the NeuroGym Trainer provides exceptional versatility through the use of various input sensors that monitor muscle activity (EMG), weight shift or pressure changes, tilt, and proximity to a target. A therapist may choose to use a sensor individually or in combination with others. In addition, therapists can choose from a number of programs to design treatment plans ranging from simple one-channel programs to multi-channel training set-ups. This versatility allows therapists to target individual muscles for relaxation or activation or to train more complex multi-joint movements.

Features

- Goal-oriented, motivational training software emphasizes both movement accuracy and speed sensitivity
- Monitor displays the game and oscilloscope simultaneously
- Multiple sensors are available, including EMG, pressure, tilt, stretch, proximity, joint angle alarm goniometer, and incontinence vaginal probe
- EMG sensors can detect even minimal muscle activity
- Game and oscilloscope settings can be stored for use in multiple training sessions and to record patient progress

Clinical Applications

- SPINAL CORD AND BRAIN INJURIES
 - STROKE • CEREBRAL PALSY
- MULTIPLE SCLEROSIS, PARKINSON'S DISEASE, DYSTONIA
 - MUSCLE IMBALANCE, PERIPHERAL NEUROPATHIES, POST-SURGICAL JOINT RETRAINING, INCONTINENCE
 - POST INJURY STRENGTH AND BALANCE TRAINING

TESTIMONIAL

"The NeuroGym Trainer gave me, for the first time, a sense of truly targeting the paretic muscles of my foot. I had never seen a machine like this before and it motivated and gave me hope that I would be able to effectively train my weak and numb foot muscles. With such intensive training of movement I could not sense before, I was able to improve my toe and foot control and get rid of my crutches."

Aaron, a 43 year-old man with paresis of the lower extremities
secondary to spinal stenosis



In Action

Within only six weeks of training with the NeuroGym Trainer, a woman with frozen shoulder who was limited to 45° of shoulder abduction regained a functional range of 135°.

After a stroke, a man in his 50's had limited control of the left upper extremity and did not have functional use of his hand and arm to, for example, turn a door handle. By training with the NeuroGym Trainer he regained functional use of the arm for activities of daily living.

A young man with drop foot could not walk without an ankle-foot orthosis. After training with the NeuroGym Trainer he regained control of the dorsiflexors to the point where he could walk safely without a brace.

Benefits

- Improves motor control and coordination
- Encourages increased frequency and intensity of training sessions
- Increases active range of joint motion
- Increases weight bearing ability and balance (static and dynamic)
- Decreases muscle tension
- Improves coordination between agonist and antagonist muscle pairs
- Improves coordination of functional synergies
- Discourages unwanted muscular activity within a particular movement
- Improves coordination of a movement spanning multiple joints

SPECIFICATIONS

MODEL # NGA-4-A

The NeuroGym Trainer system is contained in a durable, hardshell carrying case (17.8" x 12.8" x 5.1") and includes:

- Acer Aspire 3620 with Celeron 1.5 GHz processor & 248 MB RAM
- Operating System: Windows XP Home Edition
- Power adapter, USB mouse
- Pre-loaded NeuroGym Trainer software games
- Four channel interface unit
- Standard sensor comes with 2 EMG sensors and 2 pressure sensors
- Additional sensors available for purchase: Tilt Sensor, Proximity Sensor, Alarm Goniometer, Instrumented Ankle Trainer, Stretch Sensor, Fine Pressure Sensor



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Research in neural plasticity has shown that patients' capacity to relearn lost motor abilities is much greater than previously believed. Until now, however, therapists have had few, if any, tools to help make this possible. The NeuroGym Technologies equipment, developed by physiotherapists, can help you enable your patients to recover and progress beyond expectations.

The NeuroGym Trainer is one of several neuro-rehabilitation machines designed by NeuroGym Technologies to promote the motor-relearning process and significantly improve patient mobility.

