NEUROGYM®
TIM TRAINER

INTEGRATING CAMERA CAPTURE TECHNOLOGY & INTERACTIVE GAMING TO IMPROVE MOTOR CONTROL AND COORDINATION

Re-training motor skills that have been lost due to injury, illness or simply disuse takes intensive practice. But repetitive exercises quickly lead to boredom and loss of adherence to a rehabilitation program. The NeuroGym® TIMTrainer overcomes this challenge by creating an engaging and motivational environment for re-learning motor abilities.

Using a combination of camera-captured movement technology and NeuroGym®'s patented computer algorithms for movement training, the TIMTrainer creates a fun and enjoyable environment for re-learning motor skills. The location of coloured sensors held by or attached to the user is recorded by the camera and interfaced with computer games. Desired movements such as reaching, standing up from a seated position, weight shifting or stepping can then control a computer game. The range, speed and general complexity of the game can be changed to allow for the user's ability and progress. Three games are included: Ski, Pong and Pinch.

The sensors are round and light objects made out of red, blue or green material. They can be held by the training individual or attached to the moving body part with a clip or elastic. The user can play the Ski and Pong games with either one or two sensors. The Pinch game can be used to train the separation and approximation of body parts (e.g., fingers) by playing with two sensors.

The TIMTrainer can be used for the training of a wide variety of movements of the head, trunk, and upper and lower extremities. It can be used to enhance the intensity of many exercises such as those for hand control and balance. An effective tool on it's own, the TIMTrainer may also complement training with a variety of other Neuro-Gym Technologies equipment or other training techniques. For example, a combination of the Sit-to-Stand Trainer with a vertically moving sensor allows for an exceptionally effective environment to improve standing and squating. Similarly, a combination of the Exercise Wheelchair and a horizontal sensor allows for intensive training of core trunk muscles and the lower extremities.

KEY BENEFITS

- IMPROVE INTENSITY OF TRAINING

- ENHANCE REHABILITATION OUTCOMES

- EFFECTIVELY TRAIN A WIDE VARIETY OF MOVEMENTS

TESTIMONIAL

"The TIMTrainer make the exercises in rehabilitation much more enjoyable. I'm able to work more intensively and I don't focus on the pain nearly as much. Without even realizing it, I was able to dramatically increase the range of movement of my frozen shoulder."

Elizabeth,
A 55 year-old woman recovering
from a broken shoulder
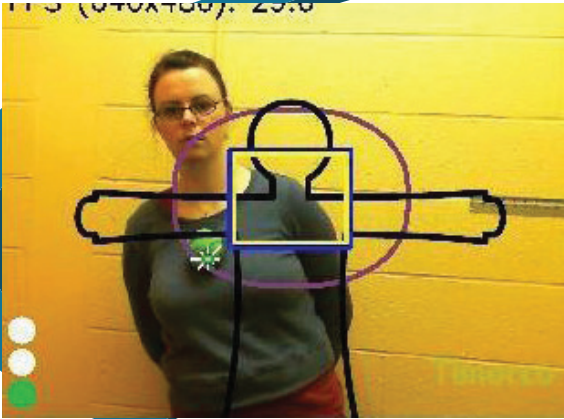
SPECIFICATIONS

MODEL# NGTT-1-A

- Installation CD
- 3 coloured spheres
- USB camera minimum 480 x 640
- Instruction Manual
- Optional: laptop PC, carrying case

MINIMAL SYSTEM REQUIREMENTS

- Processor: DualCore – 2 Ghz
- Memory: 2 GB RAM
- USB 2 Port
- 10 GB of free space on hard drive
  Network card (LAN or WiFi)

NEUROGYMTECH

Neurogym Technologies Inc.
100 - 1050 Morrison Drive
Ottawa, Ontario, Canada K2H 8K7

T   613-523-4148
TF 1-877-523-4148 (Canada & US)
F   613-523-9848
E   sales@neurogymtech.com

www.neurogymtech.com

IN ACTION

A young man with a peripheral nerve injury that practically paralized his arm could not train and strengthen that arm without an active assist of a wall pulley. However, with the assistance of the pulley, he was able to move his arm repeatedly up and down (flexion or extention of the shoulder) and also sideways (horizontal abduction/adduction). Using the NeuroGym TIMTrainer, by simply holding a sensor while using the pulley, he was able to play the Pong game along the horizontal and vertical axis. Via playing this speedsensitive game, his brain was able to experience the control of these movements and adapt plastically thus resulting in significantly improved movement of that arm.

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The TIMTrainer has been used as part of a 12 week training program for improving standing ability of residents in Long Term Care (LTC). Using this motivational, game environment in combination with enabled standing and squatting with the Sit-to-Stand Trainer, 11 LTC residents (average age of 87.4 years) each of whom required assistance for the sit-to-stand movement in their ADLs were able to intensively practice standing and squatting. Progressively reducing body weight assistance combined with gradually increasing the difficulty of the game-based feedback provided by the TIMTrainer resulted in significantly improved ability to stand in frail older adults who had previously been dependent on assistance. While all 11 participants had required assistance to perform 5 consecutive sit-to-stand movements at the study outset, at the completion of the 12 weeks of training, 4 could do this independently.

Too often physical frailty is seen as a fact of life for the elderly. Reduced strength in the lower limbs and overall weakness can lead to increased risk of falls and increasingly reduced participation in Activities of Daily Living. Until now, however, therapists, program managers and restorative care workers have had few, if any, practical tools to change this situation. The NeuroGym Technologies unique line of mobility training devices provides rehabilitation departments, long term care and nursing facilities with a solution.

The NeuroGym TIMTrainer is one of several mobility enabling tools designed by NeuroGym Technologies to promote the motor-relearning process and significantly improve patient mobility. Each piece of equipment can be used on its own or combined with a biofeedback-based computer program.