Movement-Enabling Rehab Equipment

NEUROGYMTECH

BUNGEE MOBILITY TRAINER

MANUAL

Neurogym Technologies Inc. 2016 | 100-1050 Morrison Drive, Ottawa, ON, Canada | **neurogymtech.com**

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FOR SERVICE OR PART INFORMATION CALL:

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UNPACKING INSTRUCTIONS

The Bungee Mobility Trainer (BMT) is shipped fully assembled on a 4'x4' skid with the standard chest harness attached to the back of the machine. Unlock the wheels by flipping the wheel lock levers up and roll the Bungee Mobility Trainer off the skid. Simply remove protective packaging and the Bungee Mobility Trainer is ready for use.

PRODUCT OVERVIEW

The Bungee Mobility Trainer is a versatile body weight support mechanism enabling safe, intensive motor retraining. Its unique design enables the movements necessary to re-train an individual's gait and natural protective reactions by counteracting loss of stability as naturally as possible. In this respect the Bungee Mobility Trainer mimics an aqua therapy environment in terms of body weight support, without the resistance of water to movement and with the ability to vary the buoyancy. The unique free-moving and height-adjustable seat, in combination with the bungee cord mechanism, allows the individual graduated support so they can redevelop or automatize normal protective stepping reactions.. Full body weight support can occur in the Bungee Mobility Trainer only if the patient completely loses their balance. Other body weight support systems, that hold the patient from above, do not allow this graduated support, and therefore don't allow the same degree of 'real-life' practice of gait and, most importantly, the protective reactions necessary to prevent falls.

Visit **www.neurogymtech.com** to access Application notes and training videos

SPECIFICATIONS

- 30" w x 38" d x 38" h (in the lowest position)
- Weighs 140 lbs
- Supports up to 400 lbs

BENEFITS

ENHANCE REACQUISITION OF MOTOR ABILITIES

Early mobilization of patients is often limited by the lack of a safe, effective way to initiate gait training. The Bungee Mobility Trainer permits graduated weight bearing and provides the safety and mobility necessary to retrain protective reactions like side stepping and one leg stance.

IMPROVE BALANCE

Static and dynamic stability can be retrained because of the graduated body weight support mechanism which enables the client to increase the amount of weight bearing as their strength, stamina and mobility improve. The rolling wheels allow for movement in any direction, enabling a patient to improve lateral, forward and backward mobility – crucial abilities for redeveloping the protective and corrective reactions necessary for safe ambulation.

REDUCE NUMBER OF THERAPISTS NEEDED

The Bungee Mobility Trainer permits safe ambulation with graduated support, allowing patients to move freely and rest as needed on the seat. In some cases, the client may even ambulate independently.

IMPORTANT

Read all instructions and precautions prior to using the Bungee Mobility Trainer

LIST OF PRECAUTIONS FOR THE BUNGEE MOBILITY TRAINER:

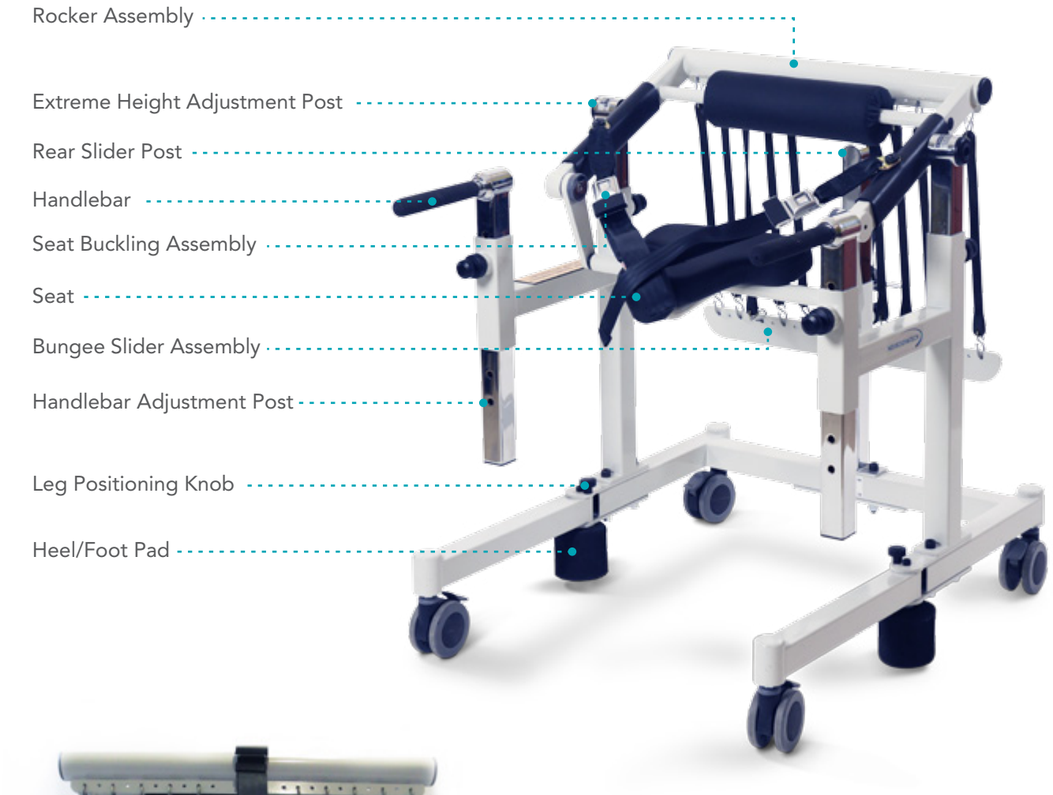
1. Inspect the bungee cords regularly to ensure that they have not weakened or cracked. Also check that the bungee cords are well secured to the clips and that the clips are fastened properly to the Bungee Mobility Trainer.
2. Always use the brakes while bringing an individual into and out of the Bungee Mobility Trainer. The individual should be closely supervised at any point that he/she is not completely fastened into the Bungee Mobility Trainer.
3. Unless indicated and supervised by a therapist, the Bungee Mobility Trainer should not be used with individuals who have extremely weak ankles, especially if the individual cannot support his/her body weight with the upper extremities.
4. If the individual has a tendency to fall forward, the pelvic support alone will not prevent the upper body from folding forward. If the therapist/trainer is not positioned in front of the Bungee Mobility Trainer, always use the harness to prevent extreme forward displacement of the upper body.
5. Ensure that the individual does not get his/her foot caught between the base of the Bungee Mobility Trainer and the floor. If the individual naturally assumes a wide stance, widen the frame by opening the legs at the front of the base.
6. While sitting down, make sure that the individual rests his/her back against the back rest and does not lift up his/her feet. It is possible for the individual to partially slip between the space between the seat and the backrest if the above measures are not taken. Do not use the BMT with individuals too small to effectively benefit from the back rest.

7. Supervise the individual at all times that he/she is in the Bungee Mobility Trainer.
8. Take care to provide a safe training environment. The floor should be even and free from debris. The Bungee Mobility Trainer should not be used near a stairway.
9. When training in the Bungee Mobility Trainer at high speed (e.g., running), use caution not to bump into other people or objects.
10. **Do not exceed 400lbs in the Bungee Mobility Trainer.**

IDENTIFYING THE PARTS OF THE BUNGEE MOBILITY TRAINER TRAINER: FIGURE 1

- Positioning Pin Assemblies – 5
  - 2 Extreme Height
  - 2 Handlebars
  - 1 Seat Adjustment
- Rocker Assembly
- Extreme Height Adjustment Posts – 2
- Seat
- Seat Buckling Assembly
- Bungee Slider Assembly
- Bungee Cords – 10
- "S" Hooks – 10
- Rear Slider Post
- Harness Buckling Assembly
- Handlebar Adjustment Posts – 2
- Leg Positioning Knobs – 2 Heel/
- Foot Pads – 2
- Wheel Locks – 4

FIGURE 1: BUNGEE MOBILITY TRAINER



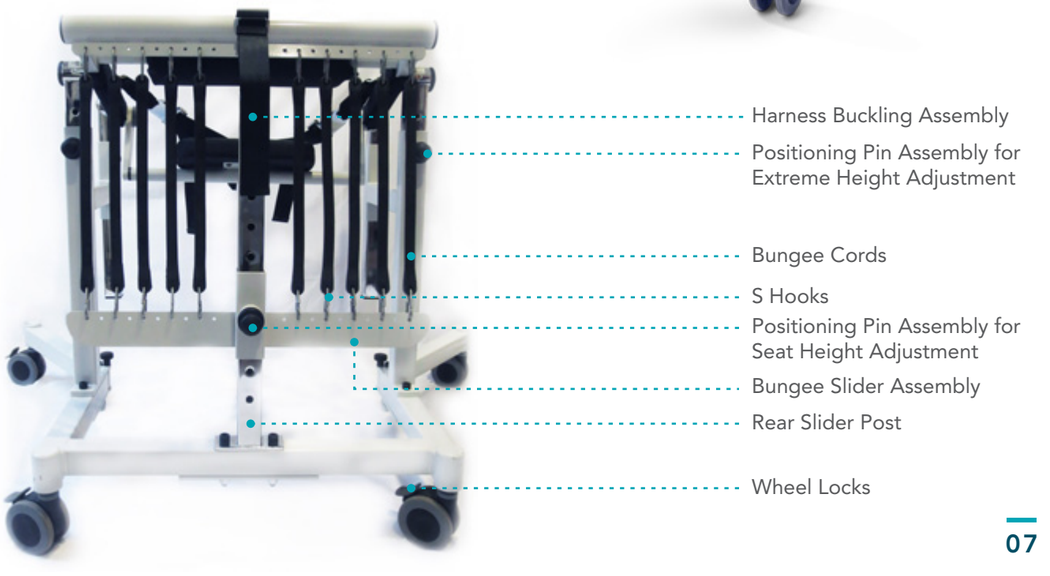


FIGURE 2:
BUNGEE MOBILITY CHEST HARNESS

FIGURE 3:
POSITIONING PIN ASSEMBLY

INSTRUCTIONS FOR USE

USING THE POSITIONING PIN ASSEMBLIES

There are 5 Positioning Pin Assemblies on the Bungee Mobility Trainer. The function of these is to allow adjustments for each individual client. The Positioning Pin Assemblies are composed of two parts, the Positioning Pin and the Locker Ring (See Figure 2). The Locker Ring is only required to be rotated ½ turn counterclockwise to loosen the Assembly. The Positioning Pin can only be pulled out when the Locker Ring is loosened. After the Locker Ring is loosened, pull the Positioning Pin out and move the desired component up or down. While moving the desired component, let go of the Locking Pin to allow it to drop into the next setting. Once the desired position is achieved, turn the Locker Ring ½ turn clockwise to secure the assembly.

EXTREME HEIGHT ADJUSTMENT POSTS

The extreme height posts should be adjusted so the top of the posts are just below patient's iliac crest. This is not a critical measure, but a rough idea of the proper positioning of the extreme height posts. The Bungee Mobility Trainer is shipped pre-adjusted to a standard height (with three holes open).

When adjusting the height adjustment posts of the Bungee Mobility Trainer seat for very tall or very short users, raise or lower the rocker assembly one hole at a time in a symmetrical manner. At this point ensure that all the bungee S hooks are vertical. This may be more easily done with two people.

CLIENT TRANSFER INTO THE BUNGEE MOBILITY TRAINER

A patient should be able to support themselves in a walker or in parallel bars for 30 seconds to a minute to be a candidate for this machine. If the person cannot do this, one should improve their standing ability using the Sit-to-Stand Trainer, (see the web site for more details) Transfer to the Bungee Mobility Trainer can be done from a NeuroGym® Sit-to-Stand Trainer (see Other NeuroGym Technologies Products), a walker, parallel bars, or directly from a wheelchair.

While the patient is standing in a walker, or holding on to a grab bar, wheel the Bungee Mobility Trainer up behind the patient, with the seat adjusted to be very low. Once the crotch pommel is prominently showing through the patient's legs, connect the female end of the buckles attached to the tops of the rocker assembly to the male portion of the buckles on the crotch pommel. Lock all 4 wheels. **Client must remain standing until seat buckling is completed. It is not safe for the client to sit down until seat belt assembly is secure.** The client can continue to use the support of a walker, parallel bars, wall railing, or grab bar until fully strapped into the Bungee Mobility Trainer.

Apply Chest Harness.

Connect the male part of the Harness Buckling Assembly, located on the rear slider post, to the female part of the buckle on the chest harness. The harness may reduce apprehension in

some clients by limiting the degree of forward sway. With close supervision and at the clinician's discretion, training can be done without the harness.

ADJUSTING THE BUNGEE MOBILITY TRAINER SEAT HEIGHT

Selection of seat height is dependent upon how much support is required by the client. Consult a physiotherapist for the optimum body weight support, however, if the client can support his/ her weight comfortably, minimal body weight support is a good rule of thumb.

To adjust the seat height, the client must be standing. Use the Positioning Pin Assembly on the Bungee Slider Assembly to make the adjustment. (See Using the Positioning Pin Assemblies).

When the Bungee Slider Assembly is moved down, the seat moves up, providing more support. When the slide assembly is moved up, the seat moves down, providing less support and forcing the client to support more of their weight.

See "Extreme Height Adjustment Post" section if the client requires large seat height adjustments.

ADJUSTING THE BUNGEE MOBILITY TRAINER SEAT ANGLE

The angle of the seat may be adjusted by a combination of the manipulating the slider assembly and tightening of the seat belt straps. If the seat belt straps are pulled too tightly, it can be uncomfortable for the client and constrict the range of motion when attempting gait and mobility training. If the seat belt straps are too loose, they won't provide adequate support for the client through a practice fall. You want the seat to be as close to horizontal as possible to provide optimal comfort and support to the client.

WIDENING THE BUNGEE MOBILITY TRAINER LEGS

The front legs of the Bungee Mobility Trainer are shipped in the neutral position. The Leg Adjustment Knobs in the middle of the legs pull up to allow the legs to move outward to a maximum of 45 degrees. When the leg is in the proper position, the knob will pop down into a hole securing the leg. Reverse this operation to put the legs back to the neutral position. Widening the legs allows the client to take wider side steps (e.g., to kick a soccer ball, dance etc.)

USING THE BUNGEE MOBILITY TRAINER

Unlock the wheels by lifting the wheel lock levers into the up position. After securing the seat belt straps, the client can begin by sitting on the seat and then move to a standing position. The handlebars can be grasped for support. Initial steps forward, backward and sideways will orient the client to the feel of the Bungee Mobility Trainer and support it provides. Assistance can be given if the client has initial difficulty moving the Bungee Mobility Trainer independently. Encourage the client to try falling backwards so that they experience the security of the graduated support from below. Note that while seated, the client should not raise their feet off the floor.

SAMPLE ACTIVITES

- Forward, backward and sideways ambulation with or without hands
- Balancing on one foot
- Bouncing, hopping or jumping
- Dancing/waltzing
- Practicing activities such as putting a golf ball
- Playing Wii Fit games and other biofeedback-based training safely
- Catching games
- Balloon badminton
- Kicking a soccer ball

CLIENT TRANSFER OUT OF THE BUNGEE MOBILITY TRAINER

Position the client in the Bungee Mobility Trainer in front of support such as walker, NeuroGym Sit-to-Stand Trainer (see Other NeuroGym® Technologies Products), wall railing or parallel bars.

Lock all 4 wheels.

The client must be standing while seatbelt assembly is unfastened. Undo the seatbelts from the legs and harness to allow for the complete removal of the Bungee Mobility Trainer from behind the client.

If the client is stable standing, the harness may be removed while they are standing. If the client is tired or unstable, remove the harness after they are seated.

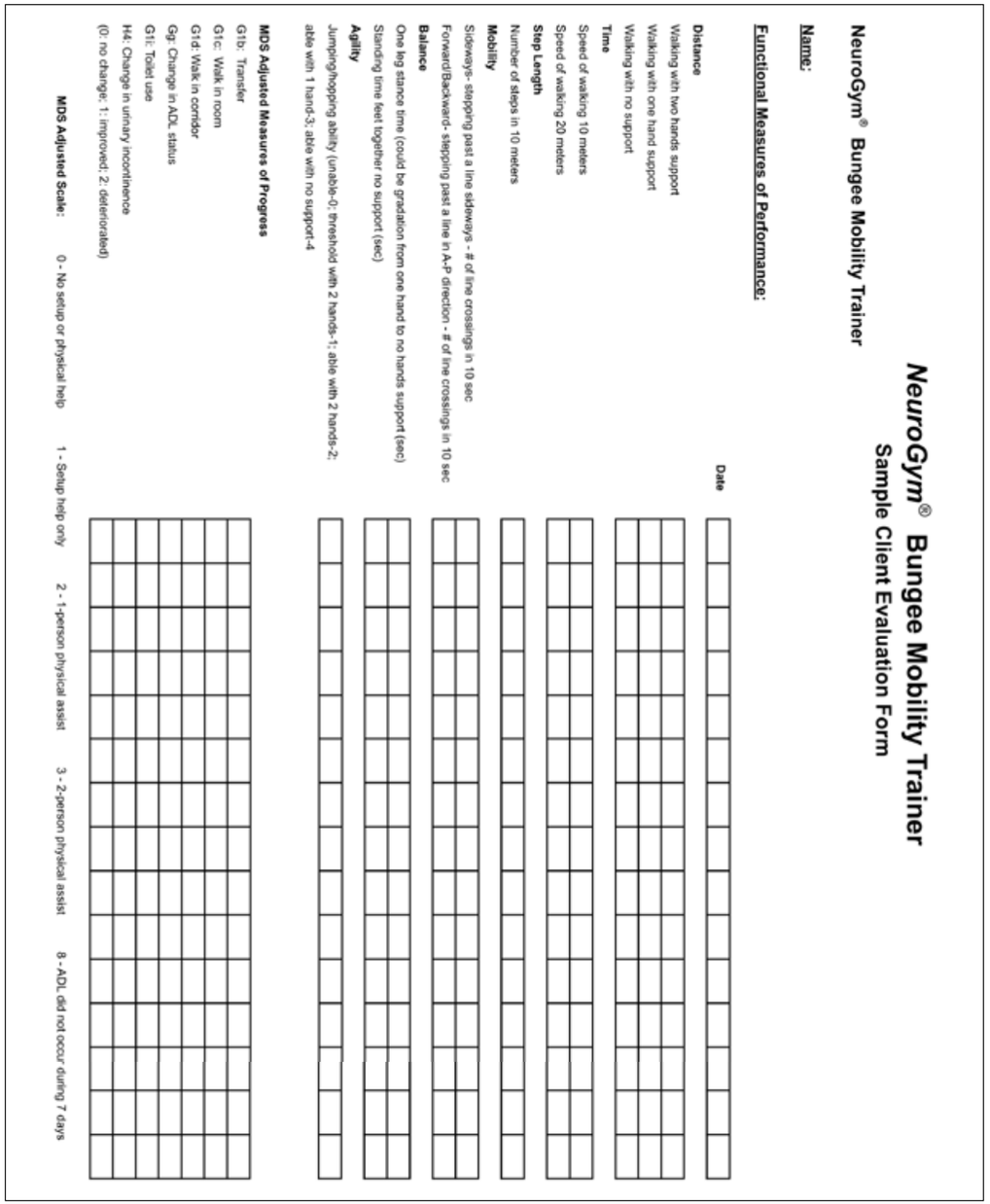
MAINTENANCE

- Inspect bungee cords regularly to ensure rubber is not weakened or cracked. Ensure bungee cords are secured to "S" clips.
- Ensure "S" clips are properly secured to frame. Clean/disinfect seat and handlebars between uses. Most common disinfectants are safe for use.
- Inspect brakes regularly to ensure proper function
- Inspect seatbelts to ensure fastening mechanisms are secure.

SAMPLE EVALUATION SHEET

The following sample evaluation sheet (see chart #1) may be used with the guidance of a health professional to collect relevant objective measurements to record client progress.

SAMPLE EVALUATION SHEET: CHART 1



NeuroGym® Bungee Mobility Trainer

Sample Client Evaluation Form

Name:

Functional Measures of Performance:

Date

Distance
Walking with two hands support
Walking with one hand support
Walking with no support

Time
Speed of walking 10 meters
Speed of walking 20 meters

Step Length
Number of steps in 10 meters

Mobility
Sideways- stepping past a line sideways - # of line crossings in 10 sec
Forward/Backward- stepping past a line in A-P direction - # of line crossings in 10 sec

Balance
One leg stance time (could be gradation from one hand to no hands support (sec)
Standing time feet together no support (sec)

Agility
Jumping/hopping ability (unable-0; threshold with 2 hands-1; able with 2 hands-2; able with 1 hand-3; able with no support-4

MDS Adjusted Measures of Progress
G1b: Transfer
G1c: Walk in room
G1d: Walk in corridor
Gg: Change in ADL status
G1i: Toilet use
H4: Change in urinary incontinence
(0: no change; 1: improved; 2: deteriorated)

MDS Adjusted Scale: 0 - No setup or physical help 1 - Setup help only 2 - 1-person physical assist 3 - 2-person physical assist 8 - ADL did not occur during 7 days

CE CERTIFICATE OF COMPLIANCE

CE Certificate of Compliance

Neurogym Technologies Inc.

February 10, 2013

Manufacturer: Neurogym Technologies Inc
1644 Bank Street
Ottawa, Ontario, Canada
Telephone No. +1-613-523-4148

Products:

- Neurogym Bungee Mobility Trainer (BMT) - Model number E-BW-A
- Sit-to-Stand Trainer (STST) – Model Number E-STS-A
- Pendulum Stepper (PS) – Model Number E-PS-A
- Exercise Wheelchair (EW) – Model Number E-EW-A

The undersigned hereby declares, on behalf of Neurogym Technologies Inc. of Ottawa, Ontario, that the above referenced models/types, to which this declaration relates, is in conformity with the provisions of:

European Council Directive 2001/95/EC (General Product Safety Directive)
European Council Directive 2007/47/EC (Medical Device Directive).annex VII of 93/42/EEC.

The product described above has been tested and conforms to the following standards:

- BS EN 957-1 2005 – Stationary Training Equipment – Part 1: General Safety Requirements and Test Methods
- BS EN 957-8 1998 – Stationary Training Equipment – Part 8: Steppers, stairclimbers and climbers. Additional specific safety requirements and test methods

Test Reports: (By John Dickie President, MMDI)

- MMDI 06022013 – BMT (Bungee Mobility Trainer)
- MMDI 06022013 – STST (Sit-to-Stand Trainer)
- MMDI 06022013 – PS (Pendulum Stepper)
- MMDI 06022013 – EW (Exercise Wheelchair)

Kevin Mansfield
President & CEO
Neurogym Technologies

OTHER NEUROGYM® PRODUCTS

SIT-TO-STAND TRAINER

Actively assist the standing motion with support at the knee, trunk and arms to promote early mobility. The NeuroGym® Sit-to-Stand Trainer uses a counter-weight mechanism to provide a safe and effective way to strengthen weight-bearing muscles and increase standing stability and endurance.

PENDULUM STEPPER

The NeuroGym® Pendulum Stepper is a self-assisted trainer of reciprocal stepping designed to specifically target the antigravity muscles that are so important for maintaining balance and gait. Even in individuals with significant muscle weakness, it is designed to make improving the strength and endurance of the stepping motion simple and convenient.

ANKLE TRAINER

Strengthen paretic, sprained or post-surgical ankles by isolating and training targeted muscle groups through a complete range of motion. The NeuroGym® Ankle Trainer is a lightweight, portable device with an axle and foot platform that can be locked into place. This unique design permits training in dorsiflexion, plantar flexion, inversion, eversion, internal and external rotation—motions that are difficult to isolate and specifically strengthen.

EXERCISE WHEELCHAIR

The NeuroGym® Exercise Wheelchair converts from a standard wheelchair into a variable resistance flexion and extension exercise machine for the trunk and lower extremities. With the flick of a switch, the wheelchair seat, backrest or both can be enabled to allow for flexion and extension exercises of trunk, hips and knees. The special footrest apparatus, which is stored under the seat, pulls out smoothly for use in exercise and folds back up easily so that it does not interfere with standard use of the wheelchair.

NEUROGYM®™ TIMTRAINER

The NeuroGym® TIMTrainer creates 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 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.

NEUROGYMTECH

PATENT #: 7,156,789

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