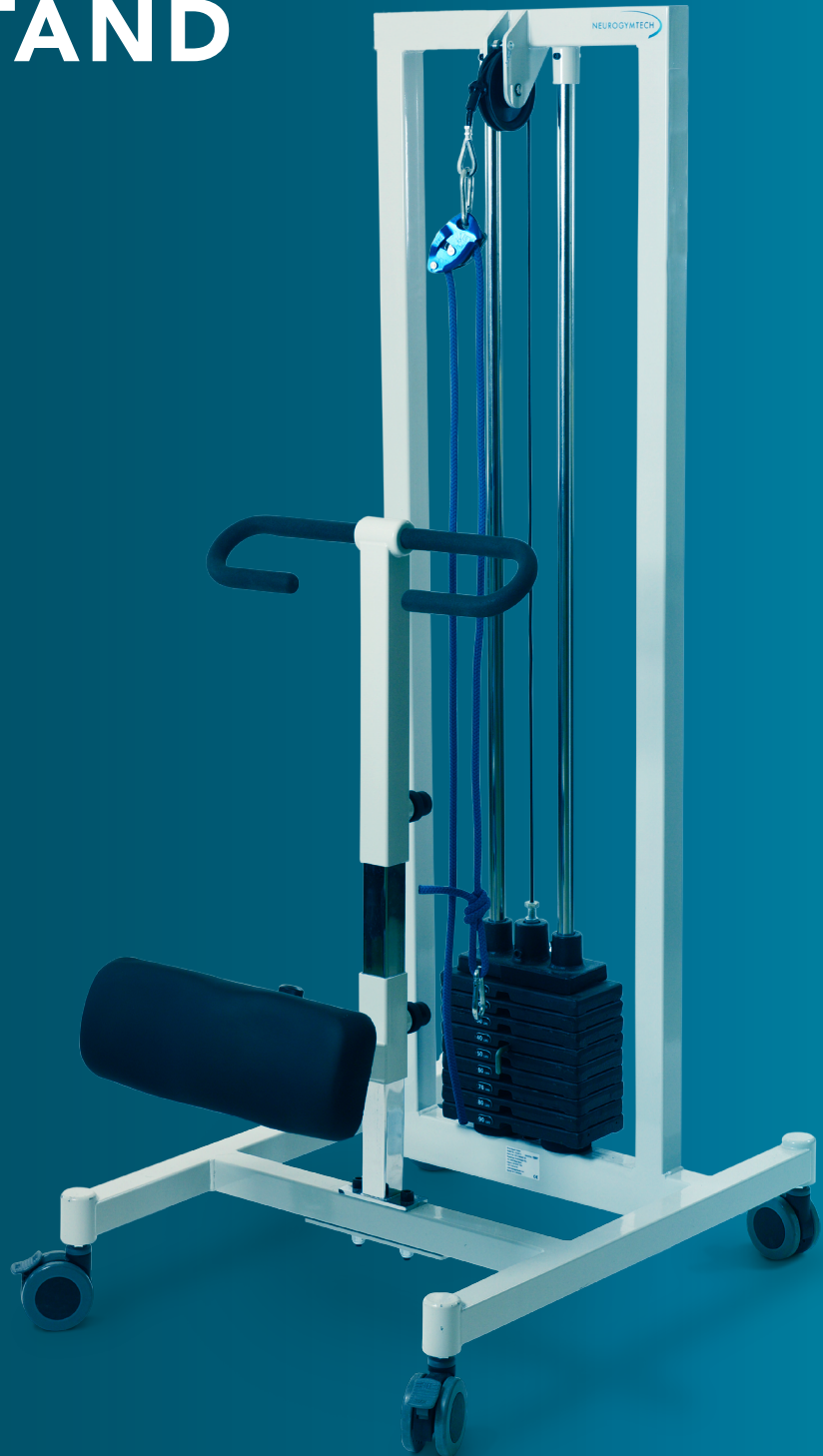


SIT-TO-STAND TRAINER





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UNPACKING INSTRUCTIONS

The Sit-to-Stand Trainer is shipped fully assembled on a 4'x4' skid. The unit comes with 1 regular sling and 1 bariatric extender strap. Unlock the wheels by flipping the wheel lock levers up and roll the Sit-to-Stand Trainer off the skid. Remove the protective wrapping. The sling(s) and bariatric extender will be included inside this wrapping.

PRODUCT OVERVIEW

The NeuroGym® Sit-to-Stand Trainer uses a counterweight mechanism to provide a safe and effective way to strengthen weight-bearing muscles and increase standing stability and endurance. Unlike other tools that lift people to, or maintain them in, a standing position, The Sit-to-Stand Trainer enables a patient to successfully initiate the motion of standing-up, even with weakened or seemingly unsuccessful efforts. Through continued training and gradually reducing the counterweight, a client can relearn the standing-up skill. Equipped with a weight-stack and a locking pulley system, the counterweight can be easily applied to the Sit-to-Stand Trainer. Because it is mounted on wheels, early steps can be attempted in all directions.

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



SPECIFICATIONS

- 28" x 36" x 72"
- Weighs 260 lbs
- Slings are constructed from antimicrobial Recovery 5 healthcare fabric and Meshtex Silver to prevent the formation of bacteria, fungi, dust mites and mould.

BENEFITS

- Encourages early weight bearing and active mobilization at the hips and knees
- Improves standing balance and stability significantly improves transfers
- Improves client rehabilitation without physical strain to the therapist
- Actively assists the standing motion with support at the knee, trunk and arms to promote early mobility.
- Improves circulation and can add to improved continence and reduced pressure sores.

WEIGHT LIMIT FOR THE SIT-TO-STAND TRAINER

There is no weight limit for the Sit-to-Stand Trainer. A client's candidacy would be limited by their girth, rather than their weight. All body shapes are different, but a rough rule of thumb would be that a regular sling and extender strap would be appropriate for patients weighing up to 275lbs, while the bariatric sling and extender strap would be appropriate for patients weighing up to 620lbs. The maximum girth you can achieve with the regular sling is 55" and the bariatric extender strap will enable another 25" of girth, while the bariatric sling offers 75" of girth and up to 100" with the bariatric extender.

ACCESSORY	STANDARD GIRTH LIMIT	MAXIMUM GIRTH LIMIT
Regular Sling	55"	80"
Bariatric Sling	75"	100"
The Bariatric Extender may be adjusted from 0"-25" to offer additional girth when needed.		



IMPORTANT

Read all instructions and precautions prior to using the Sit-to-Stand Trainer

LIST OF PRECAUTIONS FOR THE SIT-TO-STAND TRAINER:

1. It is not advisable to use the Sit-to-Stand Trainer with individuals who have extreme full body weakness (quadriplegia) unless supervised by a clinician.
2. Use special caution with individuals who have severe osteoporosis, especially if they have not attempted to stand for a long period of time.
3. Use caution with individuals who have weak ankles. Extra support may be necessary at the ankle joint to prevent injury.
4. Use caution with individuals who have flexor or extensor tone in the upper extremity. Closely supervise to ensure that the hands do not let go of the handle bar.
5. Use caution with individuals who have flexor tone in the lower extremity (e.g. place your foot behind the user's heel). Closely supervise to ensure that the legs do not lift upwards from the ground.
6. Ensure that the individual has the ability to sit down when fatigued, especially when performing mobility exercises.
7. Lock the wheels of the Sit-to-Stand Trainer for all stationary movements and/or during any standing attempt prior to performing mobility exercises.
8. Adjust the knee support pad height to a level that is at, or slightly below the knee joint.
9. Ensure that the knee support pad is set at a distance close enough to allow the individual to grasp the handle bar.
10. Check frequently that the knees do not slip laterally off the knee support pad.
11. Ensure that the counterweight support strap is attached around and/or below the bulk of the buttocks region to prevent the strap from slipping upwards.
12. Properly supervise the individual at all times that he/she is in the Sit-to-Stand Trainer.
13. Always provide a safe training environment. The floor should be flat, even and free from debris.

IDENTIFYING THE PARTS OF THE SIT-TO-STAND TRAINER: FIGURE 1

- Positioning Pin Assemblies – 3
 - 1 Handlebar Adjustment
 - 1 Knee Pad Height Adjustment
 - 1 Knee Pad Relative Anterior-Posterior Adjustment
- Petzl
- Rope
- Pulley
- Weight Stack Cable
- Weight Stack
- Weight Adjust Pin
- Carabiners – 2
 - 1 To attach Rope to Sling
 - 1 To attach Petzl to Weight Stack Cable
- Bariatric Extender
 - Bariatric Center Ring
 - Bariatric Extender Adjustment
- Knee Pad
- Handlebars
- Wheels
- Wheel Locks

FIGURE 1

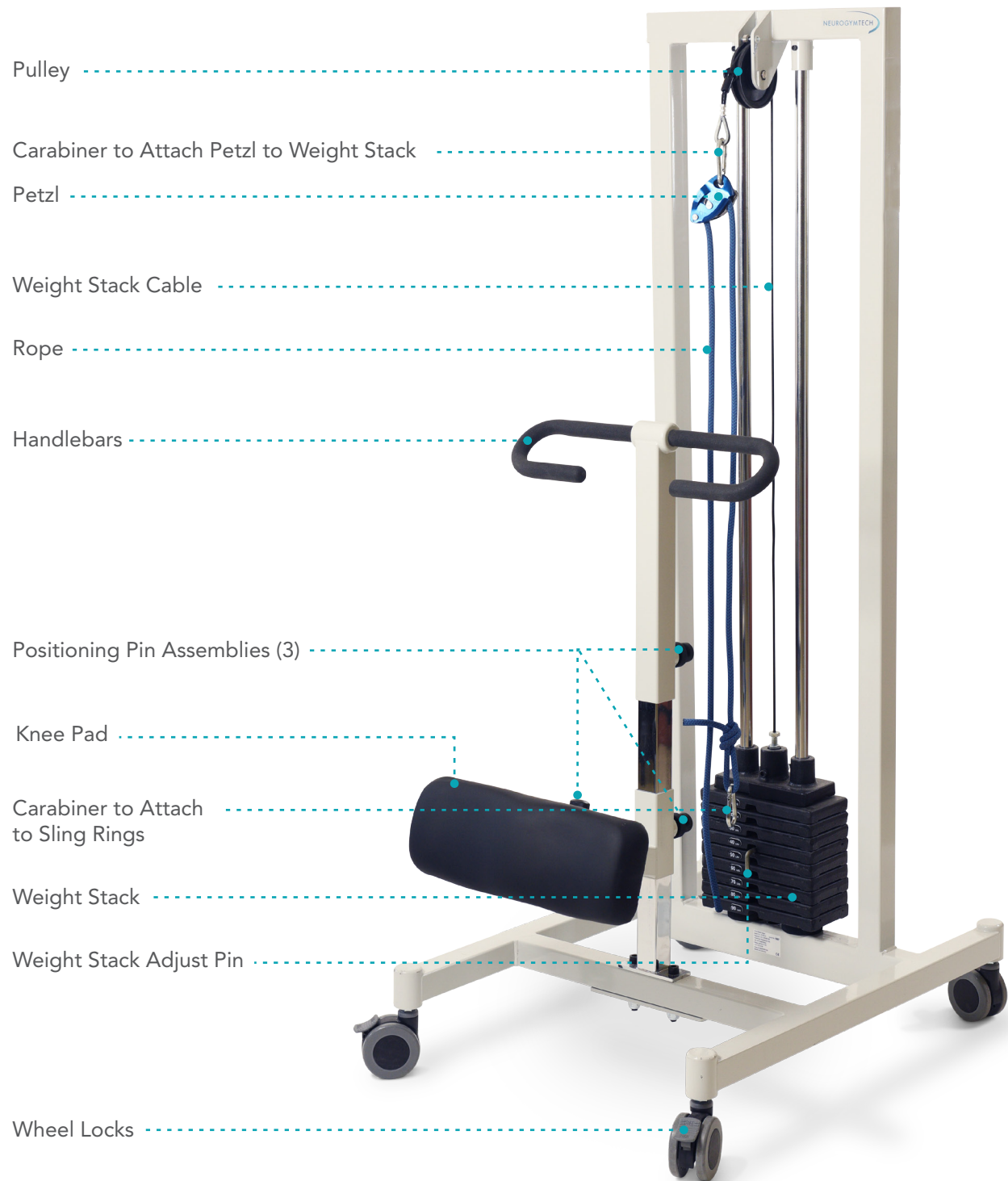
REGULAR SLING



REGULAR SLING WITH BARIATRIC EXTENDER



THE SIT-TO-STAND TRAINER



INSTRUCTIONS FOR USE

Client should be positioned in front of the Sit-to-Stand Trainer with feet flat on the floor, knees slightly apart and in contact with the knee pad. The training can be done from a wheelchair with wheels locked, in a stable sitting chair, or from a sitting position on a bed. If trunk control is an issue, the therapist can support the patient either by holding onto the sling, having one arm around the patient's shoulder or enlist help from a rehab aid or nurse. The client's heels should be positioned slightly back such that there is some dorsiflexion at the ankles and such that the toes are approximately in line with the knees.

SLING POSITIONING

- To position the sling under the seated client, stand behind the client and prepare the sling so that the finished side is to the outside, away from the clients back.
- Ask client to lean forward slightly to enable sling to be slid down client's back and under buttocks such that inguinal strap edge of sling rests along the clients gluteal fold.
- Encouraging client to shift their weight to one side will enable the sling to be slid under the elevated hip. Repeat on the other side to facilitate sling positioning. (This will quickly become easier as clients understand the objective and improve their ability to assist.) See *Figure 2*

FIGURE 2: POSITIONING THE SLING



- Wheelchair arms can be removed or tilted upward for easier access.
- Inguinal straps should be visible between clients' legs and freely accessible for fastening to Velcro attachments once the client is standing.
- Ensure clients' buttocks are centered on sling such that there is an equal amount of sling visible on either side of the pelvis and metal rings when brought together in front of client are centered.
- If clients' girth prevents metal rings on either end of the sling from meeting in front of client, the bariatric extender can be applied. Connect hooks on either end of the bariatric extender to opposite metal rings on the sling.
- Connect the Bariatric Center Ring on the Bariatric Extender to carabiner on rope.
- If the Bariatric Extender is not required, connect the carabiner on the rope to the rings on either end of the sling.
- After the client is in a standing or partial standing position, fix inguinal straps to Velcro fasteners, right strap to right Velcro attachment and left strap to left Velcro attachment, to prevent sling from sliding up and off client's buttocks.

FIGURE 3: POSITIONING PIN ASSEMBLY



USING THE POSITIONING PIN ASSEMBLIES

The three Positioning Pin Assemblies are used to adjust the handlebar height, and the height and relative anterior-posterior position of the kneepad to allow adjustments for particular clients. The Positioning Pin Assemblies are composed of two parts, the Positioning Pin and the Locker Ring. (See Figure 3). The Locker Ring is only required to be rotated $\frac{1}{2}$ 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 you are 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.

POSITIONING THE KNEEPAD

- Ensure all four wheel brakes on the Sit-to-Stand Trainer are locked.
- Ensure client wheelchair brakes are locked.
- Client is typically positioned such that knees are in contact with the knee support pad.
- Position knee support pad such that pad is at or slightly below knee joint and client can still reach handlebar when leaning forward. The knee support pad height and distance from the weight stack are both adjustable by using the Positioning Pin Assembly and moving the pad up/down or in/out to the desired location. The Positioning Pin will snap into the pre-drilled holes, locking the position.

POSITIONING THE HANDLEBAR

- Position handlebar such that when grasped by client, client's arms angle slightly upwards (not parallel to floor), enabling client to engage their arms and their core with each standing attempt.
- If shoulder range of motion or flexor tone limits the client's ability to grasp the handlebar, slight assistance can be provided by pulling on the side of the sling to assist with the standing effort.

SELECTING AND ENGAGING THE COUNTERWEIGHT

- Ask the client to sit back in their chair and begin by positioning the Weight Selection pin at 40 pounds, a good intermediate counter-weight to start with. This counterweight may need to be adjusted up or down depending upon the ease of standing and the clinical goals. Increasing the counterweight will aid in the standing motion and likewise decreasing the counterweight will require more active standing effort from the client.
- Grasp the free end of rope and raise the counter-weight by leaning backwards, maintaining a straight torso and using lower extremities and body weight to assist with the pull.
- Pull in small increments rather than one long pull to raise counterweight.
- Ensure pulling motion is parallel to the rope that connects the client. This is best accomplished by pulling from behind either the left or right shoulder of the client.
- See Figure 4 for an illustration of the above instructions.

FIGURE 4: CORRECT BODY MECHANICS FOR OPERATING THE SIT-TO-STAND TRAINER



Correct pulling position



Incorrect pulling position

- If the rope is pulled out to the side and away from the client, it can cause the plasticized weight cable to get caught in the pulley wheel. This may damage the plastic coating on the Weight Stack Cable.
- To provide client with counterweight support throughout the sit to stand range, pull to position the petzl just above the knotted portion of the rope.
- To provide client with counterweight support at the beginning only, rather than the end of the sit to stand motion, position the Petzl farther away from the rope knot. As client stands, support will be available only until counterweight comes into contact with remainder of weight stack. Note that at this point the Petzl is designed to release.

CORRECT BODY MECHANICS

The pulley system of the Sit-to-Stand is designed to ease and assist the act of engaging the counterweight. The technique shown in Figure 4 is the biomechanically correct and easiest way for the trainer to pull the counterweight. The counterweight should be raised by leaning backwards, maintaining a straight torso, and using the lower extremities to assist with the pull. When done this way, even relatively light trainers can use their body weight to easily pull up the counterweight. It is recommended that the counterweight be pulled up in small increments rather than one long pull.

BEGINNING THE SIT-TO-STAND PRACTICE

Ensure that client's feet are flat on the floor and that arms are extended to grasp the handlebar. Individuals with weak ankles may require additional support to avoid injury at the ankle joint. This support can be provided by the Trainer or with the use of a properly fitted splint/brace. The ankle can be effectively trained with the NeuroGym Ankle Trainer. (See *Other NeuroGym Technologies Products*)

Individuals with lower extremity flexor tone must be observed to ensure heels do not elevate during the standing motion. The Trainer may place a foot behind the client's heels to ensure feet stay flat on the ground.

Start the training with controlled partial standing; gradually progress to full standing.

Observe the smoothness of the standing motion. If the client is being pulled to standing and contributing little to the standing effort, reduce the counterweight. If they are unable to achieve even a slight standing motion, increase the counterweight. The goal is to provide the client with just enough assistance to be able to successfully perform the standing motion, but with as much independent effort as possible.

ADJUSTING THE COUNTERWEIGHT

Adjust the counterweight when the client is in a seated position. Disengage the weight by releasing the Petzl while firmly gripping the rope and lowering the weight down onto the weight stack. As when pulling up a weight, make use of body weight and lower extremities while maintaining a slight backward lean when lowering the weight.

STANDING PRACTICE ACTIVITIES

When the correct counterweight is selected, the client may perform repeated standing from a seated position. Alternatively, once standing, a squatting motion (halfway down to a seated position and back to standing) may be practiced.

Once standing, weight shifting from one foot to the other may also be practiced.

When standing is stable and weight shifting is performed adequately, the Trainer may unlock the wheels of the Sit-to-Stand Trainer to allow for early first steps forward, backwards or sideways to be taken.

For additional training activities, consult accompanying CD and NeuroGym Technologies Inc. Application Notes available on the web site at: www.neurogymtech.com.

COMPLETING A TRAINING SESSION



FIGURE 5: RELEASING THE PETZL LEVER

To remove a client from the Sit-to-Stand Trainer, the client should be comfortably seated.

With one hand, slowly lift the Petzl lever, while the other hand is placing a small amount of tension on the free end of the rope (*Figure 5*). The Petzl can then be guided upwards enabling the counterweights to be disengaged.

Once all the tension is off the rope, the sling rings can be disconnected from the carabiner. Remove the sling from under the client and spray inside surface with disinfectant

MAINTENANCE

- Use disinfectant wipes or spray to clean sling and handlebars after each use.
- Sling can be laundered regularly in warm water when soiled.
- The metal frame and weight stack should be wiped down/dusted regularly.
- Inspect brakes regularly to ensure proper function.
- Inspect petzl & rope routinely to ensure integrity.
- Inspect plasticized wire cable for fraying of plastic coating. If plastic coating is chipped or frayed, inspect underlying metal cable for integrity.

TROUBLE SHOOTING

If the Petzl is not holding when resistance is applied, it is due to one of two things:

1. The amount of counterweight is not enough to lock the Petzl in place. At 10 lbs, the rope may slip through the Petzl, but it would not be enough weight to truly benefit a client;

-
2. The Petzl is threaded incorrectly. The Petzl has two openings for the rope – rope in and rope out. Be sure to feed the rope through the opening labeled with the dangling man. The opening labeled with the dangling man houses the end of the rope with the carabiner, while the opening labeled with a free hand holds the free end of the rope.

TRAINING VIDEO

See **Training Video 1** one at www.neurogymtech.com for a 30 minute review of standard operation and clinical applications.

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® Sit-to-Stand Trainer
Sample Client Evaluation Form

Name:

Date of Birth:

Functional Measures of Standing in the Sit-to-Stand:

Counter-weight required for standing (lbs):

Date

Able to attain:

- .25 standing position
- .5 standing position
- .75 standing position
- full standing position

Ability to let go of handlebar:

- Not at all
- Halfway to standing
- Once Standing
- Stands without using handlebar

Number of squats in 10 sec

(from standing to half-way to sitting & back to standing):

Number of weight shifts in 10 sec

(foot-to-foot weight transfer):

Able to take steps forward (Y/N):

Functional Measures of Progress

- MDS Adjusted Measure of Standing (0-8):
- MDS Adjusted Measure of Transfers (0-8):
- Self Toileting in Sitting: Y/N
- Hoyle-Lifted: Y/N

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

BUNGEE MOBILITY TRAINER

The NeuroGym® Bungee Mobility Trainer is a versatile body weight support mechanism enabling safe, intensive motor retraining. The unique patented design enables the re-training of gait and natural protective reactions by counteracting loss of stability as naturally as possible. Comparable to a pool environment in terms of support, the Bungee Mobility Trainer allows graduated weight bearing while normal protective reactions such as sidestepping are re-developed. The Bungee Mobility Trainer provides graduated support from underneath, rather than a harness mechanism that provides the support from above. Supporting the patient from above does not allow this 'natural' graduated support, particularly upon loss of balance. The Bungee Mobility Trainer enables more realistic safe practice of gait, and most importantly, the protective reactions necessary to prevent falls.



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 #: 7,540,045

neurogymtech.com

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