SPORT MEDICAL

Physical Medicine

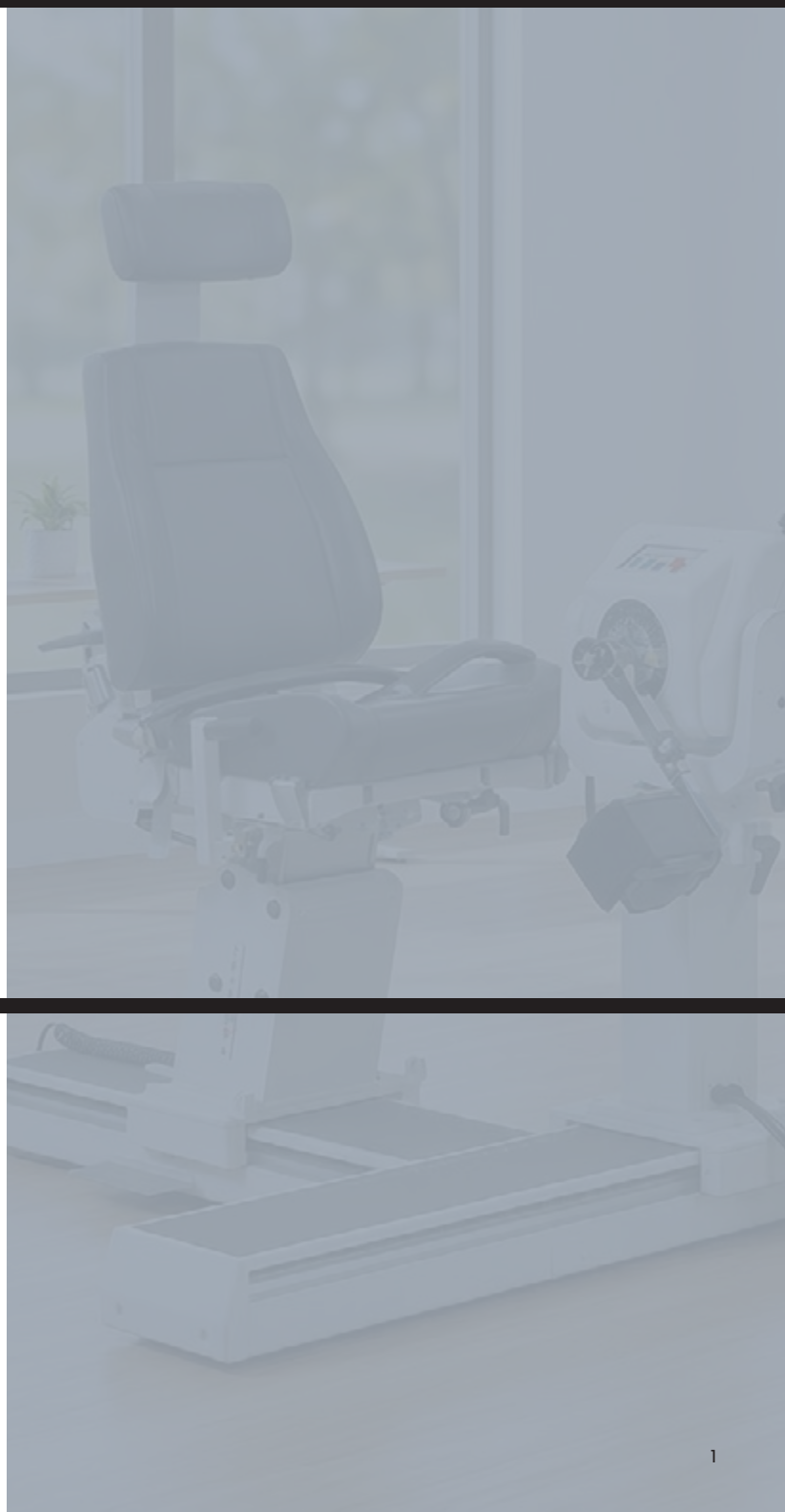
Neuromuscular Evaluation & Therapeutic Exercise

A Better Path to Injury Recovery & Performance

Through science and innovation, we empower our customers to deliver a better patient experience at every turn, from enabling more effective training protocols to promoting faster injury recovery.

Sport Medical™ physical medicine devices have been relied on by top facilities around the world to aid in patient recovery and research. Our science-based technology and programs keep you on the cutting edge of rehabilitation exercise—and on top of patient care.

Sports Medicine • Orthopedic • Wellness • Neurorehabilitation • Injury Prevention
Medical Fitness • Older Adult • Neuromuscular Research • Cardiopulmonary Rehabilitation



System 4 Pro

Benefits:

- Advanced dynamometer technology for greater performance.
- Seat design accommodates athlete to pediatric applications.
- Windows Operating System prevents intrusive update pop-ups and requests.
- Software interface, no other system is faster or easier to use.
- Feature rich software proves need, progress and outcome.
- Touchscreen for quick, easy operation.
- Simplified patient positioning with visual aids.
- Requires only 64 sq-ft of operating space.
- Activity-specific work simulation exercises.
- Wide range of normative data, from pediatric through adults, ages 5–83.
- Excellent after-sale support, installation and continuing education programs.

As the premier multi-joint system for objective testing, the Sport Medical System 4 Dynamometer helps you provide the best outcomes for your patients, supports your research, and separates your facility from the rest.

System 4 PRO™
Accommodates a wide variety of positions and exercises.

The Pro-level System 4 features a positioning chair with 360˚ of rotation, motorized seat height and superior stabilization. Standard attachments: ankle, knee, shoulder, elbow, wrist and hip. Optional attachments: hamstring, back extension/flexion, linear closed-chain, upper extremity and an array of work simulation attachments.

System 4 Quick-Set™
Designed for knee, ankle, shoulder elbow and wrist.

If budget is your primary concern, the Quick-Set model provides easy patient setups while still ensuring maximum stabilization. This system features a fixed-height positioning chair with 360˚ rotation and front-to-back travel. Standard attachments: ankle, knee, shoulder, elbow and wrist. Optional attachments: hamstring, back extension/flexion, linear closed-chain, upper extremity, hip and array of work simulation attachments

Available only through special order.

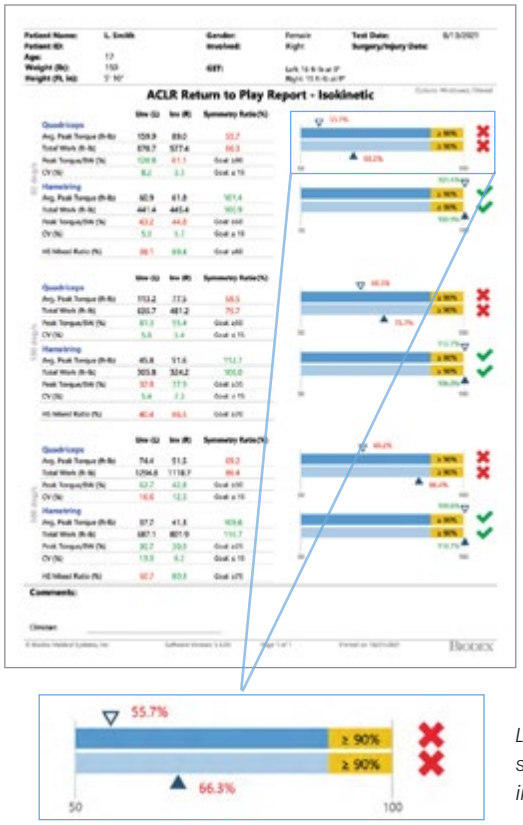
The industry standard isokinetic system used by top facilities around the world

More than 30 years have passed since we introduced the world's first multi-mode computerized robotic dynamometer. That event and subsequent "firsts" have made the our dynamometer the choice in the most distinguished clinics and research facilities around the world.

Featuring five modes of operation, the System 4 continues to offer pioneering breakthroughs in neuromuscular testing and rehabilitative technology. Assessments of physical impairments provide patients a fast, effective, documented return to function.

Return-to-Play Report

With reporting such as the ACL and hamstring return-to-play reports, test results are easier to understand and easier to communicate to patients, physicians, third-party payers and employers.



When Limb Symmetry Index is 90% or greater, risk of reinjury is reduced.[1]

Limb symmetry index

Ask Us about Upgrade, Trade-In and Remanufactured Options

Advantage BX™ SOFTWARE

Next-Generation Software For Sport Medical Isokinetic Systems

Streamlined and intuitive, Advantage BX software simplifies operation of the System 4 Dynamometer to help more staff members capture and document every stage of the rehabilitation process.

- Increase utilization by staff on more patients
- Help more stakeholders understand the benefits of isokinetics
- Repeat favorite activities using the Quick Start
- Seamlessly guide a clinician through rehab or testing sessions
- Easily manage clinical research studies and keep data separate

Reference:
1. *Kyritsis P, et al. (2016). Br J Sports Med; 50:946–951. • Grindem H, et al. (2016). Br. J Sports Med: 50 804–808.*

System 4

Multiple applications and pathologies with a single investment

Optional Attachments

Work Simulation Tools
Provides activity-specific assessment and rehabilitation capability.

Hamstring Attachment (Lengthened State)
Knee uppers provide an additional 30° of range. Required to perform the Lengthened State Multiple Angle Comparison Test.

Hip Attachment
For hip abduction/adduction and extension/flexion. Included with PRO.

Seat Back Brace Attachment
Attachment to provide extra support when seat back is fully reclined. Included with PRO.

Anti-Shear Attachments
Anti-Shear, Left Pivot and Anti-Shear, Right Pivot

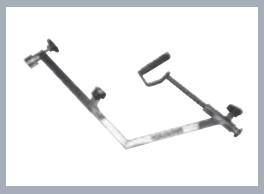
Pediatric Attachments
Pediatric Left Knee, Pediatric Right Knee, Pediatric Shoulder and Pediatric Hip

UE Hemiparetic Attachments
Designed to promote neuro recovery and improve strength for patients with physical limitations of the upper extremity. Compatible with all System 3 and System 4 setups.

Work Simulation Tools

Hamstring Attachment

Hip Attachment



Pediatric Shoulder Attachment

UE Hemiparetic Attachments

Hamstring Solutions

Advantage BX software supports two commonly used hamstring protocols: Lengthened State Multiple Angle Comparison and Mixed H/Q Ratio. Upgrade paths available. Contact us for details.

850-000	System 4 PRO 230 VAC
840-000	System 4 QUICK-SET 230 VAC*
840-000-20	System 4 QUICK-SET 230 VAC, Knee Only*
840-000-40	System 4 QUICK-SET 230 VAC, IPCS Ind Med *(Shoulder, Knee, No Cart)**
850-820	System 4 PRO Remanufactured

Export models available.

**Available only through special order.*

Advantage BX Software Upgrades

850-000-K910	Kit, PRO MJS Full Integration

Optional:

830-113	Chair Wedge
830-120	Wide Seat

Attachments:

830-451	Attachment Clamp, Back Attachment, Quick-Set *For 830-450 back attachment when used with Quick-Set configuration. Order docking clamp with 830-450.*
830-269	Attachments, Work Simulation Tools
830-550	Attachment, Hamstring
830-315	Attachment, Hip
830-320	Attachment, Seat Back Brace
830-260	Attachment, Anti-Shear, Left Pivot
830-261	Attachment, Anti-Shear, Right Pivot
830-474	Attachment, Pediatric Left Knee
830-475	Attachment, Pediatric Right Knee
821-321	Attachment, Pediatric Shoulder
830-316	Attachment, Pediatric Hip
830-540	Attachments, UE Hemiparetic

Think Bigger
Beyond Sports Medicine

Highly versatile and adaptable, the System 4 dynamometer is used worldwide on a variety of joints and patient populations, well beyond sports medicine. Expand your options and increase your value.

SPORT MEDICAL

Balance System™ SD

Benefits:

- Static and Dynamic (SD) — Offers 12 levels of platform control as well as static force setting.
- Balance Training — Includes proprioception, stabilization, range of motion and weight shift exercises.
- Microsoft SQL Database — Allows clinician to easily store and retrieve patient data, multiple tests per patient. Export to Excel for reporting and analytics.
- Objective Documentation — Printed color reports prove need, track progress and document outcomes — ideal for insurance reimbursement.
- Custom Reporting — Allows entry of unique comments to test results and assignment of CPT codes.
- Normative Data — Healthy populations stored for test comparison of older adults for fall screening and student athletes for concussion management.
- Audio/Visual Biofeedback — Motivates patient by prompting proper balance control in real time. Allows clinician to easily monitor patient during interactive testing/training.
- Multipurpose Connectivity — Allows connection to larger monitors and projectors to enhance interaction for visually impaired patients.
- Support Handles — Adjustable from 26"–36.5" above platform (66–93 cm). Handles can be removed when not in use or interchanged with the optional FreeSway™ Handles.
- FreeSway Handles — Floating handles provide security without impeding balance recovery.

The only static and dynamic system that provides fast and accurate Fall Risk Assessment and Conditioning for older adults; plus closed-chain weight-bearing assessment and training for lower extremity patients.

The optional Step Stool non-slip surface assures stability and patient safety.

Clinical Test of Sensory Integration of Balance (CTSIB) Indexed Pad (included) standardizes foot positioning for improved consistency and result comparisons.

The (CTSIB) test helps determine which sensory system (visual, somatosensory, or vestibular) the patient relies on to maintain balance.

Static and dynamic balance testing and training

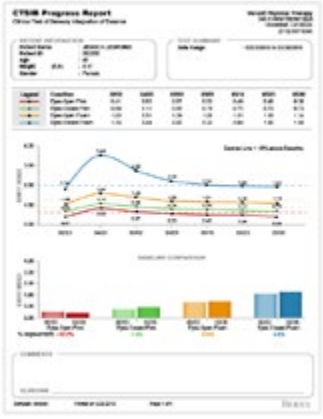
The Most Popular Balance System... Now Even Better

The Balance System SD has been designed to meet the needs of everyone looking to improve balance, increase agility, develop muscle tone and treat a wide variety of pathologies. Featuring easy-to-follow touchscreen operation, the Balance System SD is simple to learn and operate, leading the user step-by-step through testing protocols and training modes in both static and dynamic formats. Extremely versatile, it is the only system that provides a fast, accurate Fall Risk Screening and Conditioning Program for older adults; closed-chain, weight-bearing assessment and training for lower extremity patients, and adds the objective balance assessment component to a concussion management program.

Balance Testing, Training, Documentation

All test results and training sessions can be stored and printed. Comparison to normative data helps communicate need, progress and outcome.

Fall Risk Screening Test—Identify a potential problem in just two minutes. All test results and training sessions are documented on easy-to-read reports. Compares balance test results to populationspecific normative data.



Concussion Management Protocol—Preseason baseline testing and post injury return-to-play management using the Clinical Test of Sensory Integration of Balance (mCTSIB)

Games for Balance

Single task games focus on exercise that challenges balance control, while encouraging repetition and motor learning. Dual tasking that challenges motor and cognitive function to improve gross motor performance.

SINGLE TASK = BALANCE CONTROL

Catch Game

DUAL TASK = COGNITIVE + MOTOR

Ball Maze

Word Search

Balance System™ SD

Multiple applications and pathologies with a single investment

Six Standardized Training Modes

1. Postural Stability
2. Maze Control
3. Weight Shift
4. Random Control
5. Motor Control
6. Percent Weight Bearing

Six Standardized Testing Modes

1. Fall Risk Screening
2. Motor Control
3. Limits of Stability
4. Postural Stability
5. Bilateral Comparison
6. Sensory Integration—including CTSIB and BESS

Benefits:

- Dimensions:
  Base: 28.5" w x 37" depth x 8.5" h (71 x 94 x 21.5 cm)
  Platform: 21.5" diameter (55 cm)
- Product Weight: 235 lb (106.5 kg)
- All-In-One Flat Panel Display: 15.6" Color Touchscreen, Windows Operating System, Ethernet, USB, Video/Audio Out, and Built-In Speakers. USB connectivity for data transfer and software upgrades.
- Display Height: Adjustable from 55" to 68.5" h (139.7 to 174 cm) from center of display to floor, and 46" to 60" (117 to 152 cm) from center of display to platform.
- Stability Levels: 12 dynamic levels, plus locked for static measurements
- Platform Tilt: 20° from horizontal in all directions
- Support Handles: Adjustable from 26" to 36" above platform (66 to 91 cm). Handles can be removed from the system when not in use or interchanged with the optional FreeSway Handles.
- User Weight Capacity:
- Maximum: 400 lb (181 kg) Minimum: 60 lb (27 kg)
- Power: 115 VAC, 50/60 Hz, 15 amp line or 230 VAC, 50/60 Hz, 15 amp line
- Power Rating: 520 watts
- Certification: CE Marked. See website for details

950-440 Balance System SD, 15.6" Display, 115 VAC
Includes: CTSIB Indexed Pad.

Export models available.

Optional:

950-430 VibroTactile™ System
Includes: Transmitter, two tactile belts (S/M and L/XL), each with wireless receiver and connection cables.

950-450 FreeSway™ Handles
Fits latest model Balance System SD with adjustable-height handles only.

950-306 Step Stool

FreeSway™ Handles

Optional enhancement for the Balance System SD

Optional FreeSway Handles are designed to fit the current model Balance System SD.

Promote Safe Freestanding Balance Training

It is widely accepted that patients should avoid holding on in order to reap full functional benefits of balance training. However, patients with fear of falling require some degree of stability. The FreeSway Handles for the Balance System SD are the only balance training option that allows patients to experience unimpeded postural sway—while holding on.

Key therapy benefits:
- Improve safety
- Minimize fear of falling
- Enhance efficacy of balance training

Remember Learning to Ride a Bike?

Think of the FreeSway Handles as training wheels for balance. The handles "float" securely within support rings. If the patient sways too far or loses their balance, the handles will touch the outer edge of the ring and allow the patient to correct the movement. Patients will progressively gain an understanding of their sway envelope, which will carry over into everyday activities.

Applications:

Versatile and simple to use, the FreeSway Handles aid in the performance of dynamic balance activities with the eyes closed.

- Fall Risk Screening and Conditioning
- Senior Rehab
- Neurorehabilitation
- Vestibular Disorders
- Wellness
- Sports Medicine/Orthopedic
- Concussion Management

Specifications:

- Dimensions: 16"l x 9.5"w x 20"h (41 x 24 x 51cm)
- Accommodates patients from 5' to 6'4" tall.
- Weight:
  Grab Handle: .90 lb (.41kg)
  FreeSway Handle: 8 lb (3.6kg)

Adjust diameter to restrict float of handle depending on patient need.

Adjust handlebar height to accommodate patients 5' to 6'4" tall.

950-450 FreeSway Handles for Balance System SD
Fits latest model Balance System SD with adjustable-height handles only.

U.S. Patent No. 9,415,287 B2

Broaden Your Applications, Increase Your Clinical Value

Looking to maximize your investment?
The Balance System™ SD helps you address the needs of a variety of patient populations:

- Fall Risk Screening and Conditioning
- Senior Living and Rehab
- Neurorehabilitation
- Sports Medicine/Orthopedic
- Vestibular Disorders
- Wellness
- Concussion Management

Ask Us about Turnkey Programs to Help Grow Your Business.

SPORT MEDICAL

VibroTactile™ System

Enhanced biofeedback for balance technology

Vibration Cueing Adds Sensory Feedback

Once integrated with the Balance System SD or the BioSway Portable Device, the optional VibroTactile System offers an additional form of sensory feedback to help detect changes in postural sway. Using wireless technology, the tactile belt responds with a vibrating sensation when the patient sways outside the therapist-set parameters.

Adds Sensory Enrichment to Therapy Tasks

Real-time biofeedback is an important component of balance rehabilitation. Typically therapists cue patients with a tap or verbal command. Vibrotactile cueing heightens the therapy process by adding a mechanized, reproducible sense and objective feedback. More pronounced than audio and visual feedback, vibrotactile cueing directly engages the motor learning system, enhancing neuroplasticity and reducing falls.

Especially Suited for Evaluation and Treatment of Vestibular Disorders

Vibrotactile cueing allows patients to safely receive positional feedback with their eyes closed. Patients with vestibular challenges are overly dependent on visual and somatosensory systems. To bring a greater focus to the vestibular system during balance training, the visual sense needs to be eliminated.

Allows patients to receive positional feedback with their eyes closed.

Applications:

- Vestibular disorder
- Balance anxieties
- Stroke
- Proprioception such as peripheral neuropathy
- Cognitive impairment
- Amputation

Specifications:

- Belt Dimensions:
  Small/Medium: 28"–36" (71–91 cm)
  Large/Extra Large: 36"–48" (91–122 cm)

Transmitter

- Voltage: 5V DC
- Current: 50 mA
- Auxiliary Ports: RS-232; USB

Receiver Box

- Voltage: 5V DC
- Current: 260 mA (when charging)
- Auxiliary Ports: USB (wired); LR-WPAN (wireless)
- Total Shipping Weight: 5 lb (2.3 kg)
- Warranty: One year parts and labor

Compatible with Windows Operating System. Field updates available.

950-430	VibroTactile System *Includes: transmitter, two tactile belts (S/M and L/XL), each with wireless receiver and connection cables*

BioSway™ Portable Device

Features:

- Lightweight Instrumented Platform—Sets up in minutes to provide static force testing for interactive training modes or standardized testing environments.
- Fully Portable—Hard-shell travel case provides added protection when transporting to community-based health fairs or school settings.
- Custom Reporting—Allows entry of unique comments to test results and assignment of CPT codes.
- Marketing Support—We provide marketing materials to help you build a concussion program around balance assessment.
- Games for Balance—Single- and dualtask high-repetition balance training games enhance patient engagement and drive better outcomes.
- Audio/Visual Biofeedback—Motivates patient by prompting proper balance control in real time. Allows clinician to easily monitor patient during interactive testing/training.
- Normative Data—Healthy populations stored for test comparison of older adults for fall screening and student athletes for concussion management.
- Microsoft SQL Database—Allows clinician to easily store and retrieve patient data, multiple tests per patient. Export to Excel for reporting and analytics.
- Multipurpose Connectivity—Allows connection to larger monitors and projectors to enhance interaction for visually impaired patients.
- Display Stands—The tabletop stand can also be used to wall mount the display. The display can even attach to compatible display mounts.

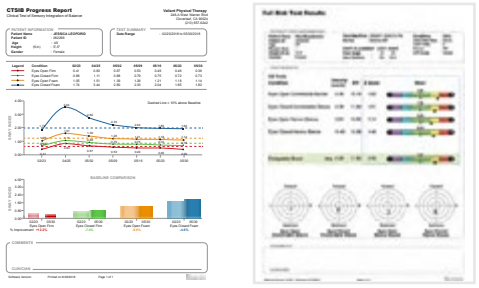
For therapists in the clinic or on the go, the BioSway portable device features static balance platform used for balance assessment for concussion management, older adults/fall screening, neurological, vestibular, post-surgical or trauma patients.

Portable balance assessment

The BioSway device is a portable balance system ideal for clinicians on the go. The lightweight instrumented platform with large touchscreen display is easy to transport and sets up in minutes to provide static balance testing and training from clinic to courtside.

Similar to our Balance System SD, this fixed-platform assessment and training device is a powerful rehabilitation tool that can be used across a broad scope of populations for general orthopedic and neuromuscular rehabilitation, senior wellness, and athletic conditioning. Choose from interactive training modes or standardized testing environments, including the Clinical Test of Sensory Integration of Balance (CTSIB).

Objective Documentation



Color reports prove need, track progress and document outcomes—ideal for insurance reimbursement.

Easy transport and setup makes the BioSway device a vital tool for clinicians and trainers on the go.

Standard Testing Environments

- Postural Stability
- Limits of Stability
- Bilateral Comparison
- Motor Control
- Fall Risk
- Clinical Test of Sensory Integration of Balance (CTSIB)

Specifications:

- Dimensions:
  Platform Dimension: 21.25"w x 19"l x 2.56"h (54 x 48 x 7cm)
- All-In-One Flat Panel PC: 15.6" Touchscreen, Windows Operating System, and Speakers. Video/Audio Out: Bolsters connectivity options to other devices, enabling remote operation for data transfer and software upgrades.
- Hard Case Dimension: 23.75"w x 22.75"l x 10.75"h (60 x 58 x 27cm)
- User Capacity: 500 lb (227kg)
- Power: 115 V/ 230 VAC, 50/60 Hz, 15 amp line
- Weight: 19 lb (8.6kg)
- Total Weight (including case): 44 lb (20kg)
- Certification: See website for details
- Warranty: One year parts and labor

950-460	BioSway 15.6" Display with Tabletop Stand and Case, 115/230 VAC 50/60 Hz *Includes: Instrumented platform, CTSIB Indexed Pad, tabletop stand/wall mount bracket, AC adapter for 100/240 VAC input, and two blindfolds.*
Optional:	
950-430	VibroTactile™ System *Includes: Transmitter, two tactile belts (S/M and L/XL), each with wireless receiver and connection cables.*
950-465	Adjustable Height Stand for 15.6" Display.

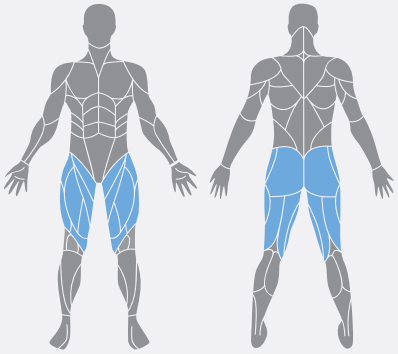
Sit2Stand™ Squat-Assist Trainer

Strengthens lower extremities in a safe, progressive environment. Reinforces seated to standing movement in rehabilitation and wellness settings.

Features:

- Assistance Selector — An exclusive design that provides graded concentric and eccentric exercise throughout the sit-to-stand motion. The system also provides the option to perform gentle, progressive plyometrics for developing fast-twitch fibers which are so important for older adults.
- One-Touch Assist Control — Provides 15 levels of weight-bearing assistance ranging from 5 lb to 250 lb.
- Arm Supports — Contribute to upper extremity strengthening and can be moved out of the way for easy on/off access.
- Indexed Foot Base — A foot placement grid provides clear reference for therapists to easily communicate and continually repeat correct foot positioning.
- Retractable Stabilization Belt — The fully adjustable belt provides a secure environment for patients with limited torso control.
- Range-of-Motion Limiter — Allows for two starting positions to accommodate users with limited range of motion.

Primary Muscles Strengthened:



Hamstring
Quadriceps
Adductors

Abductors
Gluteals

Physical Therapy

Wellness

Senior Living

Increase strength. Improve balance and mobility.

The Most Fundamental Motion for Functional Independence

One of the most fundamental motions required to maintain/sustain a greater quality of life is the ability to stand from a seated position. Performed many times throughout the day, this biomechanically demanding movement requires more lower extremity joint torque and range of motion than walking or stair climbing.[1]

The Sit2Stand Squat-Assist Trainer is ideal for strengthening the lower extremities of weakened, older, or sedentary patients/residents, or for cardiac rehabilitation, where standing from a seated position without reliance on the upper extremities is crucial.

Wellness

Easy to use with conveniently located adjustment levers for seat height and assistance, and biomechanically positioned arm supports. Wellness members can utilize the device with minimal supervision, strengthening both upper and lower extremities, important for maintaining independence.

Physical Rehabilitation

Provides a safe setting for a patient to move through the seated to standing motions, either independently or with a therapist's guidance. By repeating the motions, a patient builds both lower and upper-body muscular strength and endurance, improves flexibility and ultimately gains independence.

By varying seat height and foot position, the patient will learn the effects of body position and joint angle to control center of mass and the role of momentum in rising.[2] The large, comfortable contoured seat with pivoting backrest articulates naturally to correspond with pelvic tilt during sit-to-stand motion. Adjustable start and end seat position accommodates varying amounts of hip flexion and orthopedic condition.

Stand — Sit — Stand → Repeat

Improve Strength • Build Endurance • Increase Flexibility

Specifications:

- Dimensions: 31.75" w x 51" deep x 52" h (83 x 125 x 132 cm)
- Seat Height:
  Adjustable: Seven preset increments accommodate patients of various heights
- Seated Height: 18.5"
- User Capacity: 350 lb (159 kg)
- Weight: 147 lb (66 kg)
- Assistance Range: 45 lb to 250 lb
- Warranty: One year parts and labor

Accessible for walker-assisted patients or those approaching in a wheelchair.

950-560	Sit2Stand Squat-Assist Trainer *Includes stabilization belt*

References:
1. *Lomaglio MJ, Eng Janice. Muscle strength and weight-bearing symmetry relate to sit-to-stand performance in individuals with stroke. Gait & Posture 22(2005) 126–131.*
2. *Janssen WGM, et al. Determinants of the Sit-to-Stand Movement: A Review. Phys Ther. 2002;82:866-87*

BioStep™ 2

Combine smooth, elliptical cross-training with the comfort and stability of semi-recumbent positioning. Biomechanically correct arm, leg and ankle motion emulates natural walking.

Features:

- Self-Powered, Self-Charging—Cordless capability; use it anywhere.
- 1:1 Arm to Leg Motion—For natural arm swing rhythm.
- Rotating Seat—To 90° on either side with step-through design for easy and safe access.
- Movable Armrests—For added comfort and stability when needed.
- Seat Belt—Offers support and security for patients with limited torso control.
- Optimized Seat Height—For wheelchair transfers and controlled hip flexion.
- Constant Resistance—20 effort levels provide greater program options.
- Heart Rate Monitoring—Polar contact hand grips (telemetry compatible) to ensure proper training intensity.
- Large, easy-to-use "Quick Start" Display—Features time, rpm, watts, calories, METs, distance, total steps, heart rate.
- Large Utility Holder—Provides a convenient storage place for water bottles and allows for hands-free reading.
- Robust Design—For heavy institutional use.

Optional Stabilization Kit:

The combination of a padded foot restraint and pivoting calf support is a convenient and comfortable means to secure the foot to the footplate, maintaining correct loading of the joints and postural alignment during exercise. *NOTE: Pivoting Calf Support can be easily removed when not in use.*

Patients with hand and wrist limitations will find comfort with the articulating hand grips and security of maintaining stable hand position throughout the exercise session. The Hand/Wrist Cuffs allow users with limited or no hand strength or control to enjoy the benefits of the BioStep unit's upper body exercise. *NOTE: Hand/Wrist Cuffs are also sold separately.*

Padded Foot Restraint

Pivoting Calf Support

Hand/Wrist Cuff

Seat rotates 90 degrees on either side with step-through design for easy and safe access.

The difference is in the motion

Naturally Smooth … Positively Effective

The motion of the BioStep 2 Semi-Recumbent Elliptical is naturally smooth and continuous, offering exceptional comfort. Its low-impact, elliptical motion reduces the jarring start/stop direction change often associated with other recumbent steppers, eliminating the need for users to lift or strike their feet on the footplate. The step-through frame, easy-to-use display, and comfortable robust design, make the BioStep 2 the obvious choice for older adults.

The fluid, elliptical motion is forgiving on the knees, ankles, hips and lower back…a natural closed-chain, low-impact, functional exercise. By combining lower extremity motion with upper body exercise, the BioStep 2 provides a total body workout in both forward and reverse directions, thereby involving different muscle groups.

Great for Cardiac Rehabilitation

BioStep 2 incorporates both the upper and lower extremities into the cycling motion; patients experience less local muscle fatigue. This allows similar heart rates to be achieved at lower rates of perceived exertion when compared to traditional exercise ergometers. Blood pressures can be checked while the patient continues to exercise by simply releasing one arm while the other three extremities comfortably continue to perform the exercise.

BioStep 2 is ideal for patients who may experience leg claudication during exercise. Patients can easily reduce the effort in the involved leg, while keeping heart rate elevated, by transferring a greater portion of the workload to the non-involved extremities. When the cramping subsides, exercise can be transferred back, proportionately, to all four extremities.

Applications:

- Senior Rehab
- Wellness and Fitness Centers
- Neurorehabilitation
- Cardiac Rehabilitation
- Orthopedic/Sports Medicine

Specifications:

- Dimensions: 54"l x 28"w x 44"h (137 x 71 x 112 cm)
- Resistance: Constant resistance with 20 effort levels
- Work Rate Range: Up to 600 watts (120 rpm)
- Heart Rate Monitoring: Polar contact hand grip (telemetry compatible)
- Readouts: Time, rpm, watts, calories, METs, heart rate, distance and total steps
- User Capacity: 500 lb (227 kg)
- Weight: 202.5 lb (92 kg)
- Power: Self-powered; no external power requirement at user work rates over 30 watts and 50 rpm; adapter is provided to power system and charge battery during applications below 30 watts and 50 rpm; battery automatically recharges at work rates above 30 watts and 50 rpm. AC Adapter included.
- Certifications: See website for details
- Warranty: Two years parts; one year labor

950-240 BioStep 2, 100-240 VAC
Includes: Rotating seat, foot straps, hand straps, seat belt and movable armrests.

Export models available.

Optional:

950-242 Stabilization Kit
Includes: pivoting calf support, padded foot restraint and hand/wrist cuffs (large).

950-247 Hand/Wrist Cuffs, Small (pair)

950-243 Hand/Wrist Cuffs, Medium (pair)

950-234 Hand/Wrist Cuffs, Large (pair)

Upper Body Cycle

Features:

- Self-Powered, Self-Charging, Cordless Capability—Use it anywhere!
- Pivoting Actuator—Accommodates wide range of cycling positions.
- Adjustable Crank Length—Crank adjusts from 6" to 16" to help control range of motion provided for a variety of arm and upper body exercises.
- Instantaneous Retro-Cycling.
- Up to 600-watt work rate range to accommodate a wide spectrum of patients.
- Isokinetic Resistance—(Speed control) for building strength.
- Heart Rate Monitoring—Telemetry compatible to ensure proper training intensity.
- Easy-to-use "Quick-Start" control panel with large buttons.
- Large, easy-to-view LED display.
- Ergonomically correct for patients from 4'6" to 6'10" tall, and weighing up to 500 lb.
- Removable seat for wheelchair or standing access.
- Comfortable rotating seat with seat belt and grab handles—easy wheelchair transfers—belt and handles provide added security, especially for patients with balance deficiency or palsy.
- EZ-Grip handgrips allow patients with hand control limitations to hold onto crank handles.

An upper-body ergometer that will exercise individuals with limited lowerbody function, help rehabilitate a wide variety of shoulder, back, neck, wrist, and elbow patients, and give healthy athletes a grueling workout.

Removable seat and adjustable head and cranks allow for easy, stable standing exercise.

The seat assembly is removable to accommodate wheelchairs.

The optional hand/wrist cuffs allow users with limited or no hand strength or control to enjoy the benefits of upper body exercise.

Large rotating seat accommodates patients with ambulatory difficulties.

EZ-Grip handgrips accommodate patients with hand control limitations.

Invaluable for upper extremity rehabilitation and conditioning

Functional Diversity

The Upper Body Cycle is a versatile ergometer that meets the demands of any orthopedic rehabilitation, cardiac, sports medicine, wellness, or general conditioning program.

Unique Self-Powering System

Use the Upper Body Cycle anywhere. There is no need for AC power at work rates at or above 30 watts and 50 rpm. The battery-supported system maintains all settings and LED displays before and after cycling. The internal battery is automatically recharged when work rates reach or exceed 30 watts and 50 rpm. An AC adapter is provided for extended use at work rates below 30 watts and 50 rpm.

User Friendly

The "Quick-Start" feature gets your first-time cyclists right into their exercises. Isokinetic (speed control) provides accommodating resistance throughout the cyclist's entire range of motion for the duration of the exercise period. Resistance continuously matches effort, accommodating to variations in the patient's force output due to weakness or pain at specific points in the individual's range of motion, and to fatigue over the course of the cycling period. With a selection of 15 speeds (50 to 120 deg/sec), this resistance mode maximizes strength gains while minimizing the potential for injury.

Full-Function Retro-Cycling

Rehabilitation and conditioning capabilities are expanded by providing bi-directional cycling to alternately work reciprocal muscle groups.

Built for High-Use Environments

The welded heavy-gauge steel frame, epoxy powder-coat finish, and moisture-resistant ABS plastic enclosure round out a rugged and durable design that will withstand extensive use in the busiest settings. Large wheels make transporting and repositioning easy. Heart rate monitoring can be achieved with a telemetry chest strap to track heart rate without interrupting exercise—useful for protocols utilizing target heart rate, and for monitoring high-risk patients.

Applications:

- Orthopedic
- Sports Medicine and Athletic
- Training Exercise
- Cardiopulmonary
- Exercise
- Older Adult Exercise
- Wellness

Specifications:

- Dimensions: 64"l x 29"w x 62"h (162 x 74 x 157 cm)
- Crank Axis Height: Adjustable from 37" to 58" (94 to 147 cm)
- Crank Arm Length: Adjustable from 6" to 16" (15 x 41 cm)
- Resistance: Isokinetic (speed control): 15 speed settings (increments of 5 deg/sec)
- Work Rate Range: Up to 600 watts (120 rpm)
- Speed Control Range: 50 to 120 deg/sec
- Readouts: Time, rpm, watts, calories, METs, heart rate, total work, total cycles
- Heart Rate Monitoring: Telemetry compatible
- Communication: RS232
- User Capacity: 500 lb (227 kg)
- Weight: 230 lb (105 kg)
- Power: Self-powered; no external power requirement at user work rates over 30 watts and 50 rpm; 115 VAC adapter (230 VAC available) is provided to power system and charge battery during applications below 30 watts and 50 rpm. Battery automatically recharges at work rates above 30 watts and 50 rpm.
- Certification: See website for details
- Warranty: Two years parts; one year labor

950-148 Upper Body Cycle, Clinical Pro
Includes: Rotating seat, seat belt and EZ-Grip handgrips.

Export models available.

Optional:

950-247 Hand/Wrist Cuffs, Small (pair)
950-243 Hand/Wrist Cuffs, Medium (pair)
950-234 Hand/Wrist Cuffs, Large (pair)

Gait Trainer™ 3

Features:

- All-In-One Flat Panel 15.6" Color Touchscreen, Windows Operating System, USB and Speakers.
- Open Platform—Enables patient access for therapist interaction.
- Instrumented Deck—Platform monitors and records step length, step speed and step symmetry.
- Audio Cueing and Visual Biofeedback—Motivates patients and prompts proper gait patterns.
- Microsoft SQL Database—Easily store and retrieve patient data, multiple tests per patient. Export to Excel for reporting and analytics.
- Objective Documentation—Lets you quantify patient progress and demonstrate the benefits of treatment.
- Normative Data—Robust database of healthy population by age and gender for comparative patient assessment.
- Heart Rate Monitoring—Polar contact handgrips (telemetry compatible) ensures proper training intensity.
- Connect & Engage—Allows connection to external keyboard, mouse, large monitors and projectors to enhance interaction for visually impaired patients.

The only treadmill with an instrumented deck that monitors and records step length, step speed and right-to-left time distribution, providing a comparison of real-time footfall to target step length. Audio cueing and visual biofeedback prompt patients into a proper gait pattern. Performance is documented with a printed color report.

Visual Biofeedback

Footfall Screen.

Histogram Screen—plots right and left step lengths/symmetry.

Handrail Configurations

Gait Trainer™ 3 shown in use with NxStep™ Unweighing System.

Includes Extended Handrails.

Includes Geriatric/ Pediatric Handrails.

Bring patients up to speed with the right step length

Equipped to Drive Better Patient Outcomes

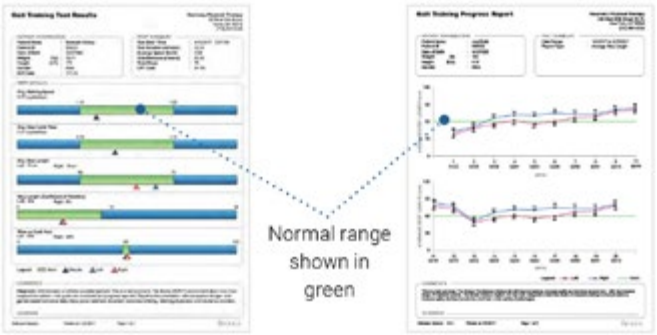
The only treadmill with an instrumented deck that monitors and records step length, step speed and step symmetry, the Gait Trainer 3 lets you prove patients are getting better, faster—and documents results. More than a treadmill, the Gait Trainer 3 puts evidence-based techniques at your fingertips.

Real-Time Biofeedback

The addition of real-time visual biofeedback has been shown to motivate patients, prompting them into proper gait patterns.[1] Only the Gait Trainer 3 provides a comparison of actual footfall to target step length. This real-time biofeedback helps patients stay on target in each phase of rehabilitation.

Objective Documentation

Reports track progress and document outcome. The Gait Trainer 3 quantifies time and distance measurements compared to age and gender-based normative data.



Progress Report—perfect for showing need, progress and outcome for specific gait parameters:

- *Average walking speed over time*
- *Total exercise time*
- *Total distance and steps taken*
- *Average step length: RT vs. LT*
- *Step length variability: RT vs. LT*
- *Time on each foot: RT vs. LT*

Applications:

Goal: Develop symmetrical gait by improving step length, step speed and right to left time distribution.

- Older Adult
- Orthopedic
- Stroke/TBI
- Spinal Cord Injury
- Amputation, Lower Extremity
- Parkinson's Disease
- Neurologic
- Vestibular Patients

Specifications:

- Dimensions: 86"l x 27"w (218 x 69 cm)
  Walking Area: 64"l x 20"w (160 x 51 cm)
- All-In-One Flat Panel PC: 15.6" Color Touchscreen, Windows Operating System, Ethernet, USB, Video/Audio Out, and Built-In Speakers. Bolsters connectivity options, enabling remote operation for data transfer and software upgrades.
- Deck: 1" thick (2.5 cm) reversible Teflon impregnated highdensity composite fiber
- Motor: 2 HP with 2Q-Pulse Width Modulation Control
- Treadmill Speed Range:Forward: 0-10 mph (0–16 km/h) Reverse: 0-3 mph (0–4.8 km/h) in 0.1 mph (.16 km/h) increments Gait Trainer Speed Range: .3 - 4.5 mph (.48–7.2 km/h)
- Elevation: 0–15% Grade
- Heart Rate Monitoring: Polar contact handgrips (telemetry compatible)
- Power: 115 VAC, 50/60 Hz, 20 AMP dedicated line, or 230 VAC,
- Hz, 20 AMP dedicated line. Includes hospital grade plug with 12' (3.7 m) power cord.
- User Capacity: 60–400 lb (27 x 182 kg)*
- Weight: 395 lb (179 kg)
- Certification: CE Marked. See website for details
- Warranty: Two years parts; one year labor

**Does not accommodate less than 60 lb in gait trainer mode.*

950-400	Gait Trainer 3, 115 VAC 50/60 Hz *Includes Support Bar*
950-402	Gait Trainer 3, 115 VAC 50/60 Hz *Includes Extended Handrails*
950-406	Gait Trainer 3, 115 VAC 50/60 Hz *Includes Geriatric/Pediatric Handrails*

Export models available.

References:
1. 1. M. Drużbicki, A. Guzik, G. Przysada, et al. (2015). Efficacy of gait training using a treadmill with and without visual biofeedback in patients after stroke: A randomized study. J Rehabil Med.47: 419–425.

Reactive Step Trainer (RST)™ 3

Features:

- Advanced Perturbation Training—
  Five programmable perturbation types improve step recovery, dynamic balance, and reduce fall risk.
- Instrumented Treadmill Deck—
  The only treadmill to measure step length, speed, and right/left symmetry for precise gait analysis.
- Open Platform Design—
  Allows hands-on therapist access and supports BWSTT with the Sport Medical Unweighing System.
- Objective Clinical Documentation & Automated Reporting—
  Exercise summaries, progress reports, automated G-codes, and impairment reporting streamline documentation, support audits, and reduce claim denials.
- Normative Data Comparison—
  Age- and gender-based benchmarks enable meaningful patient assessment.
- Real-Time Audio & Visual Biofeedback—
  Immediate feedback motivates patients and improves gait quality and symmetry.
- Integrated Heart Rate Monitoring—
  Polar® contact handgrips ensure appropriate training intensity.
- Intuitive Touchscreen & Expanded Connectivity—15"color touchscreen with USB support for peripherals, external displays, data transfer, and software updates.

The only treadmill with an instrumented deck that monitors and records step length, step speed and right-to-left time distribution, providing a comparison of real-time footfall to target step length. Audio cueing and visual biofeedback prompt patients into a proper gait pattern. Performance is documented with a printed color report.


Reactive Step Training Results

Test Date / Time : 5/9/2024 8:50:21

TEST SUMMARY

100%	50%	100%	100%	100%
Step	Step	Step	Walk	X-Trip

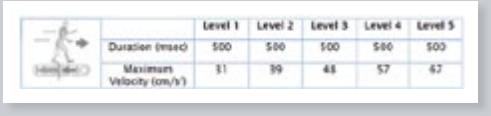
Event Type - Success Rate

TEST RESULTS

	Event Type	Level	Speed (MPH)	Score
1.	Trunk Stability Step	2	-	Pass
2.	Walk Stability	5	1.5	Pass
3.	X-Trip	1	1.1	Pass
4.	Trunk Stability Trip	3	-	Fail
5.	Step Stability	4	-	Pass
6.	Trunk Stability Step	2	-	Pass
7.	X-Trip	1	1.1	Pass
8.	Walk Stability	5	1.5	Pass
9.	Step Stability	4	-	Pass
10.	Trunk Stability Trip	3	-	Pass
11.	Walk Stability	5	1.5	Pass

Output Measurement Sample Reports

Benefit from comprehensive, data-driven insights to measure patient progress and to support clinical decision-making.



	Level 1	Level 2	Level 3	Level 4	Level 5
Duration (msec)	500	500	500	500	500
Maximum Velocity (cm/s)	31	39	48	57	67

Balance Training, One Step at a Time

Reduce Falls For Patients At Risk

- Perturbation-based balance re-education
- Solutions to improve neuroplasticity
- Learned compensatory step strategies
- PT customized protocol (speed, time, intensity)
- Random or on-demand perturbation challenges
- Repetitive therapy (up to 20-minute pre-selected intervals)

One Device, Multiple Functions

The Reactive Step Trainer is an advanced, physical therapy–centric treadmill designed to support balance re-education and gait training for post-surgical and neurological patients. Featuring precise low-speed control in 0.1 mph increments and both forward and reverse motion, The RST empowers therapists to deliver targeted, evidence-based rehabilitation.

When used with an Unweighing System, the Reactive Step Trainer combines the proven capabilities of our GaitTrainer 3 with enhanced balance training for safer, more effective patient outcomes.

Applications:

Goal: Develop symmetrical gait by improving step length, step speed and right to left time distribution.

- Older Adult
- Orthopedic
- Stroke/TBI
- Amputation, Lower Extremity
- Spinal Cord Injury
- Parkinson's Disease
- Neurologic
- Vestibular Patients

Specifications:

- Dimensions: 86"l x 27"w (218 x 69 cm)
  Walking Area: 64"l x 20"w (160 x 51 cm)
- All-In-One Flat Panel PC: 15.6" Color Touchscreen, Windows Operating System, Ethernet, USB, Video/Audio Out, and Built-In Speakers. Bolsters connectivity options, enabling remote operation for data transfer and software upgrades.
- Deck: 1" thick (2.5 cm) reversible Teflon impregnated highdensity composite fiber
- Motor: 2 HP with 2Q-Pulse Width Modulation Control
- Treadmill Speed Range:Forward: 0-10 mph (0–16 km/h) Reverse: 0-3 mph (0–4.8 km/h) in 0.1 mph (.16 km/h) increments Gait Trainer Speed Range: .3 - 4.5 mph (.48–7.2 km/h)
- Elevation: 0–15% Grade
- Heart Rate Monitoring: Polar contact handgrips (telemetry compatible)
- Power: 115 VAC, 50/60 Hz, 20 AMP dedicated line, or 230 VAC,
- Hz, 20 AMP dedicated line. Includes hospital grade plug with 12' (3.7 m) power cord.
- User Capacity: 60–400 lb (27 x 182 kg)*
- Weight: 395 lb (179 kg)
- Certification: CE Marked. See website for details
- Warranty: Two years parts; one year labor

**Does not accommodate less than 60 lb in gait trainer mode.*

Handrail Configurations

RST™ shown in use with NxStep™ Unweighing System.

Includes Standard Handrails.

950-600	Reactive Step Trainer, 115 VAC 50/60 Hz *Includes Standard Handrails*
950-485	NxStep Unweighing System, 115 VAC *Standard unweighing harness, one therapist seat, a set of retention cords and an Allen wrench.*

Export models available.

References:
1. 1. M. Drużbicki, A. Guzik, G. Przysada, et al. (2015). Efficacy of gait training using a treadmill with and without visual biofeedback in patients after stroke: A randomized study. J Rehabil Med.47: 419–425.

NxStep™ Unweighing System

Features:

- Full Patient Access—Open frame design encourages therapist facilitation and clears an unobstructed forward view for patients.
- One-Handed Control—Press a button to raise or lower patient; another to set unweighing load. Magnetically attach to anywhere on the frame.
- Counters Harness Slippage—Auto Unload feature compensates for potential harness movement due to slippage or posture changes.
- Pelvic Stabilization—Possible as single or two-point stabilization with retention cords.
- Tall and Small—From pediatric to 6'3" when standing over a treadmill with a 7" step-up, such as the Gait Trainer 3.
- Handrails As Needed—Easily removable for specific balance training exercise.
- Room-to-Room—Collapses to 32" (81 cm) wide to fit through standard door frames.

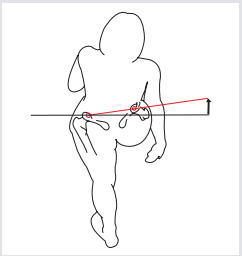
Overcomes potential harness slippage with unique auto unload feature.

NxStep Unweighing System shown with the Standard Unweighing Harness and two Therapist Seats (second seat sold separately).

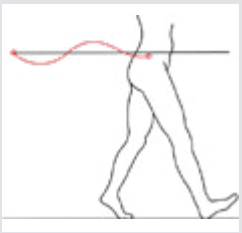
Retention cords are provided to govern the degree of pelvic rotation when pelvic stabilization is necessary.

A Partial Body-Weight Support System that provides an open, accessible rehabilitation environment with automated harness compensation.

Allows Functional Gait Patterns to be Practiced



Pelvic rotation. As patients progress in therapy, the single-point suspension system allows functional pelvic rotation to occur.



Vertical displacement. The dynamic suspension system allows up to 4" of vertical displacement, which helps the patient respond to ground reaction forces.

Combine the NxStep Unweighing System with the Gait Trainer 3 for body-weight supported treadmill training (BWSTT).

Allows patients to practice ambulation without fear.

Enables reactive, postural control exercise.

Early rehabilitation, BWSTT or over ground

Restore Functional Mobility

The NxStep Unweighing System enables partial weight-bearing therapy with open access to the patient. Offloading a percentage of body weight allows the opportunity for early rehabilitation while providing a safe environment for patient and therapist. Therapists can focus on treating their patients, manually facilitating lower extremities.

Gait Kinematics

This system allows full and partial weight bearing without compromising proper gait kinematics. Depending on walking speed, up to four inches of vertical displacement is permitted while the system maintains a consistent level of unweighing.

The ability to allow pelvic rotation has its own advantages. Unlike two-point suspension systems that have a tendency to restrict rotation on a horizontal plane, the single-point method of NxStep system permits functional pelvic rotation and versatility when walking, side-stepping, retro-walking and turning. Patients can engage in reactive postural control exercises or change direction without repositioning the entire support system.

The unique, forward corner-mounted design of the NxStep system enables many advantages. Therapists can view patients from all angles; patients have full visibility of treadmill display and, the open design allows natural arm swing, an essential component to encourage neuroplasticity.

Applications:

- Stroke
- Spinal Cord
- Head Injury
- Amputees
- Orthopedic
- Neurologic
- Vestibular
- Older Adult

Specifications:

- Dimensions:
  Operational:
  I.D.: 38.8" w x 48" depth x 94" h (99 x 122 x 239 cm)
  O.D.: 47.5" w x 48" depth x 94" h (121 x 122 x 239 cm)
  Retracted (not for operation)
  O.D.: 32" w x 48" depth x 79" h (81 x 122 x 201 cm) will fit through a standard 36" x 80" door. Battery adds 4" (10.2 cm) to depth.
- Accommodates patients from pediatric to 6'3" (191 cm) when standing over a treadmill with 7" (18 cm) step-up, such as the Gait Trainer 3.
- Includes one therapist seat
- Accommodates treadmill up to 38" w x 13.5" h (97 x 34 cm)
- Vertical Adjustment: 50" (127 cm)
- Unloading Weight Capacity: 160 lb (73 kg)
- User Capacity: 400 lb (181 kg)
- Power: 115 VAC
- Battery: Rechargeable 24 V. Battery automatically charges when system is plugged in.
- Weight: 275 lb (125 kg)
- Shipping Weight: 415 lb (189 kg)
- Certification: CE Marked. See website for details
- Warranty: Two years parts; one year labor

950-485 NxStep Unweighing System, 115 VAC
Standard unweighing harness, one therapist seat, a set of retention cords and an Allen wrench.

Export models available.
U.S. Patent No. 6,302,828

Optional:
950-486 Additional Therapist Seat

Mobility Assist™ Device

Features:

- Safety Harness—Securely supports patients during lift and ambulation.
- Safe Patient Support—Encourages independent movement and addresses disuse atrophy.
- No Patient Lifting Required—Mitigates injury to staff and reduces risk of falls.
- Frame—Fits around standard wheelchairs and can pass through 36" doorway.
- Motorized Control—Either therapist or patient can operate the hand-held controller for assisted standing.
- Rechargeable Battery—Easily recharged to provide many hours of service.

Hand-held, motorized control.

Used as an ambulation therapy aid to help therapists, nurses and caregivers work with patients who have difficulty rising from seated to standing position.

Closed-Seat Harness

The full seat of our redesigned safety harness supports patients securely and comfortably. Easy-to-read labels and color coding make the harness simple to put on and adjust.

Frame fits around standard wheelchairs.

Harness safely supports patient during stand assist without risk to therapist.

With the protection of a safety harness, the device lifts patients from a seated to standing position.

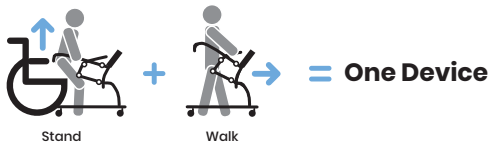
Patient has controlled body weight and standing balance—ready to initiate ambulation.

Motorized stand assist and walker—in one device

Improve Rehabilitation

It is important to get patients up and walking. This basic activity overcomes circulation problems, disuse atrophy, stimulates neural pathways, and plays a role in the psychology of a patient's sense of independence.

The Mobility Assist™ unit is a motorized stand-assist device that brings patients from a seated to standing position with the protection of a safety harness. As the patient stands using correct biomechanics, their center of gravity remains within the support of the device.



Once standing, the patient has controlled body weight and standing balance and can initiate ambulation. If they can move their legs, they can walk with the Mobility Assist device. From bedside or wheelchair to anywhere in the clinic or hospital setting—even outside to enjoy good weather in the courtyard—the Mobility Assist device will mobilize patients who have difficulty rising from a seated to standing position.

Safe Patient Handling

While essential to invest in equipment and training to prevent patient falls, it is equally important to protect therapists, rehabilitation nurses, caregivers and visiting family from injury when trying to lift or support a patient.

Currently many states have enacted "Safe Patient Handling" laws that improve safety for both patient and healthcare provider. Powered lift-assist devices promote rehabilitation and facilitate functional recovery—while maintaining safe conditions.

Applications:

Suitable for any weakened or deconditioned patient, the Mobility Assist device supports patients from a seated to standing position, then allows them to proceed as with a durable walker. Safety of the harness protects patient and therapist from risk of injury while strengthening ambulation skills.

Specifications:

- Dimensions:
  Outside: 44" l x 32.5" w x 37.5" h (112 x 83 x 95 cm)
  Inside width: 26.5" (67.3 cm)
- Weight: 90 lb (40.8 kg)
- User capacity: 350 lb (158.8 kg)
- Power: Rechargeable lead acid battery
- Certification: See website for details
- Warranty: Two years parts; one year labor

Protect Patients and Staff… for weak or unstable patients, Mobility Assist device is the perfect precursor to FreeStep ambulation.

950-570 Mobility Assist Device
Includes rechargeable battery, battery charging cable, stabilization strap and one universal safety harness.

Replacements:
950-574 Harness, Closed Seat
950-579 Stabilization Strap

A Better Path to Injury Recovery & Performance

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