OMNICYCLE® ELITE
Neuro - Ortho - Cardio Rehabilitation Cycle System

PRODUCT HIGHLIGHTS

With its “Smart-Assist” technology and interactive, biofeedback-driven exercise programs, the Omnicycle® Elite is the most advanced therapeutic exercise cycling system available. With these unique capabilities, the Omnicycle® provides earlier therapeutic exercise intervention for improved outcomes and expanded therapy services serving a wider range of neurological, orthopedic and cardio pulmonary related conditions. Unlike traditional resistance exercise cycles, the motorized Elite can accommodate lower functioning, post-acute patients using both upper and lower extremity exercise options in three different “motor-assisted” operational modes. The Omnicycle® Elite’s “Smart-Assist” technology automatically senses when a patient requires powered-assistance due to a lack of strength, mobility, endurance or range of motion. Developed around the medical complexities of aging adults, the Omnicycle® Elite accommodates patients who might not otherwise be able to participate in therapeutic exercise due to strength, coordination, neurologic or cardiorespiratory challenges.

- Motor “Assisted”, “Active-Assisted” and “Active” exercise options accommodate patients with physical limitations and a broader range of conditions
- Provides therapeutic exercise options earlier in the therapy process to support faster strength gains and recovery of function
- Biofeedback and interactive exercise programs provide a more interactive experience to enhance patient motivation and compliance
- Improves strength, endurance and range-of-motion, as well as balance, flexibility and coordination
- Stimulates circulation, respiratory function and mobility to address conditions such as CHF, COPD and Pneumonia
- Integrates seamlessly with ACP’s Omnistim® FX² Patterned Electrical Neuromuscular Stimulation (PENS) device for advanced neuromuscular re-education
- Printable “Training Summary” is captured at the end of each exercise session to demonstrate treatment progression in patient notes and documentation
TECHNOLOGY HIGHLIGHTS AND FEATURES

- Pre-set exercise protocols for patients with neurologic, orthopedic and cardiac conditions
- Upper and lower extremity biofeedback for improved patient motivation and symmetrical training needs
- Large color touchscreen display for ease of operation and interactive biofeedback programs
- Wheelchair accessibility and integrated anti-tip straps eliminate the need for patient transfers
- Adjustable pedal radius accommodates range-of-motion limitations for post-op TKA and THA patients
- Integrated heart rate monitor provides clinician alerts when set heart rate maximum is exceeded
- Integrated Spasticity Detection System recognizes and helps manage episodes of spasticity
- Compact, portable, and easy to move design works well in therapy gyms and other areas with limited space
- Voice-activated stop for patient safety

Motor-Assist technology enables patients with physical limitations to participate in a therapeutic exercise program

The system’s “Smart-Assist” technology continually monitors patient involvement and engages its “motor-assist” function as needed. As the patient progresses, the system automatically provides less powered assistance to increase the exercise challenge for greater functional gains.

Interactive Biofeedback capabilities improve patient motivation, cognitive engagement and exercise compliance

With the assistance of a large color touch screen, the Omnicycle® Elite’s biofeedback system enables patients to visualize their exercise performance and adjust their efforts as needed for optimal therapeutic exercise. The biofeedback capabilities include several interactive exercise programs to engage patients mentally and physically for improved motivation, participation and performance.

Integrated Spasticity Management System detects, manages and reports episodes of spasticity

The Omnicycle® Elite features a unique Spasticity Detection and Management System that recognizes episodes of spasticity and automatically stops pedal rotation to help relieve spasms before the exercise program is resumed. The number of spasms that occur are reported at the end of the exercise session.
**Clinical Overview**

The Omnicycle® Elite complements the comprehensive treatment approach required for post acute patients and those with more medically complex conditions including paresis, spasticity, neuromuscular disease, muscle disuse atrophy, etc.

**Clinical Indications**
- Post-stroke
- Multiple Sclerosis
- Nerve injury
- Parkinson’s Disease
- Post-operative joint replacement TKA, THA, Shoulder, UE
- Patients too weak or unbalanced to use a regular cycle
- Muscle disuse atrophy
- COPD and CHF

**Clinical Objectives**
- Neuromuscular re-education
- Address muscle disuse atrophy
- Promote neuromotor activity
- Increase coordination
- Decrease edema - increase ROM
- Stable, safe active-assisted exercise
- Increase strength and endurance
- Improve peripheral muscle performance

The Omnicycle® Elite addresses a broader spectrum of patients and conditions than traditional “resistance cycling” systems.

**OMNICYCLE® ELITE**
Rehabilitation, Conditioning & Resistance Training

POST - ACUTE PATIENTS

Motor Assisted Training

ACTIVE - ASSISTED

ACTIVE EXERCISE

FULL FUNCTION PATIENTS

Traditional Resistance Training

**Neurological Rehabilitation**
Helps increase neural drive and motor timing performance. Active-assisted reciprocal movement with cycling, biofeedback and PENS can help retrain reciprocal movement in preparation for active walking and functional activity.
- Stroke recovery
- Neuromuscular re-education
- Neuromuscular diseases with components of abnormal tone

In “Neuro” mode, both pedaling speed and resistance varies in response to patient’s exercise performance.

**Orthopedic Rehabilitation**
Helps reduce muscle inhibition by increasing circulation, while decreasing edema and pain. Passive and active-assisted cycling helps enhance joint ROM with limited or no active patient participation.
- Shoulder surgeries
- Hip fracture repair
- Total hip replacement
- Total knee replacement
- Arthritis
- Musculoskeletal lesions

The “Ortho” mode enables clinicians to limit the force output generated by patients to avoid over-stressing traumatized tissues.

**Cardio-Pulmonary Rehabilitation**
Supports cardio-pulmonary conditioning and the development of muscle strength, power and endurance.
- Helps enhance extremity muscle performance for COPD, CHF and Pneumonia patients for improved endurance
- Supports functional recovery for patients with COPD, CHF and Pneumonia

In “Cardio” mode, resistance is automatically reduced when target heart rate is exceeded.

**Push-button operation and pre-set exercise modes for ease-of-use and therapist efficiency**
Clinicians simply press “START” to initiate a 15-minute exercise program with integrated “warm up,” “training” and “recovery” stages. In “Cardio” mode, the Omnicycle® Elite’s Heart Rate Monitor automatically varies the load to maintain the targeted heart rate. In “Neuro” mode, the system’s speed may be set to synchronize with ACP’s Omnistim® FX2 Patterned Electrical Neuromuscular Stimulation (PENS) for advanced neuromuscular re-education.

**Report**
- Duration: 10:05 min
- Activity: ~ 6 %
- Activity left: ~ 13 %
- Activity right: ~ 87 %
- Distance: 0,3 km
- Spasms: 6
- Calories: ~ 0,0 kcal
- Motor power begin: ~ 2,9 Nm
- Motor power end: ~ 2,9 Nm

At the end of an exercise session, a Training Summary Report is automatically produced on the screen.

**Training Summary Report may be printed at end of session using optional Bluetooth® wireless printer**

Large color monitor displays patient pulse, power, distance and training session duration.
• Upper and lower extremity exercise ergometers
• Powerful 200 watt motorized system operates in three modes:
  – Constant speed with adaptive load
  – Constant power with variable speed
  – Heart rate targeted load
• Pre-set therapy protocols
  – Neurological Rehabilitation
  – Orthopedic Rehabilitation
  – Cardio-Pulmonary Rehabilitation
• Biofeedback with large color display for upper and lower extremity
• Training Summary Report including:
  – Session time (total training minutes, less any “pauses” during the session)
  – Patient participation (percentage of time that patient’s efforts were performing the work)
  – Left side activity in percent - right side activity in percent
  – Distance
  – Number of spasms
  – Calories
  – Starting motor power (motor assistance at the start of the session)
  – Finishing motor power (motor assistance provided at the end of the session) Lower number at end of session indicates reduced muscle spasticity/rigidity

Omnicycle® Technical Specifications

**Product Specifications**

- Neuro, Ortho, Cardio therapy modes
- Large 10.75” color display screen
- Touchscreen operation
- Voice activated stop
- Seven biofeedback modes
- Programmable parameters
- Heart monitor
- Motor: Powerful, quiet 200 watt motor
- Construction: Durable heavy gauge metal frame
- Width: 18.0”
- Depth: 30.0 - 40.0”
- Height: Adjustable from 46.0 - 51.0”
- Weight: 100 lbs.