

# Advances in [rehab]

## How Rehabilitation Robots are Revolutionizing Recovery

When you've suffered a neurological injury, typical daily activities like holding a glass, folding laundry, and even walking, can become the greatest challenge to overcome. The good news is, studies show that through repetition and practice, recovery of movement and function is possible even more than 20 years after a neurological injury such as a stroke, brain injury, spinal cord injury or multiple sclerosis. While these impairments often make it difficult to complete therapy exercises, new robotic technology is helping patients rediscover independence.

Braintree and New England Rehabilitation Hospitals are proud to announce that we now offer the latest "therapy" robots to assist our patients in precise, effective exercise and movement training. Under the direction of our licensed therapists, these robotic devices provide the perfect balance of assistance and challenges to encourage movement and help restore function.



### Lower Extremity Robotics

Learning to walk again is something patients can achieve with the AutoAmbulator™, available at Braintree and New England Rehabilitation Hospitals. The AutoAmbulator™ utilizes body weight-supported treadmill training, where robots guide the patient's legs on the treadmill to reproduce normal walking patterns.

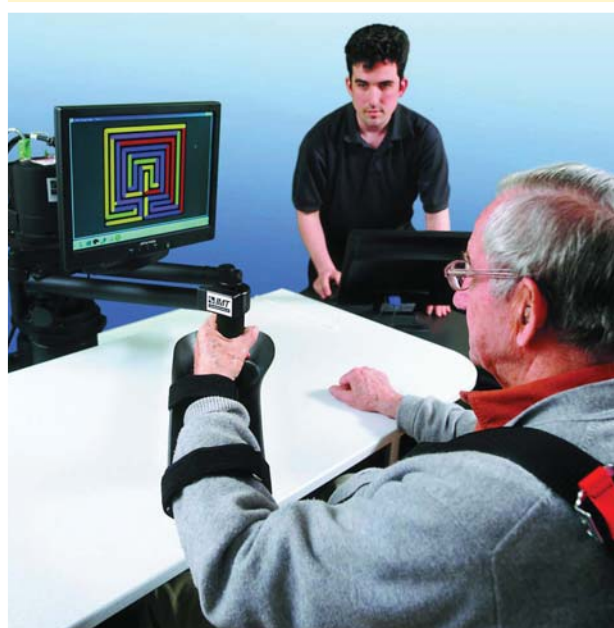
The AutoAmbulator™ allows a patient to participate in gait training activities in a safe environment sooner than in a traditional rehabilitation program. The body weight support provided by the device allows the therapist to focus specifically on rehabilitation, instead of supporting the patient's weight, allowing for longer and more efficient therapy sessions, and faster progress.

### InMotion Robots for Shoulder, Elbow, Wrist, and Hand

InMotion Robots, invented by leading scientists at MIT, use purposeful and engaging computer games to guide a patient through clinician-selected exercises, starting with gentle assisted movement and becoming progressively more challenging. The robots assist patients to significantly increase their exercise repetitions, more so than traditional therapy, resulting in improved performance and recovery.

### Myomo™ e100

Also new at Braintree Rehabilitation Hospital, The Myomo™ e100 NeuroRobotic System is designed to help individuals relearn how to move paralyzed arms after stroke. The device is worn on the arm, and lets patients initiate and control movement using their own brainwaves.



**For more information on rehabilitation robotics at Braintree and New England Rehabilitation Hospitals, or to schedule an appointment, call or visit our websites.**

[rehab]  
Wrap-up

Your  
[rehab]  
at

Braintree Rehabilitation

**COGNITIVE NEURO  
REHABILITATION  
SERVICES AT PLYMOUTH  
AND LYNNFIELD  
CLINICS**

Cognitive Neuro Rehabilitation Services (NRS) at Braintree Rehabilitation Hospital's Plymouth and Lynnfield outpatient clinics has helped more than 600 people with brain injuries achieve more independence at home, in the community, at work and at school.

Staffed by Neurologists, Neuropsychologists, Speech-Language Pathologists, Therapeutic Recreation Specialists, and Occupational Therapists, the NRS Program aims to:

- Maximize functional and cognitive abilities
- Provide flexible, creative "real world" experiences
- Explore vocational skills and options ideal for the patient
- Increase activity levels
- Address employment skills such as job seeking, interviewing, coping with frustration, and maintaining good relationships

Over 13 years of positive outcomes:

- 92% of NRS graduates maintained or improved their level of functioning and independence, one year after program completion
- 78% of patients reach their community goals by the end of the program
- 80% of patients who focused on a return to work goal maintained a work status, one year after program completion

A referral is required, and services are covered by most major insurance companies.

**For more information, call the Braintree Rehabilitation Hospital Outpatient Clinic at Plymouth at 508-747-4720 or Braintree Rehabilitation Hospital Outpatient Center at Lynnfield at 781-246-4225.**

# [rehab]

Check-up

## Making a Splash with Aquatic Therapy

With the colder weather approaching, now is the perfect time to discover the benefits of aquatic therapy.

Aquatic therapy offers many advantages that make it a great addition to a traditional, land-based rehabilitation program.

One of the greatest benefits of aquatic therapy is the buoyancy of the water, which can alleviate the pain that is usually put on joints in traditional therapeutic settings. This is especially helpful for patients with arthritis, those with healing fractures, as well as those who are overweight.



Low-impact aquatic therapy can help treat a wide variety of diagnoses. It's great for any kind of orthopedic injury, such as total knee replacements, torn cartilage or ligaments, as well as neural injuries, including spinal cord injury, traumatic brain injury, and stroke. Combined with land-based occupational or physical therapy, aquatic therapy can prove extremely helpful in achieving positive outcomes.

Another benefit is the warmth of the water, which can significantly improve mobility and flexibility, as blood flow to the injured area is increased. Patients with muscle spasms, back pain, and fibromyalgia find this especially therapeutic.

This also helps to boost patients' motivation, as they are encouraged to do more and to push harder than they might have otherwise.

The water also provides a high level of support, allowing patients to maintain an upright position with less effort, which in turn gives them more confidence and allows them to walk more effectively.

Exercises are performed in one of two positions, either lying flat in the water (with a flotation device) or upright. The range of exercises is broad and can include walking, jogging, jumping, swimming, kicking, and other continuous rhythmic activities that elevate metabolism and improve cardiovascular function.

The typical session is 45 minutes in length, and patients traditionally attend two to three outpatient sessions per week for four to six weeks.

Braintree and New England Rehabilitation Hospitals each offer a warm water therapy pool featuring a temperature at or above 95°F. In addition, each pool is accessible to patients with mobility issues. Upon discharge from aquatic therapy, patients have the opportunity to continue their aquatic program through the hospitals' Independent Pool Program. We offer several time slots daily for former patients to continue to use the therapy pool for a very nominal fee.

**"The pool water is warm and soothing, which seems to make your muscles and joints relax. It's easier to do your exercises at your own pace in the water, and the staff is very understanding, knowledgeable, friendly, and helpful."**

– Dan Clifford,  
Aquatic Therapy Patient,  
Braintree Rehabilitation Hospital

**To learn more about aquatic therapy, visit our websites, call 781-348-2067 (Braintree Rehab), 781-939-1900 (New England Rehab), or 781-826-0281 (Braintree Rehabilitation Hospital Outpatient Clinic at Hanover).**

# My [rehab]

## How therapy helped one Dracut woman return to gardening, shopping, and living well

While walking from one end of a mall to the other may seem like a simple task, for 68 year-old Barbara Williams, it was an achievement more than a decade in the making. Barbara's shopping trips used to be limited to visiting just one store at the mall, as long as there was a bench nearby where she could sit and rest. Born with scoliosis, a curvature of the spine, Barbara never suffered much from her condition, until about 15 years ago, when debilitating pain made it difficult to sit, walk, and tend to her beloved garden.

"I couldn't go out unless I knew I'd have a place to sit. I couldn't garden. I couldn't do so many things that I liked to do. The pain was taking over my life," recalls Barbara. Trips to a pain clinic helped for a few years, but eventually, the pain became too much to bear, and Barbara chose to have surgery to rebuild her spine.

As originally reported in the *Lowell Sun*, Barbara underwent a series of two surgeries, the first using rods to lay the foundation for her new spine, and the second, a nine-hour surgery using a titanium cage and genetically engineered protein gel to replace the spinal discs. The surgeries were performed by Dr. Mark Lapp, founder of the Merrimack Valley Spine Center and partner at Orthopaedic Surgical Associates of Lowell. Thanks to the encouragement and talent of Dr. Lapp and his team, Barbara recalled, the complicated surgeries were "A piece of cake. A walk in the park. It is the best thing I have ever done."

Barbara chose New England Rehabilitation Hospital at Lowell to complete her rehabilitation, staying for eight days after each surgery. "I believe it was the care I received both times at New England Rehab that made my recovery so effective and so fast," says Barbara. "Once you go there, you don't want to leave. The staff was like a family to

*Story comprised of facts originally published in the Lowell Sun article "She Sure Has Backbone: Cutting-edge Surgery Gets Dracut Woman Back on Her Feet," Hiroko Sato, 6/16/08.*



me; they treated me like a queen. Everyone was always asking what they could do to make me comfortable. Their job is to get you moving, but they were as gentle as could be. I was very well cared for." As reported in the *Sun*, the staff at New England Rehab went above and beyond, washing surgical stockings Barbara left on the bed, and bringing her chocolate cake when she told them she missed it.

Barbara especially appreciated the attentiveness of New England Rehabilitation's Medical Director. "Dr. Lyons was awesome," she recalls. "He came in and checked on me every day."

A combination of physical and occupational therapy three hours per day helped Barbara regain her mobility and get accustomed to her newly constructed spine. Today, with the help of a brace that she wears, Barbara is able to return to her garden, and to doing many of the things she hadn't been able to do in years. "My spine is almost perfectly straight now. Every day is a better day. Recently, I walked the entire length of the mall without sitting down once, for the first time in 10 years. I am walking in the community – that was my goal, and New England Rehab helped me reach it."

**To learn more about the programs at New England Rehabilitation Hospital, visit [www.newenglandrehab.com](http://www.newenglandrehab.com) or call 781-935-5050.**

Your [rehab]

at  
New England Rehabilitation

## ELDER ASSIST CLINICS OFFER A NEW LEGAL ADVICE RESOURCE TO INPATIENTS AND THEIR FAMILIES

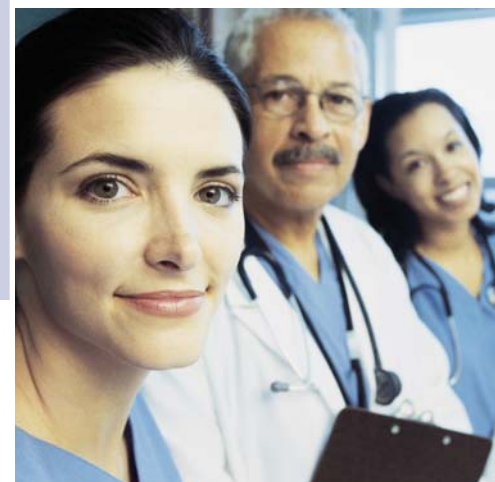
New England Rehabilitation Hospital is proud to announce that the Senior Resource Center (SRC) now offers complimentary, weekly Elder Assist Clinics in Woburn. Modeled after the longstanding clinics offered at Braintree Rehab, the pre-registered private appointments with SRC's Eldercare Nurse Attorneys help patients and their families with important issues, including:

- How to pay for current and long term health care needs
- How to protect your home and your hard assets
- Advice on estate planning

These clinics serve as a bridge in helping New England Rehabilitation patients and their families deal with transition needs for a safe and timely discharge home, to a skilled nursing facility, or an assisted living facility.

Senior Resource Center, Inc. is a full-service eldercare planning advisory group, supporting seniors and their families throughout Massachusetts, southern New Hampshire, and southern Maine.

**For more information about the Elder Assist Clinics offered at both Braintree and New England Rehabilitation Hospitals, call 781-348-2358.**



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Rehabilitation Hospital  
250 Pond Street • Braintree  
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# Understanding [rehab]

## Specialized Outpatient Programs Ease Pain and Restore Balance

Balance is such an important part of our everyday lives, yet we take it for granted most of the time because we maintain our sense of balance at a sub-conscious level. However, balance often becomes more of a concern as we age. In fact, "Balance Disorder" is one of the two most common diagnoses among hospital admissions in individuals over the age of 65. Each year, nearly 8 million patients visit their physician for the evaluation and treatment of dizziness, and 85% of all cases of dizziness are caused by disturbances in the inner ear.

There are three main centers within the body that regulate balance: a person's vision, their sensation, and their inner ear function (vestibular function). When one or more of these systems is impaired, the body interprets this mismatch of information as vertigo or a sense of imbalance.

People with vestibular disorders may suffer from increased motion sickness, heightened sensitivity to noise and bright lights, and even difficulty with vision. BPPV (benign paroxysmal positional vertigo) is the most common form of vertigo and one of the easiest to diagnose and treat. Those who experience vertigo typically experience a sensation of spinning that may last anywhere from a few seconds to several minutes.

Vestibular rehabilitation uses physical therapy techniques to treat vertigo and balance disorders with success rates as high as 90 percent. Physical therapists evaluate the patient's needs and create a program featuring symptom-specific, individualized exercises designed to decrease dizziness and improve balance and function. The ultimate goal of vestibular rehabilitation is to maximize a patient's safety, balance, and quality of life.

People who suffer from other forms of inner ear disorders may benefit from vestibular rehabilitation as well. Conditions such as neuritis, labyrinthitis, Meneire's disease, and disequilibrium are often highly treatable using compensatory strategies that can be developed through a customized home exercise program. These exercises can help diminish the effects of blurred vision that occurs with head movement, often resulting in compromised balance.

**Braintree and New England Rehabilitation Hospitals are proud to offer a Vestibular Rehabilitation Program. For more information about Vestibular rehabilitation, please contact New England Rehabilitation Hospital at 781-939-1900 or Braintree Rehabilitation Hospital at 781-348-2801.**

**We want to hear from you!** Let us know how you're doing, ask questions, and learn more about the programs that might be able to help you, a friend, or family member live well. Email [rehabwrapup@5sqc.com](mailto:rehabwrapup@5sqc.com).

With inpatient and outpatient centers located throughout eastern Massachusetts, you can receive the care you need close to home, close to work, and close to your family. Visit our websites for a complete listing of our programs, services, and locations.

ABINGTON	MELROSE
BILLERICA	MILFORD
BRAINTREE	NATICK
BROCKTON	NORTH DARTMOUTH
DANVERS	PLYMOUTH
FRAMINGHAM	QUINCY
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HYANNIS	TAUNTON
LYNNFIELD	WOBURN
LOWELL	

