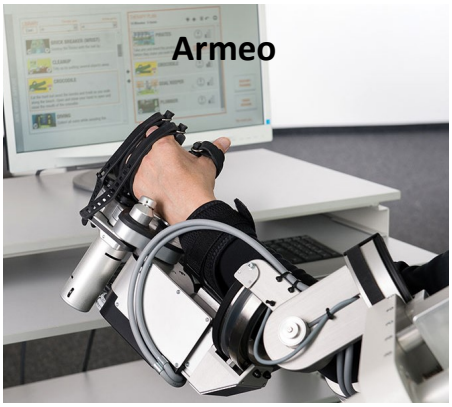
Stroke Recovery Tips



Technology in Stroke Rehab

Technology in Stroke Rehab has come a long way. It's often exciting for patients to try new technology, but it can also be disappointing as patients often have high expectations after seeing promising research articles or compelling advertising. These expectations are often not met. This doesn't mean technology doesn't help, but therapists and equipment manufacturing companies need to be careful about creating too much hype when introducing a device. Research that shows improvement on a movement or activity scale is promising, but this doesn't necessarily result in big improvements in a patient's quality of life or level of independence.

I still encourage patient to use technology as it may be of great benefit, but it's a good idea to do a little research regarding technology to determine if a device is right for you and if it will help you meet the goals that you have. It's also a good idea to try out a device over a period of time before purchasing it and to talk to your therapist about what goals can be realistically achieved. I can't tell you how many patients I've seen that have purchased expensive equipment only for it to sit unused in a closet. Below is a list of some of the latest technology used in stroke rehab. Some devices are available only in rehab centers and others can be used at home. I have provided links to company websites so that you can further research the equipment.

www.hocoma.com—Hocoma has several robotic devices including the Lokomat which is for gait/locomotion therapy, the Armeo which is for functional rehab of the arms/upper extremity, the Erigo which is for early rehab and mobilization helping patients to tolerate an upright position, and the Andago which is for body-weight supported gait training. Some of the rehab centers in the U.S. that have Hocoma devices include MossRehab, Rehab Institute of Chicago, Shepherd Center, and Spaulding Rehab Hospital. There are other countries with the devices as well, and these can be found via the Hocoma website.

www.meditouch.co.il—Meditouch is a company based out of Israel that has created several devices. Their Balance Tutor provides a platform that can move medial/laterally and forward/backwards while the patient is standing, walking or running. It can create postural perturbation such as one might experience during a slip or a trip. Their HandTutor works on functional fine motor movement of the fingers and wrist exercise. The ArmTutor helps a patient work on functional shoulder and elbow movement, and the LegTutor is a wearable leg brace that allows for weight bearing and non-weight bearing exercise for the hip and knee.

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Stroke Facts

- Stroke is the 5th leading cause of death in the U.S.
- On average, one American dies from stroke every 4 minutes.
- Stroke costs the U.S. an estimated $34 billion per year
- One in six people in the world will suffer a stroke in their lifetime

Above Information from U.S. Centers for Disease Control and Prevention and World Stroke Organization

Technology Continued...

www.Interactive-motion.com - Interactive Motion Technologies have developed various robotic tools that can be used in stroke rehabilitation including the Inmotion Arm, Inmotion Wrist, and Inmotion Hand. If a patient is unable to move the robots can assist the patient in initiating movement toward a target. If the patient's movement is uncoordinated the robot can help guide the movement in the correct way. As the patient gains more movement and control, the robot will provide less assistance to the patient. Interactive Motion Technologies has recently been acquired by Bionik Labaratories (www.bioniklabs.com).

http://www.alterg.com/ - AlterG has an anti-gravity treadmill and the AlterG Bionic Leg which provides patient initiated motor assistance during sit to stand exercises, walking, and stair climbing.

www.eksobionics.com - Ekso Bionics has created the Ekso GT which is a robotic exoskeleton that helps with early mobility and aides therapists in getting even the most challenging patients up and walking.

www.Bio-xtreme.com - Bioxtreme Robotics Rehabilitation's products use the company's Error Enhancement Technology to help improves motor skills. Their DeXtreme™ is an upper limb rehab device that combines biofeedback and 3D virtual reality in a real-life environment. According to their website, the system uses precise measurement of muscle strength, range of motion and other clinical scales, while forces are calculated and applied with high accuracy over the entire motion cycle. Progress can be recorded and saved on the learning system.

www.neofect.com/en/ - Neofect has the Rapael Smart Glove which is a lightweight, portable, elastomer glove ith a wireless sensor which can accurately compute the amount of individual finger movements. It provides various kinds of motion tasks combined with entertainment for more of a fun factor. The learning schedule algorithm automatically adjusts to the optimal level of difficulty as you play.

Rapael Smart Glove

The above mentioned devices are only a sample of the high tech rehabilitation technology available. To find out about these and other technology devices available for stroke rehabilitation, you can **visit http://www.medgadget.com/?s=stroke&category=50&year=&month=&format=&sortby=DESC.**

InMotion Wrist

AlterG

Ekso GT

DeXtreme

Brain Training Websites

There are many websites and apps that are designed for cognitive retraining. Here is a list of several websites:

www.lumosity.com

www.brainmetrix.com

www.braincurls.com

www.gamesforthebrain.com

www.brainbashers.com

www.brainhq.com

www.puzzlersparadise.com - high level deductive reasoning exercises

Cognitive Retraining

Cognitive retraining involves exercises geared toward improving memory, problem solving, attention, reasoning, following directions, initiation of activity, and comprehension to name a few. One important aspect of improving cognition is getting regular exercise. Research has shown that aerobic exercise can help improve a stroke patient's cognition. In addition to exercise, here are some simple activities to work on various cognitive deficits:

Memory

Have someone say several words and try to repeat back the words. Increase the number of words to increase the difficulty.

Play memory match game where cards are turned face down and then two cards are turned over at a time in attempt to find a match.

Play a trivia game or read the answers to the trivia questions first then go back and see if you can correctly answer the questions.

Try to say the alphabet backwards.

At bedtime, try to remember what you did throughout the day. Visualize your activities starting from the time you woke up until the time you went to bed.

Problem Solving

Identify problems or safety hazards in a picture or in the environment (problem solving cards can be bought).

Answer problem solving questions posed by others (e.g. what would you do if you ran out of gas, what would you do if a stranger asks for money)

Attempt functional activities such as putting on a shirt or making a sandwich to see if the task can be accomplished.

Attempt to sort pictures into categories and then sort the pictures in a different way. For example, items could be separated first by their function and then by their color.

Attention

Read a short story and then describe details from the story such as character names or what the story was about.

Look at a picture then take the picture away, and try to recall details from the picture.

Do word finding puzzles.

Play simple board and card games.

Following Directions

Try following 1 step commands expressed by caregivers and then advance to 2 step, 3 step, and multi-step commands. Below are examples:

1 step command: Raise your hand.

2 step command: Touch your nose then stomp your foot.

3 step command: Clap your hands, stomp your feet then point to the ceiling.

Try to follow a recipe or try to build something from directions (e.g. a simple craft project)

Compensatory Techniques for Cognitive Deficits

Stroke patients can use compensatory techniques to help with cognitive deficits as well. This may include using memory notebooks, diaries, computer apps, auditory alarms, written checklists or organizers (written or electronic).

Caregivers Corner - Finding Activities at Home

Stroke patients may have impaired mobility and may be confined frequently to their home. Sometimes they become depressed and lose interest in doing their regular activities. Chronic boredom can cause restlessness, increase feelings of worthlessness, and even increase one's risk for depression. Below are some activity ideas from other caregivers that may help alleviate boredom or help grab the interest of your loved one. Remember that just because someone didn't like an activity before they suffered an impairment doesn't mean they won't enjoy it now.

A Family Genealogy Project - Have your loved one convey stories and information about the family history, contact other family members for information or look up information on websites. Let them look through photos and stories about the family.

Listening to Audio Books

Mosaic Projects

Using a Loom

Adult Coloring Books or Painting Projects

Planting or Arranging Flowers

Spending Time with Animals

Listening to Music

Making a Scrapbook

Make a Book of Stories About Past Experiences (caregiver can write information if patient is unable to write, information can be shared with younger generations)

Play with Children/Grandchildren

Give Them a Manicure/Pedicure/Hair Styling

Make Care Packages for Military or College Students

Look at Magazines

Computer Activities or Learn to Use a Computer

Board Games

Cooking

Exercise (can be done from chair)

Organize Photos and Write Notes on the Back

Have Friends/Peers Visit

Participate in a New Hobby/Craft

Stroke Rehab e-book: A Guide for Patients and their Caregivers

Exercise photos included

Visit
http://www.strokerehab.com/stroke-rehab-ebook.html