Rehabilitation Robots: --   Markets Reach $1.1 Billion By 2021

LEXINGTON, Massachusetts (May 5, 2016) – WinterGreen Research announces that it has published a new study Rehabilitation Robots: Market Shares, Strategy, and Forecasts, Worldwide, 2016 to 2022. The 2016 study has 774 pages, 296 tables and figures. Worldwide markets are poised to achieve significant growth as the rehabilitation robots, active prostheses, and exoskeletons are used inside rehabilitation treatment centers and sports facilities providing rehabilitation for all patients with injuries or physical dysfunction.

Research has found that by actively engaging stroke patients in repetitive tasks, the brain is able to rewire neurological pathways to motor functions. In this manner patients who have lost functions are able to relearn movement. The awareness and movement of hemi-paretic limbs can occur and functional recovery can continue even years after the brain injury. Much of the damage to a brain comes from lack of oxygen, even brief lack of oxygen is detrimental to the brain. The ability to recover is an ongoing process, something that robotic therapy over time will help.

Now, the reimbursement times for physical therapy are limited, and clinicians tell patients that everything that can be done has been done after a relatively short time. Robotic rehabilitation can continue after services are no longer paid for, giving people longer recovery times and more hope to regain lost function.

Robotic rehabilitation devices are based on automated process, use of a motor or use of microprocessor technology controlled by software. Rehabilitation robot vendors have set out to create repetitive process that works to help people improve their physical wellbeing using a robot, to improve more than they would without the robot. Improvements come because of a reduction in the cost of care delivery, making the rehabilitation more affordable and therefore able to be continued longer, or because of a reduction in boredom.

Lack of knowledge about what protocols would work for a particular patient in a particular situation contributes to lack of rehabilitation benefit and patients stuck without optimum movement. Rehabilitation robots can be customized to create automated process that is responsive to patient needs.

Robotic rehabilitation devices use automated process to motivate patients and help them to improve their motor abilities. Motors are used to drive continuous motion machines to build muscle tone.   Advances in robotics and bionics help therapists diagnose more precisely, increase clinic efficiencies, and reach more patients.   Robotic physical therapy technologies improve patient engagement and HEP compliance. All better patient experience in turn leads to improved outcomes.

Because of the longer treatment cycle with rehabilitation robotics and extra motivation provided from incremental improvement, people get better than they might have otherwise.

Devices precisely record the patient performance during the training. Metrics gathered can be used to analyze and document the therapy progress. Graphical presentation of information about improvement can be used to further motivate patients to use the robotic devices for even more rehabilitation.

Relearning of lost functions in a patient depends on stimulation of desire to conquer the disability. The rehabilitation robots can show patients progress and keep the progress occurring, encouraging patients to work on getting healthier. Independent functioning of patients depends on intensity of treatment, task-specific exercises, active initiation of movements and motivation and feedback. Rehabilitation robots can assist with these tasks in multiple ways. Creating a gaming aspect to the rehabilitation process has brought a significant improvement in systems.

As patients get stronger and more coordinated, a therapist can program the robot to let them bear more weight and move more freely in different directions, walking, kicking a ball, or even lunging to the side to catch one. The robot can follow the patient's lead as effortlessly as a ballroom dancer, its presence nearly undetectable until it senses the patient starting to drop and quickly stops a fall. In the later stages of physical therapy, the robot can nudge patients off balance to help them learn to recover.

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According to Susan Eustis, principal author of the team that developed the market research study, "Robotic therapy stimulus of upper limbs provides an example of the excellent motor recovery after stroke that can be achieved using rehabilitation robots." Lower limb systems and exoskeleton systems provide wheelchair bound patients the ability to get out of a wheelchair

No company dominates the entire rehabilitation robot market sector. The products that work are still emerging as commercial devices. All the products that are now commercially viable are positioned to achieve significant staying power in the market long term, providing those companies that offer them with a possibility for long term leadership position in the market.

The companies you would expect to see as participating in these markets, the leaders in the wheelchair markets re not there with any significant presence. The exoskeletons will challenge the wheel chairs, providing a supplement to the wheelchair, permitting disabled people to have some more mobility than they have now.

Robotic rehabilitation equipment is mostly used in rehabilitation clinical facilities. There is a huge opportunity for launching a homecare equipment market if it is done through sports clubs rather than through clinical facilities. People expect insurance to pay for medical equipment but are willing to spend bundles on sports trainer equipment for the home. Rehabilitation robots can help stroke patients years after an event, so it makes a difference if someone keeps working to improve their functioning.

Vendors will very likely have to develop a strong rehabilitation robotic market presence as these devices evolve a homecare aspect. The expense of nursing home rehabilitation has been very high, limiting the use of rehabilitation to a few weeks or months at the most.

Rehabilitation robots realistically extend the use of automated process for rehabilitation in the home. The availability of affordable devices that improve mobility is not likely to go unnoticed by the sports clubs and the baby boomer generation, now entering the over 65 age group and seeking to maintain lifestyle.

As clinicians realize that more gains can be made by using rehabilitation robots in the home, the pace of vendor acquisitions will likely pick up in an effort to consolidate the industry.

Rehabilitation robot market size at $221.4 million in 2015 is expected grow dramatically to reach $1.1 billion by 2022. Exoskeleton markets will be separate and additive to this market. A separate exoskeleton market will create more growth. Market growth is a result of the effectiveness of robotic treatment of muscle difficulty. The usefulness of the rehabilitation robots is increasing. Doing more sophisticated combinations of exercise have become more feasible as the technology evolves. Patients generally practice 1,000 varied movements per session. With the robots, more sessions are possible.

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WinterGreen Research, Inc.
6 Raymond St.
Lexington, MA 02421
(781) 863-5078
www.wintergreenresearch.com

Contact:

Susan Eustis, President and Co-Author   (781) 863-5078 (Work)
WinterGreen Research   (617) 852-7876 (Cell)
6 Raymond St.   susan@wintergreenresearch.com
Lexington, MA 02421   www.wintergreenresearch.com

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