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Dear [First Name],
Welcome to our April Motorika Newsletter

This edition includes:

- ReoGo – new article
- Update on congresses
- New cooperation with GPO

|| Newsletter
April 2014

We would appreciate your feedback, comments, stories, and ideas for future newsletters. If you have any questions about the content of this publication, or would like to share news from your area with us, please contact us at: jenny@motorika.com.

Brain–Machine Interface in Chronic Stroke Rehabilitation: A Controlled Study

Ander Ramos-Murguialday, Niels Birbaumer et al. Institute of Medical Psychology and Behavioral Neurobiology, University of Tübingen. ANN NEUROL 2013;74:100–108

A new study was published in the Annals of Neurology journal on using Brain Machine Interface (BMI) for improving the rehabilitation of stroke patients. The ReoGo was the machine used in this study (Figure 1).

Introduction: Chronic stroke patients with severe hand weakness, respond poorly to rehabilitation efforts and BMI is the only control signal available in these patients for an active rehabilitation therapy. We evaluated efficacy of daily brain-machine-interface training to increase the hypothesized beneficial effects of physiotherapy alone in patients with severe paresis in a double blind sham-controlled design proof of concept study.

Methods: 32 chronic stroke patients with severe hand weakness, were randomly assigned to two matched groups and participated in 17.8 ± 1.4 days of training rewarding desynchronization of ipsilesional oscillatory sensorimotor rhythms (SMR) with contingent online movements of hand and arm orthoses (experimental group, $n=16$). In the control group (sham group, $n=16$) movements of the orthoses occurred randomly. Both groups received identical behavioral physiotherapy immediately following BMI training or the control intervention. Upper limb motor function scores, electromyography from arm and hand muscles, placebo-expectancy effects and functional magnetic resonance imaging (MRI) blood oxygenation level dependent activity were assessed before and after intervention.

Results: A significant group x time interaction in upper limb Fugl-Meyer motor (cFMA) scores was found. cFMA scores improved more in the experimental than in the control group, presenting a significant improvement of cFMA scores (3.41 ± 0.563 points difference, $p=0.018$) reflecting a clinically meaningful change from no activity to some in paretic muscles. cFMA improvements in the experimental group correlated with changes in functional MRI laterality index and with paretic hand electromyography activity. Placebo-expectancy scores were comparable for both groups.

Interpretation: These data indicate that contingent BCI-training combined with behavioral physiotherapy leads to motor improvement, muscular re-activation and structural and functional reorganization of the ipsilesional hemisphere.

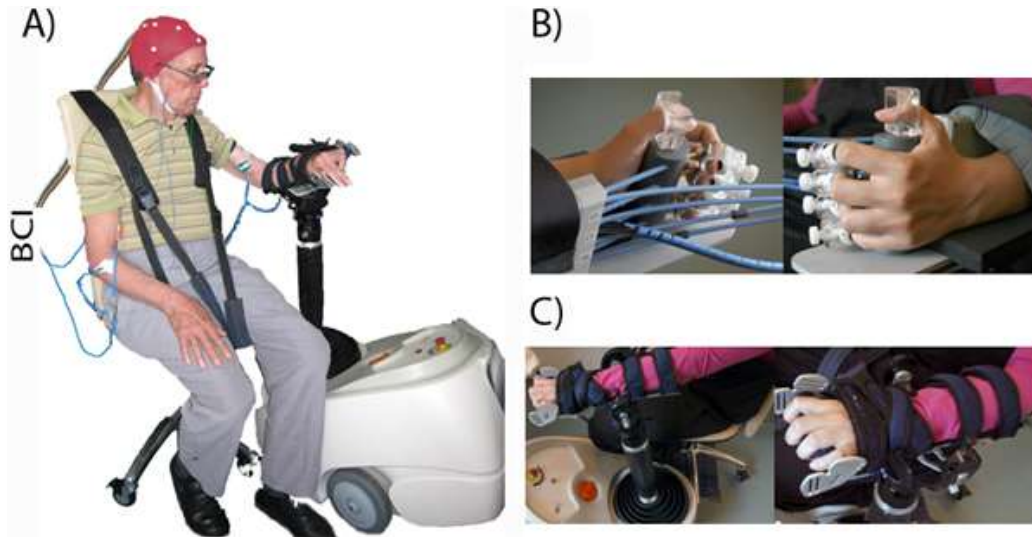


Figure 1. Robot/Orthosis BMI configuration. Procedure of the online BMI for paralyzed chronic stroke patient rehabilitation. A) User wearing the 16-channel EEG system with his arm and hand attached to the ReoGo robotic arm from Motorika, Israel. B) Anterior and posterior view of the hand of a user attached to the robotic hand orthosis. C) Arm of a user gently strapped to the motorika "ReoGo" robot arm handle.

Update On Congresses

Please see below the list of congresses that Motorika's distributors plan to participate during March, April and May.

China- D.I.H Dexin

The 26th International Medical Instruments and Equipment Exhibition, 2014 China Med March 21-23 China National Convention Center, Beijing <http://www.chinamed.net.cn/en/index.asp>

Rehacare & Orthopedic China 2014, March, 29-31, Poly World Trade Center Exhibition Hall, Guangzhou, <http://www.cantonrehacare.com>

The 71th China International Medical Equipment Fair (CMEF Spring 2014), April, 17-20, Convention & Exhibition Center, Shenzhen, <http://www.cmf.com.cn/en/index.html>

2014 China Stroke Conference, May 02-04, China National Convention Center, Beijing, <http://www.cnstroke.com>

China Hospital's President Conference, May 26-27, Shanghai World Expo Exhibition & Convention Center, Shanghai www.china-aid.com

Italy – Medical Calo

Exposanita, May 21-24, Bologna, <http://www.senaf.it/Expo-Sanita/107>

Korea - APSUN

KIMES, March, 13-16, Seoul, <http://www.kimes.kr/eng/>

USA – Patterson

Philadelphia Hand Show, March 22-25

AOTA (The American Occupational Therapy Association) April 3-6, Baltimore, Maryland, <http://www.aota.org/Conference-Events/Annual2014.aspx>

New Cooperation with Group Purchasing Organizations

As of March 1st 2014, Patterson Medical the main distributor for the ReoGo throughout the US, will have the sole source contract for the Premier Group purchasing organizations (GPO). The new contract with Premier Group is in addition to Novation contract.

This will allow hospitals in the Premier network to purchase the ReoGo unit at a discounted price. This will be the second GPO that Motorika will have access to through Patterson Medical. Currently, the ReoGo is running a promotion with the Novation GPO and hospital affiliates.



Motorika on YouTube

We invite you to look at Motorika videos on YouTube.

<http://www.youtube.com/user/MotorikaMedical>



2:20

ReoGo - Force Exercise
לסני 4 חודשים | צפיות 23



9:56

ReoGo & ReoAmbulator on T...
לסני 2 חודשים | צפיות 31



2:16

ReoGo - Cup To Mouth Exe...
לסני חודשי | צפיות 1



0:21

ReoGo in a Standing Position
לסני 5 חודשים | צפיות 72



0:05

ReoGo - Maximal Z Axis Height
לסני 5 חודשים | צפיות 38



3:30

Pediatrics-short...
לסני 4 חודשים | צפיות 1



4:25

ReoGo by Motorika - Robotic...
לסני 7 חודשים | צפיות 148



1:52

Exercise Patterns - Introduc...
לסני 6 חודשים | צפיות 32



2:06

ReoGo - Forward Th...
לסני 5 חודשים | צפיות 1



2:54

confirm option
לסני 7 חודשים | צפיות 16



4:32

ReoAmbulator new harness
לסני 7 חודשים | צפיות 78



0:27

ReoAmbulator new harnes...
לסני 7 חודשים | צפיות 1



4:29

Recording an exercise



2:49

ReoAmbu...

ReoGo - Support

Email address	Channeled to	Use for
product@motorika.com	R&D team	questions on machine usage, not for reporting on technical problems.
clinical@motorika.com	Clinical support team	questions on the robotic treatment, indications, scientific data.
supportUS@motorika.com	Technical support in the US	reporting / discussing technical support problems.



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