NEUROREHABILITATION

NEWS RELEASE
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The Art and Science of Cognitive Rehabilitation Therapy
Different Approaches to Restoring Mental Functioning Showcased in NeuroRehabilitation

Amsterdam, NL, February 3, 2014 – There is a growing need for Cognitive Rehabilitation Therapy (CRT) due to the huge influx of soldiers returning from war zones with brain injuries, athletes with sports-related head injuries, and the growing population with age-related cognitive decline. This special collection of articles in NeuroRehabilitation illustrates the art and science of restoring mental functioning in those who have suffered a debilitating injury or who may otherwise have problems with attention, comprehension, learning, remembering, problem solving, reasoning, and processing.

CRT has its origins in the development of therapy for wounded soldiers during the two World Wars. This same need continues today with the influx of soldiers with brain injuries who are returning from the Middle East and Afghanistan. The American Congress of Rehabilitation Medicine defines the primary goal of cognitive rehabilitation as “to ameliorate injury-related deficits in order to maximize safety, daily functioning, independence, and quality of life. Progress is achieved in a stepwise manner, with an emphasis on following long term goals that include problem orientation, awareness and goal setting, compensation, internalization, and generalization.”

“There has been a virtual explosion of interest in CRT techniques over the past four decades,” says Guest Editor Rick Parente, PhD, Professor, Psychology Department, Towson University, Maryland, USA. “Literally anyone who has sustained a brain injury or stroke may benefit. But there is a conspicuous lack of published research that describes specific, standardized, or easily replicable CRT techniques. Aside from some commercially available software packages there are no other standardized treatment packages in general use. The goal of this collection is therefore to showcase the efforts of therapists around the world who actually provide treatment. Perhaps the best approach to CRT involves using numerous techniques together to coordinate the survivor’s nutrition, life style habits, and therapy efforts. Several of these articles illustrate the integration of these techniques.”

In this issue:

Kit Malia (UK) summarizes what works in his 15-year experience of developing practical training courses and producing materials that can easily be used by therapists, relatives, care workers, and support groups.
E.T. van Schouwen-van Kranen (The Netherlands) describes different models of recovery after brain injury and makes suggestions for treatment that serve as useful guidelines for therapists in their practices, concluding that combining the clinician’s clinical intuition with knowledge of the theory of CRT can greatly improve the quality of treatment the therapist provides.

Dorothy R. Shaw (USA) investigates the impact of pediatric CRT in a school setting on intellectual functioning after traumatic brain injury (TBI), concluding that students who are learning disabled or who have traumatic brain injury can adapt and flourish in a school-based setting provided that therapies and learned strategies are targeted to their specific needs.

Lisa Wheeler, Sherry Nickerson, Kayla Long, and Rebecca Silver (USA) compare expressive writing in people with mild traumatic brain injury and people with learning disability. Spatial perception, visual memory, verbal intelligence, and working memory predicted writing skill in both groups. They suggest several therapeutic interventions to improve expressive writing skills in these groups.

Individuals who have had a TBI often have difficulty processing nonverbal communication. A study by Julia Bird and Rick Parente (USA) compare the non-verbal processing skills of brain-injured patients versus non-injured controls. They found that TBI patients had difficulty processing tonality and suggest that clinicians, friends, and family members should emphasize the explicit verbal content of spoken language when speaking to a person with TBI.

Anosognosia, the failure to recognize personal deficits, is commonly reported after acquired brain injury (ABI) or stroke, and often hinders an ABI survivor’s ability to perceive the social consequences of their behavior and to modify it. Kayla Long, Bob Rager and Greg Adams (USA) discuss therapeutic interventions to address lack of awareness after ABI.

Jessica Kegel, Moira Dux, and Richard Macko (USA) studied the association between executive function and coping strategies in a sample of chronic stroke survivors. Contrary to expectations, executive function deficits were related to increased avoidant coping rather than to active coping. They recommend further studies to assess if aerobic exercise positively affects executive function and coping in stroke survivors.

Davide Pierini (Canada) and Doreen Hoerold (UK) describe a pilot project to provide an individualized, low cost rehabilitation program for individuals with ABI after their return home. The results were encouraging and were used to build a “local expert team” available for other individuals requiring rehabilitation.

Jan E. Nordvik, Kjersti Mehlum Walle, Claudia Nyberg, Anders M. Fjell, Kristine B. Walhovd, Lars T. Westlye, and Sveinung Tornas (Norway) review the relevance of recent MRI research of brain plasticity to the field of cognitive rehabilitation, concluding that it shows promise to detect macro- and microstructural activity-related changes in the brain following intensive training.

Frank Becker, Melanie Kirmessa, Sveinung Tomas and Marianne Levstad (Norway) describe services provided at the cognitive rehabilitation unit at Sunnaas Rehabilitation Hospital, a regional rehabilitation center in Norway.

Bryan D. Devan, Paul J. Pistell, Kara B. Duffy, Bennett Kelley-Bella, and Edward L. Spangler (USA) review studies of cyclic nucleotide phosphodiesterase type 5 (PDE5) inhibition in rats with the drugs sildenafil and vardenafil and report novel data that tests the systemic effects of these drugs in aged rats using two different spatial learning/memory paradigms. They conclude that, despite conflicting results,
PDE5 inhibition may produce beneficial effects via several mechanisms that target predisposing risk factors.

“All of the articles in this issue provide suggestions for therapeutic intervention that have, in the author’s experience, proven effective. The ubiquity of these procedures illustrates that most anyone may benefit from the systematic application of these targeted treatments that we call cognitive rehabilitation,” concludes Parente.

NOTES FOR EDITORS

Full text of the articles is available to credentialed journalists. Contact Daphne Watrin, IOS Press, at +31 20 688 3355 or d.watrin@iospress.nl to obtain full text of the articles listed below. Journalists wishing to request interviews with authors should contact Dr Rick Parente on +1 410 704 3073 or rparente007@yahoo.com.

Special Feature: The Practice of Cognitive Rehabilitation Therapy

NeuroRehabilitation: An Interdisciplinary Journal, 34(1) January 2014
Guest Editor: Rick Parente, PhD, Professor, Psychology Department, Towson University, Towson, MD, USA

Featured Articles:

“The Practice of Cognitive Rehabilitation Therapy: Editorial,” Rick Parente

“What ‘works’ in cognitive rehabilitation: Opinion paper,” Kit Malia

“Clinical reasoning in cognitive rehabilitation therapy,” E.T. van Schouwen-van Kranen

“Pediatric cognitive rehabilitation: Effective treatments in a school-based environment,” Dorothy R. Shaw


“Recognition of nonverbal communication of emotion after traumatic brain injury,” Julie Bird and Rick Parente


“Executive function and coping in stroke survivors,” Jessica Kegel, Moira Dux, and Richard Macko

“Back home after an acquired brain injury: Building a ‘low-cost’ team to provide theory-driven cognitive rehabilitation after routine interventions,” Davide Pierini and Doreen Hoerold

“Bridging the gap between clinical neuroscience and cognitive rehabilitation: The role of cognitive training, models of neuroplasticity and advanced neuroimaging in future brain injury rehabilitation,” Jan E. Nordvik, Kjersti Mæhlum Walle, Claudia Nyberg, Anders M. Fjell, Kristine B. Walhovd, Lars T. Westlye, and Sveinung Tornas
“A description of cognitive rehabilitation at Sunnaas Rehabilitation Hospital – Balancing comprehensive holistic rehabilitation and retraining of specific functional domains,” Frank Becker, Melanie Kirmessa, Sveinung Tornas, and Marianne Løvstad

“Phosphodiesterase inhibition facilitates cognitive restoration in rodent models of age-related memory decline,” Bryan D. Devan, Paul J. Pistell, Kara B. Duffy, Bennett Kelley-Bella, Edward L. Spangler, and Donald K. Ingram

ABOUT NEUROREHABILITATION: AN INTERDISCIPLINARY JOURNAL

NeuroRehabilitation; An Interdisciplinary Journal is an international journal that emphasizes publication of scientifically based, practical information relevant to all aspects of neurologic rehabilitation. Founded in 1991, it features peer-reviewed articles that are interdisciplinary in nature and cover the full life span and range of neurological disabilities including stroke, spinal cord injury, traumatic brain injury, neuromuscular disease, and other neurological disorders. Information is intended for an interdisciplinary audience. Issues of the journal are thematically organized. Themes have focused on specific clinical disorders, types of therapy, and age groups. www.iospress.com/journal/neurorehabilitation

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