	► What is Cognitive Rehab & How does it Work 1 & 3
	LISTEN UP
	RESEARCH RECRUITMENT . 2
	► Who's Who 2
	► TBI FORUM 2
	YOGA FOR PEOPLE WITH TRAUMATIC BRAIN INJURY . 3

UNIVERSITY OF WASHINGTON
TRAUMATIC BRAIN INJURY
MODEL SYSTEM
Patient Care
Research



PATIENTS WITH TBI.

The University of Washington TBI Model System contributes to the national Traumatic Brain Injury Data Center at Craig Hospital in Englewood, CO, participates in independent and collaborative research, and provides information and resources to individuals with TBI, their family and care givers, health care professionals and the general public

# What is Cognitive Rehab and How does it Work?

Cognitive rehabilitation is a term used to describe treatments that target and improve problems in thinking caused by brain injury. These treatments are designed and delivered by clinicians whose training has prepared them to understand and address such difficulties, their underlying causes, and their implications for real-world function.

Over 40 years ago, Dr. Yehuda Ben-Yishay, an Israeli psychologist, was a pioneer in development of intensive neurorehabilitation programs where cognitive rehabilitation techniques for people with TBI were designed and applied within comprehensive interdisciplinary care. His program began at the request of the Israeli government when advances in medical care contd on page 3.

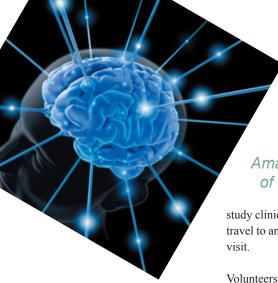
TRAUMATIC BRAIN INJURY MODEL SYSTEM UNIVERSITY OF WASHINGTON DEPARTMENT OF REHABILITATION MEDICINE





## LISTEN UP!

The Brain Injury Association of Washington and UW TBIMS 3rd Annual TBI Art Show, Recreating Me, continues at the UW Tower June 13-July 29. The UW Tower exhibit showcases artists from 2010 and 2011. If you have business in the UW Tower, please visit the beautiful exhibit of art created by people after a traumatic brain injury portraying the artists' stories and perspectives. Please check the UW TBIMS website for the public viewing date. You can follow the TBI Art Show on Facebook. Search for our page "TBI Art Show."



RESEARCH RECRUITMENT

"The AIMS Study" Amantadine Hydrochloride in the Treatment of Chronic TBI Irritability and Aggression:

study clinic visits to support their travel to and from each clinic

day 60, all the volunteers will

begin taking amantadine twice a

day for one more month. We also

enroll an 'observer' in the study,

defined as someone the subject

Possible volunteers are:

has contact with at least five times

People between the ages of

At least moderately irritable

18-75 who have had a Traumatic

Brain Injury (TBI) more than 6

(easily annoyed or upset, poor

or physical outbursts).

temper control, may have verbal

will be asked

to take either

amantadine or a

placebo (sugar

pill) twice a day

for 60 days. At

per week.

months ago.

The AIMS

Study FIRST M. LASTNAME clinic visits at the University of Washington Medical Center lasting about

2 hours each.

- 10 telephone calls from study staff to check on how the volunteer is doing with the medicine. These calls will last
- \$25 for each clinic visit.

for this study, please contact Leslie Kempthorne at (206)

Participation in the study will last for 90 days, and will involve:

Ø 3 in-person

- about 20 minutes.
- Participants will receive

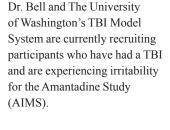
Participation in this study is voluntary. For questions about the AIMS, or to be considered 543-0219 or 1-800-246-6968.



## Who's Who

#### Kim Glorieux

Kim joined the TBI Model System as a Research Coordinator. She graduated with a B.S. in Biology and a B.S. in Zoology from the University of Washington in 2002. For seven years she worked at the Fred Hutchinson Cancer Research Center on a variety of studies as a Research Interviewer. Outside of work Kim enjoys traveling and raising her two sons.



Researchers at the Department of Rehabilitation Medicine at the University of Washington are seeking volunteers for a research study. The purpose of the study is to see if amantadine is effective in treating irritability in patients with Traumatic Brain Injury.

There will be no cost to participants for the study medication or any of the office visits, tests or procedures associated with the study. Volunteers will receive compensation for each of the 3



### **TBI Forum Series**

The UW Traumatic Brain Injury Model System invites you to join its quarterly information and discussion group. Last quarter instead of a Forum we had our 3rd annual TBI Art Show. It was a beautiful moving show celebrating growth and healing through creativity. For more information, please visit the UW TBIMS website. The next TBI Forum will address Alternative Treatments. Professionals will answer questions such as can the hyperbaric chamber or neurofeedback help? The forum will be at the UW Medical Center. The date is to be determined. Please check back at the Forums page on our website where the date will be announced.

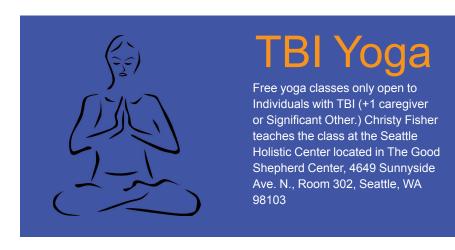
For more information, including driving and parking directions, call Heather Porter 206-221-6441 (hporter@u.washington.edu) orvisit our website at www.tbi.washington.







# ...Cognitive Rehab



in the 1960s led to many soldiers surviving severe brain injury; when these physically recovered soldiers tried to return to their families and resume normal lives, it became clear that their changes in thinking and behavior were part of a recognizable pattern of difficulties that created enormous challenges in day-to-day function and adjustment.

In retrospect, it is not surprising to discover that major changes in thinking and behavior would occur and persist after serious brain injury, since the brain underlies our higher-level mental, emotional and behavioral activities. However, it was the particular patterns of higher-level disruptions in attention, memory, executive functions, thinking speed, communication, accurate perception, awareness, mood and interpersonal behavior associated with traumatic brain injury (TBI) that were not fully appreciated until more people survived and were seen over the course of months in this intensive model of care.

Cognitive rehabilitation as a theory draws upon a number of sources including learning theory as well as what is known about brain function hierarchies. For example, some degree of accurate sensation and perception is fundamental to effective thinking as this allows

us to notice relevant features of an item, task or situation. A basic capacity for attention, ability to grasp main ideas when presented, and to control emotional outbursts well enough to participate in care are also considered essential to the ability to benefit from cognitive rehabilitation.

Cognitive rehabilitation as a therapy relies upon skilled clinicians (typically speechlanguage pathologists, neuropsychologists, occupational therapists, and/or rehabilitation psychologists) who have a thorough appreciation for the complexities of human thinking and behavior and the specific effects of acquired brain injury or illness upon various functions. With this understanding, clinicians can design effective treatments for a given individual and also work together in complementary ways as team members to address as many residual problems as possible, reinforcing recommended strategies throughout the day.

The skilled clinician knows not to assume that reported cognitive problems are always the true problems. For example, people frequently report memory problems after TBI but for some people the major sources of difficulty recalling information is due to deficits in attention, organization and ability to create meaningful notes for review. The therapist might focus first on strategies for attention, getting the main idea, and effective note-taking, rather than upon memorization rehearsal techniques since spontaneous recall may improve considerably if the person absorbs main ideas in an organized fashion at the outset of trying to learn new information.

In cognitive rehabilitation, the person with ABI is asked to try the strategies in the therapy session as well as at home, work, school, in daily life, and to complete homework to improve performance in the targeted domains of thinking and behavior. The person is seen regularly to monitor progress and to review what worked (or not) with respect to strategies or devices. The person may also be asked to join a Cognitive Group to work on these skills in a small group setting where there is the opportunity to practice the new techniques in a safe environment with other people also trying to improve after ABI, with the helpful input of the clinicians who are present to observe and guide care.

The clinician and the person with ABI also involve family, friends, teachers and employers as appropriate in the recommended cognitive rehabilitation techniques and their rationale for use, so everyone involved knows what should be done to best achieve and maintain improved thinking and performance.

A few final caveats:

Cognitive rehabilitation is not cognitive behavioral therapy (CBT) which can be a helpful type of psychotherapeutic intervention. Cognitive rehabilitation is also not simply practicing computer-based programs that promise improvements in cognitive function but which may not translate into changes in real-world performance.

Skill-building software, e.g., for math, vocabulary, spelling or physical exercising through such technology as the Wii may be very useful and helpful but this is not the same as treatment needed to create and maintain long-term improvements in the process of thinking, which typically requires skilled clinicians to evaluate and treat.



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