

**THE UNIVERSITY
OF WASHINGTON
TBIMS TEAM:**

**PRINCIPAL INVESTIGATOR/
PROJECT DIRECTOR:**

KATHLEEN BELL, MD

CO-PROJECT DIRECTOR:

SURREYA DIKMEN, PHD

CO-INVESTIGATORS:

JEANNE HOFFMAN, PHD

JANET POWELL, PHD

ROBERT FRASER, PHD

JO ANN BROCKWAY, PHD

RESEARCH COORDINATORS:

LESLIE KEMPTHORNE, BS

KIM GLORIEUX, BS

RESEARCH CARE MANAGER:

HEATHER PORTER, MSW

RESEARCH ASSISTANTS:

SILAS JAMES, BA

MELISSA MAYES, MSW

OFFICE ASSISTANT:

TAYLOR OBATA

UNIVERSITY OF WASHINGTON
TRAUMATIC BRAIN INJURY
MODEL SYSTEM



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MODEL SYSTEM

Patient
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TBI Updates

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Hyperbaric Oxygen and TBI: An Update from the Latest Research

by Kathy Bell, M.D.

How does HBOT work?

Most of the oxygen carried in the bloodstream is firmly attached to a protein called hemoglobin that is present in red blood cells. A small amount of oxygen is actually dissolved in the blood.

By increasing the pressure in the surrounding air, more oxygen can be "forced" into dissolving. This means that a higher dose of oxygen can get into some of the cells in the body that would not ordinarily be able to get higher levels of oxygen.

There is some experimental evidence that increasing this oxygen level may, in some cases, allow cells to function better, decrease swelling and inflammation, and improve circulation.

What do we know about HBOT for human brain injury?¹

In one study of early coma, there were no true differences between those treated and not treated, except for those younger than 30 years of age

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TBI Quarterly Forum Update

The ***October 2011 Forum*** was located at Northwest Hospital. The topic was on ***Hyperbaric Oxygen and Neurofeedback Treatments after TBI***. Slides are available on our website:

The ***March 2012 Forum*** will be on ***Vision after TBI*** and will be held at the University of Washington Health Sciences Building. Exact date to be determined. Please check our website for updates:

www.tbi.washington.edu

To receive updates about the date of this forum, interactive on-line options, or ideas for future forums please email:

king@uw.edu.

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with brainstem injury who were more likely to regain consciousness.

Another controlled trial in patients with acute TBI showed that after 1 year, more of those who received HBOT survived; but there were no differences in the level of disability between the two



groups.

A number of animal studies have been done to try to figure out whether HBOT might work and what might be the best way to give it.

At this time, there are no well-designed studies of HBOT (Level I) in humans after a TBI. However, the evidence on animals and what little there is on humans suggests that it is a worthwhile topic to continue to research. There are currently 2 active research studies in this area: three are mili-

tary, and the fourth is not currently enrolling subjects.

Side effects from HBOT are relatively few and include claustrophobia, lower thresholds for seizures, ruptured eardrum, sinus or tooth pain. Safety in pregnant women has not been established.

For further information: see [ClinicalTrials.gov](http://clinicaltrials.gov), a website that tracks clinical research : (<http://clinicaltrials.gov/ct2/search>) – enter search terms “hyperbaric oxygen and traumatic brain injury”.

“Bottom line: There is no good evidence for HBOT for effectiveness in TBI just yet, but promising for research.”



What Do Youth and Coaches Know About Concussion?

By Christian Shenouda, M.D.



Concussions, also known as mild traumatic brain injury (MTBI), account for the majority of head injuries. Unfortunately, these injuries may be the most difficult to recognize and treat. Washington State was the first to mandate evaluation of players suspected of having a concussion prior to return to play. This legislation, known as the **Zackery Lystedt Law**, was signed into law in 2009. Since that time, over 27 states have passed similar laws in effort to protect youth players.

One year after the passage of this law, researchers at the UW set out to see where to best direct further education and resources. Some members of our TBI team at UW worked with Washington Youth Soccer to better understand public perception of concussion symptoms, current trends, and their knowledge of the law itself. We designed a short survey which was a collaborative effort between UW and Washington Youth Soccer.

Members of the UW TBI Model System are attending soccer games to talk with players and find out how much the youth themselves know about concussion.

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This study revealed some interesting trends. While adults did have a general knowledge of symptoms of concussion symptoms, there was confusion at the organizational level about the data collection on the rates of concussion and returning the kids to the games. There was also some confusion about “heading” (to propel the ball by striking it with the head) guide-

lines for youth players. Building upon this data, we are now looking at what the youth players themselves know about concussions. To date, we have attended numerous tournaments and have close to 500 completed surveys. We are in the process of analyzing this data in preparation for publication.

Input from players and parents has been extremely supportive. Although the concussions are receiving more recognition in the media, there appears to still be much work to be done.

Upcoming Research Study !



Is there a link between physical fitness and brain fitness in people?

Researcher Jennifer Devine hopes to find out!

Dr. Jennifer Devine will be working with the University of Washington's TBI Model System to recruit participants for a study designed to show whether cardiovascular fitness is linked to better cognitive recovery, mood or community integration after TBI.

Fitness has been linked to better cognition in other populations at risk for decline. If a similar link can be found between fitness and cognition in people recovering from TBI, then exercise programs designed to improve

fitness might one day be used together with current approaches to improve post-TBI cognitive impairments.

Participants in Dr. Devine's study will be asked to perform a two-part test consisting of a short, maximal-effort treadmill or bike exercise session and a brief neuropsychological assessment. Quali-

fying participants will be asked to return 6 months later to repeat this test, and all participants will be compensated for their time.

To learn more about this study, or if you are interested in participating, please contact Dr. Devine via email at:

tbifit@uw.edu

or call

(206) 543 - 6216



**INTERESTED IN
PARTICIPATING ?**

**PLEASE EMAIL:
TBIFIT@UW.EDU**

W UW TBI Model System-Who's Who?

The TBI Model System welcomes two new members of our team...

Taylor Obata

Taylor is currently assisting Research Coordinators on the *TBI Model System Study*, *Caregivers of TBI Telephone Intervention Study*, and the *AIMS Study*. Originally from St. Louis, Missouri, Taylor moved to the Northwest when she began attending college at Willamette University in Salem, Oregon. After completing two years as a Biology major, Taylor decided to take a year off to gain work experience. Shortly after moving to Seattle, her interest and experience in scientific research led her to an opportunity with the TBI Model System. Taylor's future plans include traveling to Southeast Asia and Europe. She would like to one day open a café and bakery.

Melissa Mayes, MSW

Melissa works with the TBI Model System team as a Research Assistant on a variety of studies. She primarily does telephone follow up data collection, and works on TBI Model System, Headache, and Caregivers of TBI Telephone Intervention Studies. Melissa recently graduated with a Masters in Social Work from the University of North Carolina at Chapel Hill. Outside of work, Melissa enjoys travel, cooking, fitness, and spending time with her husband and husky dog.



New TBI Model System publication

A new evidence-based consumer factsheet titled ***Alcohol Use After Traumatic Brain Injury*** is now available on the Model Systems Knowledge Translation Center website at:

<http://www.msktc.org/tbi/factsheets/AlcoholUse.asp>

This document was developed by Charles Bombardier, PhD, in collaboration with the Model Systems Knowledge Translation Center, and has been reviewed by individuals with Traumatic Brain Injury and endorsed by the Traumatic Brain Injury Model System directors

Research Studies Looking for Volunteers !

TBI and Fatigue



Researchers at **Santa Clara Valley Medical Center** are evaluating a newly developed TBI-related fatigue questionnaire. You may be eligible to participate if have had a mild, moderate, or severe TBI and it has been more than 6 months after injury. The initial collection of demographic information and interview is done over the phone. The interview is made up of multiple choice questions related to fatigue and other health-related quality of life areas. Each interview is **approximately 1 hour long** and may be done at your convenience. **You will be paid \$25 for participating in the interview.** If you are interested in participating contact **Paul Carufel** at (800) 352-1956 or paul.carufel@hhs.sccgov.org

DO YOU OR SOMEONE YOU CARE ABOUT EXPERIENCE

MOOD SWINGS

or

IRRITABILITY ?

Researchers from 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 (TBI). Amantadine has been FDA approved for many years for use in treating Influenza and Parkinson's Disease.

You may be eligible for this study if you:

- ◇ Are between the ages of 18-75.
- ◇ At least moderately irritable (easily annoyed or upset, poor temper control, may have verbal or physical outbursts).
- ◇ Had a TBI more than 6 months ago.
- ◇ Have an 'Observer' (someone with whom you have contact about 5 times per week to help rate your irritability).

For more information about this exciting research study, please contact:

Leslie Kempthorne: 206-543-0219 or by email at ette@u.washington.edu



TBI Model System
1959 NE Pacific Ave.
Box 359612
Seattle, WA 98195

Main office:
206-616-0334

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