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Brain Waves

Headline News

Mar 12, 2014 - Congressmen Bill Pascrell, Jr. (D-N.J.) and Tom Rooney (R-Penn.) introduced legislation to create the National Brain Injury Research and Treatment Act of 2014.

The proposed legislation was announced on Brain Injury Awareness Day. If enacted, the legislation will direct the Centers for Disease Control and Prevention (CDC) to collect national data on traumatic brain injuries (TBI) across the lifespans of people with TBI. The CDC will also collect additional data on individuals at the time of their injury, such as the severity of the injury, previous history of TBI, co-occurring issues such as substance abuse or PTSD, and pre-existing conditions like ADHD or learning disabilities.

SOURCE: [Brain Injury Association of America](#)

Jan 27, 2014 - Exercise may be best medicine to treat post-concussion syndrome.

Doctors usually advise patients to rest after receiving a sport-related concussion. But resting may not be the best approach to help athletes get back in the game quicker, according to Karl Kozlowski, PhD, assistant professor of kinesiology at Canisius College in Buffalo, NY.

Kozlowski is developing a treatment program for patients who suffer from post-concussion syndrome (PCS). PCS is defined as three or more concussion

symptoms that persist at least three weeks after the injury. “We found that gradual exercise, rather than rest alone, actually helps to restore the balance of the brain’s auto-regulation mechanism, which controls the blood pressure and supply to the brain,” says Kozlowski.

Although the new treatment may help reduce concussion symptoms, the exercise treatment is not a cure.

SOURCE: [News Wire](#)

Mar. 13, 2014 — Researchers may have found the cause of brain damage in conditions such as stroke and Alzheimer’s disease.

The study used state-of-the-art techniques to show that the combination of inflammation and hypoxia activates the brain’s resident immune cells (microglia) in a way that weakens the connection between neurons.

“This is a never-before-seen mechanism among three key players in the brain that interact together in neurodegenerative disorders,” says Brian MacVicar with the Djavad Mowafaghian Centre for Brain Health at UBC and Vancouver Coastal Health Research Institute. “Now we can use this knowledge to start identifying new potential targets for therapy.”

These results take research one step closer to finding potential targets to treat neurodegenerative disorders.

[Watch a video describing the findings.](#)

SOURCE: [Science Daily](#)

News from the TBI Model Systems

Recruiting African American and Latino/Hispanic Caregivers individuals with TBI

The [Model Systems Knowledge Translation Center](#) is recruiting African American and Latino/Hispanic individuals over 18 years old who are the primary caregivers of someone who sustained a TBI in the past 5 years. Participants will participate in an interview about caregivers’ health information needs. Participants will be compensated \$75. If you are interested, please call 202-403-5531 or email mstkc@air.org for more information.

HEALTH MATTERS

What can you do at home for TBI recovery?

Traumatic brain injury (TBI) typically results in physical, cognitive and emotional impairments. This can not only be frustrating for people with TBI, but their families can also be challenged to find ways to help their loved ones in recovery.

The [University of Alabama at Birmingham - Traumatic Brain Injury Model System \(UAB-TBIMS\)](#) offers a [Home Stimulation Program](#) for people with TBI and their families.. This free activity guide can be used by families to help their loved ones improve their fine motor control, attention, concentration, memory orientation, reasoning, problem solving, visual spatial neglect, and language skills. There are 48 activities designed to be done at home, and each activity is broken down in groups of tasks that increases in difficulty with each level.

One example of these activities can be done using a deck of playing cards. There are 9 level to master.

LEVEL 1 - helps improve fine motor control, attention, concentration, and visual spatial neglect.

- Provide your loved one with a deck of cards. Ask him/her to “deal” the cards face up with the colors visible. The goal is to sort the deck into the 2 colors (black and red). Dealing can be done fast at times and other times can be done slowly.

LEVEL 2 - helps improve fine motor control, attention, concentration, and visual spatial neglect.

- Ask your loved one to first “shuffle” the deck of cards before dealing. Again, the cards should be face up when dealt, but this time he/she should sort the deck into the 4 suits (Hearts, Diamonds, Clubs, and Spades).

LEVEL 3 - helps improve fine motor control, attention, concentration, reasoning, problem solving, and visual spatial neglect.

- Randomly select 10 cards in only 2 suits (example 5 Hearts and 5 Spades). Then, ask your loved one to put them in numerical order and in groups of suits. You can increase the number of cards and suits when the activity is done successfully.

LEVEL 4 - helps improve attention, concentration, reasoning, problem solving, and visual spatial neglect.

- Deal a group of cards (10 to 15) face up. Ask your loved one to count how many of each color (red or black) has been dealt. Start out dealing slowly and increase speed when the activity is done successfully.

LEVEL 5 - helps improve attention, concentration, reasoning, problem solving, and visual spatial neglect.

- Increase number of cards used to 20 – 35.

LEVEL 6 - helps improve attention, concentration, reasoning, problem solving, and visual spatial neglect.

- Use the entire deck of cards.

LEVEL 7 - helps improve attention, concentration, reasoning, problem solving, and visual spatial neglect.

- Teach or re-teach your loved one to play solitaire.

LEVEL 8 - helps improve attention, concentration, reasoning, problem solving, and visual spatial neglect.

- Play a two-person card game (for example, Gin, War, etc.). Again, your loved can “deal” the deck (fast at times and slow at times).

LEVEL 9 - helps improve attention, concentration, reasoning, problem solving, and visual spatial neglect.

- Play more complex games with multiple people (like Hearts, Spades, Go Fish, Uno, etc.)

The [UAB-TBIMS Home Stimulation Program](#) is available online and free to download and print. The Table of Contents lists all 48 activities, and there is a Skills Index that provides a listing of activities that focus on particular thinking skills.

You can also look at the Appendices for other resources. For example, Appendix A has a listing of published materials. Appendix I has a listing of popular games that can be used for cognitive stimulation.

[View the UAB-TBIMS Home Stimulation Program here.](#)

RESEARCHspotlight

Major and minor depression after traumatic brain injury

Depression is common after traumatic brain injury (TBI). The best guess is that 25% to 50% of people are diagnosed with major depression at some point after TBI, with most diagnosed in the first year after injury.

People with TBI who are depressed are less likely to engage in social activities, community activities, and are often unemployed. Research has looked at 2 questions to explain this. Are they depressed because they participate less? Do they participate less because they are depressed? Research results suggest that the most likely answer is they do not participate because they are depressed.

This was the first study to look at different severities of a person's depression (both mild and major) and a person's participation in social activities. To do this, researchers from the [TBI Model Systems \(TBIMS\)](#) collected data using 5 tools of assessment.

- [Patient Health Questionnaire-9 \(PHQ-9\)](#) to measure severity of depression.
- [Glasgow Outcome Scale-Extended \(GOS-E\)](#) to describe the degree of recovery after TBI.
- [FIM](#) to measure progress during rehabilitation.
- [Participation Assessment with Recombined Tools-Objective \(PART-O\)](#) to measure social and community participation.
- [Satisfaction With Life Scale \(SWLS\)](#) allows a person to rate his or her personal satisfaction with life.

The 3 goals of this study were to:

1. describe any personal characteristics that are associated with either minor or major depression after TBI;
2. compare the relationship of a person's PHQ-9 results to those results from his/her GOS-E, FIM, PART-O, and SWLS; and
3. find out whether or not depression alone is related to participation in social activities.

The study subjects were people with TBI enrolled in the [TBIMS National Database](#). They were interviewed by phone 1 year after injury. Then, they were placed into one of three groups depending on their PHQ-9 results.

1. 52% were not experiencing depression
2. 22% were experiencing minor depression
3. 26% were experiencing major depression

What characteristics are associated with minor depression as well as major depression after TBI?

This answer offers insight into who might be at higher risk for depression. There were no important differences in risk factors associated with race, education levels, and injury severity. However, there were important risk factors for other groups.

- Younger men and women were more likely than older men to report either minor or major depression
- Women were more likely than men to report major depression
- Men and women who were unemployed or with a history of substance abuse or mental health treatment prior to injury were more likely to report either minor or major depression
- Men and women who were intentionally injured, such as in an assault, were also more likely to report either minor or major depression.

How did the relationship of a person's PHQ-9 compare to other measures?

- GOS-E, FIM, PART-O, and SWLS had similar results.
- People with minor depression were less likely than those without depression to be socially active.
- People with major depression were less likely than those with minor depression to be socially active.

Was depression alone related to a person's participation in social activities?

The focus of past research has mainly been on the influence of major depression on a person's participation social activities. However, it is not likely that research can prove that depression is the only reason people with TBI are not socially active.

What did we learn from this research?

It seems that mild depression, like major depression, can have a strong influence on social participation, so it, too, needs to be acknowledged and treated.

Hart T, Brenner L, Clark AN, Bogner JA, Novack TA, Chervoneva I, Nakase-Richardson R, Arango-Lasprilla JC. [Major and minor depression after traumatic brain injury](#). Arch Phys Med Rehabil. 2011 Aug;92(8):1211-9. doi: 10.1016/j.apmr.2011.03.005.

TBI ONLINE CONNECTIONS

BrainlineKids

Stocked with information, resources, expert interviews, and stories, [BrainLineKids](#) helps parents, educators, and health professionals communicate and develop common goals to help kids with TBI.

The Rehabilitation Engineering Research Center on Recreational Technologies (RERC Rec-Tech)

The [RERC Rec-Tech](#) expands new knowledge and research on recreation technology for people with disabilities as well as disseminates technology development through education, training and collaboration with private sectors.

Center for Parent Information and Resources (CPIR)

CPIR serves as a central resource of information and products to the community of Parent Training Information Centers and the Community Parent Resource Centers, so that they can focus their efforts on serving families of children with disabilities.

Through the Looking Glass (TLG)

TLG is a nationally recognized center that has pioneered research, training, and services for families in which a child, parent or grandparent has a disability or medical issue.

The Center for Health Care Strategies (CHCS)

CHCS is a nonprofit health policy resource center dedicated to improving health care quality for low-income children and adults, people with chronic illnesses and disabilities, frail elders, and racially and ethnically diverse populations experiencing disparities in care. CHCS works with state and federal agencies, health plans, providers, and consumer groups to develop innovative programs that better serve people with complex and high-cost health care needs.

The Brain Injury Information Network (TBINET)

TBINET offers information and a support network. Approximately 30 support mailing lists and on-line chat groups are offered and hosted. Membership is free.

The [University of Alabama at Birmingham Traumatic Brain Injury Model System \(UAB-TBIMS\)](#) provides [Brain Waves](#) twice annually as an informational resource for people with traumatic brain injury (TBI). [Brain Waves](#) is available to subscribers via email and to everyone via the UAB-TBIMS website at www.uab.edu/tbi. UAB-TBIMS Program Director: Thomas Novack, PhD. Editor: Phil Klebine, MA

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