

ADAPTIVE SPORTS FOR THOSE RECOVERING FROM BRAIN INJURY

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Session Objectives

- ▣ During the presentation, the participant will list three recreation pursuits for the patient with a traumatic brain injury (TBI).
- ▣
- ▣ After the presentation, the participant will identify three ways to interface with the medical team.
- ▣
- ▣ During and after the presentation, the participant will identify specifics to watch for when working with a patient with a TBI.

Outline

- ▣ 1. What is next after injury in recreation/sports pursuits?
- ▣ 2. How does a CTRS interface with other clinicians?
- ▣ 3. What does a CTRS look for when working with a patient with a TBI?
- ▣ According to CDC and WHO a TBI is defined as a complex pathophysiologic process affecting the brain, induced by traumatic biomechanical forces secondary to direct or indirect forces to the head. Physical, cognitive, emotional and sleep symptoms present in TBI.

Definition

- OR
- TBI is a blunt force trauma to the head either open or closed head injury due to car accident, gun shot, fall, sport, or.....

STATS

- According to the CDC, TBI was the leading (30%) cause of death and disability in the U.S.
- According to Brain Trauma Foundation and Carter and Van Andel (2011), TBI can be caused from a penetrating trauma (gunshot) or closed head injury (car accident), or sport related.
- In 2006-2010, the CDC found causes of TBI: falls (40.5%), assault (10%), or struck by something (15.5%) and unknown (19%) and vehicle (14.3%).

STATS cont.

- 2010 approximately 2.5 million people were affected by TBIs thru visits, hospitalization, or deaths.
- Every year, approximately 52,000 deaths occur from traumatic brain injury.
- An estimated 1.5 million head injuries occur every year in the United States emergency rooms.
- An estimated 1.6 million to 3.8 million sports-related TBIs occur each year.
- From 2001 - 2009 emergency room visits related to sports and recreation related injuries rose 57% for children younger than 19.

SO what????

- ❑ Whether able bodied or acquiring a disability - leisure is still part of a person's life in Western culture. Leisure is defined by three characteristics: occurs in free time, certain activities are characteristic of leisure (very broad activities), and finally a state of mind.
- ❑ The individual with TBI still possesses all three characteristics. So they must use leisure to benefit their personhood. Leisure/recreation can be a safe place for a TBI client or any individual with a disability.
- ❑ CTRS address all three in our services.

We can create safe places

- ❑ What is a safe place?
- ❑ Why does a client need a safe place?
- ❑ Safe places are necessary to escape the pressures of a disability.
- ❑ CTRSs can teach an individual with a disability how to create the safe place.
- ❑ Safe place can be a person's home, a room in a house, or a specific outside environment.

1. What is next after injury in recreation/sports pursuits?

- ❑ -Assessment using an evaluation tool (i.e. Ranchos Los Amigos Scale). Identification of cognitive function.
- ❑ -Treatment team meeting with client and other clinical team members for co-treating purposes.
 - Co-treating with OT, Speech, or PT can be part of three-hour rule, with treatment relating to TBI and recreation skills/interests as related to recreation i.e. decision making, leisure choices, appropriate social interaction skills, and community re-integration

2. How does a CTRS interface with other clinicians?

- ▣ Co-treating with OT on life skills, sensory stimulation, goal setting, money management/ use, time management, and appropriate dress for activities
- ▣ Co-treating with PT - standing to perform past leisure/ sport activity (i.e. football, bowling, basketball) and passive range of motion and use of adaptive equipment.
- ▣ Co-treating with Speech - participation in community re-integration outings and using speech to order from menu, select and pay for movie, etc.
- ▣ CTRS works on past leisure/ sport skills or development of new leisure/ sport skills, memory, use of adaptive equipment for leisure/ sport interests, and social interaction support, and getting involved again with sport or life.

Los Ranchos Amigos Scale and Recommended Interventions

- ▣ Level I - coma stage: sensory stimulation, passive ROM, music
- ▣ Levels II and Level III - low arousal stage: sensory stimulation, orientation, cognitive retraining
- ▣ Levels IV, V, and VI - post traumatic stage: leisure education, aquatic therapy, table and board games, orientation, community integration
- ▣ Levels VII and VIII - post-confusional stage: memory books, community integration, social skills training, computer games, virtual reality activities, leisure resource awareness, relaxation and anger management." (Carter & Van Andel, 2011).

3. What does a CTRS look for when working with a patient with a TBI?

- ▣ - impatience, break steps down into small components
- ▣ - for tasks with many steps give visual and verbal information
- ▣ - the need for cueing
- ▣ - emotional support, need to restructure cognitive patterns,
- ▣ - frustration & depression , feelings of loss and feelings of no independence

What does a CTRS look for when working with a patient with a TBI? (cont.)

- ☐ - provide structured interactions
- ☐ - color code items if assist in identifying
- ☐ - provide routines
- ☐ - provide genuine opportunities for success through expressive arts, writing, music or some other medium.

- ☐ - social engagement should be included to build confidence and self esteem when in a social setting to overcome anxiety when in public.

- ☐ - Eliminate: distractions, overstimulation, monitor length of session, give quiet feedback and watch for boredom, fatigue, and unacceptable language and behavior.

Emotional support

- ☐ CTRS assist in providing emotional support with other clinical staff. The involvement and encouragement of family and friends is highly suggested, unless provides a stressful situation for the client.

Activity & Sport opportunities based upon physician approval

- ☐ CTRS provides information and opportunities on sport outlets if not able to resume prior sport. List of sports:
- ☐ archery
- ☐ basketball
- ☐ biathlon
- ☐ boccia
- ☐ cycling (hand/foot)
- ☐ equestrian
- ☐ fencing

Cont.

- ❑ figure skating
- ❑ fishing
- ❑ four-wheeling
- ❑ goal ball
- ❑ golf, hiking/backpacking
- ❑ sled hockey
- ❑ hunting
- ❑ judo

Cont.

- ❑ kayaking
- ❑ mountain biking
- ❑ mountainteering
- ❑ power lifting
- ❑ rafting
- ❑ rappelling
- ❑ rock climbing
- ❑ rope courses
- ❑ sailing

Cont.

- ❑ scuba/snorkeling
- ❑ shooting
- ❑ skiing
- ❑ snowboarding
- ❑ snowmobiling
- ❑ snow shoeing
- ❑ swimming
- ❑ table tennis
- ❑ tennis
- ❑ track and field
- ❑ volleyball
- ❑ water skiing
- ❑ weight training

Future TIPS to spread to others to prevent TBI

- ☐ We already know degrees: mild (concussion), moderate, and severe (coma).
- ☐ We already know of tips to prevent
 - ☐ seat belts or child safety seat,
 - ☐ no alcohol or drugs while driving,
 - ☐ wear a helmet when riding a bike or playing a contact sport (i.e. football, lacrosse), or riding ATVs or scooters,
 - ☐ use hand rails when going down stairs,
 - ☐ place bars on windows that open on second floor,
 - ☐ use light when going down stairs,
 - ☐ do not place items on stairs, and
 - ☐ do not ride two to a bike unless a tandem bike.

For sports - MOMs TEAM states...

- ☐ According to MOMs Team website, there are seven ways to reduce risk of TBIs:
 1. better training and coaching
 2. better enforcement of existing rules and rule changes
 3. reducing repetitive head impacts through limits on full-contact practices in tackle football
 4. better equipment
 5. neck strengthening
 6. head impact exposure monitoring and
 7. delaying start of contact and collision sports.

References

- ☐ Facts about Traumatic Brain Injury . Brain Trauma Foundation. Retrieved February 15, 2015 from <https://www.braintrauma.org/tbi-faqs/tbi-statistics/>
- ☐ Carter, M.J. & Van Andel, G.E. (2011). Therapeutic Recreation: A Practical Approach (pp. 223-224). Waveland Press, Inc. Long Grove, IL
- ☐ Centers of Disease Control and Prevention. Traumatic Brain Injury in the United States: Fact Sheet. Retrieved February 15, 2015 from http://www.cdc.gov/traumaticbraininjury/get_the_facts.html

References (cont.)

- ▣ Concussion in sports. Retrieved February 15, 2015 from <http://www.cdc.gov/concussion/sports/>
- ▣ Hodges, J.S., Luken, K., Zook, B. (2001). Recreational therapy can help adult brain injury survivors get back into the community. *NCMJ* . November/December, 62(6), 360-363.
- ▣ Human Kinetics (2010). *Inclusive Recreation: Programs and Services for Diverse Populations* (pp. 369). Human Kinetics, Champaign, IL.
- ▣ Nonfatal traumatic brain injuries from sports and recreation activities—United States, 2001-2005 Retrieved February 15, 2015 from <http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5629a2.htm>

References (cont.)

- ▣ Sahler, C.S. (2012). Traumatic brain injury. *Rehabilitation Research and Practice*. Doi:10.1155/2012/659653
- ▣ Seven Ways to Reduce Risk of Traumatic Brain Injury in Sports. Retrieved February 15, 2010 from <http://www.momsteam.com>
- ▣ Ylvisaker, M, Turkstra, L., & Coelho, C. (2005). Evidence-based practice for cognitive-communication disorder after traumatic brain injury. *Seminars in Speech and Language*. Vol. 26, (4), 256- 267.

THANK YOU FOR

YOUR ATTENTION
and
YOUR PARTICIPATION
